Written Progress Report

iChecked Inc.

Blind Spot Detection System

blindspot-440@sfu.ca

Overview

As of Monday, March 22, 2010, iChecked Inc is delighted to report that we have a health progress on the Phase I objectives in the development of iChecked Blind Spot Detection System (BSDS), an ultrasonic sensor based devise that will reduce the lane changing accidents. Phase I of our development consists of mainly the conceptual circuit analysis, system assembly and lab simulation. We have listed the detailed items that we have considered in the section below.

Phase I

Conceptual Circuit Analysis

1. Reverse engineering of ultrasonic sensor

2. Reverse engineering of parking sensor package

3. System input considerations (including power source, signals from cars, signals from sensors)

4. System physical consideration (including location, size, weight, temperature, and accessibility)

5. System output considerations (including warning visual and audio possibilities)

6. Develop a processing circuit that act as an ON/OFF switch to the BSDS

7. Develop a output circuit for the LEDs and buzzer

System Assembly

1. Components (diodes, capacitors, resisters, npn Bipolar Junction Transistors, buzzer and light emitting diodes)

2. Tools (bread board, soldering station, wires, and wire cutter)

3. Specifications (data sheets for the components)

Lab Simulation

1. Car turn signal (1Hz to 2Hz, 12V DC, square wave)

2. Speedometer (amplified and controlled so that outputs 12V DC when car speed is over 30km)

3. Ultrasonic Sensors (effective working distance of approximately the length of a regular car lane, amplified and controlled to provide power for the warning system when object is detected)

Budget

We obtained $500 from ESSS funding, and have spent nearly $200 on sensors, $50 on electronic components and tools. With the actual implementation on the minivan, we project to spend another $150 on the mounting brackets, and other installation labor costs. We therefore predict to complete this project on budget.

Time

We are closely following our predetermined milestones. We are confident to turn over an functioning prototype by our demo date on April 15th, 2010

Group Dynamics

All members are all somewhat occupied by other course works and personal reasons, some are therefore a little late in meeting deadlines and not producing satisfactory write-ups. We expect to resolve these issues as the midterm exam period passes and deadline of the project gets closer. Most of the members are communicating well and friendly with each other.