OBDMe

Proposal and Mini-Project

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Why

- Wanted to develop own project ideas and focus
- Interest in OBD, mobile applications, web applications
- Personal experiences
- Cover all aspects of CE
 - Hardware aspect
 - Software aspect
- Market value?



Overall Project Diagram



How: Hardware Interface

- Provides an Interface to Retrieve Data
- ELM327 IC
 - o OBD-II to Serial Protocol
- Bluetooth Module
 - Send/Receive Data
- Easy for Users
 - Pair with Application
 - Provide custom security (future)

How: Android Application

- Real-time Statistical Data
 - o User Selectable
- Driving Habits and Efficiency
- Primary Data Messenger
 - Logging Data
 - Reporting Engine Faults



How: Data Storage

- Massive Amounts of Data Collected
- Need a Small, Dependable Solution
- Database
 - o Fast
 - Easy to Backup/Restore
 - Future Expansion Clustering
- Web Service Gateway



How: Web Application

- Provide Vehicle Data to Users
 - HTML5 Application
 - o Display Vehicle Trouble Codes
 - Suggest Solutions (Machine Learning)
 - Statistical Charting
 - Adjust Periods of Time (i.e. during engine fault)

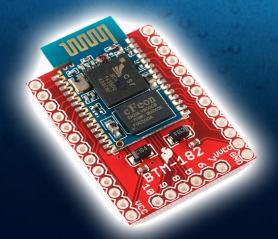


Risk Analysis

- Navigating around busy schedules
 - Senior Computer Engineering Classes
 - Work and Personal obligations
- Scope and complexity of the project
 - Hardware obstacles
 - Software development
- Testing the device and software poses potential safety risk
 - Testing the device in a moving automobile
- Expectation of unanticipated consequences

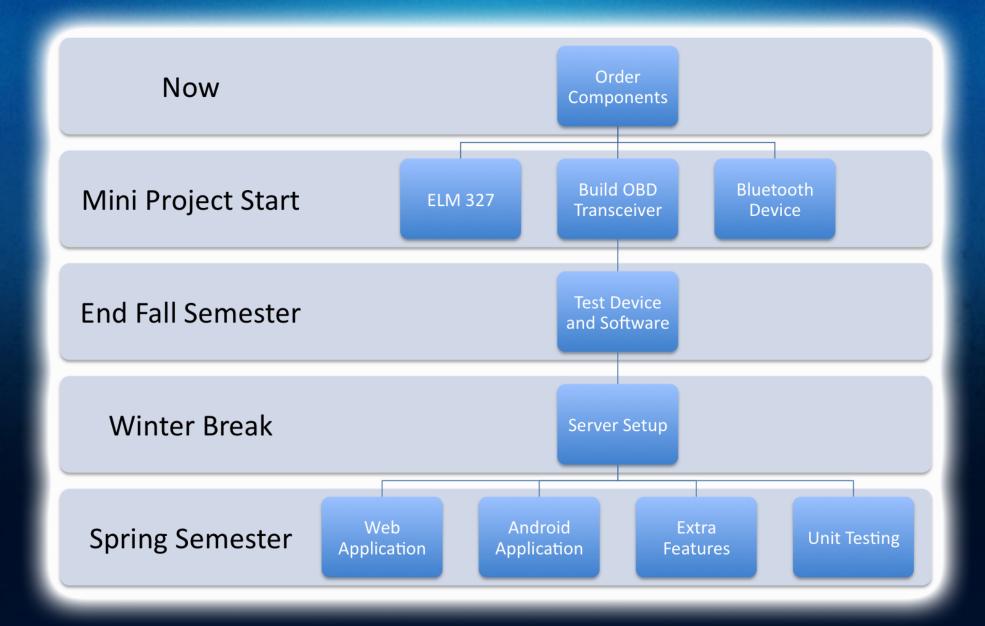
Mini-Project

- Hardware (bulk of mini project)
 - Build OBD Bluetooth transmitter
- Software
 - Simple Android Application
 - o Server





Basic Project Flow



Detailed Project Schedule

October 31, 2010

- Hardware Parts Ordered
- Begin Hardware Interface

November 30, 2010

Basic Android App Developed

December 31, 2010

Mini-Project Completed

January 31, 2011

Android App Completed, Web Services Realized

February 28, 2011

Database & Web Services Implemented

March 31, 2011

Server Side Implementation Completed

Learning Algorithms

April 30, 2011

OBDMe Web Application Developed

Questions?