Software Project Management

Plan(SPMP)

Yue Zhou

Min Zan

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Name** | **Comments** | **Version** |
| 20/05/2015 | Min Zan | Initial Availability | 0.1 |

**1 Introduction**

1.1 Purpose and Scope

This project aims at developing a platform and associated application for gamifying smart waste management awareness and education at the University of Adelaide.

For the current stage, the application provides the approaches that students could learn the knowledge of waste management in the campus. The application already has a game system which used to evaluate the current knowledge students already had. There is a game content management system that provided access to the Ecoversity department to modify the scenarios of different games. A simple feedback system also had been designed and embedded into the latest version of this system.

Hub-central is an important place that student gathering and studying. Based on the materials provided by the Ecoversity department, we found that large quantities of waste had been put into the wrong waste bin. This will cause extra carbon dioxide emission each year.

This application will help the students establish the right concept of the waste management. Through the varies games embedded in the system, students could enhance their awareness of waste management.

When the students establish the right concept of waste management, it will directly affect the daily activities which related to the environmental protection, such as put the waste in the proper waste bin or tell friends which kind of behavior will do harm for the environment.

Refer to the analysis report in 2015; we can use the survey or make a comparison with the incorrect recycled waste between the 2015 and 2016 to evaluate the effect of the application used by students.

1.2 Assumptions and constraints

Due to the tight time schedule of development and exsting resource. There are some assumptions and constrains bellow:

* User data analysis are mainly based on the survey of Hub Central Waste and Recycling Review.
* The game and UI design of garbage bin color signage are based on the existing standards. Recycling = Yellow, Waste (landfill) = Red, Food Scraps = Green.
* The main platform of the application is mobile devices. Such as mobile phone and pad.
* The major operating system of those platforms are Android and IOS.
* Users can freely access the Internet and installation this application.
* The main development technology of this application is based on JavaScript frameworks.
* User interface is mainly based on HTML5 and CSS.

1.3 Project deliverables

1. 2/05/2016 – Game design version1.
2. 09/05//2016 - Game design version2.
3. 19/05//2016 - Game design PPT, Game demo 1,2,3.
4. 27/05/2016 – Product analysis, Game demo.
5. 03/06/2016 – Product requirements. Game demo.

**2 Definitions**

|  |  |
| --- | --- |
| UE | User Experience |
| UI | User Interface |
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**3 Project Organisation**

Roles and responsibilities

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| --- | --- | --- |
| **Name** | **Role** | **Responsibilities** |
| Yue Zhou | Software Engineering manager  Mobile Application developer  Web-front developer  Back-end developer  QA manager | Understand the whole project; track and control project progress; communicate with clients.  Allocating the code work  of this project to group members.  Application development.  Game design and development.  Allocating the testing tasks, consider the boundaries and limitations. |
| Min Zan | User experience designer  Document manager  Mobile Application developer  Web-front developer  Back-end developer | Use experience design.  Communicate with clients.  UI design.  Allocating the document work.  Mobile Application design and development.  Game design and development. |

**5 Risk management plan**

5.1 Risk indication

|  |  |  |  |
| --- | --- | --- | --- |
| **Risk ID** | **Risk Name** | **Severity** | **Likelihood** |
| R-01 | New technology | Medium | High |
| R-02 | Time shortage | High | High |
| R-03 | Failed to meet all requirements | High | Medium |
| R-04 | Compatibility on all mobile phones | Medium | High |
| R-05 | Low performance on all mobile phones | Medium | High |
| R-06 | Final Exam | Medium | High |
| R-07 | Graduation | Medium | High |

5.2 Risk controlling and eliminating

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| --- | --- | --- |
| **Risk ID** | **Risk indicator** | **Coping strategies** |
| R-01 | New framework or libraries need to use. | Allocate additional time to learn or analyse them |
| R-02 | Tasks are not completed 50% the end of June. | Apply more work time on project. |
| R-03 | The game or function are not finished completely. | Set milestones and time schedule in order to keep develop progress under control. |
| R-04 | If there are some problems when runs application in different types of mobile phones. | This App is mainly based on html5 and CSS development. So if it could suit for majority types of mobile phone and operations system, the aim is accomplished. |
| R-05 | Application runs very slow on mobile phone. | Optimize the code and interface of application. |
| R-06 | The academic semester final in June. | Place more time on project after the final. |
| R-07 | Yue Zhou will graduate from University after this semester. | Before he graduates, ensure Min Zan familiar with the whole project’s code. |

**6 Process Model**

The best model of this project is ingrate Incremental Process and Agile Model. This project can be divided into several apart according to the functionality and installation platforms. Such as 4 separate games, information board and end-back management modules. These modules could be fulfilled independently. Incremental process ensures the team provided clients the latest deliveries, such as demo, just-in-time.

