

**THE LITTLE WEBSITE THAT GREW -
HTTP://WWW.SFU.CA/CEDC/**

By

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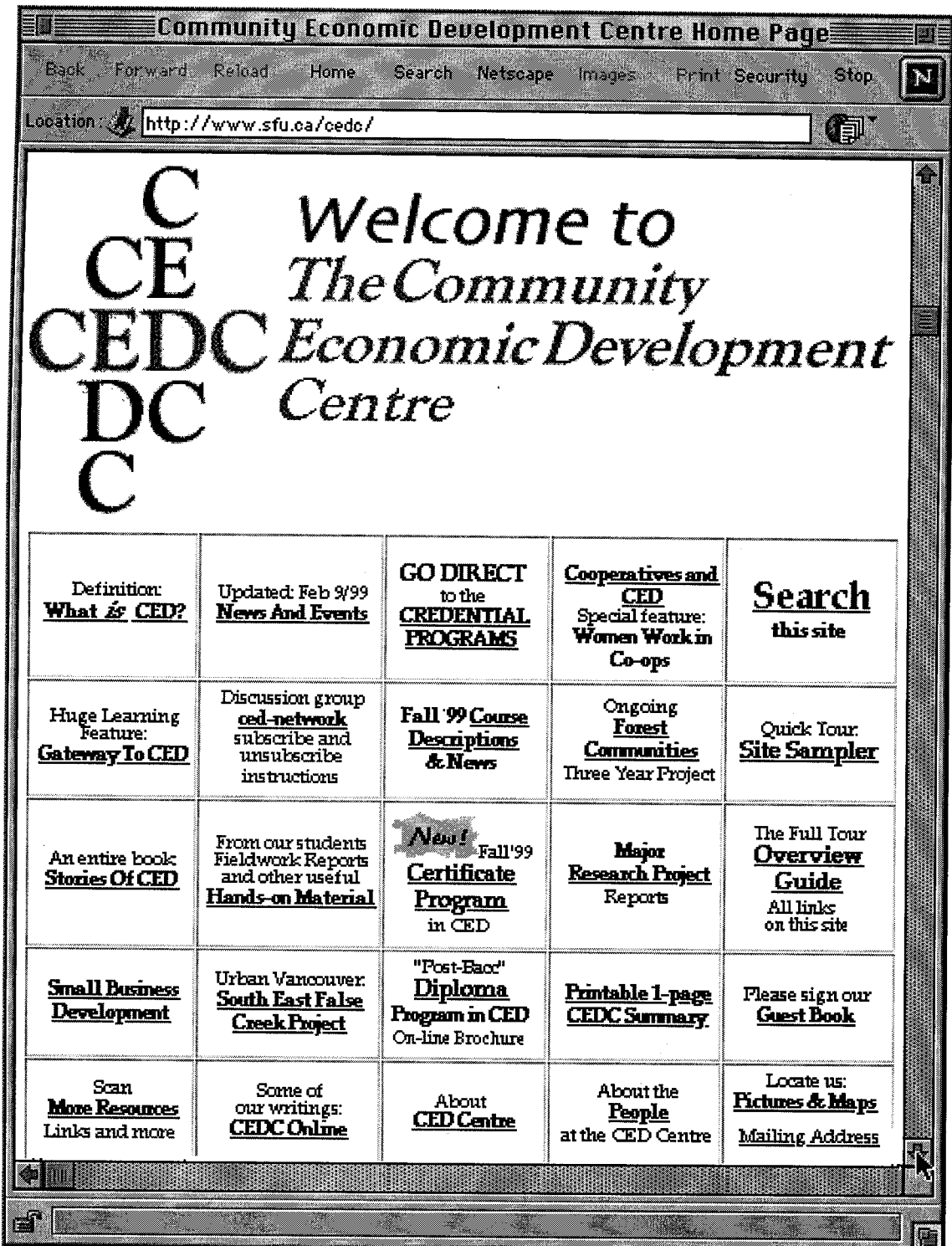
in the School of Communication

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May, 1999

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ABSTRACT

This project, hosted on Simon Fraser University's main webserver, was designed to serve three main objectives of the Community Economic Development Centre (CEDC): to promote its academic programs, enhance public awareness of the Centre, and meet its community assistance mandate. The website has grown to over 150 megabytes of permanent CED resources and made the CEDC a recognized destination on the information highway.

My story of this website project is not just a tale of technical progress. It is about how an alternate development organization has attempted to shape the new mediums of computer-mediated communication and the World Wide Web to its own social communication goals, without letting the computer-based medium become the message. It is a success story, despite inadequate planning, and insufficient organizational, human, and financial resources.

Because the CED Centre is not untypical of small organizations working in the new information economy, this story shares some salutary lessons. Conducted close to home, as website development is, such a project can fuel awareness of an organization's own ideals, theory and practices. They can recursively provoke conflicts between amateurism and professionalism, unveil class and gender conflicts, and evoke internal social critiques about communication and design more frequently documented in profit-oriented organizations.

The story suggests that firmly held social ideals of community empowerment and appropriate technology, based on E. F. Schumacher's work, can guide organizations well, but website development can be better served by more practical heuristics enriching that framework.

Website development takes more time and more iterative consultation and "articulation work" than can be imagined. The complex social and technical capabilities needed to create websites now mean that neither overworked employees of social organizations nor consultants can do projects alone. The knowledge of both is required.

Lessons from participatory design literature, political economy literature on the new economy, and website design can be integrated into planning to eliminate pioneering on what is no longer a frontier. The process of developing a website to fit social ideals can exact fewer social costs, if those ideals are purposefully matched with the highly usable heuristics from participatory computer-mediated communication practice.

Dedication

To all such idealistic, pioneering fools who walk in
where angels fear to tread. Nothing gets done
without them.

Quotation

The technology of production by the masses, making use of the best of modern knowledge and experience, is conducive to decentralisation, compatible with the laws of ecology, gentle in its use of scarce resources, and designed to serve the human person instead of making him the servant of machines. I have named it intermediate technology...

E. F. Schumacher, Small is Beautiful (1989, p.163)

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I owe particular thanks to Catherine Murray and Ellen Balka for enlarging my vision of the project and shepherding this project through to completion. In addition, I want to thank Jan Walls and Stephen Ameyaw for the many philosophical discussions which laid the basis for articulating this experience. To Mark Roseland, Director of the CED Centre, many thanks for grasping the strategic value of the Centre's webwork, acknowledging my own "intellectual property" investment in the website, and supporting my desire to record this communication project of the Centre from my own perspective. The views and faults of this report are my own. Lastly, I owe thanks to June Lau, my long-time friend and fellow university employee, who always knew when to send the solace of cookies express by campus mail.

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CHAPTER 1: CONTEXT

Introduction

In 1994, Simon Fraser University's Community Economic Development Centre (CED Centre or CEDC) adopted a computer-mediated communication (CMC) strategy utilizing the World Wide Web (WWW), when it lacked resources for print publishing mediums more congenial to its collective talents, locally-focused social goals and sustainability-oriented ideals. Over a period of five years, I participated in the development of this 150 megabyte website. This website is now recognized for its contribution to community economic development (CED): in 1998, it was named by Links2Go¹ as a "Key Resource in Community Development" and featured on their Top 20 International list. It is also rated "Good" on ENTERWeb's² recommended CED sites, and recommended on AUSCED's³ Hot List.

This report is the first attempt to evaluate the CED Centre experience of website development. After five years of work, the website has reached a development plateau, with established personnel, styles and processes.

¹ A U.S. community service site. <http://www.pitt.edu/~friendsh/cdc/inttop20.html>

² A Canadian economic development site. <http://www.enterweb.org/communit.htm>

³ An Australian site. <http://www.coolahddg.com.au/ausced/links.htm#Canada>

The CED Centre staff as a whole considers the website to be a successful project, but is also aware that its rather naive and amateur beginnings have, as many development projects do, exacted high human costs, and have shaped the website in directions which may need to be changed. In effect, the website has reached a degree of maturity where those involved need to step back and reflect, and where an evaluation is normally necessary to establish a project's future direction. The website is not in the midst of a "midlife crisis," but it assuredly is in need of a normal life stage review (Marcia, 1998) to give it firm and coherent direction, if it is not to have a major crisis in the future.

In the remainder of this chapter, I describe the CED Centre's service mandate, and locate my own voice as a participant. I place the Centre's service work in the theoretical framework of E. F. Schumacher (1973/1989), from whom the CED Centre claims descent⁴. I then describe the Centre in the context of the 1990s political economy, particularly the impact of restructuring due to the new information economy, and explain why the Centre adopted a computer-mediated communication (CMC) strategy to meet its mandate.

In Chapter 2, I describe the CEDC website, its design features and visitor usage. In Chapter 3, I describe the website's limitations and strengths. I describe, in Chapter 4, some lessons that have been learned from this project, and which can be learned from CMC, social design theory and other sources

⁴ The founding of the Centre was carried out in collaboration with George McRobie, then head of the UK-based Intermediate Technology Group, founded by Schumacher, McRobie and others (McRobie, 1981).

to better guide the website's future development. I conclude by suggesting that social action organizations like the Centre can benefit from these lessons and sources to prevent high social costs and unnecessary pioneering in such projects in the future.

CED Centre Mandate

The Community Economic Development Centre is a small, Simon Fraser University (SFU) teaching, research and service unit, established in 1989. It is located at the university's main campus in Burnaby, British Columbia, Canada. The Centre's mandate is to serve British Columbia (BC) communities through a multiple outreach program, as outlined in its constitution:

- To maintain and expand the CED academic program, including its post-baccalaureate diploma, distance education, and future academic options in CED for Simon Fraser University;
- To stimulate the study of CED and the process of CED in British Columbia and elsewhere;
- To collect and provide information about CED within and outside the province;
- To carry out projects on CED in partnership with communities and agencies outside the University;
- To facilitate effective use of the University's resources of people and departments in responding to requests for assistance on CED problems;
- To create opportunities for professional development experiences and programs for CED practitioners; and
- To establish working relations with similar centres internationally,

particularly in developing countries (Community Economic Development Centre, 1997).

The CED Centre was established as a result of a study conducted in 1987 by David Ross and George McRobie, both high profile figures in community economic development (Ross & McRobie, 1989). They identified Simon Fraser University (SFU) as a strategically situated institution whose resources could be effectively mobilized for community economic development (CED) promotion. The CED Centre has had an academic program, a Diploma in CED, in operation since 1992. It is one of the first such Canadian credentials in the field.

In pursuit of alternate social goals, socially-committed organizations, so often marginalized and relatively powerless, frequently find themselves looking over the fence with envy at commercial marketing, with its access to powerful, costly advertising and communication tools.

To undertake a serious promotion campaign thus demands a perilous balancing of means and ends if such an organization does not want its goals derailed by the means it has chosen. Naive adoption of technique or technology carries heavy odds, as E. F. Schumacher, the founder of the appropriate technology movement, describes:

I never cease to be astonished at the docility with which people -- even those who call themselves Socialists or Marxists - accept technology uncritically...The implicit assumption is that you can have a technological transplant without getting at the same time an ideological transplant; that technology is ideologically

neutral; that you can acquire the hardware without the software that lies behind it, has made the hardware possible, and keeps it moving. ...new technologies are developed only when people of power and wealth back the development. In other words, the new technologies will be in the image of the system that brings them forth, and they will reinforce the system. (Schumacher, 1979, p 40-44, emphasis in original)

Emergence of the Internet and the CEDC Website

In the late 1980s and early 1990s, the internet emerged as an alternate communication infrastructure (Menziez, 1996; Schuler, 1996, Stoll, 1995).

"Liberated" from the U.S. Defense Department's research infrastructure (Menziez, 1996, p. 55) by university-based researchers, the internet came to be maintained as a non-profit network of networks, separate from the growing corporate computer networks. To universities, utopian computer and artificial intelligence enthusiasts, and self-styled freenet pioneers⁵ (Stoll, 1995; Schuler, 1996, Quarterman, 1993, Rheingold, 1993), the internet was dazzling. For a generation raised on a diet of science fiction and space fantasy, it was a dream come true.

By 1994, hypertext markup language (HTML) and the release of browser software to handle it, opened up the World Wide Web (WWW) to the public (Balka, 1997). This development seemed to promise a growing, if not infinite,

⁵ Counterparts of "do-it-yourself" ham radio operators and CB radio enthusiasts of previous generations. The vision of the "insouciant nonchalant operator in media spaces" which Mattelart (1995, p. 237) attributes to the postmodernist vision of television viewers, seems to me to be a quintessentially American, adolescent, self-made, male, "can-do" archetype dating back to the demands of the frontier (Erikson, 1963) and to the 18th Century, Benjamin Franklin age of invention.

capacity for both text and graphics on the internet. Until governments and business focused on the internet's potential for the global economy (Menzies, 1996, p. 55-56) in 1995, the internet/WWW seemed to offer a prospect of all the power and reach of mainstream communication media, without apparent taint from commodification. Even the sky was no longer the limit if one could launch one's organization into cyberspace. What idealistic organization would not be caught by the internet's seductive appeal to all its alternate, frontier, community, populist, grandiose, and plain adolescent "outsmart-'em" yearnings?

In the 1993-1994 discussions of this proposed project, the CEDC staff felt the organization had an "advantage of backwardness" in promotion work. It was not deeply involved in publishing by other means, nor invested in desktop publishing software or skill sets. Its personnel's collective experience was in slower, more arms-length forms of publishing. No one was attracted to building an infrastructure for self-publishing, all too onerous, as we could see from the stresses on our university neighbors. The World Wide Web lured us as a sporting end run around these publishing challenges, seeming then to require much less of an investment, with less labor and material cost for faster delivery time.

The decision to take the internet pathway to publishing was a great relief at the time. This was especially true for material that was unlikely to

win a place in existing publications and peer-reviewed academic journals. CED, after all, was (and remains) very "alternate," often regarded as a naive left-wing or a naive right-wing approach to development work by professionals and politicians. The internet's own beginner ethos, we felt, offered the CEDC a home, and would provide the CEDC time and space to develop, as the internet itself moved toward professionalization. The WWW offered us all the charms of immediate gratification of our publishing needs, and the margin to grow.

We were aware, at the same time, that the internet did not have the demographic reach we wanted, if we were to meet our mandate to serve British Columbia's disadvantaged communities, urban, rural, or other (Balka & Doucette, 1994; Halseth, 1996; Halseth & Arnold, 1997; Hodge & Jespersen, 1994). Yet from our own backgrounds,⁶ we were aware that the most isolated communities could also have the same advantage of backwardness: the internet access had possibilities of being more readily adopted in remote areas than in cities where adequate alternatives were already in place for large numbers.⁷ Although the high costs of computer technology limits individual

⁶ I had extensive experience in rural and northern BC; Gerald Hodge had worked extensively in rural Canada and Australia; Stephen Ameyaw had worked in development from Kamloops to the Kalahari; John Pierce's expertise was in agriculture. All had experienced rural technology leaps and technological combinations less linear than seen in urban development. John Jespersen, the remaining team member, had experience with Vancouver's urban freenet.

⁷ CEDC 1993-1994 discussions took place during public information highway discussion which led to formal government consultations in 1994-1995. Community Access Program (CAP) was launched in December 1995, funding internet access sites in rural Canadian communities, and extended to disadvantaged urban communities in 1998 (Industry Canada, 1995, 1998). A student report on a rural CAP site is on the CEDC website (Kerr, 1998).

ownership of CMC capacity, CEDC staff reasoned that innovative sharing of CMC and informal circulation of CMC-accessed materials would probably be higher in rural and disadvantaged communities with patterns of mutual assistance, than in urban communities with their greater atomization. These factors could potentially mitigate the effects of elite CMC equipment ownership in communities outside the urban centres. In cities, freenets based in public libraries and other social institutions were being pioneered with volunteer labor to ensure basic internet access for all. Thus, with access multiplying fantastically in the mid-1990s (Schuler, 1996), the CEDC felt confident that it would be only a short time before its WWW enterprise would no longer be futuristic. On the basis of this reasoning, the CED Centre set to work developing its computer mediated communication infrastructure.

What the Story Tells

This project tells the story of how an alternate community economic development organization has attempted to shape the new mediums of computer-mediated communication and the World Wide Web to its own social communication goals, without letting the computer-based medium become the message. This is also the story of how a community-oriented organization usually approaches its communication goals: without a sound grounding in computer mediated communication, and without benefit of

CMC theory. In fact, it is a classic tale of the "just muddle through"⁸ approach to social action.

When such an organization passionately attempts to carry out its commitment to values such as community service and local community empowerment in this new, global, and rapidly evolving internet environment, serious contradictions are inevitable. As a consequence, this is also a story of how such a development project, conducted within a development organization, can recursively :

- provoke sharpened awareness of an organization's own ideals, theory and practices;
- open up the gap between the ideals of amateurism and professionalism;
- provoke class and gender conflicts between colleagues; and
- evoke internal social critiques associated with participatory design theory, more commonly documented in profit-oriented organizations.

The story thus offers some glimpses into the crucial struggles, social costs and re-balancing I believe are probably inevitable, if the intention is to keep an organization's message above the flood level of this high-technology medium.

⁸ I am not suggesting that "muddling through" is a bad idea. Indeed, since results of most projects can rarely be fully predicted and certainly not guaranteed in advance, the classic, British "muddle through" approach, with its acceptance of unknowing, is often the only way to get things done.

Finally, this report examines ways in which communication theory and design theory might have saved some of the considerable burden of "reinventing wheels" in this website development project, and could contribute to a coherent action plan for such a community service website.

Author's Voice

The author of this report is not an outsider to the CEDC. In contrast to the conventional consultant, hired solely for an evaluation, or the transient participant-observer of much sociology research, this author is at the heart of the CED Centre's operations. Apart from steering committee members who participated in its founding, I am the person with the longest-standing association with the CED Centre, and with widest compass in day-to-day responsibility for both programs and the website.

I was hired as part-time secretary in 1992, not only because of previous university administrative experience, but because I have personal experience in community economic development and community-based, small group publishing.⁹ For six years, I was the only support staff, indeed, the only paid staff, and often the only person in the office from week-to-week. I have organized and carried out all the administrative work of the Centre and its academic program. To this, in the mid-1990s, was added the maintenance of

⁹ I had been a founding director and financial director of a craft promotion society in BC's Chilcotin, and was a director and newsletter coordinator of a housing co-operative, as well as having fifteen years of experience in small, left-wing newspaper writing and production.

an e-mail discussion-group, followed by the website.

I was one of the originators of the CEDC website project because of my understanding of the strategic public relations needs of the CEDC. Only in 1996, with the coming of Mark Roseland as first Assistant Director and then Director, and in the fall of 1998, with the addition of a secretary, has the CEDC begun to develop a daily division of labor. Thus, because of the pivotal role I have played since 1992, I have been involved in most of the strategic and management decision-making processes of the Centre.

Out of the many issues that emerged through the addition of the website to the CEDC's strategic work, and its impact on both the division of labor and on social relations within the CEDC, I found myself in a forced growth process. This required sharpening my own thinking about CED, technology development, social dynamics in development organizations, applied communication evaluation, and more. Communication projects, it turned out, were not as easily undertaken, as I or anyone had so insouciantly thought in 1993.

This report is the outcome of my experience. This report will scrutinize this often perplexing website development process from two perspectives. First, there is my personal position as an older, female, working class intellectual and key support worker of the CED Centre. Second, there is an explicit appropriate technology perspective derived from the work of E. F.

Schumacher (1989), which is the theoretical basis of the CED ideals I share.

Because of my explicit biases, I acknowledge the difficulty -- and the necessity -
- of attempting that most difficult of human efforts, as E. F. Schumacher
describes in A Guide for the Perplexed:

Every thought can be scrutinised directly except the thought by which we scrutinise. A special effort, an effort of self-awareness, is needed -- that almost impossible feat of thought recoiling upon itself: almost impossible but not quite. (Schumacher, E. F. 1977, p. 54)

CED Praxis and the Work of E. F. Schumacher

The Community Economic Development Centre traces its lineage back to Small is Beautiful, by E. F. (Fritz) Schumacher (1989),¹⁰ originally published in 1973. In this book, Schumacher outlined his concept of intermediate technology, or as it is more commonly called, appropriate technology.¹¹ While the CEDC generally lets appropriate technology notions guide its work, the planning for this project in computer-mediated communication used it only implicitly. It did not include a thorough retrospection of theory before proceeding, yet such a review is necessary for grasping the fabric of this project.

¹⁰ A new edition of Small is Beautiful is being published in Vancouver in 1999, with side-bar commentaries by contemporary practitioners, including Mark Roseland, Director of the CED Centre.

¹¹ It is unfortunate that the word appropriate has taken on a predominantly moralizing connotation in recent years. Schumacher himself avoided the word because of his concern to emphasize best fit in technology. Schumacher certainly addressed morality (Schumacher 1977), but plainly believed that that was a human trait, rather than technical feature of a situation.

Community economic development emphasizes practical application of theory, not just ideals. The CED movement is based on E. F. Schumacher's notion that economics needs to be conducted "as if people mattered"¹² (Schumacher, 1989), the framework of which is outlined in the quotation which prefaces this report (Schumacher, 1989, p. 163).

CED implies congruence of means and ends (Schumacher, 1979). CED has a reputation of naive back-to-the-landism, partly because Schumacher's consistent emphasis on ecology and care for the land was a formative influence on the North American hippie counter-culture (Sale, 1989). Nevertheless, it is important to underline that Schumacher, long labeled a crank, was far from being an outsider to the system.¹³ For twenty years, Schumacher was chief economic advisor and chief statistician for Britain's nationalized coal industry, then Europe's single largest enterprise. His understanding of capitalist development and its technologies came from inside the beast (Schumacher, 1979, 1989, 1997). Despite his years in conventional industry, Schumacher was unafraid to challenge established notions. As Theodore Roszak puts it,

¹² The subtitle of *Small is Beautiful* (Schumacher, 1989).

¹³ Born in Germany in 1911, Schumacher was a Rhodes scholar in economics at Oxford, and an assistant professor of banking at Columbia University by the time he was 23. In 1937, he abandoned a lucrative international trading career to take refuge in England from Hitler. While confined to farm labor under British wartime "enemy alien" regulations, Schumacher wrote a plan for an international monetary clearance system which was adopted by John Maynard Keynes. Schumacher became economic advisor for British occupied Germany after the war and contributed to the development of the Marshall Plan for German economic recovery, then became the Coal Board economist (Schumacher, 1979, 1989, 1997).

E. F. Schumacher's economics are not part of the dominant style. On the contrary, his deliberate intention is to subvert "economic science" by calling its every assumption into question, right down to its psychological and metaphysical foundations. (Roszak, 1989, p. 3)

Schumacher was the first to warn about the dangers of dependence on non-renewable resources and nuclear power. But his turning point toward social action came when he was sent in 1955 to Burma to ascertain Burmese needs for western-style development. He reported back to the Coal Board that they didn't need any assistance because Buddhist Economics was working fine (Schumacher, 1979, 1989, 1997).

Regrettably, Schumacher's work does not appear to receive credit in contemporary social criticism of technology. This may be a response to Schumacher's now-outdated gendering of language (i.e., "Man" for "humankind"), or it may be because, indifferent to being labeled a crank, Schumacher walked his own path in reverse of the dominant, secularizing culture, and even of his many admirers.¹⁴

¹⁴ I suspect Schumacher enjoyed teasing everyone, from the Coal Board which sent him to Burma to the most radical of the new generation of social critics and dissenters. Certainly his famous reply to accusations of being a crank has a teaser in it for the left as well as for the right which labeled him. Growing up Marxist and atheist, he bypassed the Buddhism which interested him in the 1950s, and which his work helped popularize in the 1960s. He not only converted to Catholicism in 1971; he cheerfully used the language and concepts of Christianity and its Cardinal Virtues, to describe and prescribe his cure for the dilemmas of technology out of control (Schumacher, 1977, 1979, 1989, 1997). Thus, even in the heyday of predominantly materialist critiques of neo-colonialism, Schumacher firmly tied the spiritual to the economic in matters of human wellbeing. "...when the available 'spiritual space' is not filled by some higher motivation, then it will necessarily be filled by something lower -- by the small, mean, calculating attitude to life which is rationalised in the economic calculus" (Schumacher, 1989, p 122-123).

[Y]ou have to remember that a crank is small, safe, cheap, comprehensible, nonviolent and efficient, a perfect tool of intermediate technology. And.... very good for starting revolutions (cited by Sale, 1989, in Schumacher, 1989, p xxiii).

Today, in light of accelerated development of CMC and the information highway, it is startling to realize how fresh Schumacher's ideas remain.

Schumacher's exploration of the Buddhist Middle Way, integrated with his practical capitalist experience and background in Marxist economics, led him to formulate key concepts of appropriate technology. In essence, Schumacher developed one of the most knowledgeable and influential social critiques of technology in this century, long before the late 20th century economic crises sharpened in over-developed countries:

Scientific findings can be used for, 'incarnated in', countless different 'shapes' of technology, but new technologies are developed only when people of power and wealth back the development. In other words, the new technologies will be in the image of the system that brings them forth, and they will reinforce the system. If the system is ruled by giant enterprises -- whether privately or publicly owned -- the new technologies will tend to be 'gigantic' in one way or another, designed for 'massive breakthroughs', at massive cost, demanding extreme specialisation, promising a massive impact -- no matter how violent (Schumacher, 1997a, p. 101).

