System Overview Proposal 4.0

Green Revolution

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1 Project Description

1.1 Introduction

The project ‘Green Revolution’ aims to create awareness among children in various parts of Australia about different issues related to the environment and how they can help build a greener Australia in the future. Throughout the world, governments across many countries are implementing strategies to improve the environment and teach their respective communities with the objective to change trends for the future generations. Undoubtedly, the commitment within the development of this plan must be from the government and individuals, including children. The proportion of Australians aged 18 years and over who stated that they were concerned about environmental issues decreased from 82% in 2007-08 to 62% in 2011-12, a figure that has kept on decreasing. Many other such investigations show that the trends are not the best for new generations, primarily because children, from a young age, are not exposed to the issues relating to the sustainability of the environment. Parents must possess adequate tools to teach their children and encourage them to build an eco-friendly neighborhood.

1.2 Project Overview

Inspired by the idea that children have the power to change the world and focusing on the contribution they can offer within the development of strategies making a greener Australia, a website, which will facilitate the learning of children, essentially aged from 7 to 12 years, will be designed, containing relevant facts and some essential tips to create a greener neighborhood.

Therefore, the website will be addressed to parents with objective to inspire the new generation to become an elite member of an environmentally conscious group. It will involve four significant topics viz., water consumption, energy consumption, recycling paper and leading to an eco-friendly neighborhood, with the support of statistical data. Additionally, the website will also allow users to share their own experiences with others to help motivate the community around them.

In addition, enhancing the learning experience among the children will be facilitated by developing an interactive game, it will be an effective medium of communication. Since children acquire more when engaged in a fun activity, the application would include a wide range of random multiple choice questions with awe-inspiring graphics

1.3 Scope

The website for the project ‘Green Revolution’ will currently include four essential environmental issues viz., water consumption, power consumption, recycling paper and leading to an eco-friendly neighborhood. These issues could be broadened in the future. The mobile application, the interactive game for children, will currently be designed for the iOS platform since it is the most popular operating system used in Australia.

1.4 Audience

This website is addressed to parents and children from 7 to 12 years old. The primary audience is children for the whole project as the website and the game aims to get the message across to children. Additionally, parents or guardians and teachers are will also be considered as potential users since they may be the first once introducing children to the website or the game, as it may be hard for children to access the website and the game.

1.5 Assumptions

The website will be used by children with the support of their parents, guardians, or teachers as it may be out of scope for some children to access the website by themselves.

1.6 Constraints and Limitations

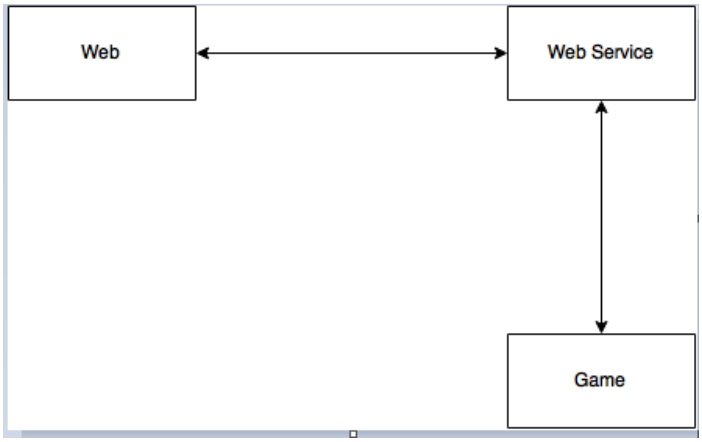
The open data about the aforementioned four topics is annual, which means that it will be updated just once per year. Therefore, the latest data available for the users will always be the previous year's data.

1.7 System Modelling

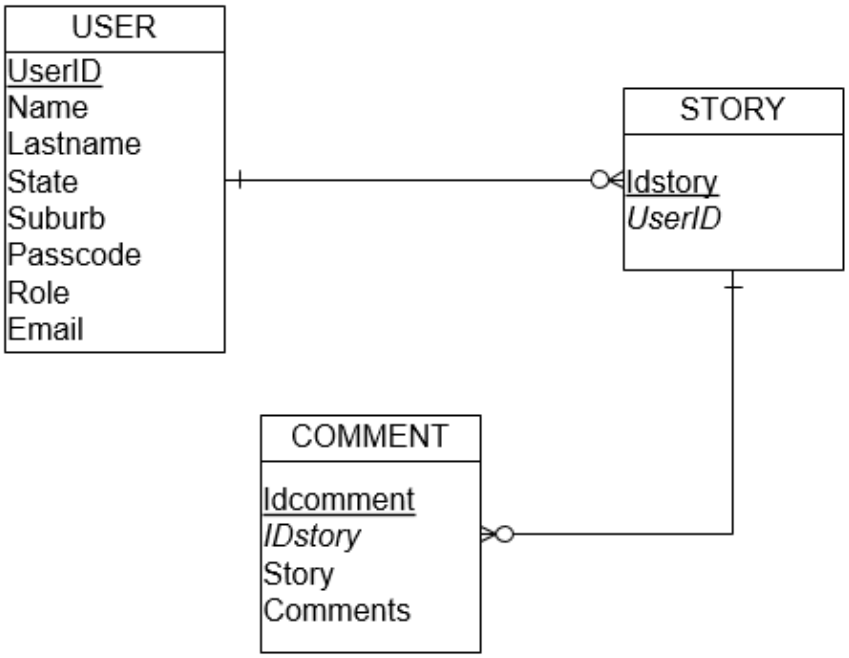
The system will be modelled by the following techniques:

- Entity relationship diagram which represent the structure of information in a graphical way.
- Use case diagrams which describe user roles, functionality and dependencies
- Activity diagrams which describe the workflow of the business
- System sequence diagrams which define inputs and outputs furthermore, define the interaction between system and Customers.

