Presents

ADVANCED SHOPPING CART (ASC)

Our Crew
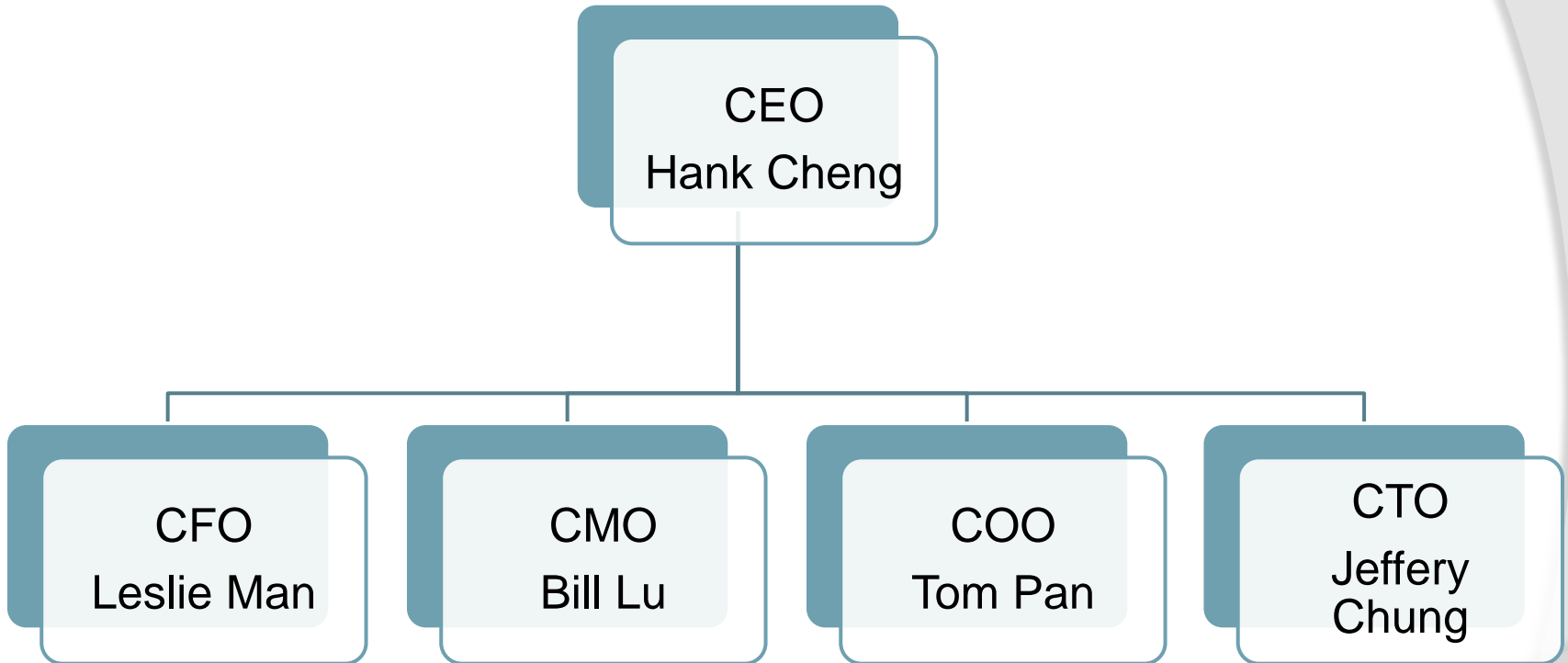
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CEO
Hank Cheng
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CFO            CMO            COO            CTO
Leslie Man     Bill Lu        Tom Pan        Jeffery
                                             Chung
```

Outline

Existing Solutions

➢ Self Checkout Machine

➢ Ordering Online

Self Checkout

Online Cart

➢ All of them are not very user friendly

Product

- Advanced Shopping Cart
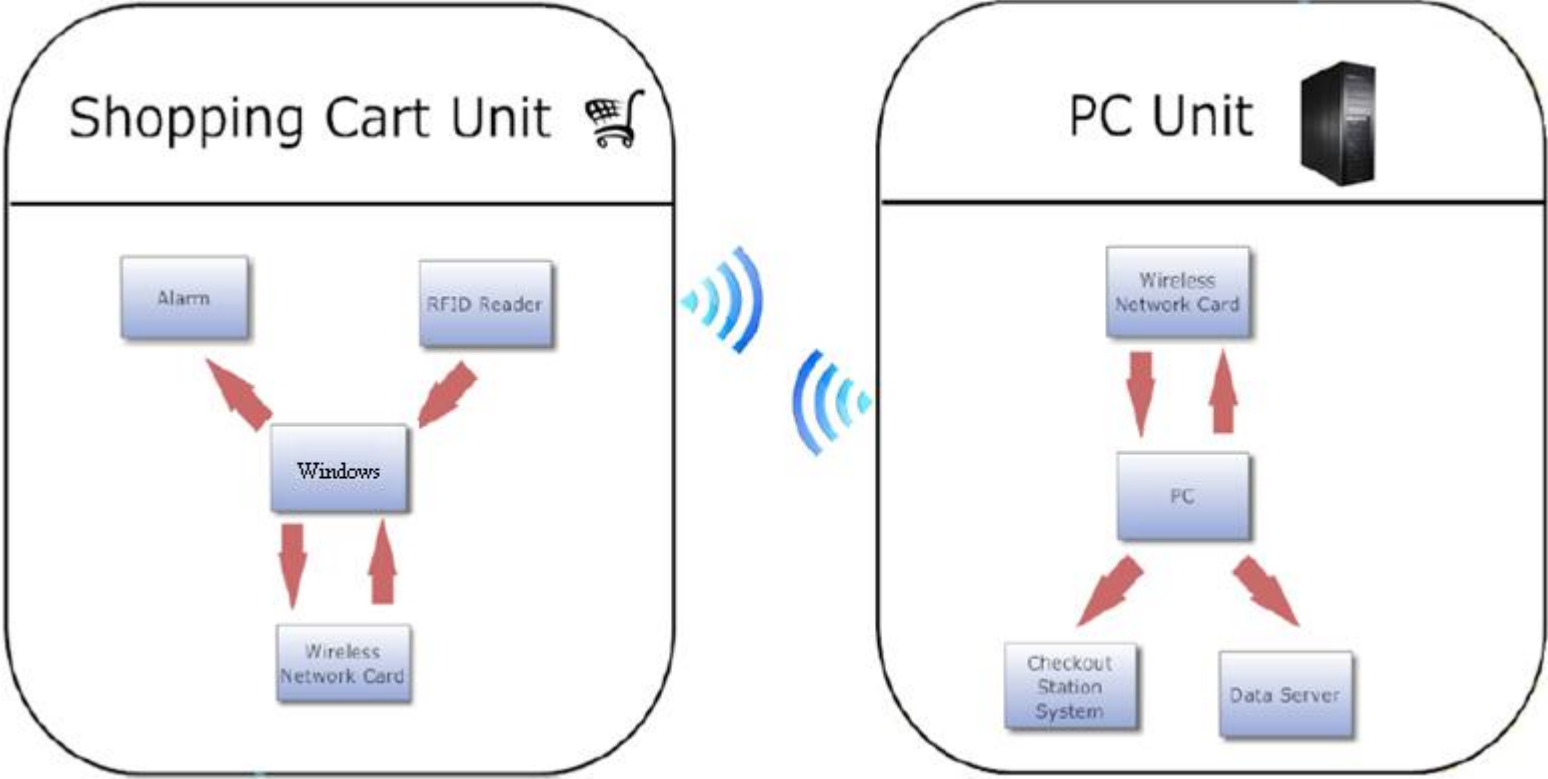 - RFID Reader
  - Tablet

- Automatically scan

Benefits

➤ User Friendly