In addition to criticizing "giantism," Schumacher understood how hard it is to reverse the damage and complexity that the systemic drive for more and bigger creates:

A technology with a human face would not only favour smallness as against the current giantism; it would also favour simplicity against complexity. It is, of course, much more difficult to make things relatively simple again than to make them ever more complicated. I am not talking about the simple life as such -- although there is much to be said in its favour -- I am talking about processes of production, distribution and exchange, as well as about the design of products. Complexity, in itself often the result of excessive size and the excessive elimination of the human factor, demands a degree of specialisation and division of labour which all-too-often kills the human content of work and makes people too specialised to be able to attain wisdom. It must therefore be seen as an evil, and it is the task of human intelligence -- of R&D in the industrial context, to minimize this evil, not to let it proliferate. All this, I believe, hangs together. All is related to the human scale, all related to the humanisation of human work, all conducive to the re-integration of the human being into the productive process, so that he or she can feel alive, creative, happy in short, a real person -- even while they are working for their living. (Schumacher, 1997a, p. 72-73)

Schumacher also developed his "Law of the Disappearing Middle" in which he describes how access to work opportunities disappear when technology development accelerates. Although he largely wrote before wide scale computerization, Schumacher plainly understood that his critique applied to the new information-based economy as well as to the old:

In technological development, when it is drifting along, outside conscious control, all ambition and creative talent goes to the frontier, the only place considered prestigious and exciting. ...It is not difficult to observe the process. The 'better' is the enemy of the good and makes the good disappear... Those who cannot afford to keep pace drop out and are left with nothing but Stage 1 technology. ...[t]he hoe and the sickle remain readily available; the latest and the best -- for those who can afford it -- is also readily available. But the middle, the intermediate technology, disappears. ...Never previously having done your own thing, it is unlikely that you will have the ability to do it now, and in any case the technology that could help you to do your own thing

efficiently cannot be found (Schumacher, 1997a, p. 106-107. Emphasis in the original).

Schumacher very early commented on the contrasting freedom claims and loss of crucial freedoms inherent in the development of technologies like CMC:

While people ...believe that fast transport and instantaneous communications open up a new dimension of freedom (which they do in some rather trivial respects), they overlook the fact that these achievements also tend to destroy freedom, by making everything extremely vulnerable and extremely insecure, unless conscious policies are developed and conscious action is taken to mitigate the destructive effects of these technological developments (Schumacher, 1989, p. 74).

Schumacher makes clear that his denunciation of large scale technological systems is not based on naïve "good-versus-evil" dualism, but arises from his understanding of human organizational dynamics:

... [T]he specific danger inherent in large-scale organisation is that its natural bias and tendency favour order, at the expense of creative freedom. ... all real human problems arise from the antinomy of order and freedom. Antinomy means a contradiction between two laws, a conflict of authority; opposition between laws or principles that appear to be founded equally in reason.... Excellent! This is real life, full of antinomies and bigger than logic. Without order, planning, predictability, central control, accountancy, instructions to the underlings, obedience, discipline -- without these, nothing fruitful can happen, because everything disintegrates. And yet -- without the magnanimity of disorder, the happy abandon, the entrepreneurship venturing into the unknown and incalculable, without the risk and the gamble, the creative imagination rushing in where bureaucratic angels fear to tread -- without this, life is a mockery and a disgrace (Schumacher, 1989, p 259-260).

The notion of appropriate technology – and CED – has developed out of Schumacher's emphasis on the daily, embedded practice of fitting means to ends (Schumacher, 1977). Schumacher's -- and CED's -- emphasis on local value systems and economic life, can seem antithetical to today's computer technology and global computer-mediated communication (CMC). But in practice, CED is quite eclectic, with a wide use of many technologies and organizational frameworks, depending on the best match for the task at hand (Simpson, 1998). CED is built on a vision of tools and capacities combined for ecological and social sustainability, controlled by local communities for their own ends. Thus community development work can include global CMC access. As Jan Walls points out,

Online groups (mediated by computer networks) are ideally suited to play the role of task-focused groups that supplement and enhance the performance of groups with broader mandates, including primary, relationship-focused communities, and by so doing they may also enhance the quality of the relationships within real communities. They can do this by allowing quick, easy access to the ideas, information, organizational strategies, technologies, and so forth, required to keep stable communities dynamic (Walls, 1993, p. 159).

CEDC Goals, the 1990s Social Cutbacks and the New Economy

Despite its ambitious mandate, the CED Centre is only modestly staffed and funded. Following its initial start-up funding in 1989, it has functioned for ten years with a part-time director,¹⁵ a part-time secretary, a volunteer

¹⁵ In fact, a series of directors, as this voluntary service function of faculty was affected by sabbatical leaves, etc.

faculty steering committee, a few sessional instructors, and basic administrative funding (\$6,000 annually, and cut back to \$5,300 in recent years) to operate its diploma program. These thin resources long prevented the CED Centre from also fulfilling its mandated outreach component, which is its *raison d'être*. Indeed, by 1994, the Centre began to fear loss of both visibility and credibility in the wider community.

At the same time, another common university income source -- consultancy work -- was proving politically risky in BC's small CED network. In the aftermath of the provincial New Democratic Party (NDP) government's first cutbacks, grant funding was significantly replaced by contract work. Competition surged among individuals and groups, and many complained that the CEDC was unfair competition, due to unspecified institutional advantages. More soberly, the CEDC saw a moral dilemma emerging in this narrow market: pursuing consultancy contracts would bring the Centre into competition not only with current practitioners, but even with its own new graduates. The CEDC would soon not be doing CED if it took that particular competitive, entrepreneurial road.

What was not apparent in 1992-1993 was that everyone in the community development sector was being hit, not just by government social cuts, usually attributed to debt reduction policies, but also by economic restructuring policies. The combination of cuts and project-by-project grants

allowed the government to significantly increase its centralized control and supervision of the volunteer- and activist-based sector of the social safety net. We were being mopped up to fit the new economy just as the service sector had been restructured through layoffs, underemployment, jobless growth, deskilling, reskilling, multi-tasking, and de-institutionalization (Menzies, 1996).

Unhappily, this sector of the social economy was one of the least equipped to cope with the new realities. Many colleagues or organizations within the field have strong roots in the 1960s counter-cultural rejection of the market economy and its institutions, even though most have been completely dependent on grants from government or the benevolent rich for over a generation. Moreover, older, British middle-class, social-work traditions, the 1960s adolescent peer culture, and feminist collectivism had all brought a certain self-effacing ethos into practice as part of the 1970s-1980s lifestyle politics (Landry, Morley, Southwood & Wright, 1985). The almost-overnight shift to face-to-face competition and the need to lead individually in ways thought left behind in the 1960s, was deeply disorienting.

At the same time, many shared ideals from back-to-the-land pioneering or from libertarian perspectives. These had led us to undertake minimalist lifestyles, voluntarily accepting minimal salaries in an effort to substitute "sweat-equity" for actual capital equity in community work. This

left most practitioners in community development imbued with habitual practices of self-exploitation and left them unskilled at budgeting competitive proposals that would generate surplus for capital (Landry et al., 1985). What they knew best was how to budget for year-by-year minimum operating needs. In What a Way to Run a Railroad, Landry et al. describe the failure of British collectivist enterprises under Thatcherism:

Long-term strategic questions (such as 'the need for investment,' in the sense of provision for replacement of personnel; taking care to avoid 'building on sand,' in organizational 'burn-out' by relying on intense self-exploitation, etc.) – none of these issues could even be thought through ... The conceptual space in which these things could appear as important issues did not exist (Landry et al., 1985, p. 9).

On the whole, my experience in the CEDC's organizational culture has been very similar to that described by Landry, et al.: a commitment going beyond wages-for-work, and a deliberate personal choice to engage in sweat-equity -- the recursive extraction of capital from one's own self. This has been true of the directors and steering committees as well, to varying degrees. Thus, the CEDC, and the whole layer of British Columbia Left-oriented community development practitioners were largely ill-equipped for a transition to the cruel competition of the 1990s.

The CEDC remained within the more stable university environment, so that the Centre has been buffered socially -- and able to maintain the minimalist, pioneering, social style longer than our private counterparts. On

the other hand, it has shared traits of restructuring found in the civil service and universities (Menzies, 1996), where re-skilling strategies have predominated, creating a computer-based burden of work in sharp contrast to the "seductive world of personal computing" (Kuhn, 1996, p. 274). This multi-tasking at times becomes a stupefying confusion of irreconcilable task, velocity, people and deadline demands, as Menzies describes:

More and more people are being driven, faster and faster, by the technological dynamo...[computer] aids have removed the simple tasks through which people normally paced themselves with slack and waiting time, leaving them instead in a state of non-stop performance, with scarcely a moment unbooked. Constant change leaves people without the time to get comfortable with a new technology or system. ...one day you're in training, and the next day you're the expert. Other technologies such as voice mail, fax, and e-mail, compress time. ... You think you are driving all these gadgets, but they're driving you (Menzies, 1996, p. 42-43).

Other CED practitioners and organizations have been choked off more directly by restructuring. Groups accustomed to annual operating grants were reduced to project-by-project approval processes, which consumed ever-more advance, unpaid labor to prepare. Budget-cutting on even these grants reduced surpluses which had previously given them a margin to upgrade operating equipment. Many community development practitioners in non-profit organizations were re-invented as "consultants" and home-based contract workers. Furthermore, many government development-oriented jobs were cut. Their responsibilities were contracted out to the newly unemployed through competitive bidding processes. Project budgets were

slashed while being made more complex to conduct (Sustainable Development Research Institute, 1998) yet projects were, by contract, required to be fully carried out. Harsh competition surged in this unaccustomed market environment.¹⁶ Many, especially those who had habitually lived modestly, were without personal capital or even computer skills sufficient to equip themselves for entrepreneurship in the new computer-based economy.

As a result of these many cuts, one social layer impacted on the CED Centre in a particularly active way. This was a wave of newly-unemployed, middle-aged development professionals, mostly former civil servants and mostly men,¹⁷ which swept through the Centre, competing fiercely for contract work which they hoped the Centre, as an institution, could provide. At times, their pressure for contacts, interviews and project presentations often made me, as the Centre contact person, feel like the sole occupant of a tiny, leaky lifeboat, surrounded by drowning swimmers. After one or two projects involving such persons, it became clear to me that their presence was generating a social shift at the CEDC. With one exception, attempting to boot-

¹⁶ In 1993, for example, the BC Working Group on CED (BCWGCED) suffered strain because this umbrella group launched itself into a competition for a two-day seminar project, with the idea of making money for the group, only to find that draft proposal was competing with its own members, who needed to put food on their own tables. After some discussion, initiated by myself and Gerald Hodge as CEDC representatives, it was decided that just because the government wanted competition, the CED milieu did not have to become competitive. Instead, the individuals who would have conducted the seminar in the name of the group were encouraged to apply in their own names, and collaboration was encouraged to reduce the cost of proposal development to each. It was out of this experience that the CEDC examined its own conscience in the matter of competitive consultancy work (BCWGCED meetings, 1993).

¹⁷ Where were the women? My experience, garnered through telephone discussions with many through this period, suggests that the women were predominantly still employed, but shifted into part-time positions, with the same workload, as I was myself, or working on a home-based contract basis. This is corroborated by Menzies (1996), p. 32-33.

strap the Centre with their involvement was problematic.

First, it became clear that few consultants, straining to retain a middle-class living standard by juggling multiple contracts, had any intention of participating in the sweat-equity, volunteerist culture of the Centre. Work became increasingly defined as paid employment only (Williams, 1983, cited in Orr, 1996, p.151).¹⁸ This gave their participation in the Centre an exploitive edge, intended or not. As Landry et al. pointed out about the experience in the British Left, this creates fundamental conflicts which can break a social action organization (Landry, 1985).

Second, the male peer group habit was creating a gravitational effect involving all the men, academic and consultant, tilting the inner team balance of the Centre. Landry et al. (1985), in accord with Schumacher, pointed out that when a group functioning more or less collectively grows beyond about 4-6, it usually needs a degree of hierarchical order for effectiveness. However, the presence of just a few contract professionals at the CEDC in the mid-1990s generated not a conventional production hierarchy, but an upside-down class/gender pyramid. They gravitated into an upper layer, all of them middle class males, weighing down on the sole female clerical worker (myself), jostling for "support" in the form of

¹⁸ One such consultant refused to participate in group discussions unless he was paid by the hour for coming, even when no one else at the CEDC was being paid for the time investment.

secretarial, computer and errand-running services.¹⁹ Figure 15, Appendix H illustrates this transmutation of the conventional hierarchy by peer culture. Inevitably, this multiplied my task demand load, and made prioritizing socially intricate.

By resolving their "contractor/contractee" economic friction through bonding based on shared professional status, the men "located their inequality elsewhere" (Landry et al., p 73). In effect, the "re-structured" men brought the systemic restructuring with them into the CED Centre. At the same time, my university administrative responsibilities expanded in volume and complexity, due to growth of the academic program, and digital downloading (Menzies, 1996) to the academic department level. This combined intensification of labor demands opened up a hollow which had not previously revealed itself at the CED Centre. The presence of only a few such consultants intensified mutual "have/have not" divisions,²⁰ and devalued the tacit knowledge (Menzies, 1996, Kuhn, 1996) of myself, the only

¹⁹ On this gender issue, I am of the opinion that if women had also been actively pursuing contracts, with their competitive edge freshly honed by Job Finding Club training, their conduct toward support staff women would have been largely indistinguishable from the men's. The 1970-1990s culture of assertive equal rights, "win or die" sports, and juvenile peer group codes for girls as well as boys was built on the constant presence of mothers servicing and structuring children's participation in self-development activities. Thus, I argue, when insecurity and peer group rivalry escalates in the presence of women whose job is to serve and facilitate, bonding or solidarity is unlikely between career women and service women. In these circumstances, even the best of good will between women cannot prevent replication of fierce sibling rivalry for the services of support staff – mommy recreated by inarticulatable desires in the workplace (Flax, 1993; Dinnerstein, 1976).

²⁰ It is important to note that high status, but economically insecure, contract workers have good reason to envy lower status but secure "continuing" employees. The world of contract work is far crueler than mere grinding poverty. The "have/have not" envy problem is a two-way street.

older worker at the CEDC, in favor of credentialed professionals engaged in marketing themselves as the new economy required of them.

The CEDC, like other groups with roots in 1960s sweat-equity culture, was ill-prepared to handle these social impacts of the new economy because of its informal, volunteerist functioning and small numbers. These new professionals, arriving at the same time as intensified computer-based work, brought restructuring (necessary or not) with them. As they came in the front door, the sweatshop ethos of the new economy sneaked in through the backdoor. Heather Menzies vividly explains why this can happen, in Whose Brave New World:

As the context for their work is digitized, people are being systematically stripped of their capacity for human involvement and judgement. Machine intelligence and logic take over.... Increasingly, [the computer systems] enclose people in an entirely programmed working environment – one so complete that the workers involved can no longer conceive of the work to be done in terms other than those provided by the computer system. Once closure has happened, they can become the technology's servo-mechanisms: programmed like a thermostat...to switch on at a certain preprogrammed cue and to switch off after accomplishing a preprogrammed task. This adjustment to respond automatically to set cues and instructions occurs particularly if cultural training cements their identification with the computer's and the company's goals of productivity and competitiveness (Menzies, 1996, p. 36).²¹

Given the "heroic pioneer" model of labor genuinely enjoyed in community and activist organizations together with strong identification

²¹ Small wonder Ursula Franklin suggested Menzies' book be subtitled, with a bow to Schumacher, "Economics when people no longer matter." (Menzies, 1996).

with its ideals, the cultural cues were already in place to transform an idealistic self-organizing notion from the 1960s like mobilization into goals of productivity. As design critics Lie and Sorensen (1996) note, paid and unpaid work are not separate worlds in everyday life. Thus, the 21st Century cyberspace pioneer mystique of internet developers readily inserts the digitized economy, like a computer virus, into this 19th Century pioneer culture (Simpson, 1998) of volunteerist, community development groups. This is done primarily through historical amnesia about the bitterly hard labor of real pioneering.²² Figure 14 in Appendix H is a graphic attempt to capture the intensification of work pressure which occurs when multiple cultural cues derived from romanticized pioneering are utilized as button-

²² Without digressing to comment on the colonialist mentality saturating the notion of pioneering "unoccupied" spaces, it is fascinating how dictionaries offer different "spins" on the word pioneer, a word originating from the Old French for a day-laborer, debt-slave and foot-soldier: *peon*, the same root as "pawn." Merriam-Webster's 3rd New International Dictionary (1993) covers only modernist, technical, scientific, abstract and futuristic senses that give rise to the abstract appeal that is the "equity through glamorous work at the vanguard" bait: "1a) : a member of a military unit usually of engineers equipped and trained especially for road building, temporary bridging, demolitions; b) one that excavates or undermines; 2) one that begins or helps develop something new and prepares the way for others to follow. 3a) a person or group that originates or helps open up a new line of thought or activity or a new method or technical development. b) one of the first to settle in a primitive territory; an early settler. 4) a plant or animal capable of establishing itself (as after a burn) in a bare or barren area and initiating an ecological cycle. In contrast, the Oxford English Dictionary (Second Edition, 1989) identifies its connection to darker historical social roots - the use peasants as "leading edge" cannon-fodder: 1) (Military) One of a body of foot-soldiers who march with or in advance of an army or regiment, having spades, pickaxes, etc. to dig trenches, repair roads, and perform other labors in clearing and preparing the way for the main body (1523); 2a) One who digs a trench, pit, etc.; a digger,, excavator, a miner; 2b) a laborer. 3a) (Figurative) One who goes before to prepare or open up the way for others to follow; one who begins, or takes part in beginning, some enterprise, course of action, etc.; an original investigator, explorer or worker in any department of knowledge or activity; an originator, initiator (of some action, scheme, etc.); a forerunner; b) a plant able to establish itself in an unoccupied area." Thus it becomes clear how the metaphoric bridge from the original concrete, physical meaning of pioneer as "sweated conscript laborers" to the contemporary motivator cue of "leading edge labor hero" works. It turns out to be a two-way street, not a one-way bridge. Its romantic appeal paves the way back to exploitive (including self-exploiting, volunteer) forms of overwork.

pushing motivators in this social and technical context.

The slippage from sweat-equity to sweat-shop is often visible only in glimpses or in hindsight, and too often disparaged as delusional, while technical jargon steadily supplants historically-grounded human wisdom in an increasingly hectic, high-velocity work environment (Menzies, 1996).

Menzies confirms Schumacher's (1994/1997) perception that such complexity kills the human content of work:

The highway isn't simply a new technology, a new media, on the landscape. It is creating a whole new landscape and environment for living. And as McLuhan's phrase "the medium is the message" suggests, the medium of this new highway will fundamentally determine the meaning and message of our lives (Menzies, 1996, p. 52).²³

Menzies' vision of the new economy is almost unrelentingly dark and deterministic. In actual everyday life at the CED Centre, the struggles over technology were not simply a losing rear-guard action. Particularly because of the gender and adolescent cyberculture threads in this process, the conflicts I experienced were not on Menzies' grand scale vision. Indeed, this is why that vision could only be glimpsed. Instead, they occurred on a more micro-scale, that of "domestication of technology" (Lie & Sorensen, 1996) (and of males and adolescents [Erikson, 1963]), and the desire for a sense of agency (Panteli,

²³ Schumacher described how this purely technological dynamic toward centralized control becomes antithetical to life: "...Nature always, so to speak, knows where and when to stop. Greater even than the mystery of natural growth is the mystery of the natural cessation of growth. ...Technology recognizes no self-limiting principle.... It therefore does not possess the virtues of being self-balancing, self-adjusting and self-cleansing" (Schumacher, 1989, p 155-156).

Ramsay & Beirne, 1997) as normal forms of everyday struggle:

Conflicts and negotiations about the employment of technology, between designers and users and among users, are forces shaping the complex and composite relations of everyday life. These forces need to be made visible to transcend traditional deterministic accounts of the "effects" of new technologies. This does not mean that users regain all the power invested in them by liberal market theorists. ...We think that domestication holds the promise of functioning as a key concept in the analysis of technology in everyday life. First of all it satisfies the requirement that the consumer/user should be perceived as an active party. Second, it makes us become concerned with the broad variety of actions taken on by people when they acquire technical artifacts and put them to use. Third, it is sensitive to the systemic qualities of the process through which technology is consumed. (Lie & Sorensen, p. 12-13)

Why Computer-Mediated Communication?

Menzies (1996) and Carey (1989) both describe how CMC is being shaped to serve corporate needs for information transportation, in contrast to communitarian information sharing. Neither these forceful analyses of the information highway nor Lie and Sorensen's (1996) valuable analysis of close-order "domestication of technology" were available to the CEDC in 1993 when staff developed their website proposal. However, it was very plain even at the time that the new digital economy was raising appropriate technology issues that Schumacher had described. His critique is easily generalized to the new technology. Indeed, Mander's (1991) critique of computer technology²⁴ in relation to Aboriginal community survival, did just that. Certainly CED is

²⁴ Following his famous argument for the elimination of television (Mander, 1978)

contrary to the high-velocity, commodity and progress culture within which computer-mediated communication is embedded, and adamantly opposed to imposition of global agendas on local economic life (Mattelart, 1994; Schumacher, 1989; Simpson, 1997, Stoll, 1995).

Why then, would the CEDC risk involving itself in the temptations of the new technology? In reality, the brave new world gave us little choice about "supping with the devil." What we had to learn was how to "sup with a long spoon" (Simpson, 1997, p. 15).

In the midst of declining public awareness of the CEDC, shrinking grant access, and growing contract competition among CED practitioners, the CEDC was forced to consider new ways to meet its community service and income-generation goals. In a major staff consultation, the central question the Centre asked itself what could it do best. The answer was: what universities are there to do - pass on knowledge to new generations. The Centre resolved to go into the communication business as a contemporary interpretation of universities' traditional role as education nodes for community. If it could do this well, we would be able to raise the Centre's public face, would not have to compete with colleagues, and might succeed in convincing them, in return, to yield to the CEDC this information node niche. Competition might thus be able to shift to cooperation (Sahtouris, 1989).

The CED Centre's decision to adopt computer-mediated communication was thus both a pragmatic choice, and, frankly, an opportunistic one. Its highly successful, traditional strategy of conference-organizing (Preparing for Now conference, 1994) stressed both staff and finances beyond capacity. CEDC was unable to produce the conference proceedings, and thus unable to generate lasting gains from it. It became clear that a publishing program or print promotion would not be achievable in the near future. Yet without legitimizing the CEDC by contributing to CED knowledge, its potential for funding its infrastructure could only shrink further.

The Centre staff concluded that its critics were right in ways they did not know. CEDC really did have institutional advantages, and we had been ignoring them. These advantages were in the university's computer-based communication capacity. The opening up of the internet beyond the universities in 1994, and the rapid diffusion of CMC technology as a consumer commodity were going to make the World Wide Web (Web or WWW) genuinely accessible to communities looking for CED answers (Hodge & Jespersen, 1994). The CED Centre owes John Jespersen, an SFU Communication graduate and CED program student, much gratitude for his far-sightedness in 1993.

The CEDC staff was aware of the internet's general potential, and had

identified ways it would rapidly come to serve information needs in rural communities (Hodge & Jespersen, 1994). However, the new WWW facility was a qualitative leap in information delivery capacity. In 1993-1994, Simon Fraser University shifted from largely text-based internet use (e-mail, bulletin boards, etc., UNIX-based library catalogue) to WWW pages based on hypertext mark-up language (HTML), and began making WWW capacity readily available within the university. More convincingly, governments were awakening to the information highway potential, and were willing to spend money on it, especially for telelearning-related goals (Ministry of Skills, Training and Labour, 1994).

With a BC Ministry of Skills, Training and Labour Innovation grant in 1994, the CEDC was given a solid opportunity for leveraging the Centre into public view, and effecting our public service mandate, despite our human and financial resource deficits. With no other practical alternative, and hoping we were not compromising our ideals in the then bizarrely exuberant cyberworld, we set out to put the CED Centre on the World Wide Web. We did not examine the issue more deeply; we took the gamble.

In the next chapter I will describe what we created and achieved in five years of website work.

CHAPTER 2: 1999 WEBSITE PORTRAIT

General Description

The CED Centre's website is located on Simon Fraser University's (SFU) main server, at <http://www.sfu.ca/cedc>. It has grown from a few pages promoting our Diploma program and the internet discussion group, to include a large body of permanent text resources, links to other CED-related sites, and on-going reports of our research activities.

In sheer size, the website has also grown exponentially. It now contains about 150 megabytes of material, making it one of the larger departmental sites at Simon Fraser University. Little of the material is photographic, nor does the site use graphic elements heavily. This volume is largely comprised of textual resources. It would be unfair to compare this highly centralized resource to most departmental websites, as large academic departments often have resources dispersed on several servers, or may not use the main server at all. Nevertheless, the CED Centre's approximately 150 megabytes compares startlingly with the Communication School's approximately 5 megabytes (see Table 1). A comparison demonstrates wide differences in departmental use of the SFU main webserver:

Table 1: Comparison of Selected Website Sizes on SFU_Pyramid/web Server²⁵

Departments	Megabytes Used on SFU Server
Archeology	96
CED Centre	147
Communication	5
Economics	67
English	12
Physics	730
Psychology	598

Organization.

The CEDC website is organized in thematically or organizationally related modules, such as Small Business Development, Online Resources and Student Projects. The website currently consists of six major modules. The website organization is briefly outlined in Table 2, on the following page. Appendix A provides a fully detailed sitemap, listing the over 200 linked pages within the site.

Whole new theme-based modules are being added two or three times per year to the CEDC site, as opportunities arise. Each module has its own index page listing its contents and a feedback form utilizing university Common Gateway Interface (CGI) capacity to facilitate user e-mail to the Centre. The modules each have a distinguishing decor, although all have stylistically similar welcome banners, with the CED Centre logo prominently

²⁵ Date: February 1999. Source: Website files on SFU mainframe webserver: SFU_Pyramid/web/cedc. Information obtained by using File/Get Info on a Mac computer.

displayed. Secondary pages feature a smaller CEDC identifier in the upper left corner. Appendix B illustrates these variations on the CEDC theme.