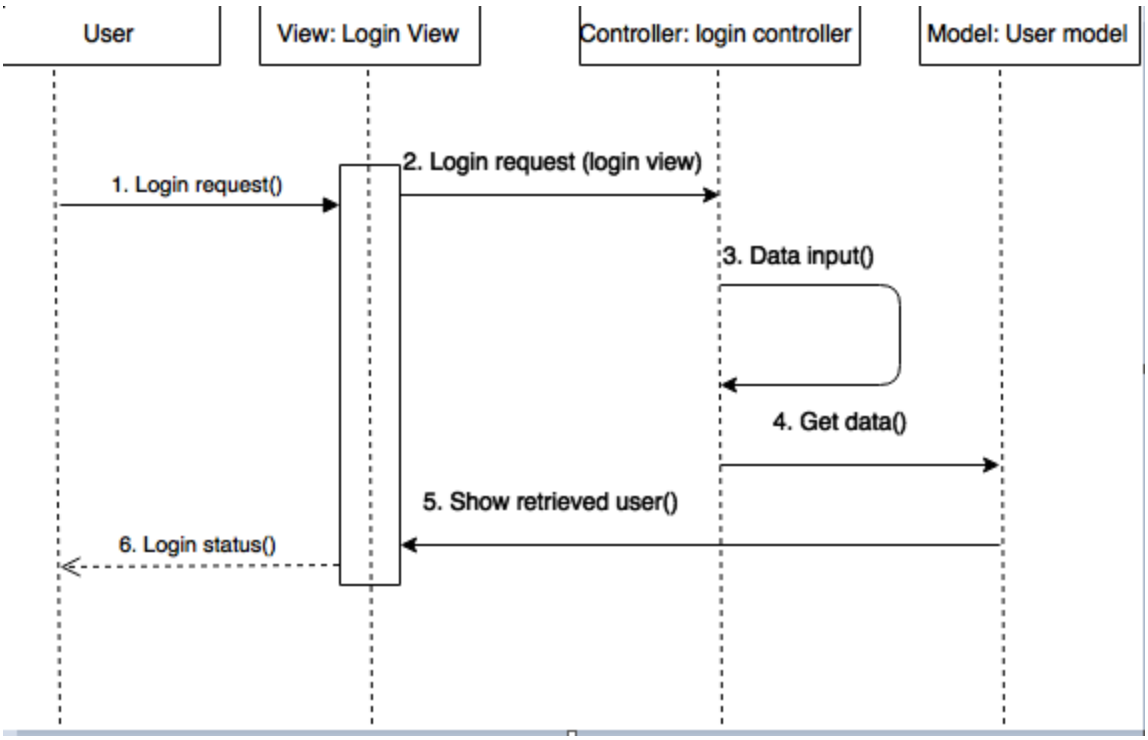
1.7.1 System Architecture



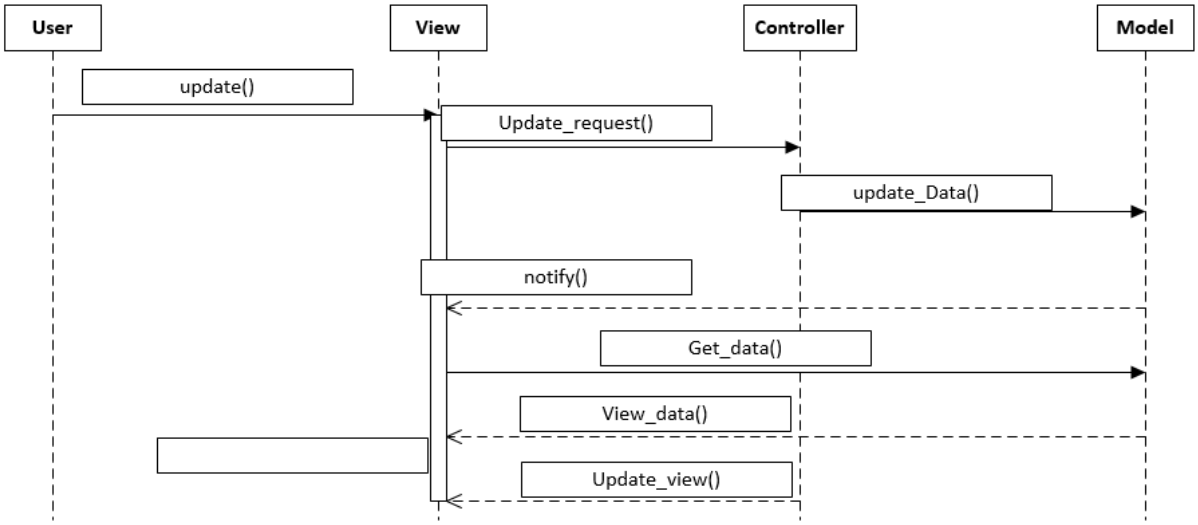
1.7.2 Entity relationship diagram



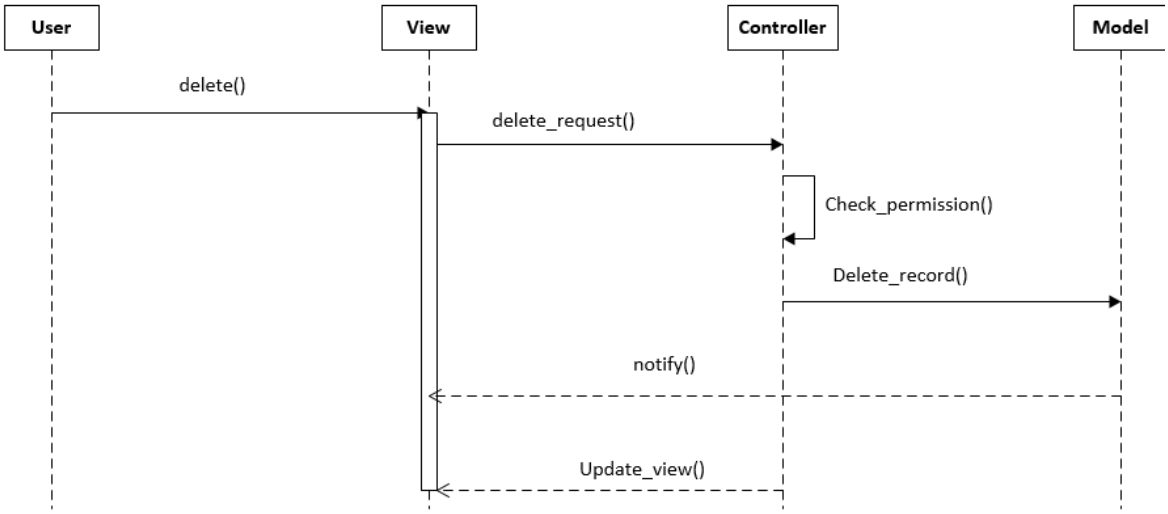
1.7.3 System sequence diagrams



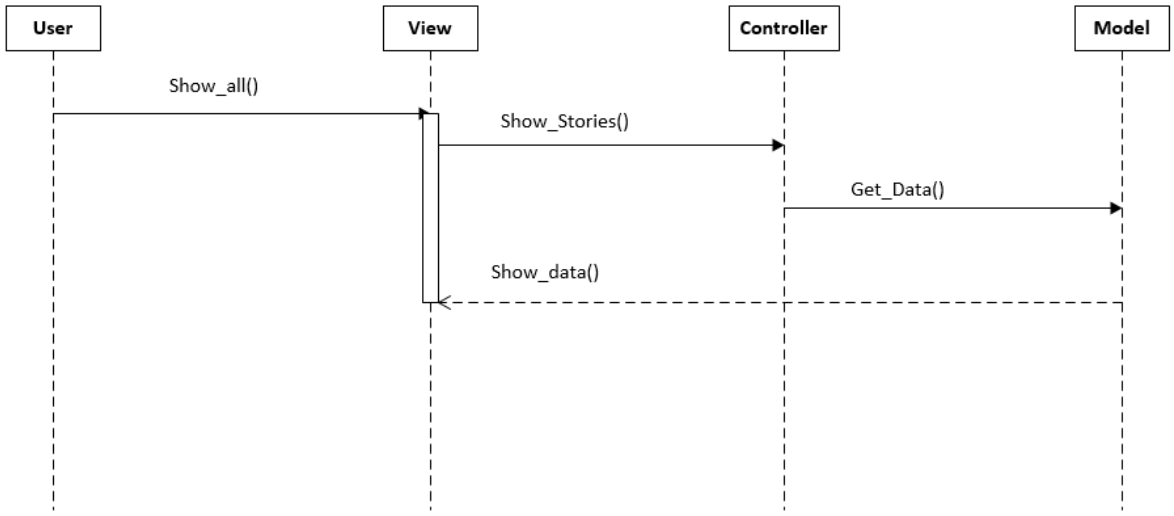
1.7.4 System sequence diagrams - Stories Update



1.7.5 System sequence diagrams - Stories Delete



1.7.6 System sequence diagrams - Retrieve all



2 System Development Approach

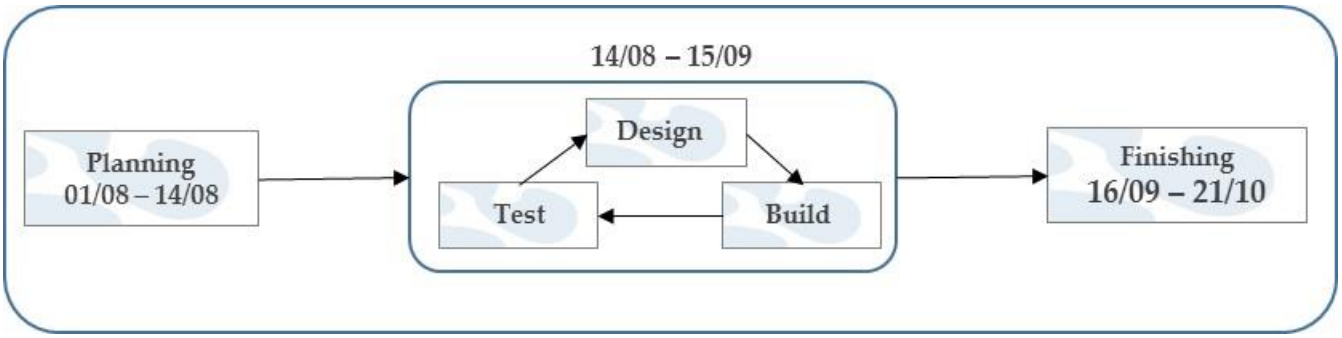


Figure 1 System development approach

The development of this project has an iterative nature, as it will follow agile methodology, where it will be completed in three iterations.