  ➤ Automatically scan
  ➤ Easy to use interface

➤ Decrease
  ➤ Line up time
  ➤ Price lookup & calculate time

Outline

- Product Overview
- **System Overview**
- Hardware – Tablet
- Hardware – Mount
- Hardware – Security System
- Software
- Business Aspect
- Complications
- Timeline
- Future Development
- Conclusion

System Overview

Outline

Smart Buy

- ➤ Product Overview
- ➤ System Overview
- ➤ **Hardware – Tablet**
- ➤ Hardware – Mount
- ➤ Hardware – Security System
- ➤ Software
- ➤ Business Aspect
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Features

➢ User friendly

➢ Browser category search

➢ Show promotional advertisement

➢ Apply discount automatically

➢ Show purchases amount before and
after taxes

➢ Easy checkout

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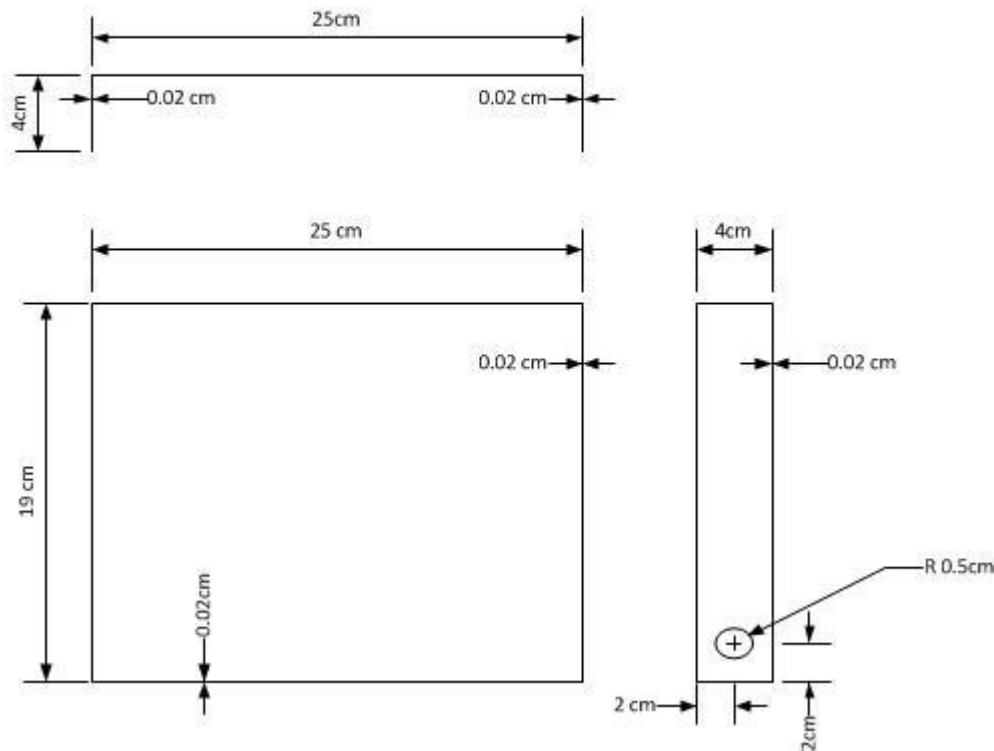- Future Development
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Mount

➢ Safely secure tablet

➢ Tablet mobility

  ➢ Different viewing angles

  ➢ Portable

Picture of mount

➢ Dimension

Tablet Mount Dimension

Outline

Smart
Buy

- ➤ Product Overview
- ➤ System Overview
- ➤ Hardware – Tablet
- ➤ Hardware – mount, alarm
- ➤ **Hardware** – **Security System**
- ➤ Software
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Siren Alarm

Siren Alarm System

Siren Alarm cont.