Table 2: CEDC Website Organization²⁶

Main Modules	Sub-units
Homepage - About the CED Centre	Location People News & Events Search "CED-NETWORK" e-mail group Guestbook
Credential Programs	Post-Baccalaureate Diploma Undergraduate Certificate Courses
Gateway to CED	Learning CED Sharing Stories of CED OnLine Resources Print Resources "CEDOnline" papers
Research & Projects	Civil Society & the New Information Technology CED for Forest-dependent Communities Student Projects Graduating Practicum Reports Other Contributors
Small Business Development	Links Paper
Cooperatives & CED	Introduction to Co-ops Conference Report Links "womin-coops" Women-in-Co-ops e-mail discussion group

In some ways, www.sfu.ca/cedc/ is an umbrella site, a website of websites. Modules have their own content directories in an effort to present manageable chunks of information, although the thematic unity of a module can be rapidly left behind in the act of browsing the site, because of massive interlinking of related item.

²⁶ Source: Website files on SFU mainframe webserver: SFU_Pyramid/web/cedc.

The CED Centre has attempted to make the website accessible to the largest possible range of individuals, although we have developed a mental image of a typical site user: a busy adult, who is not a habitual WWW user. We have also attempted to broadly represent community economic development as a diverse and democratically inclusive approach to social and economic problems.

The website represents our effort to walk our idealistic talk in public. Its pictorial, technical and textual choices are three means the Centre has used to manifest this. Described more fully below, these are modest use of graphic elements; minimal technical devices; and a focus on full-text material, rather than information about information. Our key notion is to facilitate inexpensive access to fully-detailed, useable information for CED practice.

The CEDC website has become very complex, with distinct modules, and its own site search engine. Snapshots in Appendix C, and the site guide in Appendix A, display this array. Modules and subdirectories function primarily to serve maintenance efficiency needs by keeping types of materials (student reports, CED Centre public relations materials, off-site resource links) and graphic materials clustered.

This hierarchical organization is much less strictly maintained from the user side, as the site is replete with cross-linkages among thematically related materials. For example, the new Small Business Development

module is both a separate resource, and listed among our student projects. Extensive linking between thematically related documents favors thematic over hierarchical relationships for visitors, and tends to blur unit distinctions. For example, the Cooperatives and CED section has links off-site, to student reports, Small Business Development, book reviews and CEDC writings.

Compared to smaller, more commercial sites, or sites specializing in serving only information about information, such as links or catalogues, the CEDC website is disorderly. There is unevenness between units, particularly in quality of production and language. This unevenness reflects both the wide variety of materials, sources and hands represented by the site, and also the wide array of functions it is attempting to meet. For example, the academic program brochure is inevitably more bureaucratic in tone than a community action report. Both, as full text materials, are more wordy than the links-oriented sections.

In addition, the site is deliberately allowed to reflect some of the untidiness of bottom-up creativity in CED practice, rather than trying to present itself as a model of order. To paraphrase E. F. Schumacher: large scale organization naturally favors order, but without the magnanimity of disorder, creativity and entrepreneurship cannot flourish (cited in full previously. Schumacher, 1989, p. 259-260). The website's unevenness and

disorganization not only reflects five years of production with all too little planning, most of it *ad hoc*, but also reflects a difficult balancing act between the amateur ideal and the constantly rising standards of the professional ideal. It also represents the work of students and volunteers whose individual touch is of greater value to the CEDC than a polished, unitary, corporate identity.²⁷ As Schumacher summed it up: “Maybe what we really need is not either-or but the-one-and-the-other-at-the-same-time” (Schumacher, 1973/1989, p. 259).

Presentation

This website has only gradually adopted decorative and pictorial elements such as background wallpaper, iconic buttons, photographs, and logos. It favors text over pictures partly due to the Centre’s lack of access to adequate equipment for scanning photographic material, but has also been governed by personal biases within the CEDC, and consideration for visitors’ needs.

Behind our thinking is the notion of knowledge as a tool, implying the use values of efficacy and efficiency. We assume our visitors are busy people, interested in the resources’ utilitarian value. Download time for users is a particular concern, as users may be paying long distance telephone charges or

²⁷ One student contributor I trained in webwork won a year’s international internship, working on WWW development in Uganda, because credits indicating his creative role were visible to the host organization on the pages he had created. Another obtained an internship locally.

using slower or borrowed computers. Very early in development, we rejected design for "edu-tainment" or leisure-time browsing, both rooted in television culture, in favor of efficient delivery. In the Resources section which features external links, we assumed in the design that users were more interested in passing through to the other sites whose links we provide. It was our belief that this approach is more empathic toward users than extensive decoration would be.

The weight given to text also reflects my own conviction that while a picture may speak more than a thousand words to introduce an idea or to summarize one, it is inadequate for expressing complex ideas. This choice reflects my lack of interest in picture-based culture or communication,²⁸ and my overt bias against television and its incessant flow of images, as distancing from the hard work of cognition²⁹ and direct experience (Mander, 1978, 1991; Marcia, 1998). From my experience with callers and e-mail correspondents, it became clear that people often turn to CED craving simple, instant answers, whereas the Centre can only offer complex ideas and long-term capacity building approaches. I believe a predominance of pictures and icons would obscure that hard-work message; text can try to convey it.

For these many reasons, iconic representation on the website is largely

²⁸ I have not owned a television set for over 20 of my 54 years, and did not grow up with one, but in addition, have learning disabilities that curtail my ability to think in pictorial images.

²⁹ As someone once said, "the pictures were so much better when we had radio" in contrast to, as Jerry Mander puts it of TV's incessant pictures, "Thinking only gets in the way" (Mander, 1978, p. 200).

of nature, such as trees and landscapes, which I have designed to give visual relief from immersion in text, parallel to the human behavior of seeking relief from immersion in human affairs with a nature-oriented holiday. In the site design, I have used text to represent human experience and icons to represent the ecological framework of human life.

The website attempts to provide some sense of visual coherence to counteract its volume. We have unified the use of the CED Centre logo through all the materials developed since 1997, with each section having its own welcome banner showing the same CEDC logo and name design. This is illustrated by the frontispiece of this report, which is a picture of the site's homepage. Other sections have variations of the welcome banner, showing how unity and diversity have been achieved. These are shown in Appendix B. Secondary pages begin with a thumb-sized CEDC logo (Figure1), and all pages end with the same logo serving as a return button to the CEDC homepage. Pages also end with the same endline graphic (Figure 2) -- a line of trees and the Centre's name in full.

Figure 1: CED Centre logo in form of webpage button.



Figure 2: End-of-document logo.



With these standard identifiers established, the modules also display style contrast to facilitate grounding. Each has its identifying color scheme and logo buttons. We have attempted to introduce a bit of meaning, humor and a sense of British Columbia into icons. The research section, for example, has a button showing an apple tree, replicated from the "treeline" logo above, but in full fruit, with apples dropped to the ground. The Forest Communities project in widespread BC communities, features a Rockies-to-the-Pacific" landscape with snowy mountain peaks at the top and ocean water at the bottom .

Other playful or individual influences are welcome and visible on the site. Small Business Development has the high sky and red earth tones reflecting the African home of its creator/author, Jean-Claude Ndungutse, while the Cooperatives and CED module has a fabric background with art-pin icons, to please the women activists who asked CEDC to host their material. The latter is illustrated in Appendix B. The Under Construction icons feature both men and women working.

These details illustrate the CEDC's attempt to graphically represent the non-monolithic nature of community economic development, while still

firmly serving the CED Centre's own promotion needs.

Language level is another key way we have used to try to make the site accessible. It is not possible to ensure that university level papers be written for public consumption, nor do we feel that complex writings (i.e. Massam, 1996) need be reduced to journalistic style for mass consumption, since they can be downloaded for more leisurely consideration. However, some site sections were written and edited with a common public discourse target of about the grade 12 language level.

In order to attain this initial level, the Gateway to CED online learning module (the first major unit) was reviewed systematically by several citizen's groups chosen among those around the province who responded to initial project publicity. More particularly, it was evaluated for comprehension by several paid reviewers, chosen from among acquaintances of researchers, with the basic criteria of a naive interest in CED, no university education, varied backgrounds (for example, Aboriginal, Spanish-speaking refugee and different lifestyles, rural and urban). Their unit-by-unit written and oral criticisms were gathered by the project coordinator, and were used to re-edit the text before publication (CEDC, 1995).

In addition, the On-line Resources section, with thumb-nail commentaries about other sites, was written by Jay Lambert, our 1997 student employee, who brought his own deep commitment to popular education and

public service to his writing. Telephone comments from visitors have applauded the accessible language of his module.

Our student practicum reports, because they come fresh from actual participation in, and reporting back to, community groups, tend to be written in language fitting those contexts. On the whole, the website has sought to maintain a popular level of discourse. However, as reports from a growing body of funded research are added, the site may face the need for a clear policy about language levels, requiring greater preparation time and labor to transform texts for website use.

As a last note on language, it is regrettable that the CEDC has no resources to service needs in other languages on its website. This admittedly reduces accessibility of the site. Fortunately, there is now available free translation shareware that can produce translation adequate for non-English speakers (with IBM type computers) to evaluate the value of a text (Robinson, 1998). An addition of links to these translation software sites is scheduled, so that site users can be better able to serve themselves.

Part of the work of balancing this website has been to try to distinguish the dual tasks we have undertaken: the self-promotion necessary to the CEDC's survival, and the community-centered service function that we have undertaken.

We are fortunate, at the present time, in not needing to generate income directly through our website. We therefore have the freedom to be generous to others in the field. In 1996, we hosted the entire WWW presence of the Community Development Institute (CDI), an annual Social Planning and Research Centre of BC (SPARC) project. At the time, SPARC had volunteers sufficient to create a website, but did not have the financial or technical base to create their own site, which they now have. Currently, the CDI is using their materials, still available in an events backfile on our site, to create their new promotional materials. This can be a significant, labor-saving contribution to such a project, and an interesting and positive by-product of the CEDC's neglectful website housekeeping.

This sharing of web resources helps position the Centre as an accepted central information node in Community Economic Development, and helps generate acceptance for our own role and views. On the whole, much of the material we publish on the web serves, with reasonable grace, both our own promotional needs and our service needs. As website manager, I try to confine the Centre's more blatant self-advertising to the News & Events and academic program sections.

The CED Centre is not sufficiently equipped or staffed to serve all levels of visitor technical capacity, or support a full array of presentation choices (purely text-based for older computers; modestly decorated for slow ones;

frame-based, high gloss commercial art, high interactivity for high speed computers and connections).

When we began site development in 1994-1995, we were unable to duplicate materials to serve older, purely text-based access. This was a human resource choice, not a political one. The CEDC had no staff with personal experience with the older internet technology. Given our limited staff capacity, we built the site for the coming HTML-based Web, but deliberately positioned ourselves in the mid-range of decorative and technical wizardry. This primarily served to protect me, the sole support worker from the unending learning curve pressures of the digital economy, and to set sensible limits on idealistic expectations that the CEDC must serve everyone, and do it now, like a storefront operation.

The website does make use of some advanced features, such as Common Gateway Interface (CGI) scripts on a modest scale. As Simon Fraser University Computing Services developed its CGI capacity, the site adopted three basic CGI capabilities. The most recent serves web management goals: it provides the CED Centre with weekly reports on page-by-page use, users and their hits, and popular use times.

On the visitor-side, a meter displays hits on the homepage, and feedback forms located in various modules invite visitors to contact the CED Centre with their comments. This level of visitor-side interactivity capacity

has not increased since these were adopted in 1995. They remain simple e-mail forms with spaces for e-mail address and name, a box for comments and a pull-down menu of subject line topics. Simon Fraser University's Computing Services does not provide help for creating CGI scripts. It provides only the technical capacity to run them once in place. Further CGI adoption will require much more preparation, creativity, design, training, labor and cash at the CED Centre itself.

Access: Quantitative and Qualitative Site Portrait

Quantitative data about site usage is now available thanks to Simon Fraser University Academic Computing Service's expanding CGI capacity. Visits to the website in the approximately four years since its launch, to mid-March, 1999, have totaled 15,079. Hits at the site's homepage have increased exponentially: visitors in the most recent six month period (4,040) are in the range of the entire previous year (5,327), and that of the first two years (5,712) (Source: <http://www.sfu.ca/cedc/index.htm>, March 17, 1999).

Visits to the CED Centre website compare well with other sites at Simon Fraser University. Appendix D details access figures available from the university on a weekly basis. Table 3 shows sites chosen for comparison with the CEDC site. The list includes related academic departments and some sites with added public service functions like CEDC's, such as Archeology's

museum, the world-famous pipeband, and Continuing Studies.

Table 3: Access data for selected SFU websites, Four day period, February 1999.³⁰

Selected Department and Service URLs	Hits
/archaeology/	108
/cedc/	124
/communication/	435
/continuing-studies/	419
/geography/	97
/pipeband/	243
/sociology/	153
/womens-studies/	67

Regrettably, comparative figures for CED-related sites³¹ elsewhere are too variable to be useful. Many sites do not have public hit counters, while others have no indication of the start date of the count. In general, figures seem very low. On April 11, 1999, two organizations similar to the CEDC displayed very small counts. The Rural and Small Towns Program at Mt. Allison University, New Brunswick, noted only 743, while Westarc, at the University of Brandon, Manitoba, noted 509 hits. Neither indicated the time period for these counts. The Centre for Community Enterprise, a private CED organization, displayed 3,898 at the same date, but this represents only the hits since their site was moved to a new server in January 1998. In contrast, ENTERweb, in Halifax, Nova Scotia, a site offering mostly links to other sites,

³⁰ Source: SFU Academic Computing Service weekly report.

³¹ Westarc: <http://www.brandonu.ca/Westarc/navbar.html>
 Rural & Small Towns Programme: <http://www.mta.ca/rstp/rstpmain.html>
 Centre for Community Enterprise: <http://www.cedworks.com/>
 ENTERweb: <http://www.enterweb.org/>

reported 109,095 in a one-year period, although whether 1998 or a period in 1998-1999 is not clear.

It should be noted that hit counts, often reflecting mere fleeting glances, are a poor measure of a website's actual use. More indicative is the pattern change in pages being accessed on the CEDC site. A comparison of webpage use during July 1998 and those used in January 1999 is presented in extensive detail in Appendix E. Table 4 summarizes the shift.

Table 4: Shift in page use on CEDC website, July 1998-January 1999³²

Website Page Use Comparison	Jul-98	Jan-99	% Increase
Unique Page Hits	1837	3753	104.3%
No. of Pages Accessed, including search and feedback pages	43	132	207.0%
No. of Unique Content Pages Accessed	17	96	464.7%
No. of Unique Index Pages Accessed	18	30	66.7%

What is visible in Table 4, and even more graphically visible in Appendix E, is that in July 1998, visitors were largely viewing introductory pages and lists. In January 1999, visitors were clicking deeper and deeper into the website to access full text content pages.

Because we do not have detailed reports earlier than mid-1998, or consistent reporting for whole months between, it is not yet possible to deduce the cause of this shift. It may simply be a summer/winter variable. Major content changes did occur between July 1998 and January 1999, namely

³² Source: SFU Academic Computing Services Weekly Reports.

in the Forest Communities Project module. Promotion efforts for the CEDC's new Certificate in CED took place in December and January 1999, creating a related rise in use of the academic module, both in and outside the university. However, use patterns also changed from content lists to actual content in the older modules, such as Sharing Stories of CED and Gateway to CED. This can be seen by comparison of the detailed tables in Appendix E. This leads the CEDC to hope the pattern change is significant, that may indicate that repeat visitors are going beyond surveying the site to actually reading what is there. A more detailed data analysis follows below.

In July 1998, a similar number of introductory index pages were accessed as the number of content pages. This means that half the accesses ("hits") at the site went no further than pages merely listing contents. Visitors were primarily accessing information about information.

In January 1999, total hits increased just over 100% compared to July 1998. This healthy increase is greater than the increase in index page use (up 66%), but in no way matches the remarkable 465% increase in content page hits. The visitors were widening their access to the modules, but also clearly deepening access also. Visitors were looking at the actual documents on the site, not just browsing among the titles.

These figures are no measure of how extensively visitors read the contents, but it is an excellent sign of the website's increasing utility. The

Centre's goal, that the site serve as a repository of usable information, seems to be becoming a reality.

The CEDC does have a now-dated 1996 portrait of users,³³ drawn from an on-line survey in the pilot phase of the Gateway project. However, these are very small numbers relative to the total hit count, and provide only a transient taste of CEDC website use. Respondents were 162 users of the draft Gateway learning module. The percentage response rate of users is unknown, as this was an on-line survey. Of these 162 users:

- 34% strongly endorsed "wanting to make a difference in their communities;
- 52% had previous CED involvement;
- 58% strongly endorsed the expectation of learning "new ideas and practical solutions to community issues" suggesting a strong instrumental orientation;
- 67% were frequent computer users.

Geographically, these respondents resided 39% in BC, 25% in other parts of Canada, and 31% in the U.S, with 7% elsewhere. Most interestingly, of the 33 respondents who identified their residence in the CEDC's BC service area, the largest group (18%) lived in the Lower Fraser Valley/Vancouver area, but healthy percentages lived in surprisingly distant areas such as the Kootenays and Dawson Creek regions, as shown in Table 5.

³³ On file at the CED Centre: CEDC Innovations Project. Research Coordinator: Margo Guertin.

Table 5: BC Distribution of Gateway Pilot Online User/Respondents, 1996 ³⁴

BC Region	%
Lower Fraser Valley/Vancouver	18%
Victoria	2%
Courtney/Comox	2%
Gulf Islands	9%
Kootenays	12%
Revelstoke/Golden	6%
Okanagan	9%
Quesnel	3%
McBride/Valemont	6%
Dawson Creek	9%
Hazelton	6%
Other	15%
Total Respondents to this question: 33	100%

Demographically, the respondents were mostly male and middle aged. Of the 161 answering the age and gender questions, 69% were male. Eleven percent were 18-25, 26% were age 26-35, 23% were 36-45, 37% were age 46-55, while 3% were 56-65.³⁵

Website data compilations from SFU Academic Computing Services include detailed information about users' server addresses. It is apparent that most repeat and high volume users are robots from Lycos or other WWW search services. This is an excellent, though indirect, sign of increasing interest. Information about individuals must remain confidential, because some server addresses are known in the field of community economic development, economic development and planning. However, it is apparent

³⁴ Source: CEDC Innovations Project Summary Report, November, 1996 compiled by Lisa Taylor under the supervision of project coordinator, Margo Guertin (CEDC, 1995).

³⁵ Source: CEDC Innovations Project Summary Report, November, 1996 compiled by Lisa Taylor (CEDC, 1995).

that there are a number of individual repeat users, other than CEDC staff. This is an important indicator of use.

More important than these data are the comments we have received about the website. Most comments about the site come through telephone contacts, in which those initiating calls have begun with remarks such as, "I have been at your website..." The small number (29) of comments sent from the website guestbooks are included in Appendix F. They are almost equally divided between positive comments and requests for more information, service or personal discussion. Half the positive comments also had secondary content, usually requests for more help. Only two contained offers of more equal exchange (e.g. international collaboration). The comments, on the whole, reveal users as already actively involved in CED, and looking for support in their roles. Plainly the site is recognized as a service source in CED.

Criticisms of the complex navigation on the site have been made by professionally oriented users, such as the Spring 1999 Communications 386 Communication and Social Issues In Design student team undertaking a review of the site. They conducted a survey of the site on the CEDC's e-mail group, CED-NETWORK@sfu.ca, and obtained 12 responses. In particular, this team trenchantly criticized the site's multiple crosslinks in their class presentation, particularly the complex links in the Gateway module. Despite

this negative report, three feedback messages have praised the site for its ease, as in the recent: "Very interesting topic and website is easy to navigate!"³⁶

(Full comments can be found in Appendix F).

A recent survey report of four CED websites was received in May 1999 from the Rural and Small Towns Programme (RSTP) of Mt. Allison University, New Brunswick. Their ten survey participants³⁷ completed questionnaires on all sites. The report summarizes their responses as follows:

In short, this site is a "mega-site" on CED, providing visitors with a broad overview of the range of CED activities, as well as providing great detail on very specific topics, programs, and issues. The majority of participants who completed the evaluation of this site indicated that the site contained enough CED content and that it helped to improve their understanding of CED. All participants indicated that they would recommend that their fellow volunteers visit the site. One participant commented, "The site was very interesting and current. I found "sharing stories" to be the most useful information provided" (Bruce et al., 1999, p. 11).

On the technical side, Bruce et al. report:

Participants indicated that it was easy to navigate throughout the web site. Two participants indicated that they had difficulty accessing links. One participant indicated the following: "I have a lack of proficiency in the Internet, which limits my ability to

³⁶ Name-omitted@mcca-ed.org. The e-mail address indicates a member of a professional development organization, the Mennonite Central Committee.

³⁷ Volunteers were board members from four different economic commissions and three different community business development corporations in rural New Brunswick, participating in a virtual focus group. Of the ten participants, one had never been on the Internet before, six described themselves as pure novices, and three described themselves as knowing enough to make effective use of the Internet. No one described themselves as experts. In October, 1998 they visited and evaluated the Simon Fraser University Community Economic Development Centre site; in November, 1998, The Enterprise Development Website; in December, 1998; The Community Toolbox Site; in January, 1999, The Virtual Library on Microcredit; and in February, 1999, the participants were to search for and find a web site that might have information to help their organization. (Bruce et. al., 1999)

properly browse". (Bruce et al., 1999, p. 13).³⁸

It would be both interesting and important to determine why these differences in perception are occurring. Certainly such contrasting views indicate that we need to be cautious about redesign pressure from website professionals, but also need to avoid complacency based on user compliments.

The website has also received formal recognition as an important CED source. One might deprecate the significance of a 1997 "seal of excellence" (complete with an Oscar-like icon) from a major American "WWW shopping mall," as Majon International called itself. However, the 1998 designation of the site by Links2Go, a U.S. community-focused linkage rating service, as "a Key Resource in Community Development" is important. The CEDC site is listed among their Top 20 International Sites (<http://www.pitt.edu/~friendsh/cdc/inttop20.html>). Finally, ENTERweb, a Canadian development link service site (<http://www.enterweb.org/community.htm>), designated the CEDC site among their picks. As the first external reviews available to us, this recognition has stimulated needed revisions and a healthy sense of our site's relative place (No. 14 out of 20 of both Links2Go and ENTERWeb) in the CED world.

³⁸ In fairness to these users, there are neglected sections of the website where the links have not been repaired.

Website Evolution

In reviewing the website from a 1999 perspective, it is clear that little advance design went into the project as a whole. Realistically, however, there was little available website design literature in 1994. Few technical resources of the time went beyond single page design to website meta-design and management (Powell, 1998). Like most sites, ours just grew.

This was not as naive or neglectful an approach as it might seem in retrospect. It reflects the Centre's strategic move to position ourselves for future opportunities. Given the Web's astonishing expansion in five years, it made sense to refrain from planning the site rigidly, when needs could not be predicted, or even, in some ways, imagined. We were using, and continue to use, HTML's publishing flexibility to enable the Centre to be responsive as needs and opportunities arise.

There are several examples of how the website is responsive. One BC visitor's desire for an adequate representation of federal government programs aiding CED has led to a collaboration with similar persons across the country to identify such links for our Resources section. Another example is our attempt to feature a CED Calendar jointly with the quarterly journal, Making Waves. This proved unworkable because of inconsistent labor resources at the CED Centre, but it helped to build a working relationship with the group, and led to their requesting an article from me

about WWW issues (Simpson, 1997). The need for such a feature diminished as they developed their own website, to which we maintain links. In this way, changes in the website's content and features reflect changing opportunities and changing work foci of the Centre over time. Some features proved transient; others, more permanent. This responsive capacity has become part of the information node role the Centre set out to establish.

Sharing Stories of CED is a major permanent feature, launched in 1996, but only now becoming extensively used. It is a book published by the BC Working Group on CED through a grant from the BC Ministry of Small Business in 1994. The book offers valuable connections to CED-oriented groups around British Columbia, and stories of how CED is actually done on the ground. Yet it went rapidly out of print without hope of re-publication, because of government grant cuts.

The CED Centre saw this potential loss as an opportunity to demonstrate, in a highly visible way, just how the Centre could fill its chosen niche as resource provider. By querying our "ced-network" e-mail discussion group, we were able to identify a large demand across Canada for this book, which the copyright holder -- the BC government -- was unwilling to meet. We were able to demonstrate that Simon Fraser University's website's permanence put the CEDC in a position to maintain the project's original intent - that this resource be free to all citizens. This was particularly

convincing to the New Democratic Party government.

Despite resistance due to web publishing's novelty and some apparent desire to ascertain that our motives were purely altruistic, we did win permission to re-publish the book on our site. This acquisition enabled us to establish the Centre's website as a key and legitimate resource in CED just ahead of the wave of WWW commercialization that later opened access to others in the field. The opportunity might not have come at a later time. Happily, the originators still benefit from this permanent placement of Sharing Stories of CED as it also offers a full credits display to all. The book's editors, as well as the CEDC, are being favorably impacted by comments such as, "I saw your book recently on the Web..." (M. Conn, personal conversation, February 12, 1999).

Establishing the website's standing in this way made it possible for the Centre to publish student and other research reports as legitimate resources without being seen as mere sophomoric or vanity publishing, like so many personal sites. This has been particularly important for our students, many not young, but mid-career or career-changing adults. Indeed, the site is becoming a reference point for job and speaking opportunities for our students, as their names become known.

Other opportunities have given rise to modules on our website. The research work needed for the expanded second edition of Mark Roseland's

(1998) book, Toward Sustainable Communities, provided links for a resource section on the website in 1997. A resource guide originally intended as a collective publication just for class participants, has also become a permanent public resource on the site. A Geography class, with sufficient web production skills among them, produced a sophisticated module offering a typical strategic plan for urban development. This is starting to generate requests for such strategic plans from other communities, and to a significant interest in the CED Centre among professional planners.