Agile model is very flexible for small team. Because there are only 2 members in this project, agile model is especially effective and efficient. At the same time, agile model get clients involved in project development more tightly. The communication between developers and clients would be better than other development models, which would greatly improve the success of the whole project.

**7 Work Plan**

In this section, we define tasks that need to be done for this robot project. In order to manage the project and conduct tasks more efficient, we have divided the project into modules, and tasks are created accordingly.

7.1 Work activities

|  |  |  |
| --- | --- | --- |
| **Task ID** | **Main Task** | **Subtask** |
| T0001 | User Experience Design | Product analysis,product requirement, User experience design, UI design. |
| T0002 | Game module | 4 games development. |
| T0003 | Front-module | Information board. |
| T0004 | Back-end module | Resource management |
|  |  |  |
|  |  |  |

7.2 Milestones

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| --- | --- | --- |
| **Milestone ID** | **Task** | **Description** |
| M-1 | Product analysis | Product analysis will provide the definition of this product which will establish a direction the UE design and software function requirement will go to. |
| M-2 | UI prototype | UI prototype is the main visualization of product. |
| M-3 | Game1 | The first game. |
| M-4 | Game2 | The second game. |
| M-5 | Game3 | The third game. |
| M-6 | Game3 | The fourth game. |
| M-7 | Information board | Information board。 |
| M-8 | Back-end management system | Back-end management system. |
| M-9 | Testing Report | Testing Report |
| M-10 | Project delivery and feedback | Project delivery and feedback |

7.3 Schedule allocation

|  |  |  |  |
| --- | --- | --- | --- |
| **Start Date** | **Due Date** | **Task** | **Dependencies** |
| 18-05-16 | 16-06-16 | T0001 |  |
| 3-06-16 | 3-07-16 | T0002 |  |
| 3-07-16 | 17-07-16 | T0003 |  |
| 3-07-16 | 24-07-16 | T0004 |  |

7.4 Resource allocation

|  |  |
| --- | --- |
| Yue Zhou | T0001, T0002, T0003, T0004 |
| Min Zan | T0001, T0002, T0003, T0004 |

8 Supporting Plans

8.1 Configuration management plan

8.1.1 Configuration Items

|  |  |
| --- | --- |
| CI ID | File Name |
| CI-01 | Source code |
| CI-02 | Product analysis |
| CI-03 | Function requirement |
| CI-04 | SDD.pdf |
| CI-05 | Test Report.pdf |
| CI-06 | User Manual.pdf |

8.1.2 Documentation Version Control Standard

* All documents version number must be less than 1 before release to the public (e.g. 0.1,0.2,...).
* Some of minor modifications such as punctuation, grammatical mistake and spelling will not rise the version number.
* The modification of contents in sections of documentations will rise the extra version number (e.g. 1.1, 1.2,...).
* When a main part is changed such as design or requirement, it will rise the main version number (e.g. 1.0, 2.0,...).

8.1.3 Modification process

All procedure for changing a version of documents, tools and source code should follow the process as bellow:

1. Retrieved the requirement from clients or team members.

2. Holding an internal meeting to assess the requirement.

3. Making decision whether accept this modification.

4. Change the version number if accepts this requirement, otherwise give a reason that record into internal note if is not going to accept it.

8.1.4 Structure of SVN repository

The repository of this project is on GitHub.

/

doc

minutes

Milestones

SPMP

SDD

GuI prototype

user manual

src

demo

Waste\_education

lib

README.mk

test

Test Plan

TestReport

**9. Timeframe**

|  |  |
| --- | --- |
| Design & app development | 2 May |
| Review 1 | 6 June |
| Re-develop | 25 July |
| Waste audit – baseline | 15 August |
| Review 2 | 15 August |
| Finalise | 22 August |
| Launch in the Hub | 5 September |
| Waste audit – evaluation | 12 September |