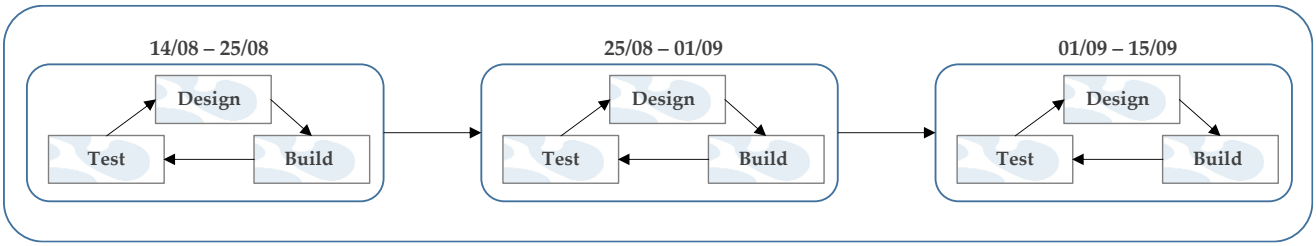
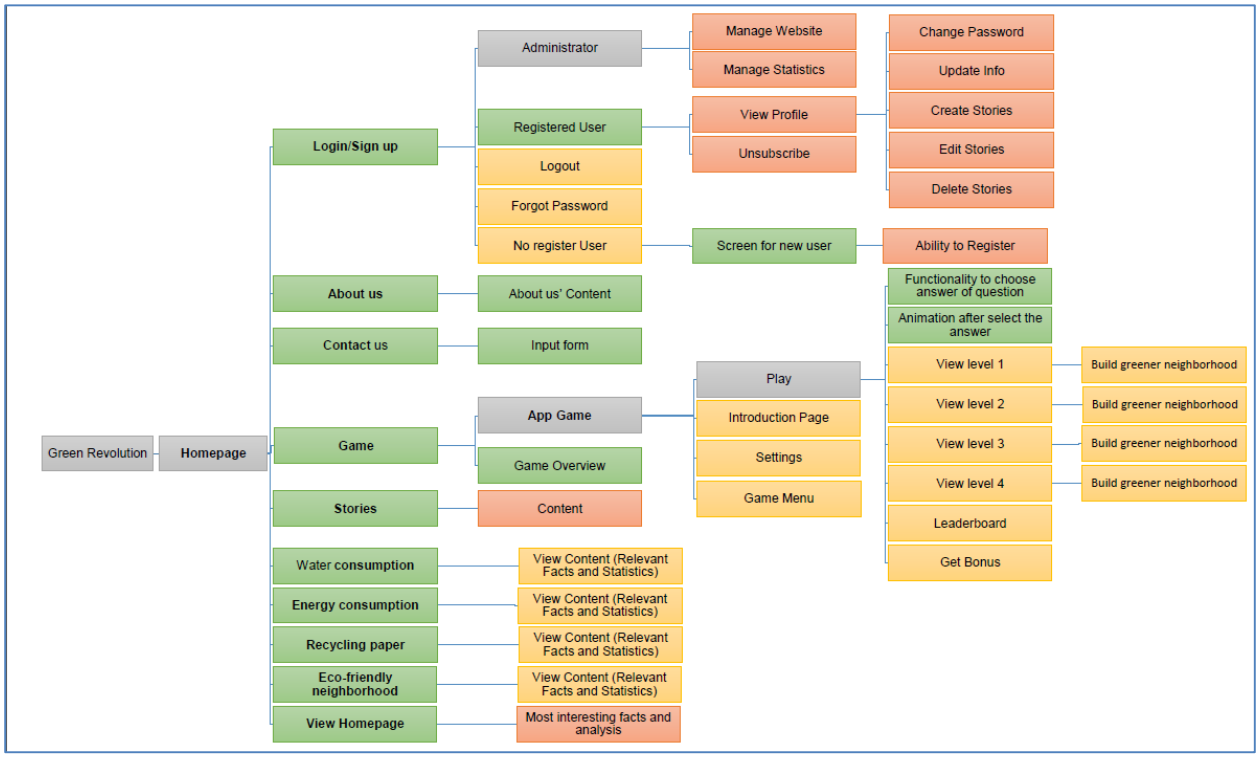


Figure 2: Cycles

2.1 Functional Decomposition Diagram

DC: Delivery Cycle

DC1 **DC2** **DC3**



2.2 Delivery Cycle Overview

	Delivery Cycles	
Delivery	**Date**	**Status**
Delivery Cycle 1		
Website		
Homepage:		
About us page**	27/08/2015	Complete
Contact us page**	27/08/2015	Complete
Game page**	27/08/2015	Complete
Stories page**	27/08/2015	Complete
Water consumption page**	27/08/2015	Complete
Energy consumption page**	27/08/2015	Complete
Recycling paper page**	27/08/2015	Complete
Eco-friendly neighborhood page**	27/08/2015	Complete
Game:		
1.1 Functionality to select answer of question	27/08/2015	Complete
1.2 Characters for the game	27/08/2015	Complete
1.3 Game's design	27/08/2015	Complete
** This page will have dummy content		
Delivery Cycle 2		
Game		
Game Menu	07/09/2015	
Credit page in game	07/09/2015	
Introduction page for the game before loading to menu	07/09/2015	
Web server with pool of questions for the game	07/09/2015	
Settings	07/09/2015	
View level 1	07/09/2015	
View level 2	07/09/2015	
View level 3	07/09/2015	
View level 4	07/09/2015	
Build greener neighborhood	07/09/2015	
Leaderboard	07/09/2015	
Website	07/09/2015	
Login/Sign up	07/09/2015	

Screen for new user	07/09/2015	
Screen for returning user	07/09/2015	
Contact Us	07/09/2015	
Input form	07/09/2015	
By topic pages	07/09/2015	
View Content (Relevant Facts and Statistics) of all topics	07/09/2015	
Administrator	07/09/2015	
2.15 Manage Website	07/09/2015	
2.16 Manage Statistics	07/09/2015	
Delivery Cycle 3		
Game		
Game bonus round functionality	24/09/2015	
Website	24/09/2015	
View Homepage (Content, relevant facts and statistics)	24/09/2015	
Water consumption: View Content (Relevant Facts and Statistics)	24/09/2015	
Energy consumption: View Content (Relevant Facts and Statistics)	24/09/2015	
Recycling paper: View Content (Relevant Facts and Statistics)	24/09/2015	
Eco-friendly neighborhood: View Content (Relevant Facts and Statistics)	24/09/2015	
Social media functionality	24/09/2015	
Forum for users to post their stories	24/09/2015	
Login	24/09/2015	
Forgot Password	24/09/2015	
Logout	24/09/2015	
Registered User	24/09/2015	
View Profile	24/09/2015	
Unsubscribe	24/09/2015	
Change Password	24/09/2015	
Update Info	24/09/2015	
Create Story	24/09/2015	
Edit Story	24/09/2015	
Delete Story	24/09/2015	

Not Registered User	24/09/2015	
Ability to register	24/09/2015	

3 Project Team Organization

	Rocio	Shahnawaz	Archit	Sheung
MASTER MINDS EFFECTIVE AND EFFICIENT SOLUTIONS				
	Team Coordinator/ Builder	**Client Liaison/ Builder**	**Builder**	**Builder**

Name	Contact Detail
Leyder Rocio Pinzon Hernandez	lpin9@student.monash.edu
Shahnawaz Noor Alam	snala1@student.monash.edu
Archit Singh	aseh6@student.monash.edu
Sheung Him Lam	shlam5@student.monash.edu

Table 1: Master Minds Team contact details

4 Project Organization

Leankit will be used for project tracking and project management purposes throughout the entire project cycle. All allocated and planned tasks and to-do lists will be entered into the Leankit board with specific resources/team allocation. Leankit was made primarily for development teams that follow the agile methodology, as it allows users to create lists of tasks and subtasks in the form of cards and allows the user to shift the card around different lists as required.