Out of this cumulative experience and ability to maximize opportunities and labor, the Centre has also learned to use its institutional advantage in computer-mediated communication strategically. The Centre's capacity to utilize the website for research diffusion to the public³⁹ as well as to scholars helped create a convincing grant application for work in four BC communities. We are building on this demonstrated capacity with further grant applications. It has also enabled the Centre to respond to an opportunity to assist the co-operative sector, by developing a significant new module. This module features a major report about a Women Work in Co-ops conference, attractive links and its own e-mail discussion group, "womin-coops," as well as publicizing it to a Canada-wide e-mail audience of over 600. This was completed within two weeks of the request. This in turn has

³⁹ Diffusion to the public is a frequent grant requirement, especially from government sources. Government promotion of the information highway has now made website publication a standard for this diffusion (Sustainable Development Research Institute, 1998).

generated entirely new cooperatives-related opportunities and funding possibilities for the Centre in a surprisingly short period of time.

The website has also proven itself in our academic credential programs, which we have always had to sell actively. From a modest few pages primarily serving current local students, the academic module has grown to feature full program brochures and a significant proportion of student advising information. As a result, many more applicants are seeking distance education access. It enabled us to launch a new Certificate program within a month of its approval by the university, and advertise it across Canada without mailing costs. Indeed, the brochure was available on the website before the paper version returned from the printer. Interestingly, from telephone discussions I engage in daily, it is apparent that potential students are retaining contact with the website over extended periods through repeat use. Many inquirers are now saying, "I have been keeping an eye on your program."

These multiplier effects in time, advertising reach, networking, opportunity response capacity, and labor have transformed the website into a major CED Centre asset, and into its most visible public face. Our initial hopes have been realized far out of proportion to our organization's staff and size, and beyond our imagination in 1994. This has convinced us of the benefits of staying flexible toward new opportunities and content, even

though its size is now pressing us to structure the material more effectively.

Our website has undergone a steady shift in appearance as skill levels in page creation and training have been developed at the Centre. Appendix G illustrates changes between the original and current page design. In general, the pages have moved from default HTML styles and second-hand icons, to a far more purposeful use of typefaces, backgrounds and imagery.

We no longer use shareware to produce pages, but have invested in moderately sophisticated software (Claris Home Page) that has allowed us to speed up production and produce smoother styling. Staff and students have also learned to craft new graphics from older models with simple Graphic Converter shareware. Nevertheless, there is no attempt to comply with the Web's ever-rising graphic standards. We do not accept the pressure for novelty which commercial sites, as advertising media, must comply with.

The Centre is not yet prepared – nor does it have the capital -- to invest in time, hardware or software to make maintenance of a highly technical site possible, nor is it prepared to start on the constant iteration cycle that such capacity entails. It took the Centre four years to develop its current relative cohesion, following the initial patchwork contributions of staff, student workers, volunteers and contractors which launched the site's main components. That cohesion of appearance and content is valued as a form of the dynamic stability (Walls, 1992), which is a primary goal in CED practice.

The constant and visible pursuit of novelty or technological advancement on this website would produce a mixed message for visitors, as well as imposing a continuous learning curve on staff. In practice it would not be sustainable.

In addition, it is important to us to keep Web standards at an achievable level for CED groups. Too often unreachable standards of professional polish discourage beginners from undertaking projects. Being seen as representing values of do-ability, sustainability and appropriate technology is a higher priority to the Centre than the need to be seen as *au courant*. The Centre's website face is so highly visible that it creates an acute awareness of the need to practice very carefully what we preach.

Finally, the Centre's is unable to plan computer replacement, because of uncertainty whether capital equipment funding will be available from year to year. There is further uncertainty because of the competitive climate between Macintosh and DOS-based computers. University discussions of leasing versus purchasing of computers, and the benefits of mass licencing of common software, has introduced further uncertainty into choosing suitable replacement hardware and software. While no university-wide or faculty-wide policy is yet contemplated (L. Tolan, personal email message June 15, 1999; H Gabert, personal email message, June 18, 1999), top-down budgetary decisions could change this situation rapidly. It would not make financial or time management sense to carry out our own minor revolution

in website capacity and software, until some of this uncertainty is resolved. Current levels of technological capacity have produced a good enough, if imperfect, website that could be maintained with existing labor in a holding pattern until major technology changes can be implemented.

There are also social sensitivities influencing the Centre's website development choices. Faced with a need to promote its own image and programs, the Centre was also faced with the need for diplomacy within the CED practitioner community. While the Centre saw itself as sharing and valuing the amateur ideal or citizen model of CED, many CED activists saw the Centre on the professional end of the spectrum. Given the 1960s counter-cultural roots of CED in British Columbia, and the lifestyle politics of both the counter-culture and feminism, which dictated leveling collectivism for so long (Landry et al., 1985), professionalism was not overtly valued in the movement. In BC's polarized politics, where the bottom-up CED model and the top-down Local Economic Development model favored by professional planners had long been seen as left/right issues, even overtly business-like practice was looked down upon. Neither advertising nor boasting were the order of the day in the early 1990s CED milieu, despite the 1990s new economy realities.

Our own origins were in this milieu. As a group, we not only lacked the skills to engage in appropriate self-promotion within the field of CED, we

lacked the initial confidence to do so, given our foot in this disapproving social ethos. Yet the Centre has its other foot in a university environment which had long been shifting to a free market economy of fierce competition for grant and educational dollars. Social activists were not yet convinced that entrepreneurship was becoming an essential skill in social development work, just as it was in the academic.

Acutely aware, when we launched the website, that self promotion was a necessity for the Centre's survival, we were obliged to proceed very carefully, offering our academic program and resources with a tone of disinterest or altruistic service. Rapid WWW commercialization has, in many ways, relieved the Centre of this burden of caution. Our website's early start allowed it to be present during the Web's transformation into a marketplace. The shift has turned market economy discourse into common parlance with surprising speed. Social entrepreneurship emerged as a buzz word by the mid-1990s, with many organizations like the CED Centre visibly in pursuit of commercial and consultancy income, especially on the Web. This general visibility has gone a long way to reconciling the community development milieu to the realities of that "E" in CED. In 1999, we are freer than at any time in the past to promote our organization, sell our credential programs, and compete matter-of-factly for recognition and support.

While there is much to regret about the intrusion of the market

economy into all aspects of our lives, there is nothing much to regret about the loss of postures of altruistic purity that clothed fierce but hidden competition, and gave rise to smiling rivalries and ruthless retailing of gossip. The CED Centre's website serves as a direct, overt source of information about its activities, which, no matter how self-serving such a site inevitably is, at least offers some consistency of representation over time. Other CED organizations like our own are free to compete with the CED Centre, but thanks to WWW capacity available to most organizations and many individuals today, that competition is now honestly in the open. The willingness - and need - to develop visible links, collaborative projects and give credit where credit is due, has created a new balance of cooperation out of competition.

In the next chapter, I discuss the limitations and strengths of the CEDC WWW site.

CHAPTER 3: LIMITATIONS AND STRENGTHS

Limitations

Many limitations in the CEDC website are highly visible, or easily deduced. From an inside perspective, organizational complexities are beginning to prevent me, as site manager, from maintaining a sense of downstream effects caused by organizational . Increasingly links fail due to hasty changes that do not take complexity into consideration. For example, a hurried unnesting of the large student module, to simplify addition of new material disabled the direct homepage link to a unit within it, which, in turn, was needed for reference in the CEDC's fundraising effort. This multi-layered complexity makes site maintenance both laborious and specialized. It demands complex managerial thinking for even simple changes. Plainly the site has reached a natural point in its evolution where it needs a thorough mapping and a full, careful re-design. Without such re-design, an effective division of labor will not be possible. On the whole, the indeterminate structure of the website, and the ongoing indeterminate nature of its growth, constitute what in design theory is justifiably called a "wicked problem" (Buchanan, 1998, p. 14-15).

From a user-side perspective, the website lacks up-to-date navigation capacity, such as frames and sliding bars, arguably needed because of its large size. Its pages remain relatively unpolished compared to many sites now being produced and maintained by trained workers. Its maintenance is not regularly scheduled, but instead is conducted systematically only when a student worker is available, or in the summer, when my CEDC academic program workload eases to a degree. Its size and complexity are becoming unwieldy. It is not obvious why our site has become somewhat stuck in time. There are, however, a number of concrete reasons, including limiting infrastructural conditions, and limited policy and direction devoted to the website.

When the CED Centre launched its website, it did so with largely volunteer labor in the relatively early days of WWW expansion. Few people were actually trained in web design, and even fewer were trained in website management. Most resources for web-based work focused on single page design. Little was known about the downstream impact of a website or design choice. Only later did it become clear that websites are greedy. Websites demand more design skill, thought, labor, time, software, computer capacity and money than anyone could have anticipated. By 1998, costing estimates for website maintenance were still extremely casual, but were thought to be similar to that of software maintenance: up to 70% of lifetime costs of the product [the pages] (Powell, 1998, p. 278). The Centre's limited administrative

budget has no provision for ongoing website development or maintenance; grants are rarely obtainable for more than start-up costs. The Centre is only beginning to address the means for putting infrastructural funding and human resources under this now vital unit of its work. On the whole, website development has not been "gentle in its use of scarce resources" (Schumacher, 1989, p. 163), particularly human resources, at the CED Centre (CEDC, 1998).

Still an exotic ambition in 1994, the website was too abstract an idea to the Centre's busy faculty leaders, whose experience with publishing was entirely within book and journal publishing. It was staff and students with the most dynamic publishing experience, either in early WWW, freenet bulletin boards or weekly newspaper production, who led the project. Today, it is busier than ever. Faculty members leading publication initiatives, including the half-time director, remain the least skilled in the World Wide Web, and most comfortable with print-and-paper. The website's strategic importance is only just being realized thanks to its multiplier effect making itself felt. Five years after the decision to launch the site, the website is just now coming to be considered in planning and strategy discussions for all projects, instead of being treated as an add-on conduit for publicity or publishing. It has been fortunate for the Centre that its sole staff worker had brought to the Centre not only a background in journalism and CED practice, but also a personal commitment to CED, and a zest for new tools. Without

these assets, the website would have been without effective direction, and would probably not have endured until the new director had time to absorb the strategic importance of such a site.

However, this basic capacity for direction is much weakened by the Centre's ongoing staff shortage. The website cannot receive the consistent attention it needs from a part-time employee juggling many other responsibilities. Nor can it receive the policy attention it needs from a part-time director with a full-time faculty load of teaching and research.

It is also impossible to maintain the website's resources effectively when common sources of student labor, such as subsidized jobs for students on student loan, are cut back from one semester to another. A current hiatus in student labor has caused student project reports to pile up. The site's resource links module has remained undeveloped beyond its initial content for a year and a half. In addition, the Sharing Stories of CED module, mounted on the site in 1997, remains without the book's original photographs. These were scanned electronically on borrowed equipment in 1998, but remain unedited, waiting for labor, time and training, to be added to the text. To this degree, our obligation to the original publishers regrettably remains incomplete. Only chance, in the form of volunteers, is now permitting the CEDC to upgrade these portions of the site. Because volunteers' personal interests necessarily have to be accommodated, our

capacity to plan production and revisions has become constricted by these narrower human resource options.

Another consequence of this overall staffing weakness has been slowness to adopt more recent style standards and navigation capacities. In the site's first years, strong political consideration had to be given to the problem of leading edge technology creating a social trailing edge. Because CED, as a social practice, is an attempt to address this reality of modernism, the CED Centre could not be seen committing the same sin. This political fact led to a decision not to adopt what were then advanced facilities, such as frames, as it was obvious, even from those sites which did adopt them, that they were a problem for many visitors.

The Centre's website, however, has continued to grow in size and complexity without benefit of frames and similar aids, except for one module created by departing students. Ongoing staff has no available lead-time to learn the newer skills, nor re-development time to adapt the old materials to new delivery forms. Regrettably, the Centre staff has, to date, not had time to acquire the skills, nor had the labor time necessary to produce accessible materials for older computers, even though it is aware that many social action organizations which invested early in CMC are unable to re-invest in newer equipment. The CEDC experiences a similar stuckness: having invested in "disappearing middle" (Schumacher, 1997a, p. 106-107) technology

skills, it is hard-pressed to re-invest in newer skills. In reality, this stalemate reflects not only staffing weakness, but also financial weakness, which have left the Centre poor in both human and computer resources. Many are currently urging the Centre to make genuinely necessary renovations to improve access and facility to the materials, both for newer and older CMC technology. These recommendations are not realistic at this time.

The CEDC is aware that its current work can reach only a narrow, and relatively privileged, social layer. Indeed, CED practitioners and activists are for the most part, part of that social layer.⁴⁰ Nevertheless, I believe it would be extremely unwise to attempt to carry out expansive design changes or increase the labor investment in the website to accommodate these service demands, without engaging in a solid planning process. The Centre has accumulated considerable understanding of websites in the five years since it began the project without much planning. I, for one, have learned in very direct, personal ways how the addition of the internet work adds stress and work volume for employees of the new economy, in particular for sweat-equity organizations like the CEDC, which already operates at low budget. Idealists may see it as imperative that the CEDC serve everyone, especially those with the poorest access. I argue that until care can be given the caregivers, the CEDC website work should not be expanded. Today, with

⁴⁰ If not middle class, many are working class intellectuals, like myself, who have often made financial sacrifices to equip themselves with CMC capacity. To be accurate, I have not done so. I once owned a computer, which died in 1991 after two years. I was not financially able to repair or replace it, and have since depended on CMC access through my workplace.

these five years' experience and that of other web designers available, it would be foolish to repeat the naive approach of 1994-95. It is time to put a planned infrastructure under the website so that it can become a more professional – indeed equitable – operation in terms of its human resource use.

Strengths

The CED Centre does not have a monopoly of representation on community economic development. Indeed, our site does not even try for a monolithic representation of the CED Centre, which has a wide range of perspectives on CED within itself.

We believe that we have successfully created a representation of CED as wide-ranging, community-based capacity for self-empowering action, together with sufficiently detailed resources so that visitors can take the tools they need to help themselves. Perhaps the most satisfying confirmations we have received have been requests from communities from Victoria, northern Manitoba and the American Midwest to reprint our materials for their own training programs. The most arresting story we have heard was that of women activists in a BC town who re-oriented their town's community development committee. They did this, in part, by convincing the conventional-minded mayor to go with them to the local skills centre to use the Gateway to CED planning exercises in order to open up new perspectives

on development.

Mark Roseland's appointment as associate director and then director of the CED Centre brought a firm ecological sustainability focus to the website. Not only book features, but projects arising from his classes have made the implicit grounding of CED in ecology thoroughly explicit. This greening of the website has been made more visible through the adoption of green iconography, but more importantly, it has encouraged CED to bridge the generations and build a more sustaining appeal. It is now a site that plainly accommodates both those whose preferred focus begins with caring for people, and those whose focus begins with the need to care for the natural environment.

The CEDC has not tried to wield its website base to re-invent itself as a central authority in community economic development. The Centre's own experience, projects, and knowledge are offered as tools-for-the-taking, with an emphasis on best-fit based on local community needs. This perspective has been concretely reinforced by not laboring to re-create resources that exist elsewhere. Instead, we recommend those sites, and link visitors to them. This representation of CED as a wide field with many experts, and the CED Centre as a key information crossroads is not just a low cost tactic to expand our own visibility. We believe it gives a convincing sense of the CED Centre as fair and open in its promotion of a larger cause. In a sense, our own

weakness in 1993, in being unable to sell ourselves as consultancy experts has produced our website's political strength, which is its ability to give away CED information instead of transforming it into another sellable commodity.

The CED Centre has endeavored to create a showcase for community economic development work. One established method of development work, especially in divided communities, has been demonstration projects, conducted on a manageable scale with available champions and a community minority of convinced adherents working in full view. In this way, skeptics can be won over through concrete results. The CED Centre has used this as a central approach on its website. Sharing Stories of CED, presenting local voices throughout BC, has this character. In addition, a major growing section, Research & Project Reports, features CEDC and student work in communities. Even when reports are limited due to confidentiality requirements of the client community, or due to small-scale results, they serve to demonstrate some aspect of good practice or realism in CED practice.

In addition to diversity in presentation, the Centre has also tried to include a diversity of perspectives in content materials. While some visitors have complained of such confusing perspectives, and expressed a preference for a simple answer to their community's needs, we believe it reflects the realities and complexities of the work. This attempt is now becoming less one-sided. Not only is the Centre promoting access to other CED

organizations through links and positive news items, but also a diversity of groups who once treated us solely as a rival now approach the Centre as a potential partner in many projects, including seeking assistance through its website capacity.

The service capacity of the CED Centre has been increased phenomenally by the existence of its website. It is hard to imagine the minimal staff at the CED Centre trying to handle the exponentially increasing inquiries symbolized by the thousands of website hits. While many are undoubtedly just casual window-shoppers, the website enables the Centre to satisfy such casual curiosity about CED with remarkable efficiency. The website now forms part of the fabric of ongoing contact involving telephone discussions, personal visits and website perusal. Telephone information calls, too, are increasingly efficient as people initiating them use the site to inform themselves in advance, or accept the website's presence as an expansive background source for the answers they receive. This has noticeably lessened raw information calls to the Centre, and increased the number of repeat contacts.

On the whole, despite the site's obvious design flaws, unquestionably visible amateurism and lack of high technology capacity, the CEDC has every reason to be proud of its website. Its function as a repository of full-text information has permitted the Centre to position itself successfully, and serve

communities and the goals of community economic development to an exponential degree, far beyond the capacity of its staff.

In the next chapter, I will discuss the lessons learned from this website development project, what is needed to formulate future plans for the website, and how both the theoretical and practical lessons learned can help future CMC work in both the CED Centre and similar organizations.

CHAPTER 4: LESSONS FOR THE FUTURE

Lessons Learned

The CED Centre knew little about computer-mediated communication or the internet before the website was launched in 1994-1995. We began largely with a combination of then common naive populism surrounding the Information Highway and the unwithered confidence of 1960s activists in our ability to shape our world to our non-mainstream purposes. We have found the World Wide Web both less populist and less inimical than we anticipated.

One major concern the CED Centre had was our desire to avoid becoming involved in too much "cyber-space - new frontier" enthusiasm. We also wished to avoid becoming tainted by the growing commercialization of the internet. These problems proved to be minor. Oddly enough, it has been the commercialization of the World Wide Web which diluted the internet's science fiction ethos, and brought the cyber-world down to earth to, if anything, a remarkably crass degree.

The CED Centre's alternate goals have also been structurally buffered by the Web's huge scale, and flowing contingency. Thanks to the now

massive search engines on the WWW, and new HTML developments, such as meta-tags which can list multiple search words for each webpage, seekers can find CED when they want it, even when they do not yet have a CED vocabulary. This has largely eliminated our fear of being overwhelmed by any dominant Web ethos. As long as the Web remains a do-your-own-thing world, there is more than enough elbow room for the CEDC to do what it wants with its own site. The future, however, remains opaque. As the internet is brought fully to heel as a structure of the new economy (Menzies, 1996), and high traffic loads create a demand for greater centralization and control (Schumacher, 1973/1989), this freedom seems destined to shrink. How community service organizations in the WWW can act to shape the internet to serve communities on their own terms (Menzies, 1996) has not yet emerged. I believe it will require a far more political, policy-level approach than the CEDC currently engages in.

The CED Centre is extremely aware that it is the university's subsidized CMC structure that has permitted the Centre's site to remain free of commercialization, and free of costs beyond those of basic software and staffing. In the current education economy, this will not continue indefinitely. At present, the university does not provide skilled staff to train site managers, create confidential document transmission or mount sophisticated interactive features that will be needed in the future. Nor can the Centre be sure that the university will not succumb to the current trend

in commercial sponsorship, which is all-too-established in other areas of university life, such as food facilities, sports and research.

Finally, the website's own structure has now outgrown staffing capacity for either maintenance or development. For all that CMC is perceived as technically based, it is actually labor intensive in both development and upkeep. The Centre will need to establish a firm financial basis for its site in order to sustain its current site, plan and carry out any expansion, keep itself connected to the real world of CED practice, and avoid intrusion of commercialism.

Letting the website grow in response to opportunity has undoubtedly been our best strategy choice, given our inexperience - everyone's inexperience in the early stages of the public internet - with websites in general. But this approach, combined with our lack of staffing, has produced deficits. In particular, it has produced unevenness of presentation, with older, more amateurish material side-by-side with newer, more polished documents. It gave rise to oddly conflicting metaphors, such as the highly organic touch which now dominates the site, and the space-flight imagery of the large Gateway module. The site has also simply sprawled into a complex array that intimidates some visitors.

I believe that the site requires extensive rethinking for a number of reasons. Content clustering is no longer systematic, because of the site's

continuous evolution from a structural model which clusters material by origin (student projects, research projects) toward a thematic model which would cluster material by topic. However, some of the problem has arisen from a lack of unified thinking at the beginning.

The best representative of this problem is the large Gateway to CED module. This unit, for which the original grant was obtained, was originally designed to be a website entry point, with everything within it subordinated to its learning focus. However, this fixed unit design was carried out by outside consultants without any intent to situate it in the existing website or in relation to other CEDC educational programs and future projects. Because of the public nature of this grant project, and because no money remained to pay me to retrofit the module to a larger site plan (and because of other disputes over its design which will be discussed below), the module's design had to be worked around rather than corrected. The Gateway was subordinated to the existing homepage, whose corporate identity and central navigation guide function were enhanced to override Gateway's control of resource links within it. Now, after three more years of broadening features on the site, the narrow, deep hierarchical organization within this Gateway module has become awkward.

For the external user, this nature of the anomaly may not be evident, but the depth of hierarchical linking does increase the risk of visitors

becoming lost. It also increases the odds of visitor alienation due to excessive or complex navigation needed to reach ground level material. The depth of the link hierarchy is not inherent to the Gateway module. It is a result of including several units, such as Other Resources and Sharing Stories within Gateway, and can be changed rapidly if labor resources can be found to do it.

Though CEDC staff all shared the initial mid-1990s flush of Web enthusiasm, one risk that concerned the Centre was in adopting such a strong promotion strategy. CED, as a practice in community development, had long suffered from a surfeit of promotion and a dearth of actual practice on the ground in real communities. Many colleagues across Canada genuinely felt they were actually doing CED by promoting it. Those doing CED on the ground were less visible, and their work was not receiving its due attention. We feared that launching the Centre so visibly onto the World Wide Web would tend to weigh down the promoting/not doing side of the scale. However, the site's practical materials and reports of ongoing practical work, have reduced initial fears of inadvertent modeling. If anything, the celebration of tools and practice has tended to overcompensate, obscuring CED's long-standing ideal of integration of practice with theory. The site may need a rebalancing in favor of thought pieces to correct this potential problem. This is a serious content issue for a site evaluation.

The very pragmatism with which the CED Centre decided to initiate a

website, and our initial naive enthusiasm about the Web's potential, reflects a weakness in CED toward practice over theory despite our praxis ideal, i.e. unity of theory and practice. Paradoxically, because CEDC staff lacked grounding in design theory, we were uninhibited about launching the site while we were still learning. However, in the long run, this created more work, and caused much time to be consumed in debate, in re-inventing design concepts that matched our CED ideals, and in rediscovering those ideals through dilemmas of practice.

This experience reflects typical hermeneutic movement between overview, immersion in practice, and re-emergence to a new overview, and may not have been avoidable. Nevertheless, if the Centre had had a collective knowledge of then available literature, it might have made the process less onerous for me as site manager. As the Centre's secretary, sole support worker and sole woman during this development process, I was articulating my knowledge of the Web only from newly emergent experiential knowledge. I was thus at a serious disadvantage by gender and gender perceptions, class, and status. This was particularly true in discussions with professionals, would-be professionals, consultants, promoters, academics, and supervisors, all of whom had greater conventional claims to strategic decision-making and project development capacity, if not necessarily in WWW practice. It has taken much cumulative experience, vigorously

defended, to establish my standing as site manager at the Centre.⁴¹

On the whole, the Centre's immersion approach to website development resulted in useful clarification and consolidation of values at CED Centre, and in many ways, gave us a direct, new and fresh experience in development work, attended by all its cost in human struggles and lengthy disputes and debates. In fact, it has been very similar to CED work as it occurs in real communities. In effect, the project toughened up the CED Centre, eliminating much of the insouciant amateurism that pervades CED from its British middle class and American populist origins. Nevertheless, the cost in articulation, clarification and contentiousness has been high.

One criticism of the site has been that it lacks ideological coherence. We do not perceive this as a weakness. We have come to believe that a desire for such strong unity within CED is wishful thinking. It would be wrong to represent CED as a coherent, quick fix to social and economic disarray and to middle-aged social fatigue. CED is not social engineering, and it cannot offer the comforting unity of a corporate hierarchy or a political tyranny. Because CED rests on democratic ideals, it is going to remain untidy. Given that community economic development is not unitary, we have arrived at the conclusion that our site is better representing this reality than trying to market ourselves to those desires.

⁴¹ University human resource management policy will not permit it as long as I remain a union member. The verb "manage" is not permitted in unionized workers' job descriptions.

Community Economic Development advocates strong citizen involvement, as does social design theory (Kuhn, 1996) and other forms of "action research" (Barnsley & Ellis, 1992; Dick, 1999). The CED Centre shares these ideals for its website work, but in rather frustrated form. One of the most time-and-labor consuming tasks has been the attempt to involve users systematically in our website development.

The Centre's initial grant project involved study groups utilizing Gateway from computer access facilities and printed texts, in several BC communities. However, in 1994-95, the task -- and the goal -- of putting this all onto a website was too abstract and distant from their own needs to enable them to feel involved. Without the attendance of Centre personnel in those communities (a financial impossibility under the grant), the study/focus groups could not readily carry through the tasks of articulating their preferences and alternatives to the existing text. A more interactive process was needed, but not available.