➢ Consist of two 555 timer

➢ Operating as astable multivibrator

➢ Output frequency change between 1.4kHz and 2.6kHz

➢ Producing an siren sound

➢ Magnetic switch detect tablet stealing

➢ Key on/off switch to close off the circuit

Central Alarm

- ➢ **Detects missing product**
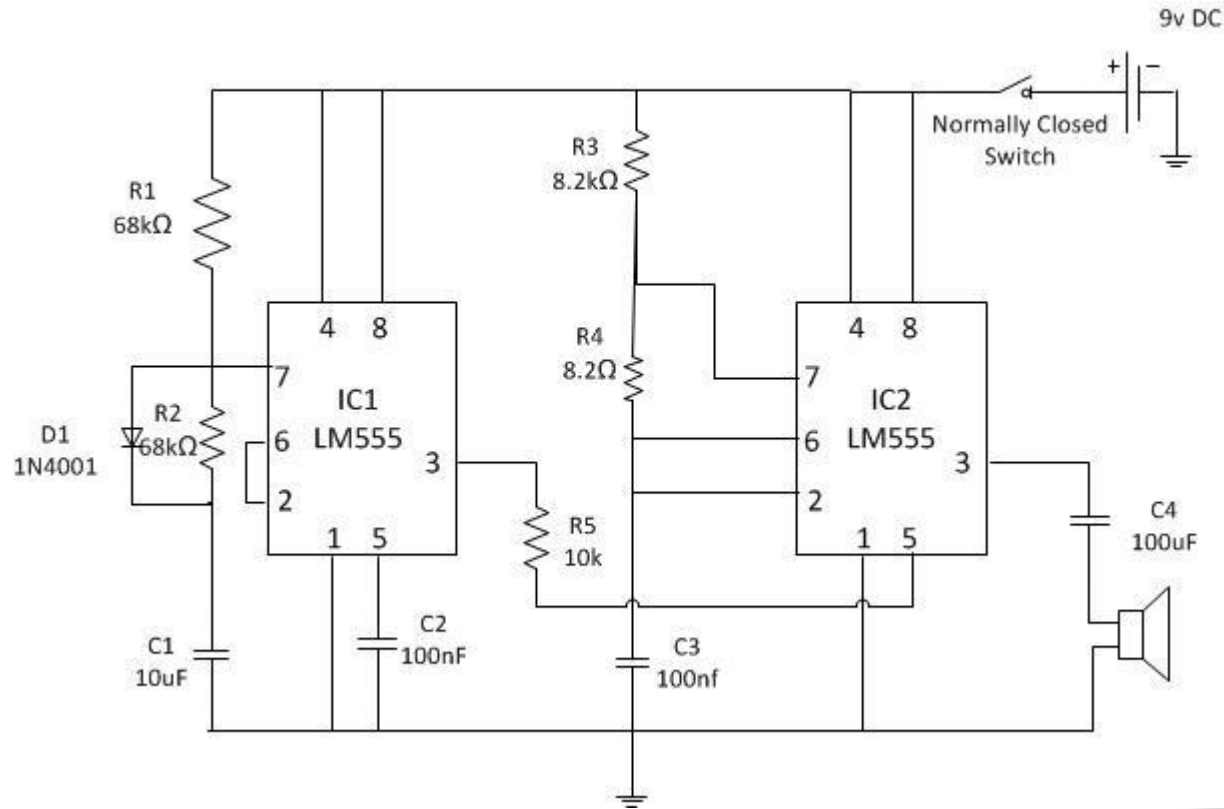 - ➢ Attempt to steal
    - ➢ Alarm will be trigged

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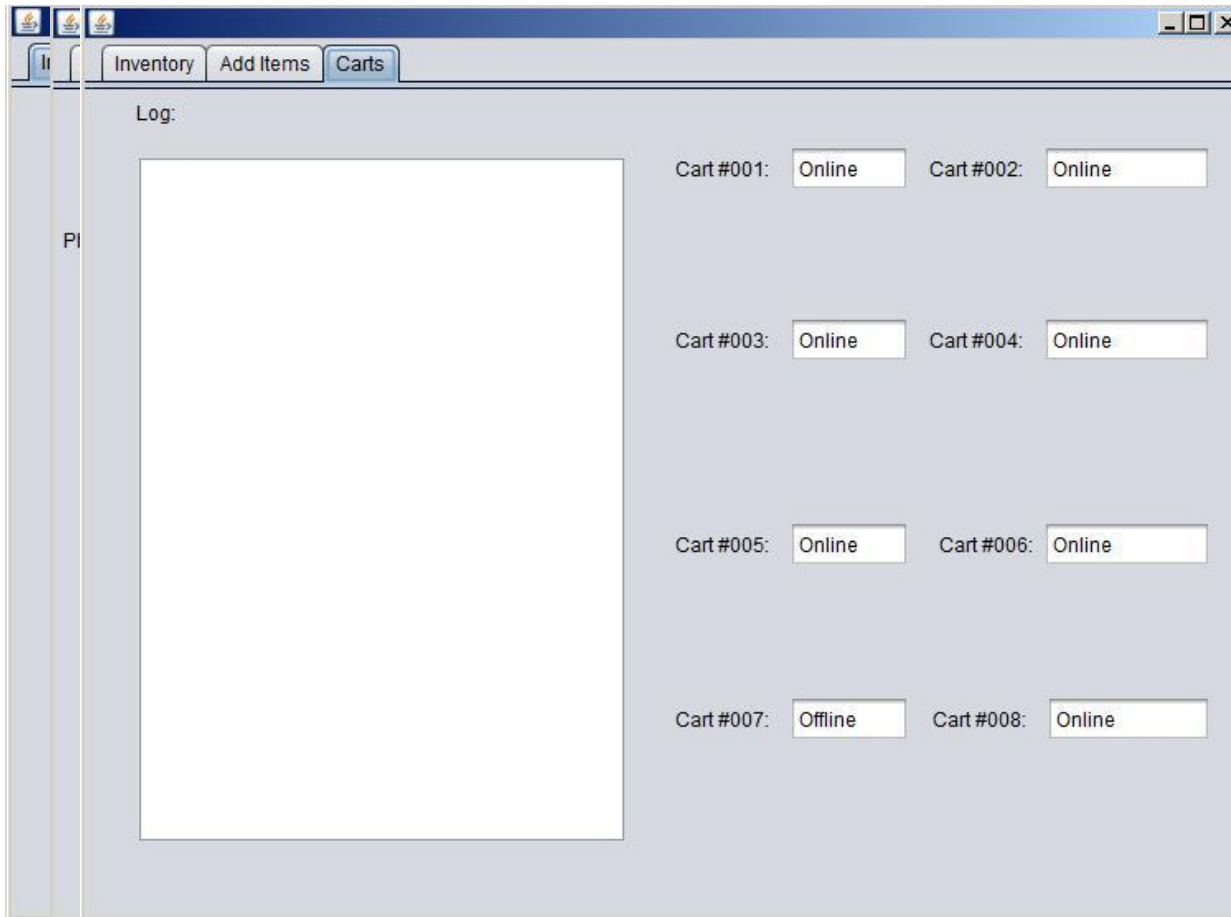- Future Development
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PC Database & UI

➢ For employee use only

➢ File data manipulation and UI using Java SE coding

➢ NetBeans IDE with Swing GUI builder

➢ Real-time message passing with Tablet

Database

- For employee use only
- Inventory Information
- Name
- Price
- Description
- Picture (.jpg)
- RF tag IDs
- Stock availability

PC UI

Smart Buy

Tablet UI

No	Product	Price
1	naturSource Decorative Gourmet 4-tray Ensemble	89.99
2	Sanyo Eneloop 1500 Battery Pack 12 AAA Batteries	32.99
	OtterBoxR Defender for Blackberry Curve 9360	47.99
	SanDisk Ultra Backup USB Flash Drive 64 GB	119.99
	Hilroy StudioR Scrap Book	2.99
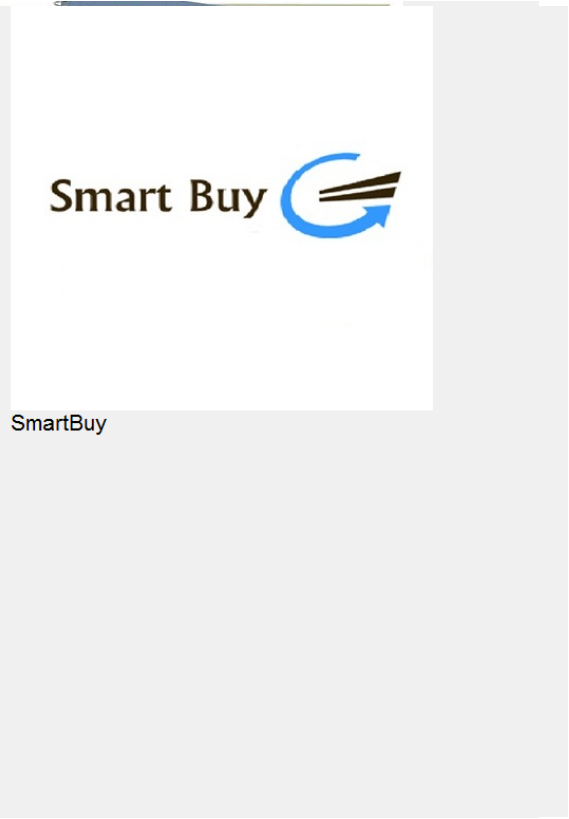
