**Project Management Plan**

**NASA EVA Gamification**

*Group 3*

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| **Version Number** | **Description of Change** | **Author** | **Date** |
| 1.0 | Initial Creation of Document | Victoria Guadagno | 02/18/2018 |
| 1.1 | Changed Dr. Brown from Approver to Informed  Updated Scope  Updated Milestones  Updated Database section  Updated User Profile section | Victoria Guadagno | 03/11/2018 |
| 1.2 | Changed Test Scripts to Test Suite | Victoria Guadagno | 03/17/2018 |
| 1.3 | Added Montrell to title page | Michael Salgo | 03/27/2018 |

# Background

This project will gamify the NASA EVA MediaWiki. This will allow users to track their usage. The games will encourage both the competitive and the collaborative users. Gamification creates a user-friendly way to create complex goals and break them down into smaller pieces, all while making users feel that they are accomplishing something.

This project will create an extension to MediaWiki and will be open source which will allow future developers to continue to expand upon the games being defined.

# Project Management Approach

The Documentation Lead, Victoria Guadagno, will be responsible for all documentation. She will create most of the documentation and keep it updated.

The Testing Lead, Okechukwu Ogudebe, will be responsible for all testing. He will create the test suite, execute the test scripts, and create the test reports.

The Database Lead, Jacqueline Macfadyen, will be responsible for the database. She will lead all design discussions, document the design, and create the database creation script.

The Team Lead, Michael Salgo, will be responsible for managing the project, making sure that all tasks are completed on schedule and submitting all deliverables. He will be the main point of contact for both Dr. Michael Brown and Daren Welsh.

The Development Lead, Kevin Fortier, will be responsible for all development. He will lead all design discussions and verify the documentation for the design.

# Project Scope

## Purpose and Justification of the Project

The NASA EVA Gamification project is a joint operation between University of Maryland University College and Darren Welsh to gamify NASA’s EVA wiki in order to encourage users to view, edit and create more pages in the wiki. As different people respond to different types of encouragement, the games that are being created should be a blend of both cooperative and competitive games. In addition, this system will allow users who are more likely to view/create/edit similar pages or very different pages. Increasing user participation will provide a more robust wiki, which in turn helps to increase user participation.

## Scope Description

The scope of the NASA EVA Gamification project is to provide an extension that users can install. The extension will provide details about the user’s past performance, update instantly when new badges are awarded, and provide details about other users’ performance.

Due to the format of a capstone project, each semester’s will take on a portion of the total scope and complete it during that semester. It is important to note that each semester will define their own scope and will not be limited by the previous semester’s scope.

The Spring 2018 semester project team will create the structure for the gamification. The team will define and create/develop the database, a basic user profile and a single game. In addition, documentation will be developed to hand off to the next team of students so that they can continue to expand upon the work that was started.

## High Level Project Requirements

Several high-level requirements have been defined for this project. These requirements are for the overall project, they are not specific to a single semester’s work:

* All code should be Open Source
* All backend code should be PHP
* Database should be MariaDB/MySQL
* User Profile should display the user’s story; this includes all achievements awarded as well as graphs showing the user’s contributions
* Games should include both cooperative and competitive play

## Project Boundaries

This project has two distinct scopes. The first scope is for the overall project. The second scope is for the Spring 2018 semester.

The Spring 2018 semester will include developing a database to support the gamification of the NASA EVA wiki, developing a basic User Profile and developing a single game. To accomplish these goals, requirements will be gathered and documented. While the team will document all requirements they gather, the requirements document will indicate which requirements will be handled in future semesters. The requirements gathered should not be considered complete. Each semester’s team should confirm and gather their own requirements.

The Spring 2018 semester will focus more on creating a structure for the gamification of the NASA EVA wiki, rather than the actual gamification. Without the solid structure, there cannot be a successful gamification of the wiki. The development completed in the Spring 2018 semester is designed to be built upon by future semesters.

## Project Strategy

Due to the short timeline of a semester (12 weeks), the size of the project team (5 members), and the inexperience of the team members with the technologies being used on this project, the project team will divide themselves up into specialties. Each team member will focus on a specific area and will support all of the other team members as needed. The Documentation Lead will take responsibility for all documents and will create most of them. The Testing Lead will create the test plan, test suite, execute the test scripts and create the test reports. The Database Lead will design and create the database, as well as set up GitHub and maintain it. The Team Lead will manage all of the team members and make sure that all deliverables are created and delivered on time. The Development Lead will become familiar with PHP and MediaWiki, lead all design discussions, and verify that the design documentation is correct and complete.

## Project Deliverables

Project Charter – An overview of the project; it defines roles, responsibilities, stakeholders and team management.

Stakeholder Analysis – An overview of the stakeholders; it defines what each stakeholder’s role is in the project.