We also attempted to involve website visitors (163 of whom signed on to take the pilot Gateway course [CEDC, 1995]) in site development. However, one particularly daunting feature was that stringent ethics required users to read and acknowledge a statement. The solemn protection of privacy wording of this statement, in the early, casual days of the Web, was shocking in the absence of warm human beings explaining this formality. Today, growing

Protection of Privacy legislation and increasing secure transmission issues on the Web, have made such matters more routine. At the time, it was intimidating.

We resolved our need for feedback by hiring individuals of varying backgrounds, with no more than high school education, to read the Gateway text, and offer their responses and suggestions. However, this was far from the ideal of citizen involvement we aspired to.

The Centre discovered one possible reason for low user involvement from another of our the internet services, an e-mail discussion group. Given the proactive ideals of CED, it was illuminating for us to discover how even CED participants could be so very opposite. Indeed, their early, commonly expressed desire was for the CED Centre to provide the answers, and to provide considerable personal service. Service expectations were extremely demanding - and extremely unrealistic. It was very hard for list members to realize that messages instantly delivered by computer server were not continuously attended to by an instantly available human server. Unable to offer more than a single half-time employee, the CED Centre suffered some degree of negative publicity about its capacity in these early days of public CMC.

As we added the website to our public internet presence, we continued the error of adopting a neighborly, open tone, especially through the easy and

exciting new facility of CGI feedback forms. In those early days of World Wide Web, before sheer volume of users slowed access down to the more familiar pace of a bank teller line-up, surfing the web produced an astonishingly magical effect of instant gratification. The quest for community, we found, was identifying us as a source of potential gratification for many lonely people.

In addition, users of both site and discussion group would not believe that such an extensive internet presence did not reflect extensive staffing, nor that the people behind the site were not sitting at terminals ready to respond whenever, and as fast as, computers functioned. Our own naively inviting tone greatly fed these expectations. We were implicitly offering service capacity we did not have. Paired with the technical promise of interactivity, we brought on ourselves a demand flow beyond staff capacity to serve.

In fact, we learned that our own ideal of citizen involvement, and our belief in the CED Centre as a community economic development group, had an enormous price in human service demands. We had to learn not to commit ourselves -- explicitly or implicitly -- beyond our weak human resource position. This forced us to re-edit both feedback and section introduction pages to create a cooler, arms-length tone, and to eliminate messages -overt and implicit - that invited visitors to reach for relatedness that was not real. Changing Write Us a Letter to Sign our Guestbook on the

main feedback form, and tailoring subject choices to the module topic on others, created a more business-like tone and significantly, and almost immediately, reduced the pressure for chatty responses. We learned that we could not try to function like a geographical community-based group in the global village of the internet.

In addition, we found, as others have, that the populist ideal of an involved citizenry is far from reality. The internet is no longer a tight-knit cluster of CMC pioneers creating a cyber-community (Stoll, 1995). Those early right to be served messages may have reflected citizen passivity, but they more probably reflect the commonplace receiver expectation of previously experienced technologies, such as radio and television. Once opened to the public, the majority of internet subscribers are now consumers, always an intrinsically passive role.

Contrary to all government cheer-leading about getting connected and the information highway, the Centre has learned that active citizen involvement is a long-term and complex social issue. It is neither an automatic or conditionable stimulus/response paradigm such as the advertising industry is built on, nor an automatic trickle-down consequence of communication. Indeed, the Centre has had to learn that computer-mediated communication does not equal involvement or interaction, as the words communication and mediation so naively imply (Carey, 1989).

These direct experiences in conducting a globally available promotional enterprise on the WWW with staffing too weak to sustain its invitation have taught us key lessons. The experience has taught us all that the CED Centre is not really a CED group, in the way that actual, community-based groups are. In most cases, we do not really have a direct relationship with given communities; rather, we provide services to activists, who then function in their own communities. I myself longer try so hard to practice what CED preaches about citizen involvement nor to spend so much time trying to meet the needs of site visitors and internet correspondents. On the WWW, we are only virtually there, at arms-length, and cannot provide the direct, sustained, and gratifying human contact we would all like to have.

Learning this sad lesson has provided us with a more realistic framework for internet interactivity. The Centre will not be adopting the new and exciting attributes for technical interactivity, until we could handle the human interactivity and service demands which might be precipitated. This is particularly true if we do not want to be perceived as mere service providers or servants of the field. Thus, while the CEDC has willingly undertaken to host an e-mail group and website module for the co-op sector of CED, we have insisted that the group provide their own volunteer to do the service work of their list. At issue is, who will sustain the sustainers?

In the years since experiencing these interactivity demands, mass use of

live chat lines has reduced the naive demand for personal relatedness that we experienced in 1995-1996. In addition, with commercialization, Web users now recognize that personal tone on the Web, as in stores, is a sales technique, even if what is being sold is CED. On our site, the sheer volume of non-interactive textual material gives clear weight to non-interactivity. Prior permission to use materials in communities is provided on webpages. Those wanting to form a cyber-community of the CED-minded are firmly directed toward our unmoderated e-mail discussion group. Finally, among the materials on the site are two articles, (Simpson 1997, 1998), criticizing cyberspace and the information highway as hazards to community economic development work, which has to be done in real communities if it is to go beyond advocacy to effective action. We have made it abundantly clear that we regard even our own website as just another tool, not as a community.

With both our own shift, and the World Wide Web's general shift toward a more explicit functionality, it has become clear that the site could safely adopt more CGI capacity, provided the technical interactivity capacity remained within its staff's response capacity. Indeed, just as the Centre is adopting forms and questionnaires to routinize student services in its academic program, it would now be possible to use CGI capacity to develop similar forms on the website to shape visitor communication into directed channels. It is intriguing that the same CGI capacity that once opened up a flood of highly individualized communication can now be considered as a

device for reducing the personalized nature of communication in our service work. As Johnson⁴² writes, when mixing humans and nonhumans, technology is easily engineered into the role of doorkeeping, "prescribing back to us our social relations" (Johnson, 1995, p. 276).

There have been some penalties for permitting this website to grow without a coherent overall plan. The largest single problem has been the lack of prioritization given to updates. Single pages have grown until they have developed excessive download time; news has grown stale; resource pages have failed to meet their promise of expansion. Sadly, the CEDC site is not the only website with this problem. The Vancouver Community Network (VCN) has not been able to update its CEDC link. Despite several requests, our old website materials from 1994-1995 remained on VCN until April 1999, unreplaced by a link which would give access to the dynamic material available from the CEDC. Because CEDC does not have a site management plan, it loses sight of such serious public relations glitches in the flurry of digitized work.

The CED Centre has also learned that the CMC technology market creates ever-rising standards under conditions of constant change. To some degree we have been fortunate to have only limited resources. We learned early to resist these pressures to constantly update our hardware and software,

⁴² A pseudonymous "author-in-text" used in this article by Bernard Latour, a French sociologist.

or to constantly renovate our site. Nevertheless, our resolute ignoring of the market has caused us to come belatedly to important WWW and HTML developments that are entirely free and could have saved us much labor over the years.

One of the most important gains of this website development undertaking has been that CED theory issues have become more sharply articulated in our daily work at the CED Centre. Issues of worker involvement in decision-making, and in particular, women's roles as workers became very sharp in the early site development, because of the role of hired, male experts deeply committed to the technical ethos of the WWW, a problem others have identified (Balka, 1997). My own role, as site manager, has been particularly central in developing the contrary notion of the need for congruence between CMC use and CED practice.

One example of these daily struggles was a very early struggle between myself (the female working-class secretary and only support staff, then unacknowledged as site manager when only a few pages existed) and the consultants (middle-class males) over design of the large Gateway module. One consultant, the content editor, delegated page production to the other, the HTML page designer, without any meeting with me to discuss fit within the site. As the completed pages started to arrive, it became apparent, from wording and links, that these pages were being designed as though The

Gateway were an entirely independent website. Indeed, there was not a single link or mention of the CED Centre on the original pages.

Furthermore, because the technical contractor was primarily committed to the flexibility of HTML link capacity, he adamantly refused to organize the documents into coherent directories and subdirectories, and refused to place pictorial elements, such as GIFS, in a separate images directory, as I requested. Webwork, it seemed at the time, stopped with initial design, which was the sole province of the designer.

This was not a trivial issue. As Orr (1996) points out, even machine technicians know that the functioning of their equipment depends on a mutually constructed understanding within a relational triangle of technician, machine and those who use it. It became very plain that this contractor's commitment to users was to visitors only, not to the other users who maintain sites. They were invisible to him. He was completing the pages to suit his own technical perceptions. Worse, it was made obvious that to this designer a page, once produced, carried the weight of intellectual property rights. Implicitly, this meant a page could not be amended without offense. This is in sharp contrast to Suchman's cogent notion (cited in Balka, 1997a and Orr, 1996) that design is completed only in use.

In accord with Suchman, I had discovered how very dynamic webpages can be. They require continuous re-editing. As a result, it is difficult and

time-consuming to work with pages and graphics if they are lumped together alphabetically in one file. Appendix C illustrates the confusion inherent in mixing gifs with documents, and the meaningful order of separate thematic computer files. By the time Gateway was being created, I had already discovered that retrofitting webpages to facilitate downstream work was requiring my not only correcting every single link in every page, but even required renaming gifs so that their labels would cluster meaningfully for management purposes.⁴³ It made sense to me that pages be designed to fit in the first place, especially when the contractor was being paid to do the work, and I was not. The arguments that I articulated were:

- that the website was going to grow larger than any one module, and an overall plan was necessary which this module had to conform to for functional reasons;
- that I had re-organized the site to create a coherent sub-directory system, involving separation of documents and images to make ongoing maintenance and construction more efficient; and
- that separate images files were needed because this was the default organization used by the software I had purchased for maintaining the site.

The so-called expert nodded in agreement, and even acknowledged that he had never managed a website and did not personally know the issues I had been dealing with for two years. He even took notes of my

⁴³ The norm is for graphics' names to begin with the color: redbtn.gif, redball.gif, redarw.gif. This distributes functionally similar gifs across the alphabet, and forces one to search through the entire name to identify the type. In order to cluster graphics for rapid use, they need to be named with their function, i.e. arrow, ball or button, taking first place in the name: btnblue.gif, btnred.gif, btnylw.gif. This would be apparent to any office worker with filing skills, but appears not to be obvious to artistically focused designers.

requirements. But the pages and graphics again arrived in one large cluster of mixed documents and graphics, not in sub-directories. Tested, the links still remained contrary to the design parameters I required.

A second struggle, with this same designer, to make the Gateway metaphor more earthly by replacing its jumpstation icon, failed. A jumpstation is a gateway, he asserted. Requests to produce an alternate, earth-based design for a gate produced only a rough drawing of a forbiddingly high fence, without a gate in sight. The message of this metaphor could not have been more clear (Lakoff, & Johnson, 1980).

Figure 3: "Jumpstation" clickmap used in the Gateway module.



Worse, the icons of Gateway to CED were designed to be totally unique, without a single representation of the CED Centre within it, not even the

CEDC Homepage link in the 12 o'clock position seen above in Figure 3. This title and link to the site homepage was added only on repeated insistence.

Unhappily, from a CED viewpoint, the guiding graphic metaphor was clearly separation from earth, not down-to-earthness: to this day, its background remains a world map and its click map is an image of Star Trek's Spaceship Enterprise jump station, with its implicit sense of space exploration.

It was extremely difficult for me to convey the political or downstream management significance of these technical details to the then director, at a distance during summer vacation. Nor was it easy to convince the so-called expert, a young male graduate student, that a lone, middle-aged female's opinion was important, even when the director had delegated coordination of the work to me in his absence.

In effect, I was asserting the legitimacy of some pre-existing and technical biases in the system within which these pages would be functioning (Friedman & Nissenbaum, 1996). By the end of these altercations, I had become sufficiently articulate (Balka, 1997b) about my on-going management needs, about issues of design for use, workers as legitimately-considered users, and the political significance of design decisions, that I was able to win the backing of the incoming new director on these critical design issues. The consultant designer was persuaded only by a brutally empirical argument: Do

you want to get paid or don't you?

It baffles me to this day why any contractor would so fiercely resist editorial changes such as adding the name of the organization paying him to the design for which he was being paid. Indeed, I have no understanding of how the totally independent Gateway site notion came about between the two contractors, who even pressed for it to be not included on the same server as the CEDC site, but placed on a separate Unix account, as personal websites are. I can only conclude that this struggle was a classic conflict which had little or nothing to do with design for use, and everything to do with gender, age and class. Kuhn's (1996) argument that, without participatory, human-centered design, there is a high cost in inefficiencies and work-arounds, and a profound lack of democracy, matches the CEDC website development experience fully.

In this case, the CEDC was left holding a website feature, paid for by government in a highly publicized grant program, and supposed to be the centrepiece of our site, which neither staff nor director could tolerate as a representation of the CED Centre. It was apparent that it was not going to be possible to convert Gateway to an organic representation through graphic means within that contract's limits. A work-around (Balka, 1997b) tactic was therefore adopted. Once the material had been delivered and tested for functionality in accordance with our technical needs, the new director and I

re-edited the introductory material. By producing a new sustainability-oriented introduction and cleaning out Trecky textual references, the jumpstation motif was rendered thoroughly abstract by de-contextualization. The yellow click-map logo of the module, with its radiating arms has come to be more easily perceived as a representation of the Earth's Sun, rather than as a space station machine.

The dominance of the Gateway graphic design was further watered down with the addition of a major sub-unit, Sharing Stories of CED, originally planned to resemble the parent Gateway module. It was created -- by a new, product-oriented contract team (one female, one male)⁴⁴ -- with an earth-tone background and green iconography, more closely matching the textual content and the original book design.

It was also possible to buffer the Gateway's dominance by creating direct links from the CED Centre homepage to units within it, such as Sharing Stories of CED and the Link Resources, contrary to the original design of Gateway as sole entry-point. Gateway has thus been demoted to being one of many access points to CED knowledge on the site. Over time, the weight of this Gateway to CED module on the site has diminished as other modules were created and given direct links from the homepage. The gateway metaphor has lost its global significance, and its gatekeeping function; it now

⁴⁴ Deanna Thorson and Peter Eisenbock.

points mostly to the on-line learning function of the module. Regrettably, the Gateway jumpstation remains an anomaly, although we have come to believe, over time, that the website is so clearly earth-oriented, that community members of Trecky persuasion can also be accommodated.

Over time, it has become clear that these battles were about my need, as site manager, and the CED Centre's need, to domesticate its website design (Lie & Sorensen, 1996),⁴⁵) that is, to ensure that the technology became subordinated to its uses and goals, or in other words, became appropriate technology. Unpacked from the appropriate technology rubric is the belief that technology is a product of interactivity of humans and materials, and is therefore "unfinished and thus malleable in principle" (Lie & Sorensen, 1996, p. 6).

Conflicts and negotiations about the employment of technology, between designers and users and among users, are forces shaping the complex and composite relations of everyday life. These forces need to be made visible to transcend traditional deterministic accounts of the "effects of new technologies." This does not mean that users retain all the power invested in them by liberal market theorists. We need to assess these relations concretely, but starting from the assumption that users' actions matter. (Lie & Sorensen, 1996, p. 12)

...In theory, technology is a standardizing, globalizing, and bureaucratizing effort. In practice, it is always appropriated and

⁴⁵ Lest one think this struggle was a mere "personality clash," it is worth noting that a completely different team was offended by my insisting on a review of their module's pages before permitting upload to the site. That is how I discovered that they had committed the CEDC to handling retail sales of their research documents, without consulting either the new Centre director or myself. Needless to say, this module was not added to the website until this research team came up with an acceptable work-around (involving their own labor).

re-embedded in a local context when it is put to use. Many, if not most, technologies acquire meaning only when they interact with everyday life (Lie & Sorensen, 1996, p. 16-17)

These lessons in the hazards of bias in design (Friedman & Nissenbaum, 1996) and the need to domesticate technology (Lie & Sorensen, 1996), have since been valuable for recursive checks on the whole site.

The CEDC website homepage is now being used deliberately to counter the prevailing cyberworld, rootless ethos of the internet. Its emphasis on the CED Centre's geographic place has been enhanced significantly. We firmly identify the Centre as located within Simon Fraser University, on Burnaby Mountain, in Canada, British Columbia, and Greater Vancouver, complete with pictures and maps to make the issue concrete. We have increased other geographic references textually and with BC map icons (as shown in Appendix B), to ensure that our service area mandate and the limits to our claims to expertise are visible. Our theory may be global, and our resources globally available, but our action is primarily local, and the work of real people, not virtual people.

The now dominant green on the site represents a victory in a struggle to lodge aesthetic, political and organizational control of the website within CED ethos and in the hands of CEDC staff. In the course of the struggle it became clear that it was no more acceptable for a site manager to fill the site with personally favored motifs (cute little green leaves, in my case), than to

permit another's motif to dominate. The organic metaphor has become a clear and purposeful use of iconography in its design, but it is now more controlled. It has a well articulated goal of representing ecologically sustainable local action, taking place interactively with those concepts embedded in the CEDC logo by its designer, the previous director: global thinking and an ideal of dynamic stability. The prevailing aesthetic represents an achievement of balance.

Out of these battles, we also learned that it was necessary to actively manage the language of the website. The Gateway designer had proudly responded to our request for a then advanced feature, a feedback form, by creating a document not only named feedback.html but also presenting itself to the visitor with the name Feedback Form, demanding their name and address without courtesy. Such frontal, bureaucratic/technical language seemed ludicrous on a community-oriented website. This, too, we did not fight. It was changed as soon as the contractor's back was turned, however, and has now evolved into a variety of pages tailored to each module, inviting people variously to drop us a note, or write to us, or sign our guestbook.

The current aesthetic and social values represented on the website were thus first articulated by the site manager and new director as a negative reaction, one that led us to deconstructing notions behind the original work. We subsequently had to learn to construct and articulate our world view in

order to give positive and firm direction to subsequent contractors and student workers, and to enable us to hire more carefully. As a result, we have learned to speak up sooner, not later. We now clearly delineate that website production is craft, not art, and that the page creator's professional product is not intellectual property, but a product, the design of which will only be completed in use (Suchman & Jordan, 1991, cited in Balka, 1997a) after they are gone. This view has swiftly become easier to insist on, as software development has replaced illusions of highly individual creation with more mechanistic, de-skilled milling to client-dictated standards. Furthermore, we have learned that regular checking for pre-existing, technical and emergent biases will always be necessary on the site (Friedman & Nissenbaum, 1996). The contractor/expert no longer dominates (Johnson, 1995). It has become apparent, with time and expansion of website knowledge, that those early webpage contractors were not at all as professional as they believed or claimed (Powell, 1998).

As more persons become involved in training and development with our website, we have developed the metaphoric notion that the site is a house with many rooms. Each person can be responsible for a module, with some freedom to develop or modify a characteristic décor, but also with the obligation to explain their proposal coherently, and keep it unified with the rest of the house. In this way, the relentlessly organic aesthetic generated through my own single-handed development and maintenance work is being

modified over time, and a more collaborative and empowering development experience is available to all who contribute. Visually, the website now represents the work of many, as CED enterprises should. A major outcome of these process experiences is that we have become more philosophical about the realistic possibilities of meeting CED ideals, and more comfortable with process-based design evolution.

The CED Centre website has plainly grown to a level where it needs overall design management. This would necessarily include re-development of accumulated materials in this permanent public resource. But before starting on re-development, it will be necessary to begin by developing clarity within the CED Centre about the ideological, strategic and service goals of the website that represents it. If those values are clearly explicated through consultation and a formal proposal process, then downstream management, design adjustments and further site evolution can remain anchored.

Fortunately, there is now sufficient breadth of published website management experience (particularly non-profit and community oriented experience) (Balka, 1997a; Powell, 1998) that the Centre can conduct an effective comparative study. Not only is it time for the Centre to do so, it is actually possible to do so. The task is to make it financially practicable to conduct such a study.

Formulating Future Plans

Does the website need a review? In the field of CED, democratic and participatory ideals lead to an automatic assumption that a community-based process would always be the strategy of choice for establishing or evaluating communication needs and choices. It is a good thing in principle. Without feedback from users, the site risks falling into an artificial dichotomy between in-house, technical users and non-technical users, with the potential of the Centre deluding itself that it is the active party creating effects upon passive consumers (Grint & Woolgar, 1997). This would be an anathema in CED principle, but it can be an easy practice to fall into, given the very real distance between the Centre and its website clientele.

There is, however, a sounder, already-concrete, reason to conduct a broad review to correct actual current practice. An external review is a practical design necessity, not just a democratic ideal. As Grint & Woolgar (1997) point out, designers invariably configure the user from within themselves. I have been very aware, because of my psychoanalytic psychology background⁴⁶ that while one invariably starts from such a self-based vision of the user, it cannot continue. Too many design faults arise that no internal developer can perceive. (Grint & Woolgar, 1997). It certainly cannot contribute to growth and inclusion of new circles and new generations of CED activists. Fortunately, in practice, all CEDC staff and associates have used

⁴⁶ See <http://www.sfu.ca/~psimpson/> for my writings on psychoanalytic self psychology.

informal opportunities to elicit website user feedback, and contribute this for revisions. However, this contact is only haphazard. A formal and active review by users would be more useful for correcting this inevitable slippage in awareness. In addition, the Centre's website has now reached a natural plateau in its development where such a review makes theoretical sense. It makes sense to re-establish the directions the site must now take in terms of service focus and technical capacity.

These are sound precautionary reasons for conducting a review before proceeding with re-development. As Margolin puts it, "designers need to learn about the evolving relationship between products and users...the user is actually purchasing an environment that promises a satisfying relationship to the product" (Margolin, 1998, p. 280). This, in 1998, remains an ideal of professional design, but it is implicit to CED as well.

Unfortunately, the CED Centre has not yet been able to commit consistent resources even to its website maintenance, not to speak of its ongoing development. Thus, while a broad-based review may seem an obvious and immediate necessity before carrying out any re-development process with the website, this form of consultation is a major undertaking which, at present, would further burden the Centre's limited staff. Launching an immediate major website review, with all its panoply of research technologies such as focus groups and interviewing, merely in response to

moral pressure, has the same character as the introduction of new technologies: it would also generate whole new unrealistic expectations (Balka, 1997; Simpson, 1997). Yet we would be unwise to again attempt to resolve the staff workload problem by hiring an outside consultant. This would again risk the separation of key users from the review designers, and the introduction of formal, abstract review process models that could produce only unsatisfactory, formal results (Balka, 1997).

Grint and Woolgar point out other key hazards of a wide, community-based review process when applied to technology. As we discovered in attempting to involve community groups in the Gateway development, users do not always know best (Grint & Woolgar, 1997), especially when facing new technologies which they have not yet had an opportunity to experience hands-on. If, in all reasonableness, users cannot concretely identify needs that are still in the abstract future, it can make it very hard for website developers to “configure the user” (Grint & Woolgar, p. 77-78). As Schumacher puts it, designers or advisors need to take several alternative models with them so that users can concretely compare them in order to know best what suits them (Schumacher, 1997b).

Fortunately, the Centre’s website has now been in existence for five years. Users have had a chance to experience it concretely. They, and WWW users in general, are no longer dealing with difficult-to-imagine, futuristic

developments. They are certainly experienced enough to have developed opinions of their own about how the CEDC website can better serve them. The task is to carry out a representative sampling of their opinion.

The most pressing necessity is to prepare for a review within the Centre itself. Without coming to a thoroughly shared acceptance among all CEDC staff of the many facets of internal development work, the Centre would not be able to invest effectively in or benefit from external consultation. Most central are:

- website management issues (Powell, 1998),
- gender and technology issues (Balka, 1997a; Panteli et al., 1997),
- job-and-technology issues of invisible work, articulation work and work-arounds⁴⁷ (Balka, 1997b), and
- participatory design principles (Kuhn, 1996).

The key to an effective review process, expert or community-based, will be careful, step-wise participatory preparation and design of the review itself, with priority given to internal financial and human resource planning before

⁴⁷ Articulation work is defined as work "that gets things back 'on track' in the face of the unexpected, that modifies action to accommodate unanticipated contingencies." (Star, p. 84, 1991, cited in Balka, 1997b, p. 163.) Articulation work frequently involves original thinking including putting problems into words for the first time, identifying the crux of the matter, and describing solutions. Work-arounds are defined as procedures invented by workers, "to bypass the problematic limitations imposed by [a] system and to allow them to do their jobs more effectively" (Kuhn, 1996, p. 279-280). Both articulation work and work-arounds are symptomatic of poor planning and design completed without adequate participation by workers. A secretary who re-creates a printed government form by computer, when she discovers the typewriter is broken, so it can be filled in by computer and kept for future use, is engaged in both articulation work and a work-around. They are among the major forms of time-consuming invisible work, unaccounted for in conventional job descriptions (Balka, 1997b). They are major sources of both creativity and stress in administrative jobs (Panteli et al., 1997).

launching into external action.

Such a review design process would permit the Centre staff time to assimilate participatory design concepts as applied to its own processes, rather than burdening me, as site manager, with further pioneering articulation responsibilities, this time in participatory design advocacy and application. It would provide time to establish realistic operating costs, annual budgets, and technical limits so that a practical framework for service and expansion can be firmly grounded. While we certainly need to identify remedial, current and future community CMC needs for CED content, an open-ended external review that once again suggested unlimited service capacity to the Centre's web clientele would not serve either the Centre or its website users.

