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
    5. Create GUI menu with options to select forms for taking user input
    6. 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.		