Project Schedule – This defines who is doing what when

Project Management Plan – This document; it defines the different processes that will be followed

Project Requirements – A document that details all of the requirements

User Profile Design – The Detailed Design document for the User Profile

Game Design – A Detailed Design document for the game

Database Design – A Detailed Design document for the database

Database Script – The script used to create the database

User Profile Code – The source code for the User Profile

Game Code – The source code for the game

Test Reports – A summary of each test executed

Handover Document – A document designed to help the next semester(s) to continue working from where the Spring 2018 Semester left off

## Acceptance Criteria

This project will be considered complete if the following criteria is met:

* All deliverables are created and submitted on time
* A User Profile can be displayed
* A single game is created

## Project Constraints

Several constraints exist for the Spring Semester 2018 project team:

* The schedule is fixed and cannot be altered
* Project team members cannot travel to work together in person
* Project team members are only part time on this project
* The project team cannot view NASA’s EVA wiki
* Due to time differences and local restrictions, one team member cannot join in on team conference calls

## Project Assumptions

There are several assumptions made for this project:

* The Project Team can create a wiki that is similar to NASA’s EVA wiki
* All team members will be available through the whole semester
* No team member will drop this class

# Milestone List

The below chart lists the major milestones for the NASA EVA Gamify Project. This chart is comprised only of major project milestones.

|  |  |  |
| --- | --- | --- |
| Milestone | Description | Deliverables |
| Milestone 1 | Define the project | Project Charter, Stakeholder Analysis, Project Management Plan, Project Schedule |
| Milestone 2 | Design the project | Project Requirements, User Profile Design, Game Design, Database Design, Test Plan, Project Schedule |
| Milestone 3 | Development and testing | Database Script, Source Code, Database Design, User Profile Design, Email Verification Design, Database Test Report, User Profile Test Report, Email Verification Test Report, Project Schedule |
| Milestone 4 | Handover documentation | Handover Document, Project Schedule |

# Change Management Plan

Due to the structure of a Capstone Project and the timeframe that we are dealing with, it is unlikely that there will be any changes. However, in the case that there is, the following process will be followed:

1. A stakeholder requests a change
2. The project team evaluates the change; if the team rejects the change, then the change will not be completed
3. If the team approves the change, the change will be brought up to Daren Welsh for his approval; if Daren Welsh does not approve the change, then the change will not be completed
4. If Daren Welsh approves the change, then the change will be approved
5. Dr. Michael Brown will be informed of all changes

At every step, the change will be logged along with a timestamp to document when the step was started and completed.

# Communications Management Plan

During this project, the Team Lead will schedule a weekly team meeting. He will post minutes for the meeting within 24 hours of the meeting’s conclusion. He will provide the deliverables to Dr. Michael Brown at the end of each milestone, along with any other necessary communication.

The Team Lead will also organize a presentation at the end of the first milestone and the fourth milestone. This presentation will be made to Dr. Brown and the entire team will do the presentation.

# Project Scope Management Plan

Scope management will be the responsibility of the Team Lead. The scope has been defined by the Project Scope (above). All requirements will be evaluated against the project scope to ensure that they are in scope. Any requirements determined not to be in scope will be documented and handed to the next semester’s students.

Changes to scope can be initiated by any stakeholder. However, they must follow the Change Management Plan (above).

# Schedule Management Plan

A Project Schedule will be created in Microsoft Project. It will include the milestones along with their tasks and deliverables. Due to the format of a Capstone Project, actual hours are not included in the schedule, only the start dates and end dates. This allows each student to work on his/her own schedule.

Each task has at least one person that is responsible for the task. This does not mean that the responsible person must complete the task; the responsible person can pull from the rest of the team to complete each task.

Once the initial schedule has been created, the entire project team will review it. The team will revise the document until there is unanimous approval of it. Only then will it be considered accepted.

# Quality Management Plan

Quality is the responsibility of every member of the team and is part of every document created, every line of code written, and every test script run. To support this, the team will approve all templates that are used for deliverables and approve all deliverables before they are submitted. In the case of code, PHP and MediaWiki coding conventions can be followed.

Every team member will be responsible for making sure that his/her work follows the approved templates or coding standards (as appropriate). In addition, each team member will ensure that all deliverables meet these standards (regardless of who created them).

# Risk Management Plan

The team will examine the risks and determine how to mitigate each risk. As soon as a team member becomes aware of a possible risk, he/she will bring the risk to the attention of the group. The entire team will decide how to address each risk.

In addition, the risks and how they were dealt with will be included in the handover documentation to help the future team(s) collaborating on this project.

# Staffing Management Plan

The team for this project was chosen by Dr. Michael Brown and cannot be changed. Each semester a different team will be chosen and they will continue the work started by the previous team(s).

# Resource Calendar

This project will require all project team members for the entire duration of the semester. If a team member has extra time available, he/she should offer their time to the other team members to support them.

# Quality Baseline

The following minimum standards must be met for this project to be considered successfully completed.

|  |  |  |
| --- | --- | --- |
| Item | Acceptable Level | Comments |
| User Profile | User profiles can be viewed for all users |  |
| Game | At least one game is able to be completed |  |
| Database | A creation script is run without errors |  |
| Documentation | All defined documents are delivered |  |
| Testing | All test scripts are executed without errors |  |