Balka's (1997) carefully designed exercises for determining CMC needs and strategies offer a convincing model on which to base an internal review of the CED Centre's communication practices, as the first step toward a well-planned website consultation and re-development process. Adapted to the CEDC's mid-stream situation, these include:

- Developing timelines and a budget for implementation of the following tasks;
- Reviewing, identifying, and prioritizing communication functions the CEDC uses and can use computer networks for, including both the visible WWW and less visible functions;
- Determining and prioritizing the CEDC's target audiences;
- Identifying communication functions now requiring computer

networking, and their non-computer back-up means, if any;

- Identifying the best means for carrying out these communication goals;
- Inventorying what the existing CEDC computer equipment can, and cannot do;
- Identifying the combination of computer network services the CEDC uses, and their costs, overt and hidden;
- Determining and prioritizing the human tasks which existing CMC have generated and might generate;
- Determining who does each CMC-related task; and how this might be made more effective through a division of labor, with a training schedule to accomplish this;
- Creating a realistic budget for existing CMC, both WWW and others, including potential future developments;
- Conducting staff awareness and consultation processes to identify features and processes needed for an external user review;
- Drafting a review proposal with budget and timelines;
- Obtaining funding for the review;
- Assigning sufficient staff resources to conduct, supervise and complete the review in writing;
- Identifying hardware and software required for proposed CMC re-design;
- Designing budget and timelines for proposed re-design of CEDC website and other CMC functions;
- Obtaining funding for the proposed re-design (adapted from Balka, 1997a, p 100-129).

This re-iterative process, which must be conducted with care, is plainly a major undertaking for such a small organization.

In the interim, a number of external review processes are currently aiding the Centre's webwork. The Mount Allison Rural and Small Towns Institute review had identified "link difficulties" (a maintenance problem) as our most immediate need (Bruce et. al., 1999). ENTERWeb is conducting a second review at our request. In addition, we have been able to tap into assistance from the Simon Fraser University School of Communication, where students regularly conduct design evaluations as part of course work. Subscribers to our long-established "ced-network" e-mail group can be asked for their assistance, which they have given in the past. Finally, the new CEDC Advisory Committee is being slowly expanded to include key CED practitioners across British Columbia. It will be in a position to offer regular feedback on community and strategic needs for CMC practice in community economic development. All of these are extremely valuable independent sources of opinion.

Conclusion

Social action organizations like the Community Economic Development Centre, if they have clear, socially constructive ideals and a passion for pursuing them, can be very successful in utilizing CMC mediums like the World Wide Web to deliver their own message. Yet the CED Centre is only an ordinary social action organization, with the common weaknesses of such groups. What has been learned from its WWW development process that is useful to itself and others?

While it is true that most of the overview literature on website design and management (as opposed to webpage design), has become readily available only since the CEDC began its website project (i.e. Powell, 1998), it is also regrettably true that the CED Centre was limited by its own weakness for pioneering. Like many of pioneering bent, its staff paid a high price for proceeding without actively seeking comparative experience or guidance, equipped with only general CED theory applied to the task.

CED theory alone has not been adequate for this CMC work. It has provided a sound framework for this site, but could not provide the articulation (Balka, 1997b) of explicit design issues that arose. There is much that would have been very helpful to know in advance from communication and design theory. In particular, the sub-field of technology and society studies concerned with the social critique of design (Balka, 1997a, Balka, 1997b,

Friedman & Nissenbaum, 1996; Grint & Woolgar, 1997; Johnson, 1995; Kuhn, 1996; Lie & Sorensen, 1996; Margolin, 1998; Panteli, Ramsey & Beirne, 1997) has much to offer. These sources could have provided systematic heuristics for many tasks within the general framework of the project, and effected far quicker and more systematic articulation of issues and solutions. A few examples of how such knowledge might have helped follow.

CED Centre staff members all have some background in the design and management of social organizations. None had experience in computer or technology design. Our preference was work with people. Our tool experience was with the satisfying use of older forms such as hammers and saws. Indeed, a pervasive and somewhat misleading tool metaphor is used at the CEDC with reference to many planning and research practices which are actually more social than technical. As a result, it did not occur to us that our social experience was more transferable to the new CMC technology than were experiences of simple tool-use. Lie & Sorensen's (1996) descriptions of how technology becomes romanticized, yet needs to be (and inevitably is) domesticated, would have been particularly useful in moving the CEDC's website technology adoption process from the realm of romantic, and implicitly nostalgic, analogy with pre-industrial tools, into the real world of wrestling with complex computer design.

In particular, a knowledge of the similarities of women workers'

struggles with CMC and computer technology (Balka, 1997a; Menzies, 1996; Lie & Sorensen, 1996; Panteli et al. 1997) would have reduced my own sense of isolation, and provided me with far greater leverage in the disputes where I was the only woman and only support worker.

It is a matter of chagrin for me to realize that it would even have helped if any of us had thought to transfer our knowledge of participatory action research (Barnsley & Ellis, 1992; Dick, 1999), to this project⁴⁸. There are a number of reasons why participatory action research was not used in-house during this project. First, the staff most acquainted with participatory research were the least technically sophisticated. Furthermore, their preference was for outreach work. Some felt daunted and bored by necessarily technical HTML-related discussions. Also, in the face of much overwork and deadline pressure, normal divisions of labor separated administrative staff and research staff. Most of the discussions about action research took place at new project development meetings. Website project discussions, perceived as old, or as "part of the machinery," took place outside of meetings, in one-to-one consultations between myself and a designer, or between the director and myself. Everyone compartmentalized their thinking into social and technical

⁴⁸ "Action research can be described as a family of research methodologies which pursue action (or change) and research (or understanding) at the same time. In most of its forms it does this by using a cyclic or spiral process which alternates between action and critical reflection and in the later cycles, continuously refining methods, data and interpretation in the light of the understanding developed in the earlier cycles. It is thus an emergent process which takes shape slowly; it is an iterative process which converges towards a better understanding of what happens. In most of its forms it is also participative (among other reasons, change is usually easier to achieve when those affected by the change are involved) and qualitative." Southern Cross University (1999).

categories in order to juggle these multiple demands and to manage the sense of high velocity always focused toward the future. Clearly we all shared flawed, linear and outward-oriented notions of design and development that overrode both iterative practice and theory-mindedness in our own work. More gravely still, the fact that we all fell into treating technology development as non-social reveals the dark side of CED (or any form of community development): its risk, under unmindful conditions, of stepping over the boundary into social engineering.

CED practitioners, one might argue, should be fully conscious of the need for congruence between theory and practice, especially if one thinks of CED in terms of being a social critique of badly designed social and economic systems. Logically, CED as a praxis can be understood as articulation work or a work-around⁴⁹ (Balka, 1997b) for crises and problems generated by those systems. However, it would be hard to imagine any CED organization having the leisure, self-awareness, dedication to “lifestyle politics” (Landry et al., 1985, p. 7) or cash sufficient to create an unfettered world of participatory management that would permit such theoretically informed work habits.

Even if participatory design is attempted, that kind of unhurried, socially level, iterative consultation can clash with pressing work and organizational demands. Hierarchical work organization is necessary for

⁴⁹ See footnote 43.

effective production even in social development organizations (Landry et. al., 1985). The new economy has already come through the door of most social organizations, and can't be dislodged. Ongoing production rarely stops to make room for nascent projects. Contemporary, high velocity, contract labor relations, and exhausting workloads created by the new economy (Menzies, 1996) are facts of life.

Inevitably, in-house development projects, like the CEDC's website project, sharpen contrasts between the organization's ideals and reality precisely because such projects generate new articulation work and more work-arounds, both of which require heightened critical-mindedness on the part of participants. I therefore believe the disputes would have occurred regardless of any enhanced knowledge base of social issues in design among CEDC staff.

Nevertheless, I also believe that the disputes would have been less exhausting and less painful among the limited CEDC personnel if we had not had to articulate all the solutions from scratch. In particular, if we had understood from the beginning that work-arounds are the most normal consequence of design processes (Balka, 1996b), we may have been able to forge a better, shared, hermeneutic "process view" (and budget) for the project. We may even have gone beyond enjoying the sense of agency of our pioneering, work-around labor (Panteli et. al., 1997) to enjoying the reflexive

process of experiencing CED principles applied to ourselves. An articulated knowledge of social CMC and design practice could have saved the Centre and its staff enormous labor, time, trials by error, work-arounds and revision costs, if it had been able to integrate these theoretical elements into its CMC praxis right from the initial planning stages. At the very least such an understanding could have provided a sheet anchor for the project. It would also have offered solace during the inevitable rough times.

A knowledge of social issues in design can still help prevent the CED Centre from reinventing wheels, particularly in the midst of a fast-paced development task, when clarity is so essential. Awareness of these participatory design principles are now, belatedly, being assimilated to the webwork training with students which I guide. They will also be key to any review process the Centre chooses to conduct for its website. Furthermore, it has become clear to me that social critique of design studies can become a valuable addition to CED education, training and practice generally, especially in a climate of increasing professionalization, when CED is at some risk of becoming mere social engineering.

It is difficult not to be somewhat embarrassed at the CED Centre's naiveté and lack of preparedness for launching a website project, but there is considerable solace in realizing that the Centre was one of many pioneers, to whom the World Wide Web was new territory. No one had accumulated

enough experience to be able to generalize from it, as I do below, or compare the experience with previous communication projects.

I have become convinced that an effective internal team is vital for guiding a website's design, development and on-going growth. CMC, based as it is on single workstation technology, tends to encourage single person functioning. Yet a website is not just a functional tool. It is an extraordinarily strategic representation of the whole organization. One person, inside staff or outside contractor, simply cannot do all the work or reflect all the organizational facets needed in a website which has to serve a community organization. A website needs to be guided by those closest to the pulse of the organization and its audience, not merely in the instrumental sense, but most particularly in the sense of its ideals, so that the website exemplifies dynamic stability of means and ends. This is what makes a website convincing for users. This team need not be large, overly structured, or burdened with work to accomplish this. It must, above all, be in touch with the website, and prepared to react early and often to signs of potential misdirection in this dynamic medium. With this kind of human guidance, the website can genuinely represent the organization as both evolve over time.

Studies in social issues in design have demonstrated that no design concept is ever completed without implementation and recursive, thoughtful, daily use, by users both within the organization and outside.

Because of this, it is vital to involve users much earlier in design processes, particularly those users who will be managing and maintaining the site.

While involving external users is much harder, it is extremely valuable if time is taken to develop a network of interested people as advisors at every stage of a website's development, even if it slows production of the site. Such a client-side expert group can provide invaluable knowledge of needs and desires to enhance the working knowledge of staff. These, together, can be used to bridle the professional experts needed to implement the website project. In the end, the website project has to serve the goals of the social organization, however amateur, not the vision of consultants, however professional.

Community economic development praxis, indeed much of community development work, is deeply rooted in notions of citizen empowerment. For this reason, they cannot be wholly reconciled with either professionalization (Simpson, 1994) or administrative rationalization. E. F. Schumacher and Heather Menzies have both described how these forms of specialization can drive wisdom out of jobs and organizations (Menzies, 1996; Schumacher, 1997a). Community-oriented groups adopting CMC need to consciously guard against adopting the new economy's culture of order and control which comes in the train of technical expertise. The amateur ideal, with its magnanimity of disorder and its smallness, simplicity, capital

cheapness, and nonviolence (Schumacher, 1989) is a vital corrective to the use of professional experts and expert systems, like CMC and WWW networks.

Social development groups must realize that, despite their best efforts, a website project may draw their organization into the new digital economy for the first time. This can bring inimical professionalism and administrative rationalization values into conflict with deeply-held implicit organizational values, resulting in an unhappy development process, and an unsatisfactory product. For this reason, it is extremely unwise to delegate the task of website development entirely to outside professionals, despite the temptations created by overwork internally. Indeed, I would assert that a community action group which values its connections to community is better served by a modest, amateur website created by its members to match its capacities and self-image, than by a website so professionalized that its upkeep forces the unprepared organization into fullblown, new economy work practices.

Despite these caveats, I have learned that websites will require professional expertise at some point when CMC needs reach beyond the modest amateur level. Highly complex social and technical tasks are now involved in creating a sophisticated website to fit an organization. Neither external consultants nor internal staff can take on the project alone. Indeed, since most employees engaged in computerized work are now severely

overworked, it is impossible for employees to carry a website development project in addition to their usual workload. Neither is it possible for them to add on all the technical skills needed to create a new website today. At the same time, this internal overwork can block an outsider's ability to access insider tacit knowledge (Cohen, 1985) and implement the in-depth participatory consultation needed to produce a satisfactory website. The knowledge of both in-house employees and professional experts is required to manage the burden of the transition to this new level of CMC. As a result of this necessary social complexity, community organizations need to know that amateur and professional website design and development will take more time and more iterative consultation and articulation work than they ever imagined.

Community action organizations also need to know how to select the right expert for the work at hand. These are not promoter-style consultants with large visions for the organization and their technical knowledge culled from a few World Wide Web manuals. These are trained, computer-human interface designers, with:

- a knowledge base in social design;
- a sensitivity to the philosophy, goals and style of their clients;
- an ability to develop a training package for staff, and
- a firm commitment to, and capacity for, collaborative design, especially with those not their professional equal.

If a community development organization must pay precious dollars for high-priced, custom design expertise, it needs to be worthy of its hire. However, neither the organization nor designers can afford to be stingy with consultation time needed for articulating and absorbing the ideals and ethos of the organization. Without this process, a website cannot convey the true goals and personality of the organization.

In these times, when CMC use for social praxis is expanding, I have come to believe that groups like the CEDC need to integrate communication and design theory into its existing body of political and social theory. Key lessons now available from CMC participatory design literature, from literature about the new digitized economy, and from website design experience can be integrated into the planning stages of website and other CMC projects to reduce the high costs of naïve development projects.

In 1999, for the CEDC and social action organizations like it, there is no longer any need to repeat website development mistakes that everyone made in the early- and mid-1990s. In fact, it can be organizationally fatal to do so, as the new economy, with its impossible standards of work volume, speed-ups, financial cutbacks and complexity, presses ever more brutally on community development organizations, professional and volunteer alike. There is little margin left for naïve, trial-and-error CMC development practices. Organizations like the CEDC can reduce stress, burnout and other social costs

significantly if, in their CMC work practices, they refrain from the fun and temptations of pioneering on what is no longer a frontier. "Just letting it grow" is not really the best approach to a large website project, despite the gratification of walking in – successfully -- where angels fear to tread.

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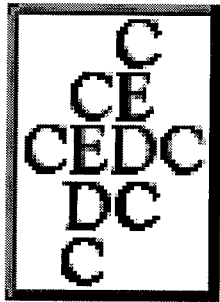
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APPENDIX A

CEDC Website Overview Guide - <http://www.sfu.ca/cedc/siteguide.htm>

Note: All titles in this appendix are links. Lines separate distinct modules.



CED Centre Website "Overview Guide"

Homepage: Welcome to the Community Economic Development Centre website

What is CED?

SFU's Community Economic Development Centre

Quick Tour: Site Sampler

"Hands-on" Diploma and Certificate Programs

Program Brochures: Certificate and Diploma

- A "Core" Course Description
- An Elective Course Description
- Electives List

A commitment to Continuing Education, free to the public

Gateway to CED course contents

A Source for Major Permanent Resources

Sharing Stories of CED , an entire, out-of-print book

- CED Statement of Principles
- Chap. 9: Community Tourism Planning Process

On-line Resource Book including:

Responsible Business Development

Major Reports

- Improving the Shared Decision-Making Model: An Evaluation of Public Participation in Land and Resource Management Planning

Research Reports

- Ongoing Forest Communities Project
- Information Technology & Civil Society
- Sustainable Community Strategic Concept Plan:
- Vancouver's Southeast False Creek

Student Projects in Real Communities:

- Diamond Willow Range Alberta: Two Year Review
- Bella Bella Community Profile Project
- Mission BC: Planning for Affordable Housing

Tools for Communities:

- A Community Portrait Protocol
- A Craft Community's Economic & Needs Survey
- Small Business Development
- Cooperatives and CED

Short Essays, Opinion Pieces and other brief items:

- Definition of "CED"
- CEDC Online

More Resources: Links beyond the CED Centre:

People: Our CED Centre staff and associates

Nuts and Bolts:

- News & Events
- ced-network the internet discussion group

Printable 1-page CEDC Summary

People at the CED Centre

Toward Sustainable Communities: Resources for Citizens and Their Governments, by Mark Roseland, CED Centre Director

CEDC Online

Simon Fraser University Homepage

Location, Pictures & Maps

Mailing Address

News and Events

Recognition:

Links2Go Key Resource in Community Development, 1998
ENTERWeb's "Top 20 International" CED sites, 1998
Majon International "Seal of Excellence" 1997

Search Engine for this Site

Notifications Register

Hit Meter

Guest Book

Links to Features:

Credential Programs

- Certificate Program
- Diploma Program
- Course Descriptions

"ced-network" E-mail Discussion Group

Cooperatives and CED

Small Business Development

Online Learning: Gateway To CED

Stories Of CED

Research & Projects

- Forest Communities
 - South East False Creek Strategic Concept Plan for a Sustainable Community
 - Links to More Resources
-

Credential Programs

Introduction

Certificate Program

Diploma Program

Vital Application Deadline Information

Course Offerings for the Summer Semester

CED 401

CED 404

CED 412

Multidisciplinary Electives

Application form for Directed Studies and Projects

Class e-mail groups

Mailbox

Gateway To CED

Introduction by Mark Roseland

How to navigate in "Gateway to CED"

Contents

Gateway Guestbook

The Gateway...

Activity-based Exploration of CED

An introduction to CED

Stories of successful CED initiatives

CED principles

The Changing Roles of the Public, Private and Voluntary Sectors

- The Changing Role of the Public Sector
- The Changing Role of the Private Sector
- The Changing Role of the Voluntary Sector
 - Creation of Profitable Ventures by Nonprofits
- Cross-Sector Partnerships Among the Public-Private-Voluntary Sectors

- -Elements and Process of Partnering
- Increasing Individual Participation in Community Cultural and Social Diversity**
- The Relationship of Cities and Rural Communities**
- The Growing Importance of Information and Communications Technologies**
- New Approaches to Education**
- A New Paradigm of Development Based Upon Sustainability**
- Community Economic Development Approach**
 - Stories of Community Economic Development
 - Determinants of Successful CED
 - ICURR Community Economic Development Checklist for Success
 - Interpreting ICURR's "Development Checklist for Success"
 - The Process of CED
 - Awareness Raising
 - Education
 - Self-Help
 - Joint Effort
 - The Whole Economy
 - Visible Types of Economic Activity in the Whole Economy
 - Invisible Types of Economic Activity in the Whole Economy
 - Identifying Invisible Types of Economic Activity in Your Community
 - CED Strategies and Tactics
 - A Bucket of CED Strategies
 - Building Your CED Organization
 - Getting Started
 - Specifying Your Organization's Role
 - Choosing a Structure
 - Positioning Your CED Organization
 - Planning Your CED Development
 - Creating a Community Vision
 - Assessing Development Strategies
 - Making Your CED Activities Count
 - Selecting Your CED Field of Action
 - Assessing Your Group's Capacity
 - Understanding Project Risks and Rewards
 - Selecting CED Projects

"Sharing Stories: Community Economic Development in British Columbia"

Welcome and acknowledgements

Contents

Would you like to send us a note?

Entire book in Adobe®.pdf format for downloading. [Click here.](#)

Chapter One

INTRODUCTION

- Statement of CED Principles

Chapter Two

HOUSING IS CED

- Entre Nous Femmes Housing Society Opens Doors
 - Community Foundation Puts Co-operative Housing in Trust
 - Ever wondered just who lives in our communities?

Chapter Three

FEEDING OUR COMMUNITIES

- Community Kitchens and Gardens Combat Hunger in the Cariboo
 - Hunger is a reality for many families in Williams Lake
 - What is Food Security?
 - Quesnel Market Profits Whole Community
 - Strathcona Gardens Grows Green Space
 - Land Shortage No LLAFFing Matter
 - Resources for Getting Started

Chapter Four

MAKING EVERYONE'S VOICE COUNT

- Bamfield Preservation and Development Society Involves Community
 - BPDS Makes a Clean Sweep in the Community
 - Oral History Project Celebrates Bamfield's Heritage

Chapter Five

STRENGTHENING COMMUNITY

- Haisla Rediscovery Builds on Cultural Roots
 - Saving the Kitlope
 - Solo Vision Quests Challenge Rediscovery Campers
 - Rediscovery Turns Chaos to Hope

Chapter Six

PRACTISING SUSTAINABLE FORESTRY

- Cariboo Horse Loggers are Innovators in a New Era
 - Horse Logging Made Simple
 - Maintaining a Living Forest
 - Community Forests More Than Trees and Timber

Chapter Seven

NOURISHING COMMUNITY CREATIVITY

- Kootenay School of the Arts Defies the Odds
 - Public Dreams Develops a Shared Culture
 - Community Councils Focus on Arts and Culture
 - Caravan Combines Farming and Theatre

Chapter Eight

DEVELOPING TRADING ALTERNATIVES

- Shuswap Barter Club Values Everyone's Work
 - Barter Not a Tax Dodge
 - Local Exchange System Boosts Trade

Chapter Nine

PLANNING TOURISM STRATEGIES

- Kootenay Lake Communities Create their Own Future
 - Kootenay Lake CoDesign Communities
 - Valuing Artists' Work

- Mowachaht Maintain Control over Tourism Development
- CoDesign by Stanley King

Chapter Ten

RESTORING THE WATERSHED

- Roundtable Planning Secures Future of Salmon River Watershed
 - Langley Environmental Partners Society Promotes Collaboration
 - Some Challenges We Encountered along the Way (It hasn't been easy)

Chapter Eleven

FINANCING COMMUNITY ENTERPRISE

- CCEC Lends Support
 - The Statement of Purpose
 - Philippine Women Share Resources
 - Integrity Counts in Sliammon Loans
 - Lending Circles Offer Support to First Nations
 - VanCity Initiatives Benefit Community

Appendix

DIRECTORY OF CED SUBMISSIONS

Resources

Introduction

On-line CED Resources

Please send us your link recommendations...

Articles

CEDC Online

- The Ross/McRobie Report
- Defining CED
- What to do about Resource Dependent Communities?
- Barn Raising and Bartering
- The CED Perspective, a graphic representation
- Professionalism and Popularization in Community Economic Development
- "Different Paths, Same Destination"
- "Beam Me Down, Scotty"

Community Development Organizations

Government Organizations

Guy Dauncey's Resources

- Community Currencies
- Community Economic Development
- Environment
- Global Sustainability
- New Economics
- Socially Responsible Business
- Socially Responsible Finance
- Spiritual/Evolution/Future
- Worksharing, Future of Work
- In A Category All Of Its Own

First Nations Organizations

- CANDO - Council for the Advancement of Native Development Officers

Non Governmental Organizations
Publishers
Sharing Stories of CED
Sustainable Development Organizations
Universities and Colleges
Virtual Libraries
Webzines

CED Resources in Print

Books

- Building a Community-Controlled Economy
 - Community Development Across the World
 - Eco-City Dimensions
 - Toward Sustainable Communities
-

Cooperatives and CED

Introduction

Co-ops and CED by Melanie Conn

Conference Report: Women Work in Co-ops

E-mail group for women: womin-coops@sfu.ca

Links: Resources for Co-op Development

Other co-op related resources at this site:

- The Evangeline Experience
- Planning Affordable Housing in Mission
- Barnraising and Bartering
- Sustainable Development Proposal
- CED Centre Ross/McRobie Report 1987
- Civil Society And Public Participation in Central and Eastern Europe

Guestbook

Small Business Development

Resource Guide

Aboriginal Business

Business Service Centres across Canada

Co-operative Business

Sources of Financing

Tax Issues

Women in Business

Workshops Online

Youth Programs

Useful Books

Paper: "Issues in Small Business Development" by Jean-Claude Ndungutse

- What is Small Business?
- Importance of Small Business in Communities
- Improving the Enabling Environment
- Bibliography

Research Reports & Projects

Contents

Community Economic Development for Forest Communities

Contents

- Introduction & Brief Outline of the Project
- Research Design & Methodology
- Research Team
- The Four Pilot Communities
 - 100 Mile House (South Cariboo)
 - Nuxalk Band (Bella Coola)
 - Salmon Arm
 - The Lillooet Tribal Council
- Where we are in the process?
 - Press Release from Dec.22/97
 - Interim Report # 1
 - Delivery of Community Workshops
 - Workshop #1
 - Workshop #2
 - Capacity and Capacity-Building
- Other Project Documents and Resources
 - Principles of Community-Based Action Research
 - Community Survey Form
 - Gateway to CED - Course Design for Community Capacity-Building
 - Resource Page and External Links
- Working Papers
 - Ecological Restoration and Sustainable Community Economic Development in British Columbia Fish and Forest Dependent Communities
- Write to us...

Pluralism in Community Development Practices: Can New Information Technology Build/Sustain Civil Society?

Introduction

About this project

Research team members

Abstract: An Essay On Civil Society

Summary: Information Needs and the internet Opportunities

Summary: Community (the internet) Access Groups: Case Studies from rural and small town B.C. Canada

Civil Society and Public Participation: Recent Trends in Central and Eastern Europe

Abstract: Establishing a Community Computer Network

Full Text: Establishing a Community Computer Network: A Review for Organizers in Canada

Full Text: An Essay on Civil Society
Ordering full publications

Student Research Projects

Introduction

Models and Cases in CED

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 - Responsible Business Development through Community Economic Development and Corporate Social Responsibility
 - Social Development as Community Economic Development
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 - Coordination of CED Activities
 - Working in Groups: A Practitioner's Guide
 - Organizational Development and Management
- Continuous Learning
 - CED and Knowledge
- Drawing It all Together
 - Building Local Food Security: An Application of CED Theory and Practice

CED Student Internship Reports

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- Two-Year Follow-Up Review: Diamond Willow Range CED Organization
- Informal Lending Circles: A Move Towards the Whole Economy
- Seam Stress: A Story of Change in Community
- Perceptual Mapping Project in Hastings Sunrise
- Community/Communication: a Report on CED Projects in the Chilcotin Region of BC
- Action Research as Community Learning Tool in the BC Craft Community
- Lessons from the Bella Bella Community Profile Project,
- Small Business Development Resources
- The Quest for the Holy Grail: Planning for Affordable Housing in Mission

A Strategic Concept Plan for a Model Sustainable Community in South-East False Creek, Vancouver, BC, Canada

Entree: Frames/No Frames & Grahame Arnould cartoon

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Course Design for Mixed Levels of Technology *AND* CED Goals

<http://www.sfu.ca/cedc/siteguide.htm>

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Updated: March 9, 1999 (no longer current, May 1999)

APPENDIX B

CEDC Logo Variations Used for Unity in Diversity

The CEDC logo was designed in 1995 by John Pierce, past Director, who is also a sculptor. It symbolizes dynamic stability which is the goal of ecologically sustainable community economic development practice. It is permitted to vary in height and width, and can appear short and fat or tall and slender, depending on the module developer's aesthetic.