5 Risk Management Plan

The risk rating methodology is based on Standards Australia Risk Management AS/NZS 4360:2004 which use the Risk Assessment Matrix that will describe in the system overview proposal.

5.1 Risk Identification

This section will identify the main risks that may occur during the project. The methods used to identify risks are brainstorming, team interview, historical information and expert's consultation.

Three major risks have been identified as core risks that need to be addressed. These are:

- Lack of knowledge of technology being used
- Lack of knowledge in graphic design
- Lack of programmers with long experience

5.1.1 Lack of knowledge of the technology being used

The game should be very interactive and the team do not have the expertise using tools to make this type of game, all members need to learn and build.

5.1.2 Lack of knowledge in graphic design

The game is for children, for this reason it should be interactive and with appropriate graphics abut also these graphics should be attractive in order to keep the attention of children.

5.1.3 Lack of programmers with long experience

The master minds have a programmer with experience, however this project will have a lot of tasks about programming and it is possible that we need more programmers that support him to build the game.

5.2 Risk Rating Matrix

After analyzing of likelihood and impact levels the decision is to use four distinct levels for risk, which matched specific likelihood ratings, and impact ratings to a risk grade of low, moderate, high or extreme that are defined in the table below.

Definition of risk levels

	Consequence				
Rating	**Insignificant**	**Minor**	**Moderate**	**Major**	**Catastrophic**
Almost certain - controls unsatisfactory to mitigate the risk	**High**	**High**	**Extreme**	**Extreme**	**Extreme**
Likely - Controls inadequate to mitigate the risk and require improvement	**Medium**	**High**	**High**	**Extreme**	**Extreme**
Possible - Controls reasonable / adequate to mitigate the risk but may still require improvement	**Low**	**Medium**	**High**	**Extreme**	**Extreme**
Unlikely - Controls robust and adequate to mitigate the risk	**Low**	**Medium**	**Medium**	**High**	**Extreme**
Rare - Controls strong to mitigate the risk	**Low**	**Low**	**Medium**	**High**	**High**

Table 2 Definition of risk levels

The following table calculate the overall risk rating for each risk factor based on the likelihood and impact. The ranking is from low to extreme, where extreme is highly likely and the impact is very severe and low is unlikely and impact is not detrimental.

Risk	Risk Likelihood	Risk Consequences	Impact
Lack of knowledge of technology being used	Likely	Catastrophic	**Extreme**
Lack of knowledge in graphic design	Likely	Major	**Extreme**
Lack of programmers with long experience	Possible	Major	**Extreme**

Table 3: Risk ranking

5.3 Risk Mitigation

Master Minds team design a risk mitigation that involves prioritizing, evaluating, and implementing the appropriate risk-reducing controls.

Risk	Risk Mitigation Strategy
Lack of knowledge of technology being used	Master Minds team members are learning some tools through http://www.lynda.com supporting by Shahnawaz, in order to be able to build for DC2.
Lack of knowledge in graphic design	Master Minds team members are learning some tools through http://www.lynda.com supporting by Alvin , in order to be able to build for DC2
Lack of programmers with long experience	Master Minds team members are learning some tools through http://www.lynda.com supporting by Shahnawaz, in order to be able to build for DC2

Table 4 Risk mitigation strategy

5.4 Sign Off

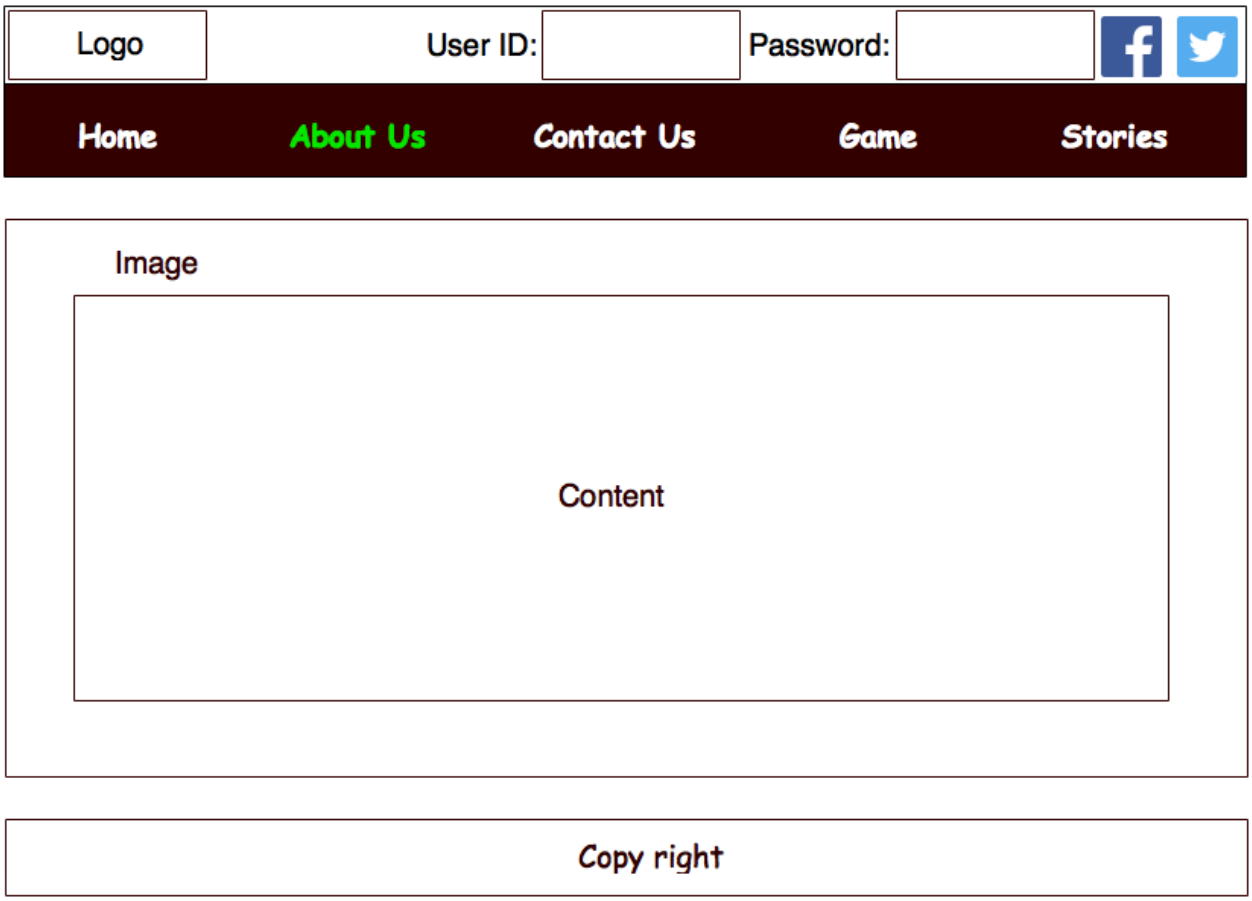
Project Name	Green Revolution
Start Date:	14/08/2015
Completion Date:	21/10/2015
Project Duration:	10 Weeks
Industry Partner:	Aus Post
Project deliverable:	Web and Game
Team Name and Signature:	Industry Partner Name and Signature:
Date:	Date:

