SOFTWARE PROJECT MANAGEMENT PLAN FOR

Dots & Boxes Game



Version 1.0

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Prepared for:

IT 484   
Minnesota State University - Mankato

Prepared by:

Russell Walters, Chisomo Banda, Lindiwe Hove, Matt Ruppert

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1. **PROJECT OVERVIEW**

**1.1.1 PURPOSE, SCOPE, OBJECTIVE**

This term project is to create a software system to play the game of Dots and Boxes, using the Unified Process for software development. The software system being considered for development is referred to as Dots & Boxes. The customer providing specifications for the system is Professor Schilling. The ultimate customer, or end-user, of the system will be avid and casual gamers. This is a new project effort, so the version under development is version 1.0.

The purpose of the system under development is to create a fun and challenging one or two person strategy game.

The original *Dots and Boxes* is a paper and pencil game that we propose to migrate to a computer form. Given a square or rectangular array of dots, two players take turns joining two adjacent dots with a horizontal or vertical line. When such a move adds the fourth side of a box, the player who did the deed claims the box (marking it as hers in some fashion) and must take an extra turn. A player who can complete a box is not obliged to do so. The game ends when all the boxes are taken. The player who closed more boxes is declared the winner.

There are two versions of the game:

* The first version will allow two humans to play against each other.
* The second version will allow one human to play against the software game.

**1.1.2 ASSUMPTIONS AND CONSTRAINTS**

Several assumptions are made:

* If the user is playing a two player game, both users are seated at the same computer and alternate turns.
* Games are not saved and closing a browser will quit the current game.
* The development team will provide the tools (hardware, software, etc) to complete this project.
* The development team will learn and work together to meet the deliverables of this project.
* The client will respond in a timely manner to all questions and requests for information.

There have been no imposed constraints from our client. The application is not critical so its availability is not a concern. However, the following constraints may impose limits on this project:

* Time availability for this project is constrained by other commitments the development team has.
* Additional resources (financial or human) are not available for the project.

**1.1.3 PROJECT DELIVERABLES**

Friday, February 15

* A statement of the project scope
* Risk assessment and a plan for risk mitigation
* An initial draft of the requirements
* Use cases
* General description of pre-implementation quality assurance activities

Friday, March 1

* Second draft of the requirements
* Initial draft of the overall architectural design
* Initial draft of the software requirements specification document

Friday, March 22

* Completed architectural design
* Function point analysis
* Detailed module design
* Design specification document
* Completed software requirements specification document
* Completed software project management plan
* Testing plan for the implementation

Friday, April 26

* Beta version of the project code and initial user manuals

Monday, April 29

* Results of beta testing another group’s project returned to other development team and client

Friday, May 10

* Final version of project, manual, and testing summary to client.

**1.1.4 REFERENCES**

Professor Schilling, Susan, “Dots and Boxes Project Description”, DB-SE Project.doc, February 2013.

Professor Schilling, Susan, “Project schedule for IT 484/584, Spring 2013”, Project schedule Sp2013, February 2013.

Dots and Boxes implementation available on the web at the following URL: <http://www.math.ucla.edu/~tom/Games/dots&boxes.html>

The lightweight Play Framework for Java and Scala development available at the following URL: <http://www.playframework.com/>

The Open Source Processing Language web site available at the following URL: <http://www.processing.org/>

The Open Source Processing Language for the Web – Processing.JS web site available at the following URL: <http://processingjs.org/>

## DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

|  |  |
| --- | --- |
| **Term or Acronym** | **Definition** |
| Alpha test | Limited release(s) to selected, outside testers |
| Beta test | Limited release(s) to cooperating customers wanting early access to developing systems |
| Final test | aka, Acceptance test, release of full functionality to customer for approval |
| DFD | Data Flow Diagram |
| SDD | Software Design Document, aka SDS, Software Design Specification |
| SRS | Software Requirements Specification |
| SSRS | System and Software Requirements Specification |
| DAB | Dots & Boxes |
| PLAY Framework | PLAY framework is a framework used to create applications in Java |
| Processing Language | Open source programming language and environment for people who want to create images, animations, and interactions |
|  |  |

## 2 Project organization

## External interfaces

The client for this project is Professor Schilling. Necessary interaction can be done through anyone on the team, but all discussions and deliverables to the client will be documented clearly for records.

## Roles and responsibilities

Do we have specific roles within the team?

1. **Managerial process plans**

**Management objectives and priorities**

The development team’s primary objective is to ensure the successful completion of the project. To be considered successful, the team must perform the following:

1. Use good software engineering methods to develop the product.

* Apply the methods learned in classes.
* Experience a new way of doing things.
* Practice reflective learning.

1. Deliver a quality product that meets the requirements agreed upon in the SRS.

* Deliver a product that is stable and relatively defect-free.
* Deliver a system that addresses the client’s needs at the client’s satisfaction.

1. Honor its commitments.

* Meet client and team deadlines.

1. Display professionalism.

* Value the time of team members and the client.
* Accept and support team decisions.
* Communicate openly and frequently.
* Take responsibility for the success of the project.
* Be proactive.

1. Make efficient use of all available resources.

* Learn from each other.
* Experiment with existing tools and processes.

**Staffing plan**

If we don’t have particular duties…

**Reporting plan**

Internal reporting for team members will be relatively informal. Each team member will provide a status report to the team during the weekly team meetings. This information will be used to update the project plan.

External reporting will be more formal. At the end of each semester, the team will give a presentation of the project to the IT484 class.

**Risk Identification**

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk** | **Probability**  **(1-10)** | **Impact**  **(1-10)** | **Mitigation** |
| Time constraints | 9 | 9 | Build artifacts in an iterative and incremental fashion. |
| Ability of the team to get together | 8 | 8 | Use of tools for communication and version control such as Git, GitHub and Heroku. |
| Team skill set | 7 | 9 | Team members on their will refresh Java and web programming skills. |
| Changing scope | 3 | 8 | Maintaining adherence to our project scope in/out list. |
| Misunderstanding of requirements | 3 | 8 | Clarify requirements with Professor. |
| Communication among the team | 2 | 8 | Meet every day after class and have regular status updates. |