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SmartBuy

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Prototype Cost

Smart Buy

	Unit Cost
sheet metal	$13.43
Prototype board	$4.47
key switch	$7.34
magnetic switch	$7.39
UHF RFID	$431.43
touch screen	$89.6
spray paint	$6.43
Total	$560.08

Sales Strategy

Smart
Buy

- ➤ Pricing
  - ➤ $700/cart
  - ➤ $70,000 per system

Comparison

Superstore				
Days	Counter	Wages	Hours	Total Wage
365	8	$12	17	$595680
Using our ASC				
365	2	$12	17	$148920

Superstore				
#of shopping cart	cost	cart cost	system	maintance
0	0	0	0	0
Using our ASC				
100	$700	$70000	$70000	$365000

Superstore				
Revenue from sales	product lost	total Profit	Profit gain	percentage gain
$18250000	$456250	$17198070		
Using our ASC				
$20075000	$200750	$19220330	$2022260	11.76%

Comparison 2

Smart
Buy

Costco				
Days	Counter	Wages	Hours	Total Wage
365	10	$12	9.714286	$425485.71
Using our ASC				
365	2	$12	9.714286	$85097.143
Costco				
# of shopping cart	cost	cart cost	system	maintance
0	0	0	0	0
Using our ASC				
100	$700	$70000	$70000	$365000
Costco				
Revenue from sales	product lost	total Profit	Profit gain	percentage gain
$35040000	$1051200	$33563314.3		
Using our ASC				
3$8544000	$385440	$37568462.9	$4005148.571	11.93%

Financial Forecast

Smart
Buy

- ➤ **Breakeven point**
  - ➤ $70,000 salary
  - ➤ $30,000 rent/yr
  - ➤ $84,000 profit per store
  - ➤ After selling to 5 stores

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Complications

Smart
Buy

- Mount adjustable
  - Unable to modify cart
    - Made tablet moveable 30degree

- RFID reader
  - The first bought does not read multi-tags
  - Reader sensitivity and reliability

Timeline

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- ➢ **Future Development**
- ➢ Conclusion

Future Development

- ASC
  - Create a product series
  - Rail on mount
  - Bluetooth Adapter
  - Indoor GPS Guidance
  - Upgrade Central Security System
  - Upgrade RFID Reader

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What We Learned

- Technical Skills
  - Mechanical Skills
  - Programming Skills
  - Electronic Skills
    - Design
    - Installation
- Non – Technical Skills
  - Communication
  - Project Management

Conclusion

➢ ASC is a convenient and easy to use

➢ Great money making product for companies

➢ No more hassle during line up

➢ much cheaper if massively produce

➢ A desired product after price of production goes down

Questions

Smart
Buy