Comments:

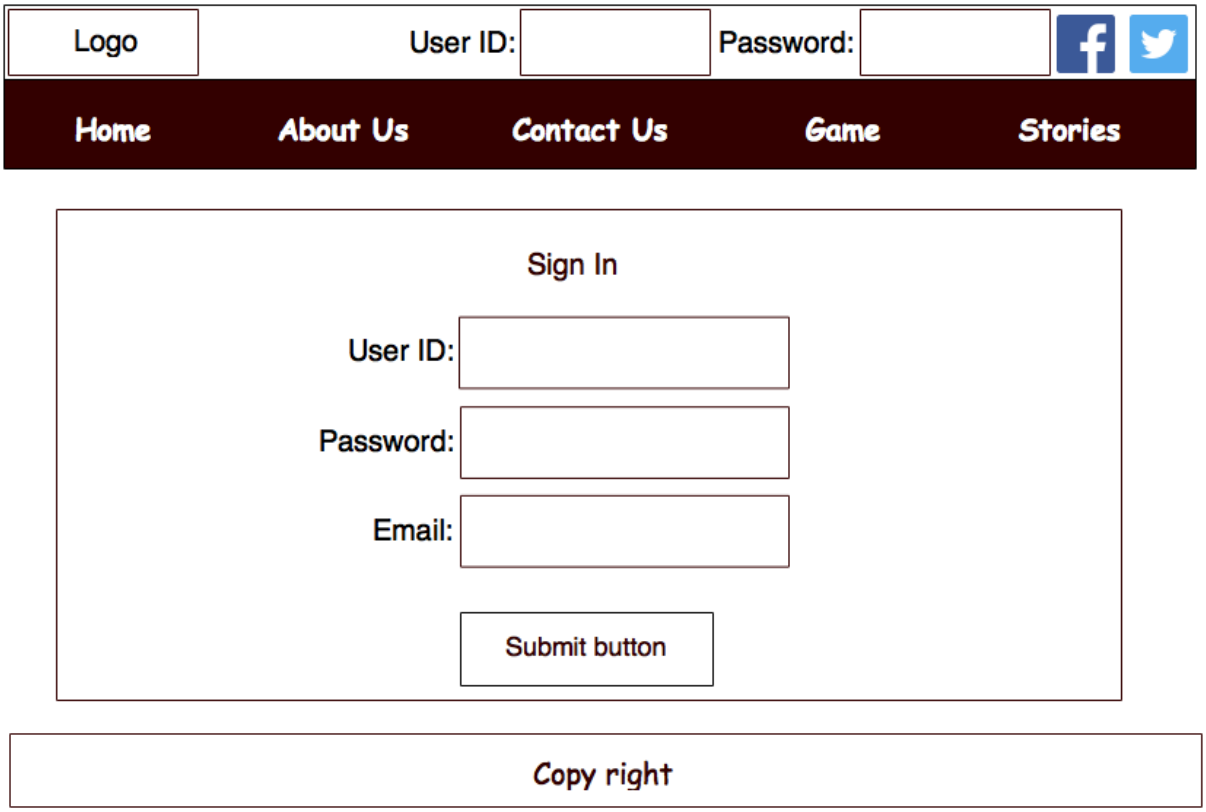
5.5 Appendices

5.5.1 Mock-ups

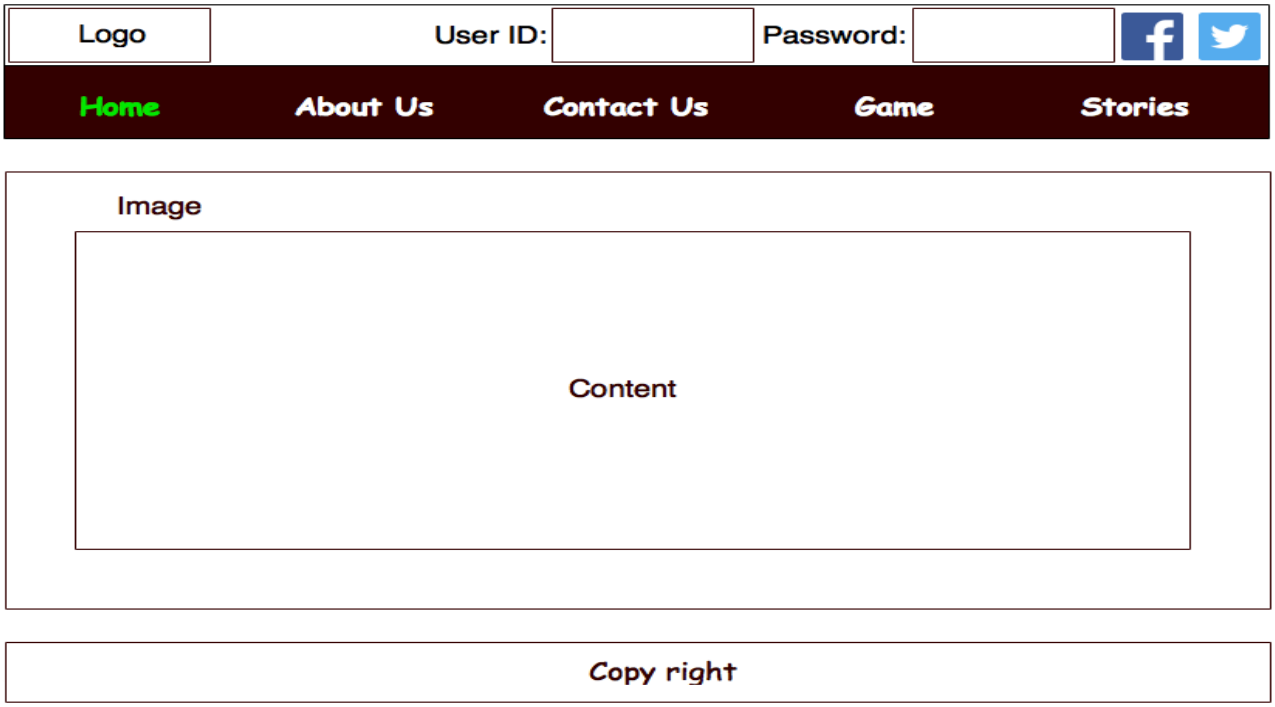
About us Page



Sign-in Page


Logo
User ID:
Password:
Home
About Us
Contact Us
Game
Stories
Sign In
User ID:
Password:
Email:
Submit button
Copy right

