

Software Development Plan

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OBJECTIVES

# GUI

* Display a menu of user clickable options
* for each menu option there is a desired keyboard shortcut
* form functionality to take user input and use that input in the calculations of operations discussed in calculation section
* window style of the windows operating system.

# Database

* MySQL database connectivity
* Have an Entity-Relational diagram of database table layout.
* ability to store user input from calculations to be optimized and presented to the user in the form of the desired output file format. (i.e. excel, pdf, etc.)
* Proper connectivity and disconnectvity. (No double connections. Every connection will disconnect before creating a new connection.)
* Will have an admin table storing all accounts to database so as to ensure a smooth transition to a FIT project to a GE project. (meaning you will have all usernames and passwords to database.)

# Calculations

* Safe Braking
* Headway
* Runtime Performance
* Clear Time
* Approach Locking Time

TEAM

|  |  |  |
| --- | --- | --- |
| **Team Members** | **Assigned Project Components** | **Email** |
| Kenny Truex | Calculation Algorithms | ktruex2012@my.fit.edu |
| Chad Mason | GUI / Testing | masonc2011@my.fit.edu |
| Zach McHenry | GUI | zmchenry2011@my.fit.edu |
| Chris Diebold | Database | cdiebold2012@my.fit.edu |

TOOLS

|  |  |
| --- | --- |
| **Component** | **Value** |
| **IDE** | Visual Studio 2013 |
| **Programming Language** | C#, .NET 4.5 |
| **Database** | MYSQL |
|  |  |

METHODOLOGY

• Agile methodology with meetings at least twice a month. • A revision of this document after every milestone to ensure document accuracy.

MILESTONES

For this project we have 6 milestones. See below for a signature table to be signed on completion of tasks.

1. Design Documents
   1. Obtain Software Requirements from GE
   2. Language and tool selection
   3. Creation of sample programs used to evaluate tool stack selected
   4. Formal Software Development plan
   5. Design of Database Layout and GUI Sketch
   6. Have GE sign SDP and Green Light the design
2. Database Parsing and User Input
   1. Create database schema based on ER diagram
   2. Fill database with sample data
   3. Be able to parse the data from database and present it to the user 4. Take in user input and store it in the database
   4. Create GUI menu with options to select forms for taking user input
   5. Research best output format based on GE requirements
3. Calculations
   1. Start coding calculations as described in objectives
      1. Headway
      2. Safe Braking Calculations
   2. Optimize code and begin testing
   3. Start creating the user manual
   4. Store calculations in database.
   5. ability to have the user to save data to be edited later. 4. Milestones 4-6 to be determined in the second semester.

DELIVERABLES

The following items will be handed over to General Electric on a DVD:

* Program executable
* all source code
* All design documents created
* User Manual
* Testing code

SIGNATURE BLOCKS

|  |  |  |
| --- | --- | --- |
| **Task** | **Signature** | **Printed name** |
| **Design Documents** |  |  |
| Obtain Software Requirements from  GE |  |  |
| Language and tool selection |  |  |
| Creation of sample programs used to evaluate tool stack selected |  |  |
| Formal Software Development plan |  |  |
| Design of Database Layout and GUI Sketch |  |  |
| Have GE sign SDP and Green Light the design |  |  |
| **Database Parsing and User Input** |  |  |
| Create database schema based on ER diagram |  |  |
| **Task** | **Signature** | **Printed name** |
| Fill database with sample data |  |  |
| Be able to parse the data from database and present it to the user |  |  |
| Take in user input and store it in the database |  |  |
| Create GUI menu with options to select forms for taking user input |  |  |
| Research best output format based on GE requirements |  |  |
| **Calculations** |  |  |
| Start coding calculations as described in objectives |  |  |
| Headway |  |  |
| Safe Braking Calculations |  |  |
| Optimize code and begin testing |  |  |
| Start creating the user manual |  |  |
| Store calculations in database. |  |  |
| Ability to have the user to save data to be edited later. |  |  |