USU CS Forum

Lightweight Project Plan

# **Project Overview**

Build a forum for the USU CS department. This forum will facilitate helping students to share their knowledge of computer science. It will be used as a reference for questions on specific assignments or topics, like programming languages or algorithm design. There will also be a section where students can show off projects that they have and ask for help with solving problems with those projects.

# **Team Organization**

For this project our team will follow a self-directed team paradigm. This paradigm is very flexible and allows us to divide up every step of the design and implementation processes, but allows us to step in and understand and help each other.

# **Software Development Process**

The development will precede using very simple process model that uses elements of Boehm's spiral process [Boehm-1988], iterative process models, and agile software development. The following table shows the entrance and exit criteria for these phases.

|  |  |  |
| --- | --- | --- |
| **Phase** | **Iteration** | **Tentative Exit Criteria** |
| 1. | Phase 1 -  Project Planning | Project selected, plan completed, team organized, configuration management in place |
| 2. | Phase 2 -  Requirement Capture and Analysis | A common understanding of requirements and system analysis captured in meaning documentation  A prototype complete that helped improve understanding of requirements |
| 3 | Phase 3 -  Architectural, UI, and DB Design | A system design that satisfies the requirements  A prototype that explores a design alternative |
| 4 | Phase 4 -  Detailed Design, Implementation, and Unit Testing | Initial implementation (60% - 80% of the functionality) with some unit test cases) |
| 5 | Phase 5 -  Implementation and Testing | Final implementation and Testing |

For analysis and high-level design activities, we will use a conceptual-model language, called *Unified Modeling Language* (UML). The UML is expressive and semi-formal. Its expressiveness allows it to describe a wide range of concepts in both the problem and solution domains. Its formalism is rooted in a meta-model that describes its syntax and some of its semantics.

# **Communication policies and procedures**

*We have set up a Facebook and Google groups. Facebook is for general announcements, and Google Groups is for collaborative ideas, suggestions and discussions. We also use Git and Github for sharing code and files.*

# **Initial work breakdown schedule**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Planning** |  |  |  |  | **11.5** |
|  | Dividing out tasks to each person | 1 | 2 | 3 | 2.0 |
|  | Make decisions on what tools & languages to use | 1 | 1 | 2 | 1.0 |
|  | Learning Tools | 3 | 5 | 7 | 5.0 |
|  | Time arrangements | 1 | 1 | 1 | 1.0 |
|  |  |  |  |  | *2.5* |
|  |  |  |  |  |  |
| **Design** |  |  |  |  | **15.8** |
|  | Design databases | 2 | 4 | 6 | 4.0 |
|  | Flowchart of the webpage | 5 | 8 | 10 | 8.0 |
|  | Webpage looks, colors, themes, styles | 1 | 1 | 1 | 1.0 |
|  | *Integration* |  |  |  | *2.8* |
|  |  |  |  |  |  |
| **Development** |  |  |  |  | **113.3** |
|  | User Login system/ database | 20 | 25 | 30 | 25.0 |
|  | Web Development | 20 | 25 | 30 | 25.0 |
|  | Content Management / Database | 20 | 25 | 30 | 25.0 |
|  | Priveledge/ Access structure | 20 | 25 | 30 | 25.0 |
|  | *Integration* |  |  |  | *13.3* |
|  |  |  |  |  |  |
| **Testing** |  |  |  |  | **36.7** |
|  | Testing Phases | 10 | 15 | 20 | 15.0 |
|  | Gathering Feedback & Making Changes | 10 | 15 | 20 | 15.0 |
|  | *Integration* |  |  |  | *6.7* |

# **Risk Analysis**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk / Mitigation Activity** | | **Probability** | **Impact** | **Estimate (additional hours if risks occurs)** |
|  |  |  |  |  |
| **R1** | **Lack of needed knowledge for Dev** | **Medium/High** | **Medium/High** | **100** |
| 1.1 | Study | High | Medium/High | 50 |
| 1.2 | Meet as group to teach each other | Medium | High | 50 |
| 1.3 |  |  |  | 0 |
|  |  |  |  |  |
|  |  |  |  |  |
| **R1** | **Time Management** | **Medium/High** | **Medium/High** | **80** |
| 1.1 | Meet More often | Medium | Medium/High | 70 |
| 1.2 | Team member not meeting dealines | Medium | Medium/High | 10 |
|  | (add more risks as needed) |  |  |  |
|  |  |  |  |  |
| **R1** | **Unexpected Complications** | **Low/Medium** | **Low/Medium** | **30** |
| 1.1 | Loss of Code | Low | Medium/High | 20 |
| 1.2 | Team member absence | Low/Medium | Low/Medium | 10 |
|  | (add more risks as needed) |  |  |  |
|  |  |  |  | 210 |

# **Project Estimate**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Area / Activity** | | **Suggested\*** | **Multipler** | **Totals** | **%** |
|  |  |  |  |  |  |
| **Management** | |  |  |  |  |
|  | Management Activities | 0.20 - 0.40 | 0.25 | 28 | *4.9%* |
|  |  |  |  |  |  |
| **Analysis** | |  |  |  |  |
|  | Analysis Activities | 0.10 - 0.30 | 0.25 | 28 | *4.9%* |
|  |  |  |  |  |  |
| **Development** | |  |  |  |  |
|  | Software Development |  | *from WBS* | 113 | *19.4%* |
|  | Unit Testing | 0.25 - 2.00 | 1.00 | 113 | *19.4%* |
|  |  |  |  |  |  |
| **System Testing** | |  |  |  |  |
|  | System Testing Activities | 0.15 - 0.5 | 0.5 | 57 | *9.7%* |
|  |  |  |  |  |  |
| **Deployment** | |  |  |  |  |
|  | Deployment Activities | 0.11 - 0.14 | 0 | 0 | *0.0%* |
|  |  |  |  |  |  |
| **Risk Mitigation** | |  |  |  |  |
|  | Risk Mitigation Activities |  | *from Risk* | 210 | *36.0%* |
|  |  |  |  |  |  |
| **Contingency Reserve** | |  |  |  |  |
|  | Known Unknowns | 0.05 - 0.20 | 0.20 | 23 | *3.9%* |
|  |  |  |  |  |  |
| **Management Reserve** | |  |  |  |  |
|  | Unknown Unknowns | 0.0 - 0.20 | 0.10 | 11 | *1.9%* |
|  |  |  |  |  |  |
| **Other Expenses** | |  |  |  |  |
|  | Other Expenses (hardware/software/etc.) | |  |  |  |
|  |  |  |  |  |  |
| **Totals** | |  |  | **584** | **100%** |

# **Hardware and Software resources**

*Software tools that we will use include:*

* *HTML*
* *PHP*
* *JavaScript*
* *MySQL*
* *Preferred IDE’s*

*Hardware resources that we will use include:*

* *A VPS to deploy the site on and test on a live environment.*
* *Personal laptops*

# **Configuration Management**

# *Here’s the link to our Git repository:* [*https://github.com/morganporritt/CS3450.git*](https://github.com/morganporritt/CS3450.git)

# **Change Log**

|  |  |  |
| --- | --- | --- |
| Date | Description of Change | Reviewed by |
| 1/17/14 | Initial Draft | Morgan Porritt |
| 3/3/14 | Changed Software & Hardware resources section | Morgan Porritt |