Homepage


Logo
User ID:
Password:
Home
About Us
Contact Us
Game
Stories
Image
Content
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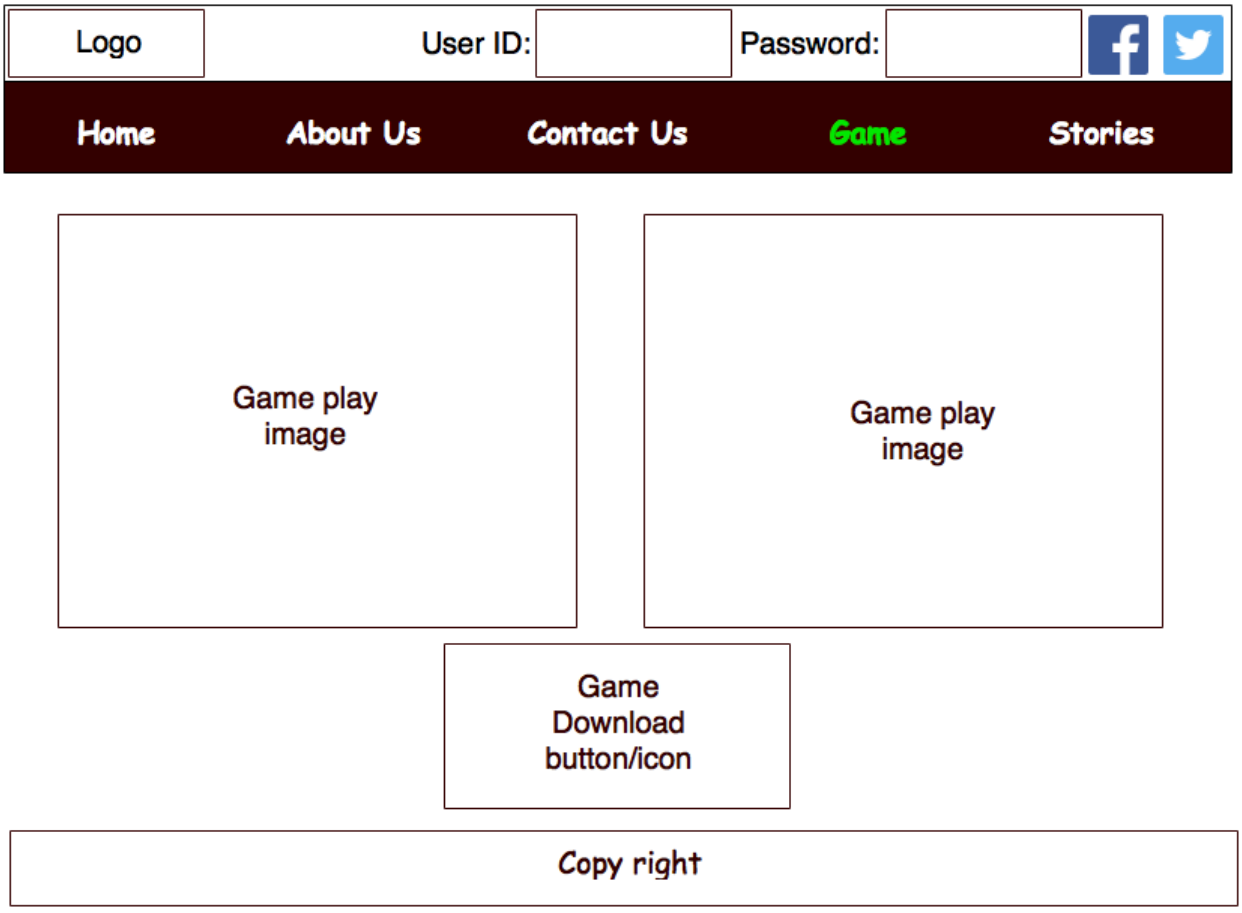
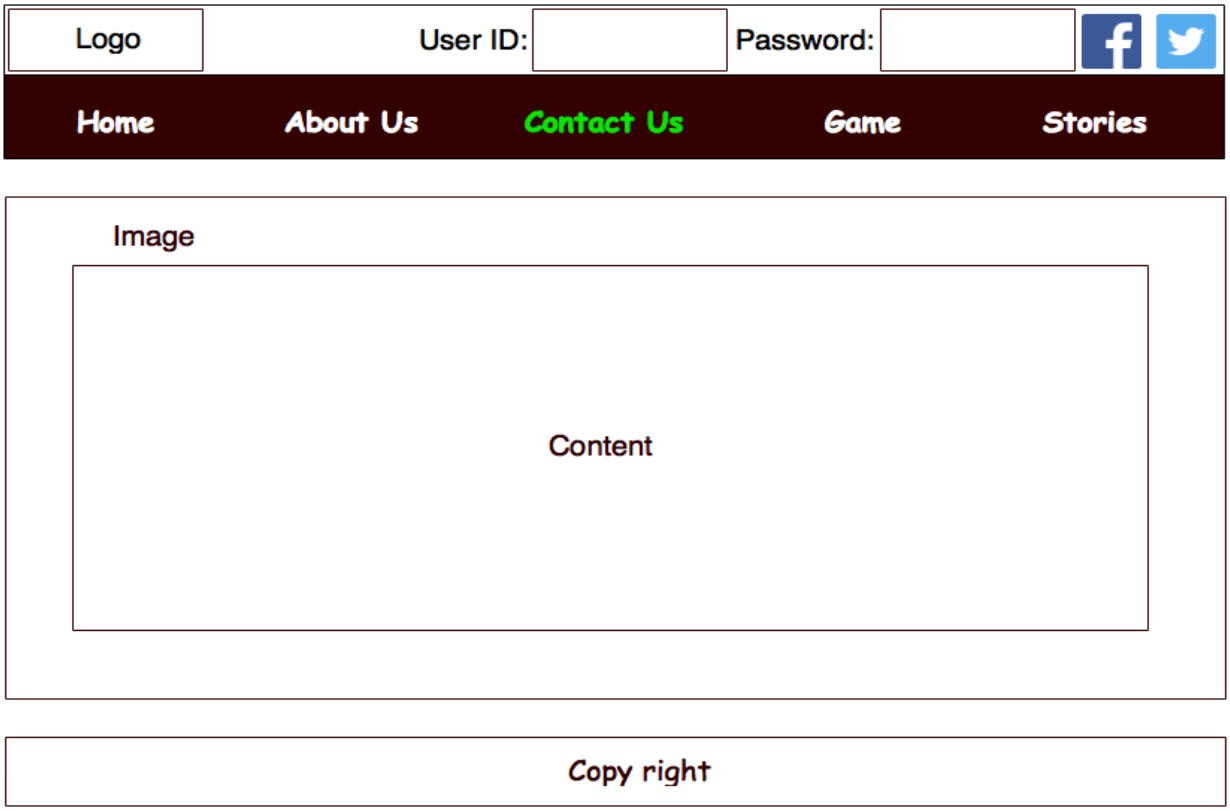
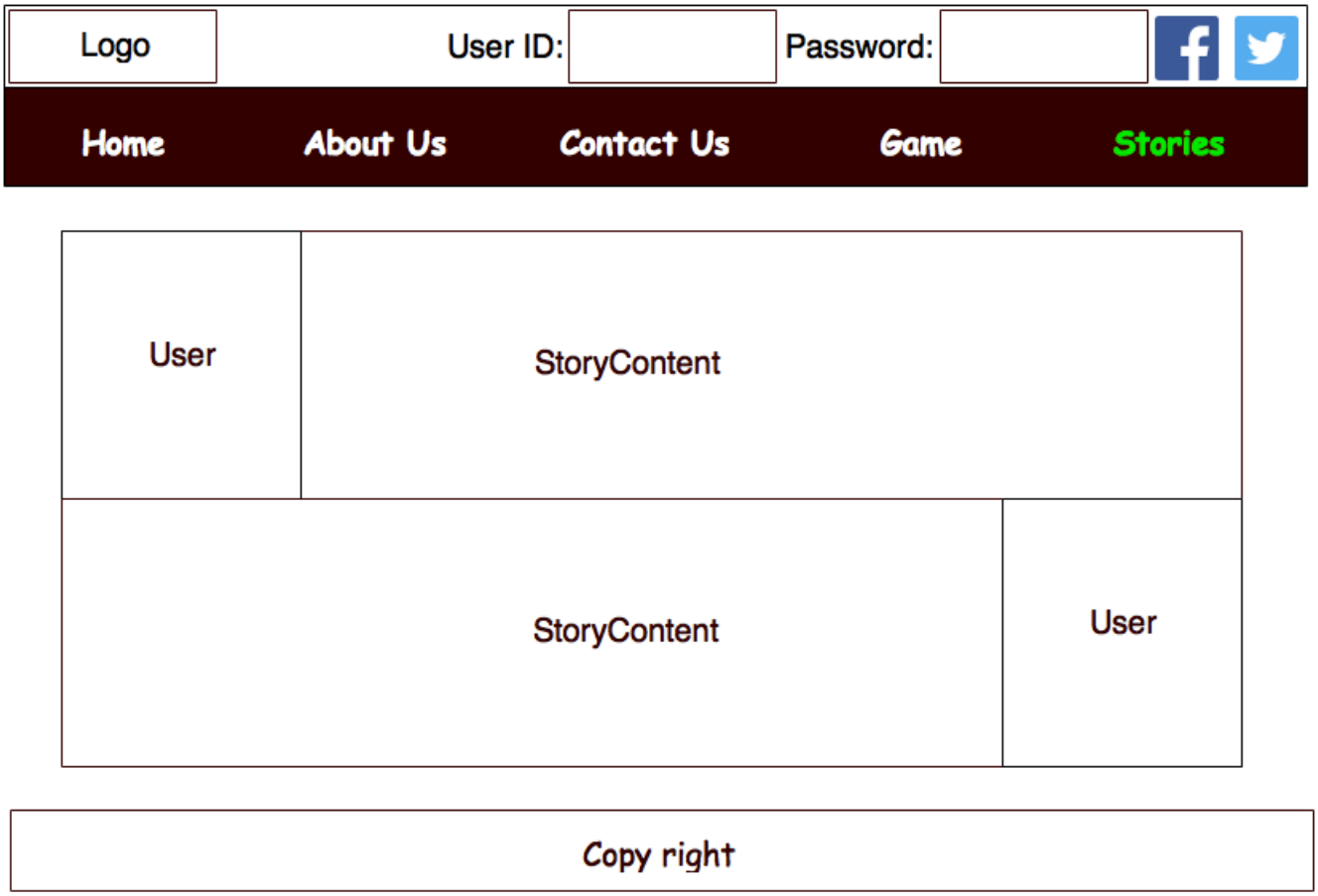
Game Download Page



