Railroad Signaling Block Design Tool

Kenneth Truex – [ktruex2012@my.fit.edu](mailto:ktruex2012@my.fit.edu)

Zachary McHenry – [zmchenry2011@my.fit.edu](mailto:zmchenry2011@my.fit.edu)

Christopher Diebold – [cdiebold2012@my.fit.edu](mailto:cdiebold2012@my.fit.edu)

Chad Mason – [cmason2011@my.fit.edu](mailto:cmason2011@my.fit.edu)

**Faculty Sponsor**

Phillip Bernhard – [pbernhar@fit.edu](mailto:pbernhar@fit.edu)

**Progress of current milestone**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Task | Completion % | Kenneth Truex | Christopher Diebold | Chad Mason | Zachary McHenry | To Do |
| Obtain Requirement Document From GE | 100% | 50% | 50% | 0% | 0% | Ensure a full understanding of the “Shalls” associated with this project |
| Decide on IDE/Programming Language/Database Tools | 100% | 25% | 25% | 25% | 25% | Select a language and IDE/Tools that mesh well together |
| Evaluate Selected Tools with Small Examples to Analyze Integration/Cohesiveness of Tools | 100% | 25% | 25% | 25% | 25% | Also include the skeleton infrastructure in order to connect to a database |
| Begin Drafting Design of Program and GUI | 100% | 0% | 0% | 50% | 50% | Create a basic GUI and sample code snippets. |

**Summary of Accomplished Tasks for Milestone**

1. Obtain Requirement Document From GE:

At the conclusion of our second team meeting with Dan Ballesty, he informed us that he would sit down with the subject matter experts at GE and decide on what functionality they wanted the tool to provide them. Shortly after the meeting we received an email containing the formalized list of requirements for the project. The document includes five requirements.

2. Decide on IDE/Programming Language/Database Tools:

At the beginning of our third meeting with Dan Ballesty, we reviewed the requirements document and held an open conversation as to which tools/IDE/programming language/database software would provide the greatest amount of ease throughout the project. The decisions that we made were:

* IDE: Visual Studio
* Programming Language: C#/.NET
* Tools: Windows Forms (For GUI), Photoshop for GUI design
* Database Tools: MySQL

3. Evaluate Selected Tools with Small Examples to Analyze Integration/Cohesiveness of Tools:

As far as small examples and code snippets, we currently have working C# code that implements some of the basic classes that GE requires. We have a basic GUI created using Windows Forms with File and Display functionality. We also have a basic code sample in C# that will establish a database connection with a MySQL database and allow a user to enter queries.

4. Begin Drafting Design of Program and GUI

With the help of GE professionals, we completed the SDP at the conclusion of our most recent meeting held on 2/14. We also put the finishing touches on both the GUI plan document, created in Photoshop, and the actual coded GUI.

**Summary of Contribution of Each Team Member**

Ken: I created a C# project in Visual Studio 2013 to store the code associated with the GE algorithms used for the multiple calculations. I implemented a C# class called Physics.cs. In it are the algorithms to calculate the physical kinematic equations. I also implemented a C# class called GEAlgorithms. In that class is the algorithm to calculate the safe breaking distance of a locomotive. All of these have been presented and critiqued by Dan Ballesty at GE.

Chris:

Chad:

Zach:

**Plan for Milestone 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Zachary McHenry | Christopher Diebold | Kenneth Truex | Chad Mason |
| Parsing the Database | 0% | 100% | 100% | 0% |
| Do a GUI Mockup and Present to GE | 100% | 0% | 0% | 100% |
|  |  |  |  |  |

**Summary of Milestone 2 Tasks**

Parsing the Database:

Take our skeleton infrastructure of a database and add to it the functionality of information retrieval. Set it up so that the user can enter query commands and actually retrieve information stored in the database.

Do a GUI Mockup and Present to GE:

Take our design documents of our GUI that we created in Photoshop and implement it into C# code. After completing the implementation, we will present it to Dan Ballesty for review and critique.

**Sponsor Feedback on Each Task for the Current Milestone**

1. Obtain Requirement Document From GE:

2. Decide on IDE/Programming Language/Database Tools:

3. Evaluate Selected Tools with Small Examples to Analyze Integration/Cohesiveness of Tools:

4. Begin Drafting Design of Program and GUI:

Sponsor Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_

**Sponsor Evaluation**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Kenneth Truex | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
| Christopher Diebold | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
| Zachary McHenry | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
| Chad Mason | 0 | 1 | 2 | 3 | 4 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Sponsor Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_