Figure 4: CEDC Homepage Banner

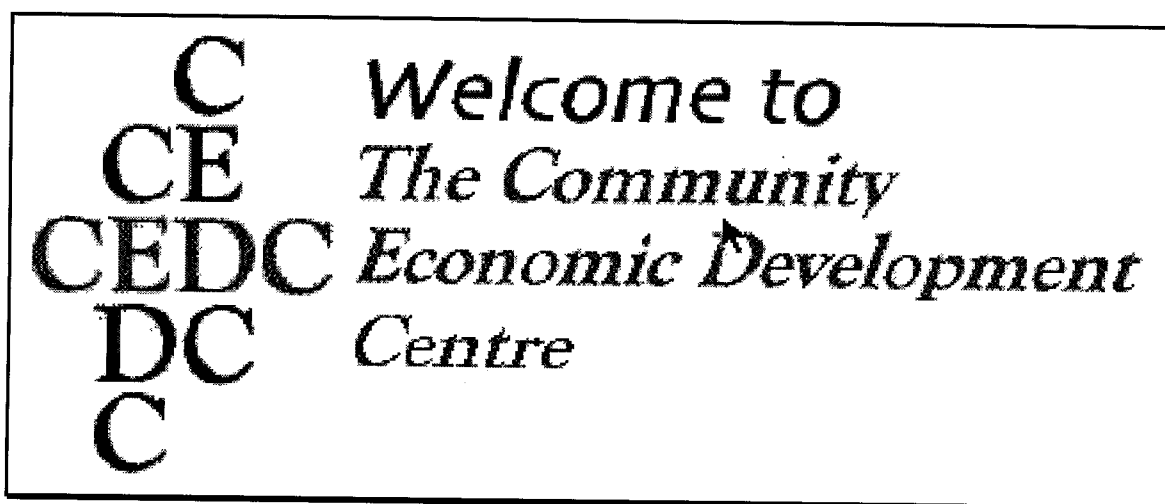


Figure 5: Forest Communities Research Project Banner

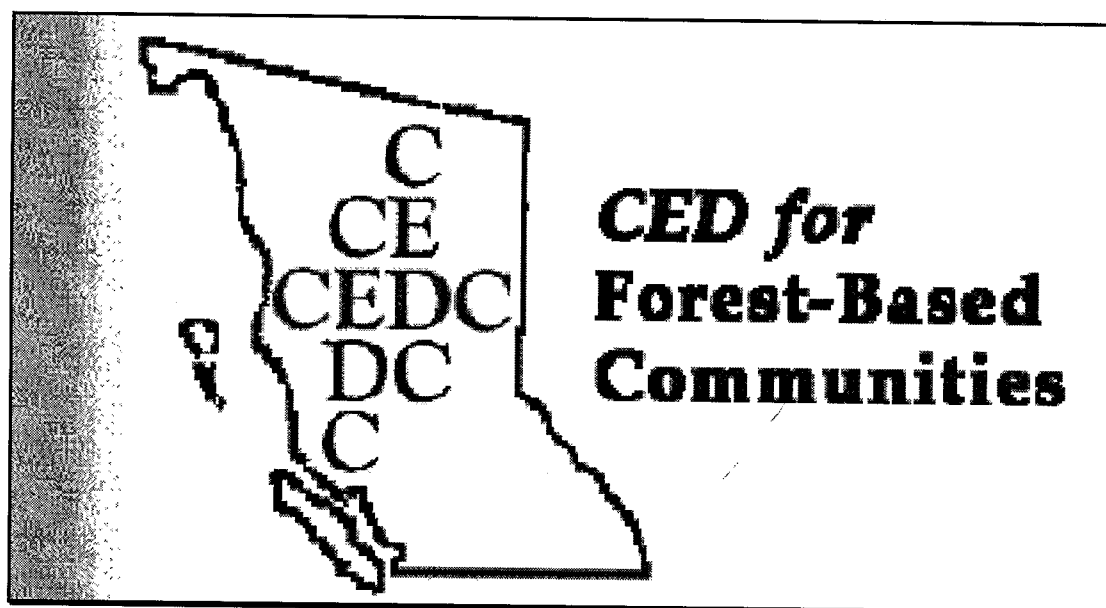


Figure 6: Cooperatives Module Banner

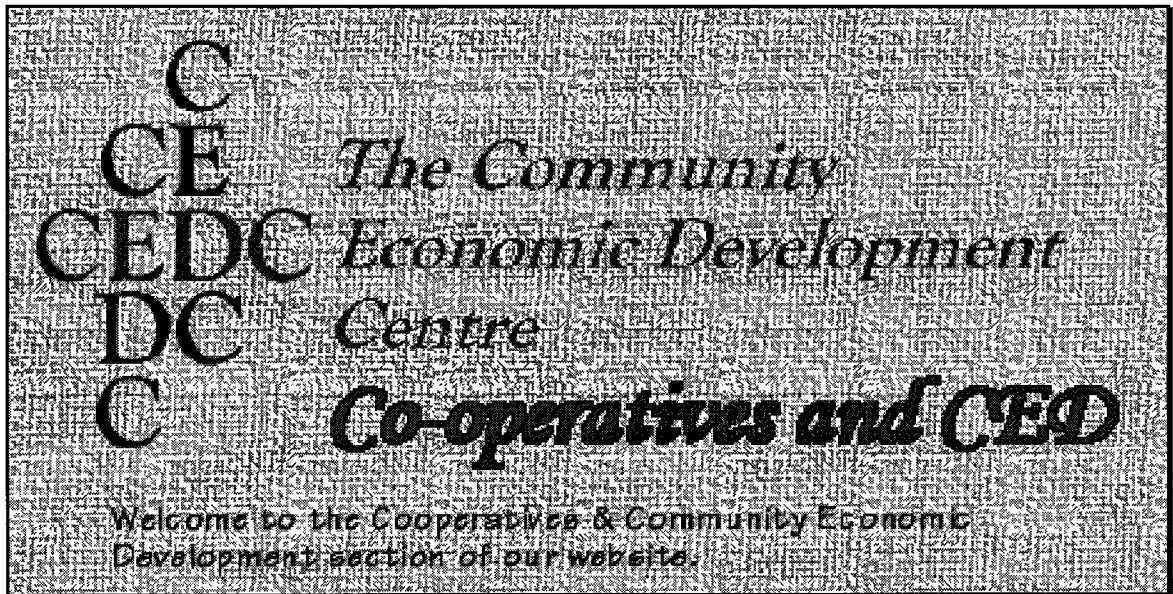


Figure 7: Document Logo

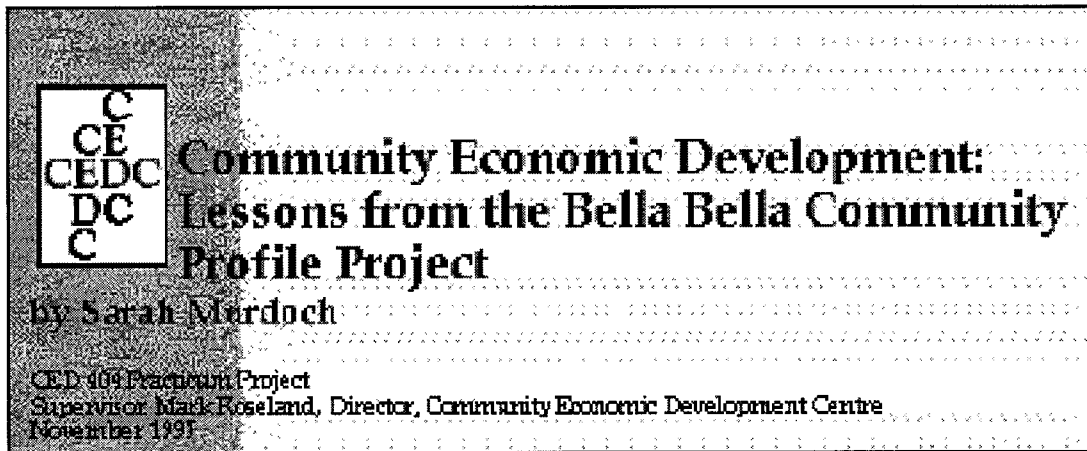
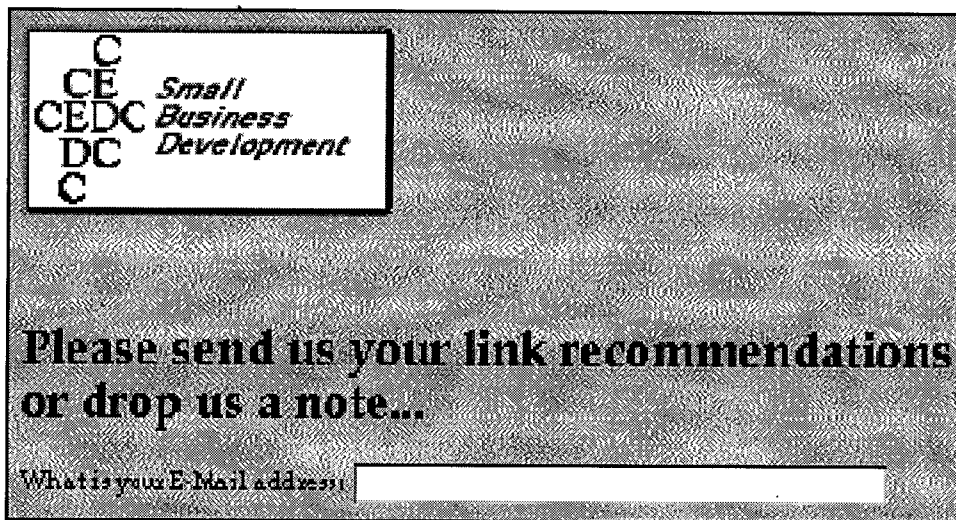


Figure 8: Business Development Section Document logo



APPENDIX C

Organizational Changes Reflected in Academic Program Files

Figure 9: Snapshot of Original File Organization, retired 1997.

Pictures (gifs), documents(html) and folders (subdirectories) are mixed, because they were ordered only alphabetically.

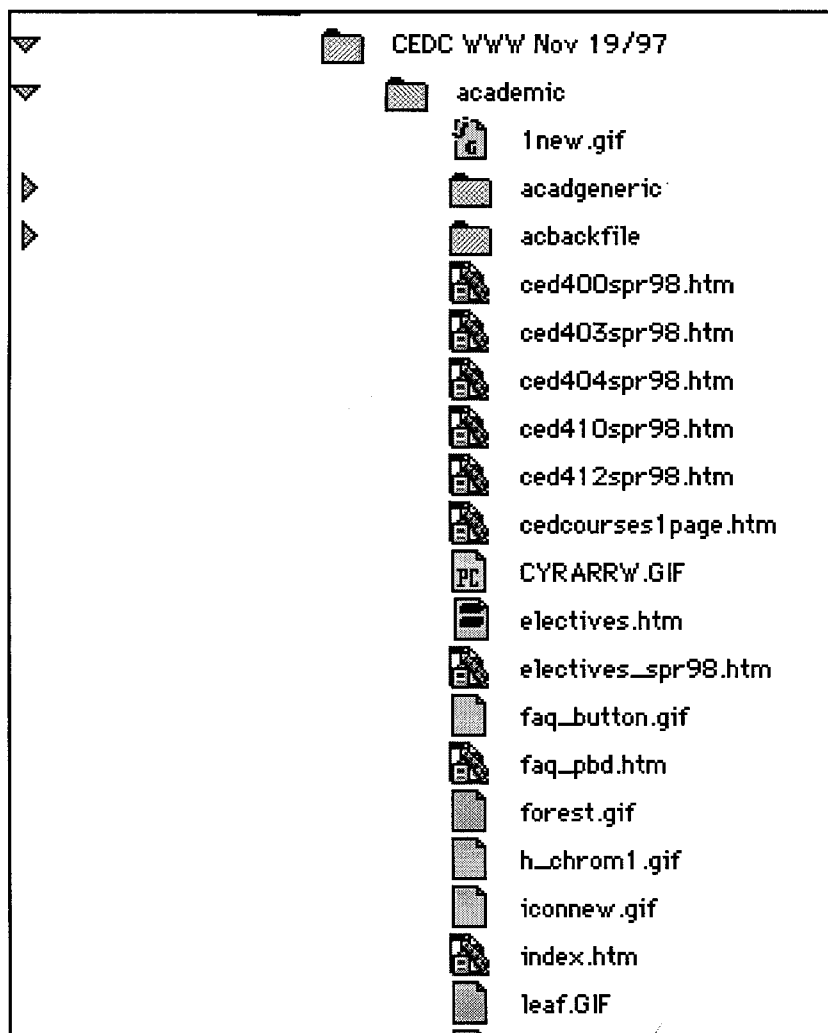
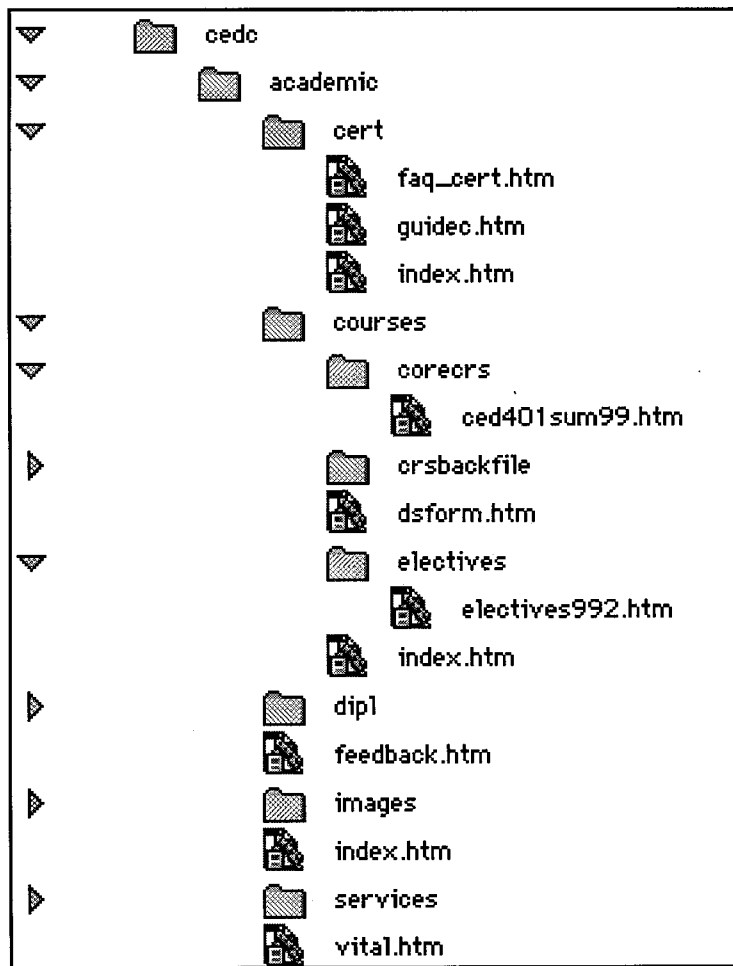


Figure 10: Snapshot of Current Organization.

Files are subdivided hierarchically in folders (subdirectories), images are segregated in their own subdirectory.



APPENDIX D

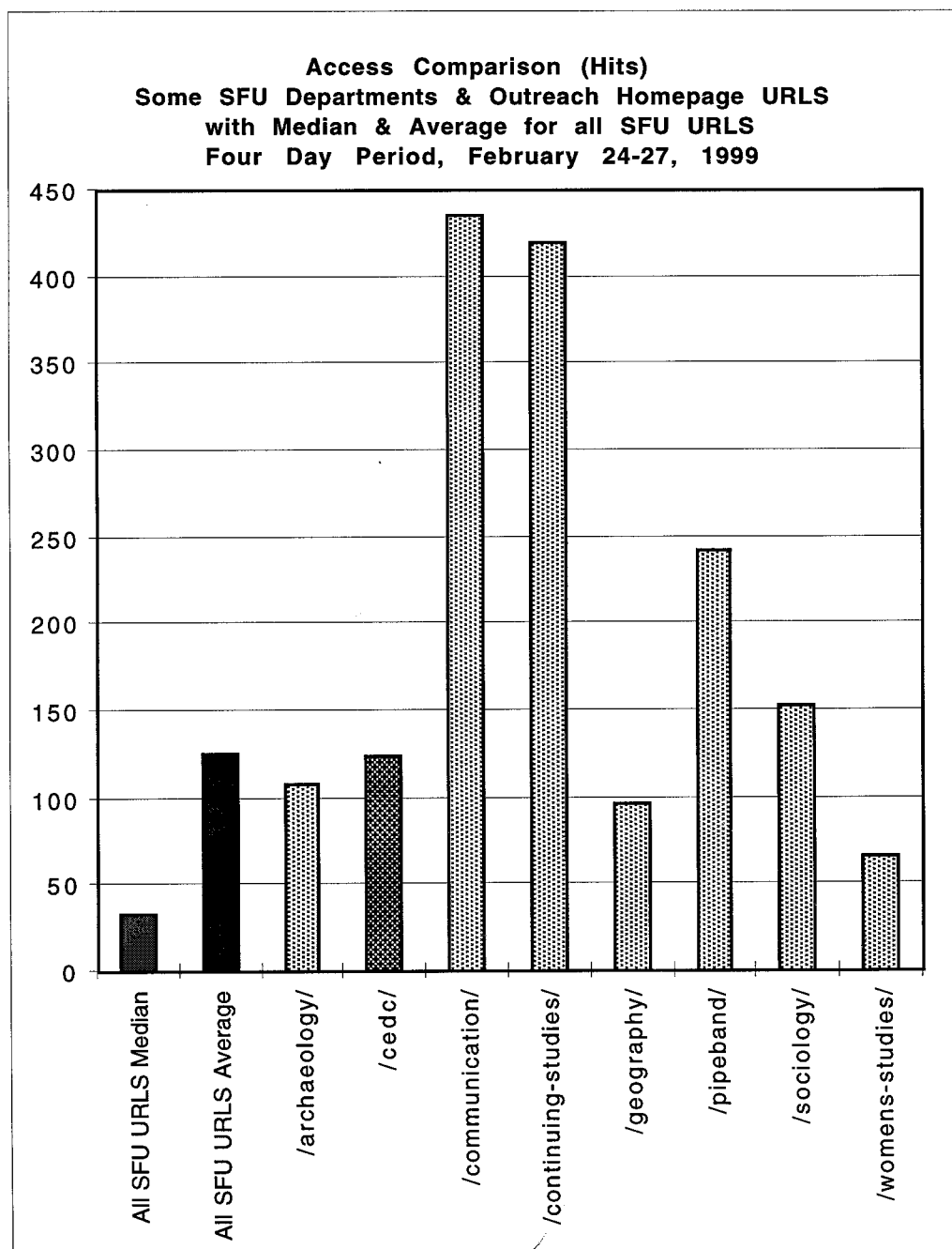
Usage Comparison among Simon Fraser University Websites

Table 6: Four Day Period, February 1999--Hit Counts, selected SFU website homepages

URL	Accesses
All SFU URLs Median	33
All SFU URLs Average	125
www.sfu.ca/	34394
Selected Department and Service URLs	
/archaeology/	108
/cedc/	124
/communication/	435
/continuing-studies/	419
/geography/	97
/pipeband/	243
/sociology/	153
/womens-studies/	67

Source: SFU Academic Computing Service - Four day period, February 1999

Figure 11: Access Comparison between SFU Departments



Source: SFU Academic Computing Services

APPENDIX E

Access Patterns within the CEDC Website

Table 7: CEDC Website Page Use Comparison: July 1998 - January 1999

Website Page Use Comparison	Jul-98	Jan-99	% Incr/Decr
Unique Page Hits	1837	3753	104.3%
No. of Pages Accessed	43	132	207.0%
Average Hits per Page	42.7	28.4	-33.4%
Feedback Page Hits	10	20	100.0%
Search Page Hits	48	54	12.5%
Total Content Page Hits	344	1435	317.2%
No. of Unique Content Pages Accessed	17	96	464.7%
Average Hits per Page	20	15	-26.1%
Q1	4	4	0.0%
Median	13	6	-53.8%
Q3	22	12	-45.5%
High	70	115	64.3%
Low	4	4	0.0%
Top Five Content Pages	Jul-98	Jan-99	% Incr/Decr
/cedc/events.htm	70	115	64.3%
/cedc/academic/faq_pbd.htm	59	103	74.6%
/cedc/gateway/resources/online/mcrobie/ceddefn.htm	46	113	145.7%
/cedc/cedc1page.htm	30		
/cedc/gateway/project/introced.htm	22		
/cedc/academic/certif.htm		92	
/cedc/academic/current991.htm		84	
Total Index Page Hits	1415	2223	57.1%
No. of Unique Index Pages Accessed	18	30	66.7%
Average Hits per Page	78.6	74.1	-5.7%
Q1	17	13	-23.5%
Median	28	25	-10.7%
Q3	64	56	-12.5%
High	736	1086	47.6%
Low	9	4	-55.6%
Top Five Module Index Pages	Jul-98	Jan-99	% Incr/Decr
/cedc/academic/	146	220	50.7%
/cedc/gateway/	81	79	-2.5%
/cedc/gateway/resources/	59	75	27.1%
/cedc/research/	69	95	37.7%
/cedc/gateway/contents	55		
/cedc/gateway/sharing/		81	

Table 8: Pattern of Page Use - Four weeks in July (July 5 - August 1) 1998

Bold indicates subdirectories. Non-bold names indicate actual files. Source: SFU Academic Computing Services Weekly Reports. Notice how few of the page names indicate actual content documents.

Hits	URL:					
736	/cedc/	index				
30	/cedc/	cedc1page				
70	/cedc/	events				
10	/cedc/	feedback1				
20	/cedc/	register				
48	/cedc/	search				
146	/cedc/	academic/	index			
4	/cedc/	academic/	acadgeneric/	ced400class		
8	/cedc/	academic/	acadgeneric/	ced401class		
4	/cedc/	academic/	acadgeneric/	ced403class		
18	/cedc/	academic/	ced400fall98			
4	/cedc/	academic/	ced404fall98			
15	/cedc/	academic/	ced410fall98			
4	/cedc/	academic/	ced412fall98			
4	/cedc/	academic/	electives			
15	/cedc/	academic/	electives_fall98			
59	/cedc/	academic/	faq_pbd			
81	/cedc/	gateway/	index			
55	/cedc/	gateway/	contents			
22	/cedc/	gateway/	project/	introced		
59	/cedc/	gateway/	resources/	index		
40	/cedc/	gateway/	resources/	online/	index	
23	/cedc/	gateway/	resources/	online/	cedconline/	index
12	/cedc/	gateway/	resources/	online/	gdauncey/	gdindex
12	/cedc/	gateway/	resources/	online/	gdauncey/	ced
46	/cedc/	gateway/	resources/	online/	mcriobie/	ceddefn
17	/cedc/	gateway/	resources/	online/	ced	
10	/cedc/	gateway/	resources/	print/	index	
26	/cedc/	gateway/	sharing/	index		
22	/cedc/	gateway/	sharing/	content		
69	/cedc/	research/	index			
49	/cedc/	research/	forestcomm/	index		
12	/cedc/	research/	forestcomm/	resource		
14	/cedc/	research/	other/	index		
9	/cedc/	research/	students/	geogclass/	index	
30	/cedc/	research/	students/	geogclass/	frame	
18	/cedc/	research/	students/	index		

Table 9: Pattern of Webpage Use - Four Weeks in January 1999 (January 2-30) 1999

Bold indicates subdirectories. Non-bold names indicate actual files. Source: SFU Academic Computing Services Weekly Reports. Note how file names indicate actual content documents in addition to indexes, which merely list the subdirectory's content. Note also the greater volume of pages accessed, and the greater depth of clicking within subdirectories, compared to the previous table, representing July 1998.

Hits	URL:						
1086	/cedc/	index					
41	/cedc/	cedc1page					
44	/cedc/	cednet					
115	/cedc/	events					
48	/cedc/	eventsfile/	backfile/	c di/		index	
30	/cedc/	eventsfile/	backfile/	c di/		c-05	
12	/cedc/	eventsfile/	backfile/	c di/		c-34	
7	/cedc/	eventsfile/	backfile/	c di/		c-52	
4	/cedc/	eventsfile/	backfile/	c di/		c-65	
14	/cedc/	eventsfile/	backfile/	c di/		c-ced	
8	/cedc/	eventsfile/	backfile/	c di/		c-env	
5	/cedc/	eventsfile/	backfile/	c di/		c-sov	
4	/cedc/	eventsfile/	backfile/	c di/		c-wt	
4	/cedc/	eventsfile/	backfile/			invitation	
5	/cedc/	eventsfile/	backfile/			natcap	
29	/cedc/	eventsfile/	backfile/			redefining	
23	/cedc/	eventsfile/	backfile/			tnwevent	
8	/cedc/	eventsfile/	candocert				
47	/cedc/	people					
6	/cedc/	picture					
17	/cedc/	register					
31	/cedc/	sampler					
54	/cedc/	search					
220	/cedc/	academic/	index				
4	/cedc/	academic/	acadgeneric/	ced400class			
5	/cedc/	academic/	acbackfile/	cedc/	staff/	index	
25	/cedc/	academic/	ced400spr99				
0	/cedc/	academic/	ced401spr99				
12	/cedc/	academic/	ced403spr99				
7	/cedc/	academic/	ced410spr99				
4	/cedc/	academic/	ced412spr99				
92	/cedc/	academic/	certif				
84	/cedc/	academic/	current991				
9	/cedc/	academic/	electives				
7	/cedc/	academic/	electives991				
4	/cedc/	academic/	electives_fall98				
103	/cedc/	academic/	faq_pbd				
6	/cedc/	academic/	transfercredtfall96				
4	/cedc/	academic/	transfercredtfall98				
79	/cedc/	gateway/	index				
40	/cedc/	gateway/	contents				
44	/cedc/	gateway/	overview				
6	/cedc/	gateway/	project/	approach			

Table 10: Continued. January 1999 Hit Patterns.