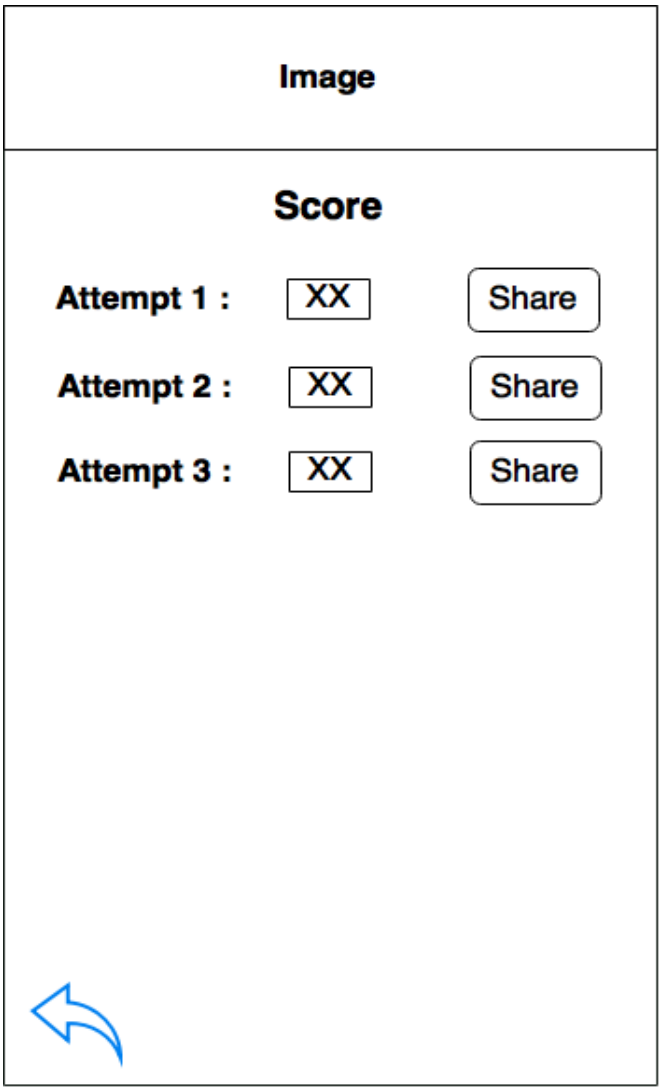
Contact Us Page



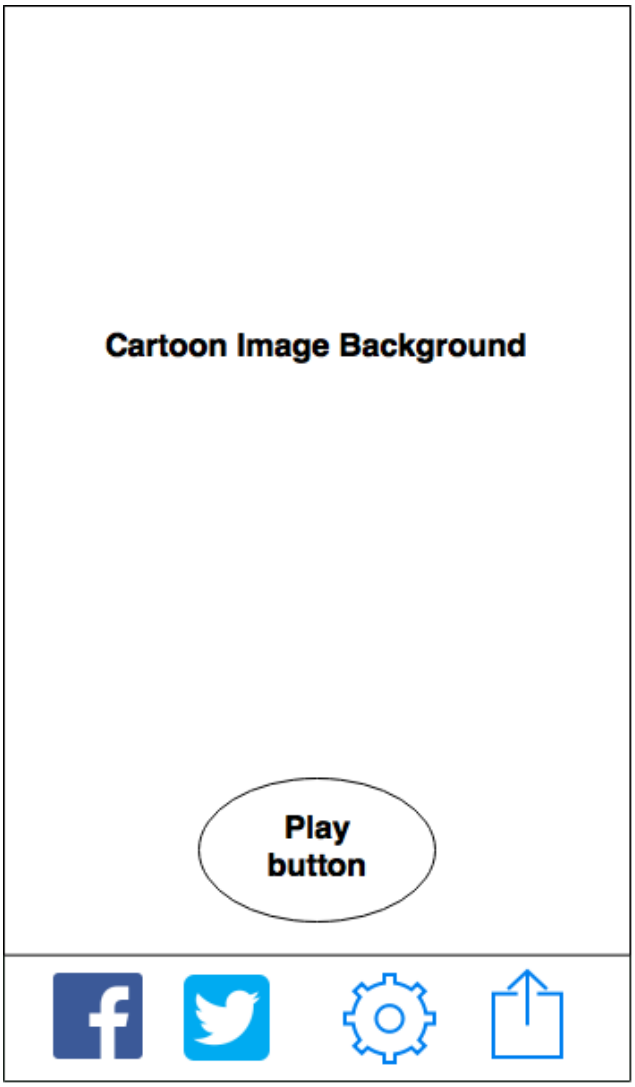
Stories Page



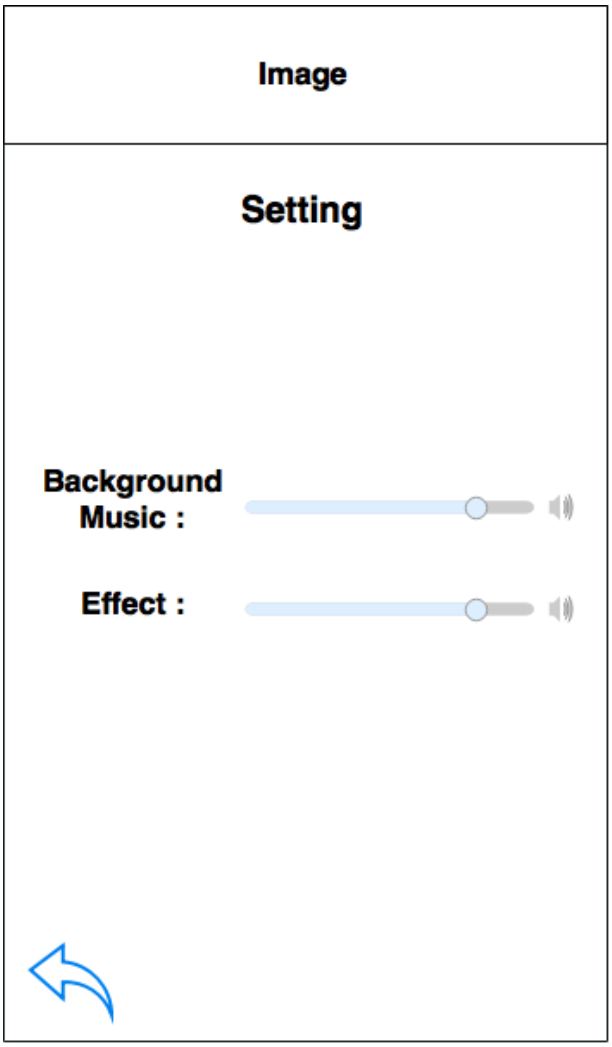
Game Score Page



Main Menu Page



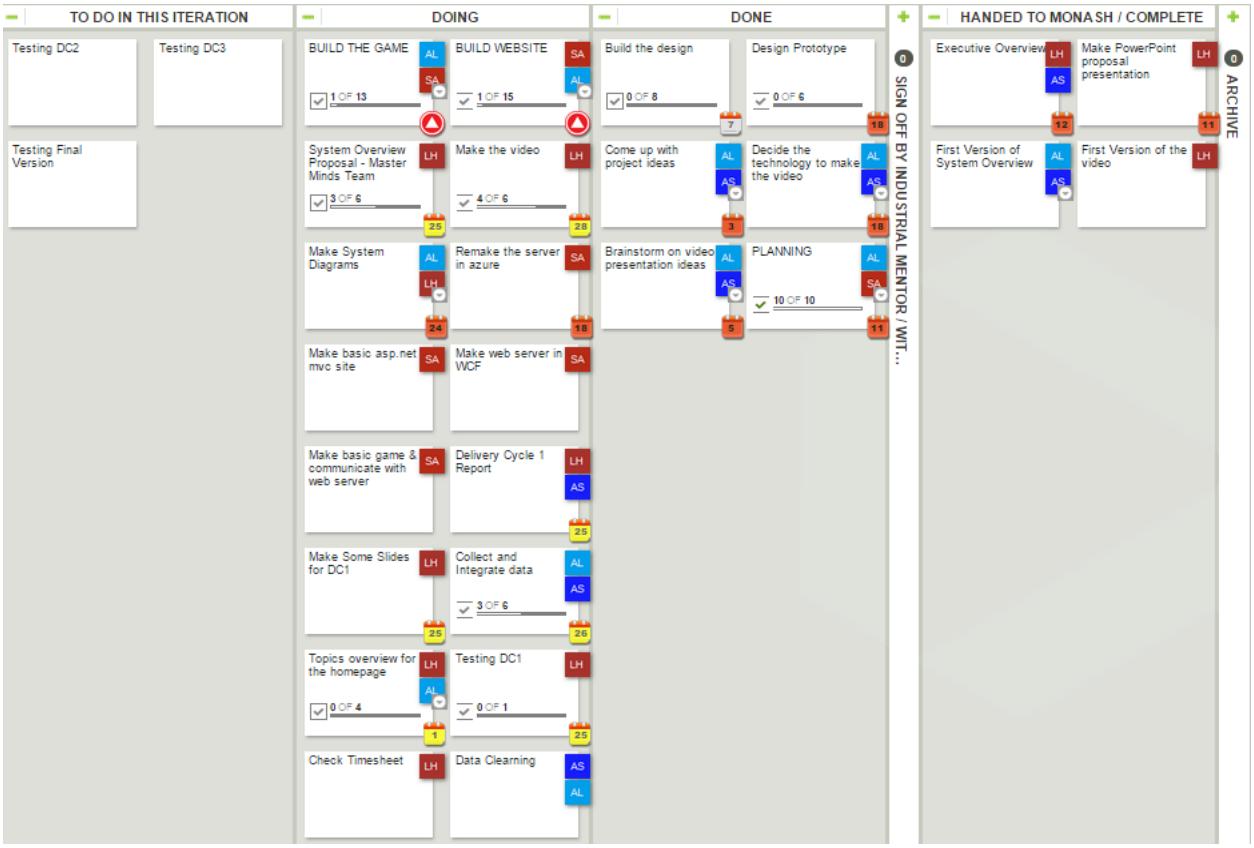
Game Settings Page



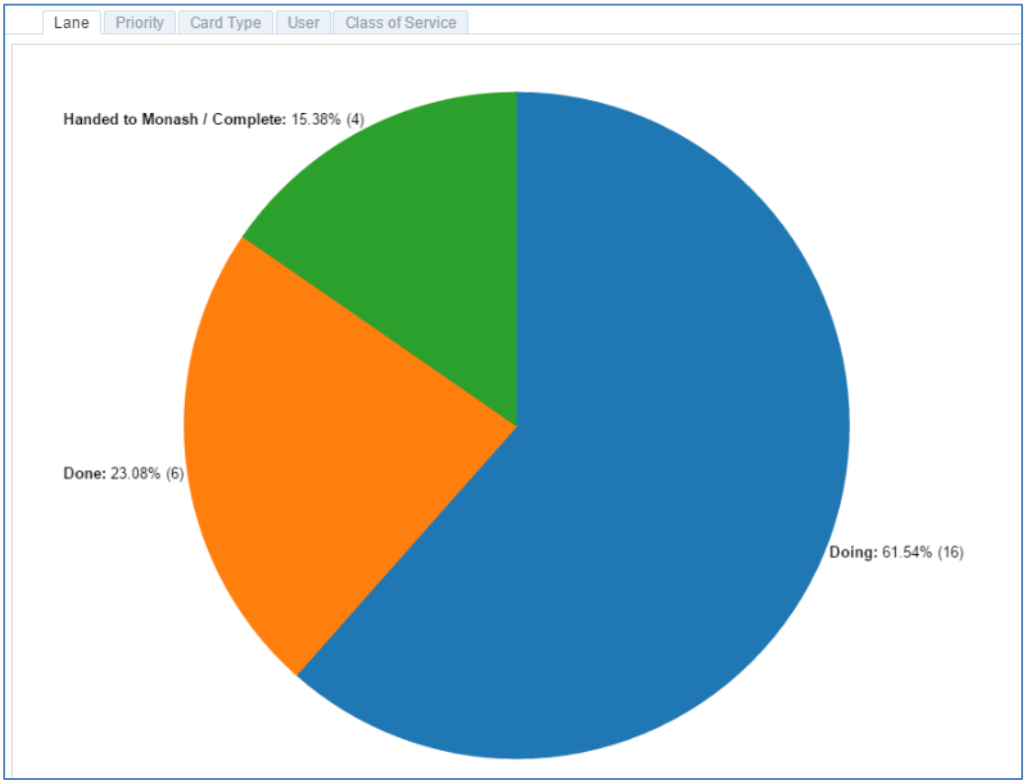
5.5.2 Leankit

https://monashie.leankit.com/Boards/View/229822900#workflow-view

5.5.2.1 General Tasks



Progress


Lane
Priority
Card Type
User
Class of Service
Handed to Monash / Complete: 15.38% (4)
Done: 23.08% (6)
Doing: 61.54% (16)

5.5.2.2 Priority Tasks

5.5.2.2.1 Build Game

To Do	Doing	Done
DC3 Game bonus round functionality	DC2 Game Menu	
	DC2 Credit page in game	
	DC2 Introduction page for the game before loading to menu	
	DC2 Game Graphics with background, other in game graphics.	
	DC2 Game design for different levels	
	DC2 Web server with pool of questions for the game	
	DC2 Settings	
	DC2 View level 1	
	DC2 View level 2	
	DC2 View level 3	
	DC2 View level 4	
	DC2 Build greener neighbourhood	
	DC2 Leader board	

5.5.3 Timesheet

Timesheet

	Daily	Weekly
Working hours/ Person	7	42
Average Team Working hours / Member	9	54

Week	Working Hours	
Week2 - Planning	31	
Week3 - Project Presentation	6	
Week 4 - Delivery Cycle 1	54	
Week 5 - Delivery Cycle 1 / presentation	13	
Week 5 - Delivery Cycle 2	61	Time forecast
Week 6 - Delivery Cycle 2	52	Time forecast
Grand Total	**217.3**