Hits	URL:						
5	/cedc/	gateway/	project/	base2			
4	/cedc/	gateway/	project/	base3			
6	/cedc/	gateway/	project/	determ			
4	/cedc/	gateway/	project/	forces			
37	/cedc/	gateway/	project/	introced			
18	/cedc/	gateway/	project/	learnindex			
10	/cedc/	gateway/	project/	pubpriv			
9	/cedc/	gateway/	project/	strategy			
75	/cedc/	gateway/	resources/	index			
56	/cedc/	gateway/	resources/	online/	index		
16	/cedc/	gateway/	resources/	online/	articles		
27	/cedc/	gateway/	resources/	online/	ced		
34	/cedc/	gateway/	resources/	online/	cedconline/	index	
6	/cedc/	gateway/	resources/	online/	cedconline/	barnrais	
4	/cedc/	gateway/	resources/	online/	cedconline/	beamsimpson	
8	/cedc/	gateway/	resources/	online/	cedconline/	ghjpresdep	
5	/cedc/	gateway/	resources/	online/	cedconline/	sapspect	
16	/cedc/	gateway/	resources/	online/	cedconline/	feds	
6	/cedc/	gateway/	resources/	online/	cedconline/	feedback4	
4	/cedc/	gateway/	resources/	online/	cedconline/	gateway/	finalgateway/
25	/cedc/	gateway/	resources/	online/	cedconline/	gdauncey/	gdindex
17	/cedc/	gateway/	resources/	online/	cedconline/	Governorgs	
8	/cedc/	gateway/	resources/	online/	cedconline/	mcrie/	index
113	/cedc/	gateway/	resources/	online/	cedconline/	mcrie/	ceddefn
37	/cedc/	gateway/	resources/	online/	cedconline/	mcrie/	mcrie
4	/cedc/	gateway/	resources/	online/	cedconline/	ngo	
4	/cedc/	gateway/	resources/	online/	cedconline/	regions	
4	/cedc/	gateway/	resources/	online/	cedconline/	sustain	
17	/cedc/	gateway/	resources/	online/	cedconline/	varsity	
4	/cedc/	gateway/	resources/	online/	cedconline/	vlib	
5	/cedc/	gateway/	resources/	online/	cedconline/	webzines	
8	/cedc/	gateway/	resources/	print/	cedconline/	index	
5	/cedc/	gateway/	resources/	print/	cedconline/	books/	rosebook
81	/cedc/	gateway/	sharing/	cedconline/	index		
36	/cedc/	gateway/	sharing/	cedconline/	content		
29	/cedc/	gateway/	sharing/	cedconline/	absindex		
12	/cedc/	gateway/	sharing/	cedconline/	abstract		
4	/cedc/	gateway/	sharing/	cedconline/	chap10		
4	/cedc/	gateway/	sharing/	cedconline/	chap1bx1		
4	/cedc/	gateway/	sharing/	cedconline/	chap2		
4	/cedc/	gateway/	sharing/	cedconline/	chap3		
4	/cedc/	gateway/	sharing/	cedconline/	chap6bx2		
4	/cedc/	gateway/	sharing/	cedconline/	chap7		
4	/cedc/	gateway/	sharing/	cedconline/	chap7bx1		
4	/cedc/	gateway/	sharing/	cedconline/	chap8bx2		
4	/cedc/	gateway/	sharing/	cedconline/	chap9		
5	/cedc/	gateway/	sharing/	cedconline/	chap9		
4	/cedc/	gateway/	sharing/	cedconline/	chp11bx2		
4	/cedc/	gateway/	sharing/	cedconline/	download		
10	/cedc/	gateway/	sharing/	cedconline/	feedback		
9	/cedc/	gateway/	sharing/	cedconline/	intro11		
4	/cedc/	gateway/	sharing/	cedconline/	intro3		
4	/cedc/	gateway/	sharing/	cedconline/	intro9		
27	/cedc/	gateway/	sharing/	cedconline/	principles		

Table 10: Continued. January 1999 Hit Patterns.

Hits	URL:						
95	/cedc/	research/	index				
21	/cedc/	research/	other/	index			
10	/cedc/	research/	other/	mleung412			
25	/cedc/	research/	students/	index			
13	/cedc/	research/	students/	403/	index		
4	/cedc/	research/	students/	403/	06zafirc		
9	/cedc/	research/	students/	403/	08ayalamm		
5	/cedc/	research/	students/	403/	09sadhrah		
4	/cedc/	research/	students/	403/	403intro		
13	/cedc/	research/	students/	404/	index		
6	/cedc/	research/	students/	404/	bergg404		
8	/cedc/	research/	students/	404/	fletcher/	files/	index
5	/cedc/	research/	students/	404/	fletcher/	files/	report
5	/cedc/	research/	students/	404/	murdochs404		
25	/cedc/	research/	students/	geogclass/	index		
8	/cedc/	research/	students/	geogclass/	energyapp		
4	/cedc/	research/	students/	geogclass/	fin_main		
12	/cedc/	research/	students/	geogclass/	frame		
23	/cedc/	research/	students/	geogclass/	intro		
12	/cedc/	research/	students/	geogclass/	menu		
5	/cedc/	research/	students/	geogclass/	noframe		
23	/cedc/	research/	civilsoc/	index			
4	/cedc/	research/	civilsoc/	abstract			
5	/cedc/	research/	civilsoc/	arnold			
6	/cedc/	research/	civilsoc/	ccnpage			
4	/cedc/	research/	civilsoc/	johnchp2			
4	/cedc/	research/	civilsoc/	order			
70	/cedc/	research/	forestcomm/	index			
10	/cedc/	research/	forestcomm/	internrep			
4	/cedc/	research/	forestcomm/	intro			
4	/cedc/	research/	forestcomm/	nuxalk			
11	/cedc/	research/	forestcomm/	resteam			
12	/cedc/	research/	forestcomm/	SalmonArm			
21	/cedc/	research/	forestcomm/	study/	gateway/	project/	index
4	/cedc/	research/	forestcomm/	writetous			

APPENDIX F

Qualitative Data: E-Mail Messages from Website Feedback Forms

Table 10: Summary of Comment Types

Feedback Received from CEDC Website Oct 7, 1997 - March 10, 1999					
Q	Primary Content	Q	Secondary Content	Q	Further Content
14	Request for More				
		2	Chat		
		2	Distance Education		
				1	Exchange
		4	Information		
		4	Research		
		1	Speaker		
15	Positive Comment				
		1	Offering Exchange - International		
		2	More Information		
		1	More Chat		
		3	Incoming Students		
29	Total Messages	20	Secondary Content	1	Further

Table 11: Qualitative Data: Comments received, edited for anonymity.

Feedback Received from CEDC Website Oct 7, 1997 - March 10, 1999		
Exchange	International	You have a very interesting website that can benefit advocates of sustainable development of communities through an array of partnership arrangements. Keep up the good work! I would like to know more about the activities of CEDC on integrating Small Businesses into the economic development of communities. This will be very helpful in developing a Community Enterprise Program for selected countries in Southeast Asia. Our organization.... is interested to feature institutions like the CEDC in its website. You may wish to visit our website at
More	Chat	I work for an organisation delivering CED programmes in [the UK].... In order to quantify this, I would love to hear about what is going on in British Columbia.
More	Chat	I am involved in community development in Australia. Perhaps we can exchange some ideas...
More	Distance Education/ Exchange	Very interested in the distant learning options for this certificate course. We may also have some options available to host a student's work experience.
More	Distance Education	am very interested in receiving more information on this distant learning program. We also have two staff members that may be interested in the Diploma. Any info you could supply would be greatly appreciated.
More	Information	I'm trying to find a barter club in the state of mich. Can you help...
More	Information	I am doing research for a documentary on sustainable agriculture in Canada and would like to know how to get in touch with George McRobie whose publication "Small is Possible" (1982) lead to the formation of the CEDC.
More	Information	I just had a look at CED's intro and outline for forestry based communities research. I gather labour market info for the northeast part of BC and I'm curious about the communities chosen for the research. Were any of them in northeast region of BC. ?
More	Information	Dear CEDC team -Update on research projects would be great - I have been waiting to read how these are unfolding; particularly the forest based communities CED project. The 'feedback' option on the research summary page is a faulty link.
More	Research	Doing research on: How can multiculturalism be delivered in a positive way to small rural communities.
Continued		

Table 11 continued: Qualitative Data. Comments received.

More	Research	I am a Canadian student studying Local Economic Development at the London School of Economics and Political Science. If you have a list i can belong to so i can better acquaint myself with your Centre and the Local Regional Economic field in Canada.
More	Research	I am assisting in the development of an operational manual for a small community economic development fund that is being established in Rather than recreating the wheel I am hoping to find copies of other manuals that have been developed that I can tailor for local use. Can you help me in any way, or do you know of any good resources?
More	Research	Interested in evaluation methodologies for ced projects....
More	Speaker	Would Mr.--- be available to speak at an upcoming 'Sustainable Economic Development' Conference at ----, BC?
Positive Comment		Good to see you all working on these important socio-economic issues that have been ignored for so long. Keep up the good work
Positive Comment		I am impressed with the resources you have linked to this site. I am reviewing it for the next issue of -----, the national journal on ----- practice in Canada. The theme of the issue will be, what else, community economic development.
Positive Comment		Sharing+Stories A great, and inspirational, story! I found the content very realistic and usable in my attempts to organize a group of specialty woodworkers in my area.[of BC].
Positive Comment		Very nice presentation of your organization. I was looking around for the internet course material and their presentation...
Positive Comment		I am looking for any ec.dev. courses that are offered and found this site to be extremely useful.
Positive Comment		Taking a CED Course and looking for info and ideas....
Positive Comment		I work as an economic development officer for ... This is new position for our Band so I need a lot of information regarding the job.
Positive Comment		Very helpful site. I am a researcher for the newly created Sustainable Community Development Institute located in -----, Ontario.
Positive Comment		Very interesting topic and website is easy to navigate!
Continued		

Table 11 continued: Qualitative Data. Comments received.

Positive Comment	More Information	You are clearly doing excellent work and your web site is a wonderful resource. If we were to visit Vancouver, would it be possible to come to the Centre and have access to some of your print resources which are not on-line and or talk with some of your students or faculty.
Positive Comment	More Information	I have found your information very useful and informative. I would like to suggest that you add more Human Resources Development Canada links...
Positive Comment	More Chat	Great Stuff!! I just now found your site, where have you been hiding? I am certain I will be making use of your expertise in the near future. Good to talk to you, talk back sometime, I would love to talk to anyone with similar interests.
Positive Comment	Student	I have just applied for admission (via the internet) to SFU. I plan to start the ced program in fall of '99. I am looking forward to learning a lot! Thanks....
Positive Comment	Student	I am a future first Simon Fraser student in the Humanities Dept. and came across your website while searching for gen. info on SFU. I AM VERY INTERESTED IN YOUR PROGRAMME. How does one get involved in your projects? Is it extra-curricular, or can it be a part of course study and development?
Positive Comment	Student	Your website is nicely laid out. It is easy to move through.

APPENDIX G

Design Changes since 1995 Launch

Figure 12: 1996 Page shows Shift

Shift is away from initial design and graphics toward "green" motif. Note use of default gray background, lack of control over gif width relative to screen width, and remnants of borrowed stock gifs with badly coordinated colors.

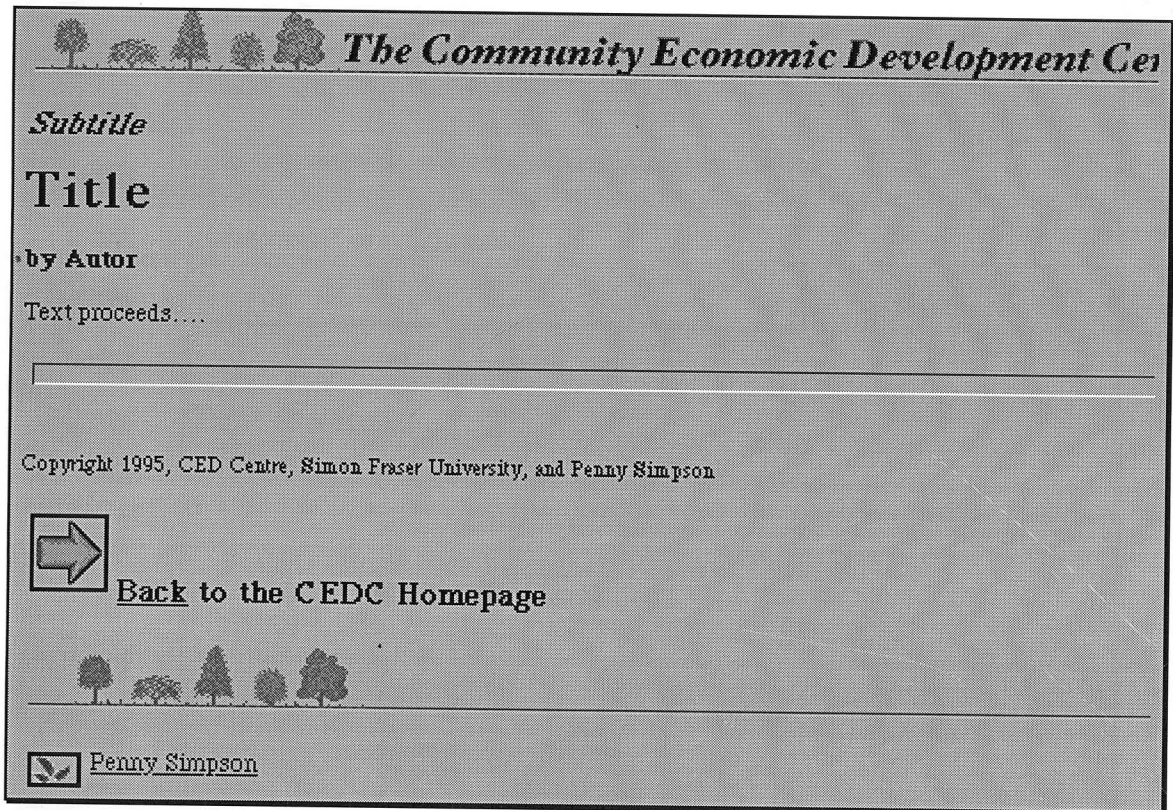
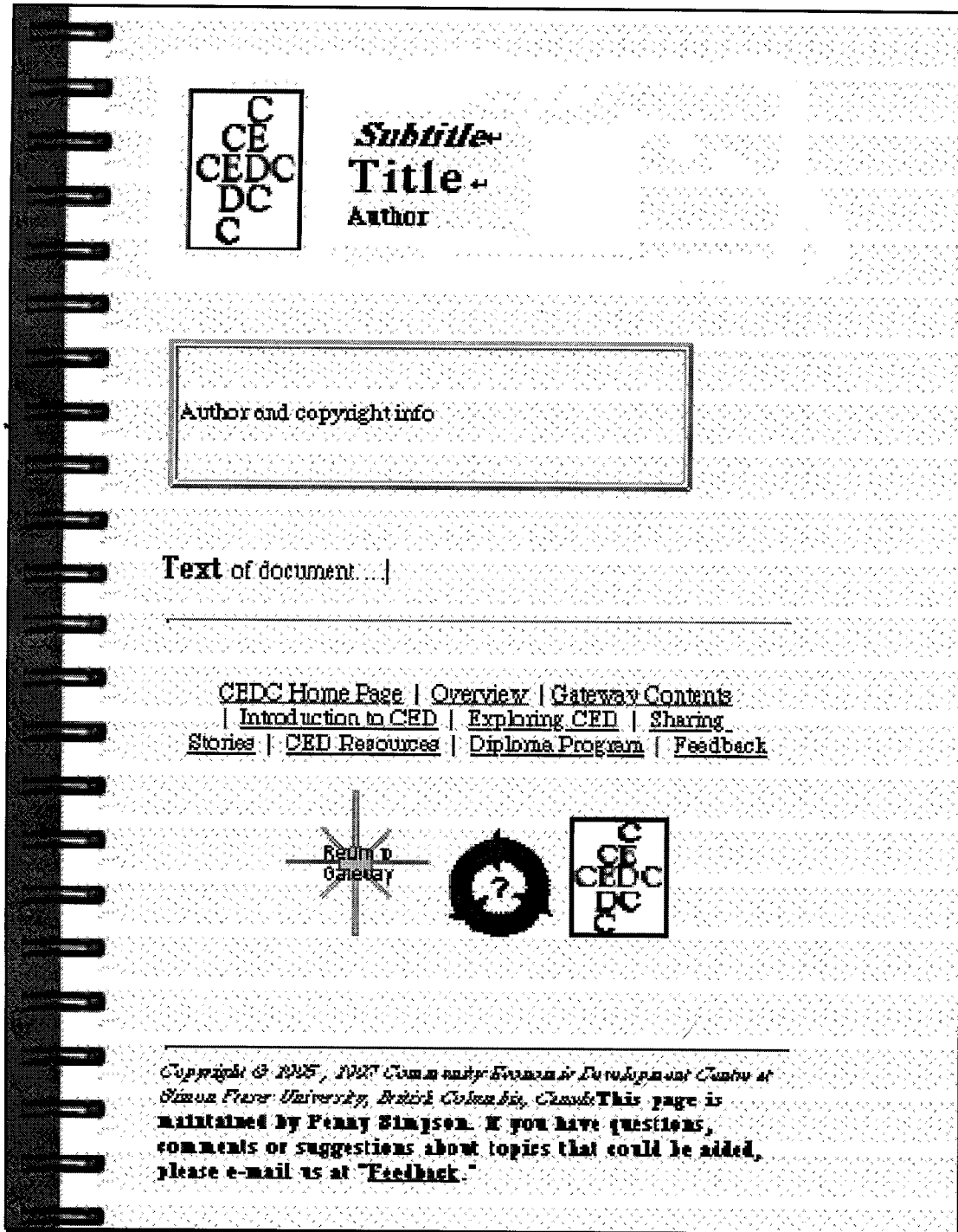


Figure 13: 1997 Page (Same Document)

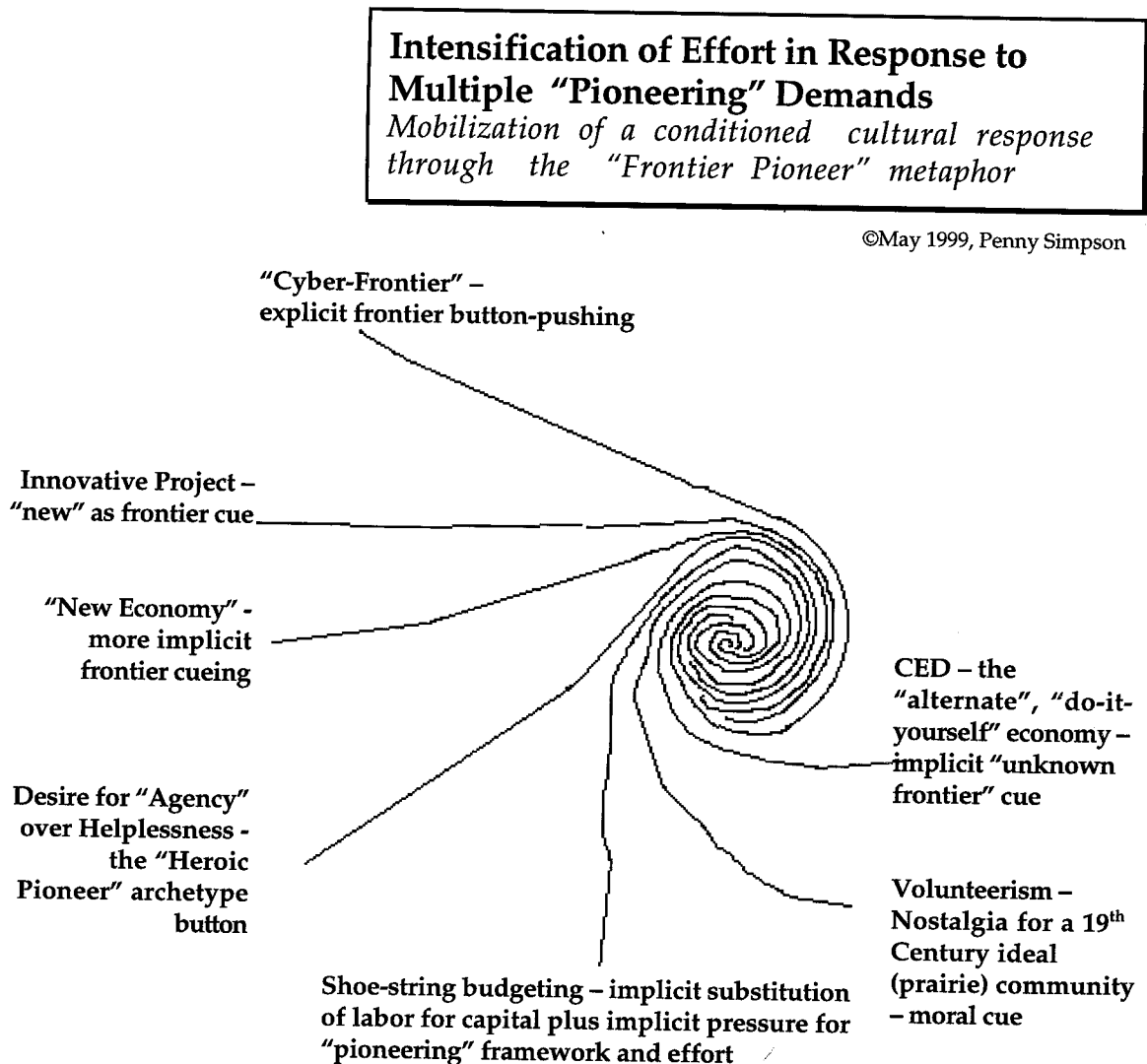
Demonstrates greater sophistication in design, representation and copyright control.



APPENDIX H

Illustrations of Social Dynamics in "New Economy" Development Work

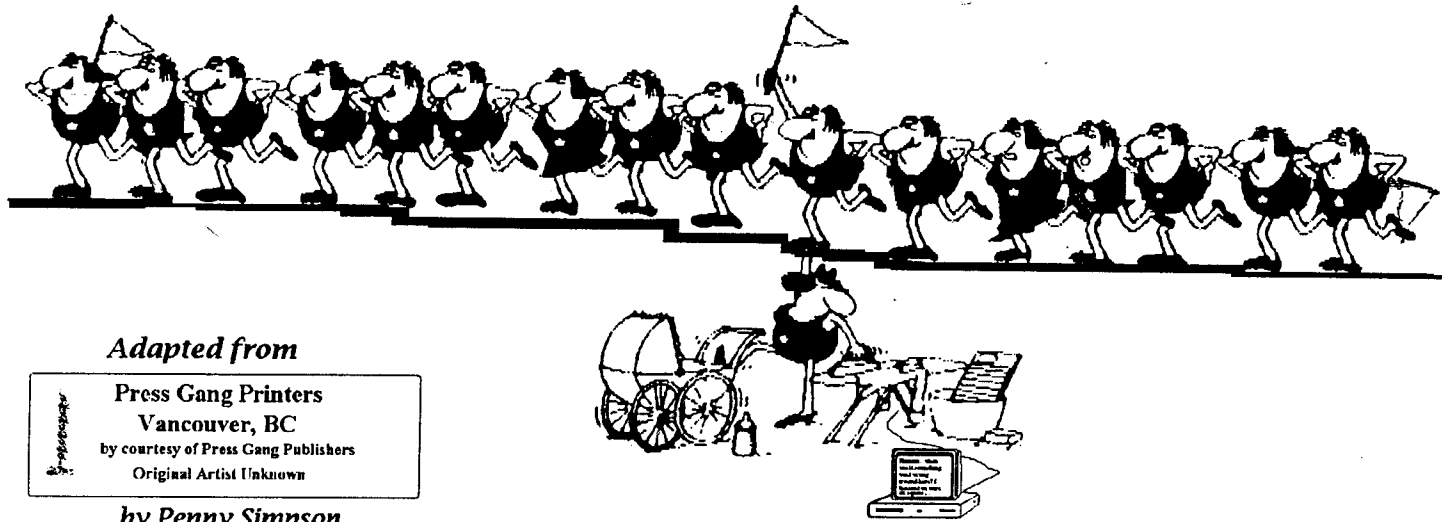
Figure 14: Cultural Motivating Cues in "Pioneering" Social and Technical Development Work



Pioneer (definition): One of a body of foot-soldiers who march with or in advance of an army or regiment, having spades, pickaxes, etc. to dig trenches, repair roads, and perform other labours in clearing and preparing the way for the main body (1523) From Old French: peon, a day labourer, debt slave, servant. OED.

Figure 15: The "Baby-Boomer Pyramid"

The dynamics of sports-derived peer culture
in "New Economy" workplace teams :
Creation of the upside-down hierarchical pyramid.



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