

The Great Escape of Julia Gadget

GitHub Repository: <https://github.com/markas9/Software-Engineering-cw-2/tree/delivery>

Process Documentation

Team Magenta



THE GREAT ESCAPE OF JULIA GADGET
WILL YOU SURVIVE?

Department of Computer Science

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1 Sprint 1: 01/11/2021 – 10/11/2021

1.1 Overview

The first sprint of the project was mainly dedicated to the introduction of the team and preparing the necessary tools required for the project. The project team decided on a range of tools that can be used for version control, project management and communication (GitHub, Trello and Microsoft Teams). Outside of meetings, each team member was responsible for brainstorming ideas for the game as well as coming up with three key questions that could be asked from the customer.

1.2 Review

The first sprint was successful and was intentionally longer than other sprints in this project to accommodate the time that it takes for the team to get to know each other, prior to starting working on the project. The skills matrix was completed to understand the skill set of the team. Subsequently, the roles were assigned to each team member focusing on their strengths.

1.3 Meeting Minutes

1.3.1 Meeting 1 (01/11/2021)

Attendees: Markos, Anj, Nishan, Rufus, Nikunj, Max, Marion, Joe

Location: Microsoft Teams

Time: 1 Hour 35 minutes

Meeting Notes:

1. **Introductions:** An ice breaker for everyone to meet the team.
2. **Approach:** Discussion about different software engineering methodologies and decided on SCRUM as it offers flexibility to changing requirements.
3. **Skills:** Explored what programming languages and tools the team is comfortable using and completed a skills matrix (*see Section 1.6*) to identify strengths of the team.
4. **Communication:** WhatsApp is not accessible by everyone hence the main communication tool will be Microsoft Teams.

Actions to take:

1. Investigate how daily standups should be conducted throughout the project.

Next Meeting Plans:

1. The management of the project and the way to move forward with the project in the coming weeks. The next meeting will take place after the requirements are published and the date of the meeting is communicated later to the team.

1.3.2 Meeting 2 (03/11/2021)

Attendees: Markos, Anj, Nishan, Rufus, Nikunj, Max, Marion, Joe

Location: Microsoft Teams

Time: 1 Hour 16 minutes

Meeting Notes:

1. **Technologies:** Discussed features that should be incorporated into the game and the possible challenges.
2. **Storyline ideas:** Brainstorming different ideas and storyline of the game.
3. **Game engines:** Discussed different platforms and the possibility of a game engine and its advantages and disadvantages.

Actions to take:

1. Every team member must come up with one story plot for the game.
2. Research different game engines that could be used to implement the game.

Next Meeting Plans:

1. Discussion about the storyline and the implementation of the game. The next meeting will take place on 09/11/2021.

1.3.3 Meeting 3 (09/11/2021)**Attendees:** Markos, Anj, Nishan, Rufus, Nikunj, Max, Marion, Joe**Location:** Microsoft Teams**Time:** 1 Hour 26 minutes**Meeting Notes:**

1. **Game engines:** Deciding between different game engines.
2. **Storyline:** Complete the game storyline.
3. **Project Management:** Created a Trello board in the decision to use a kanban board
4. **Meetings:** Scheduled regular weekly meetings on Monday, Wednesday and Friday.

Actions to take:

1. Prepare different questions to ask the customer to understand the requirements.
2. Each team member should think about the epics (game milestones) that can be added to the Trello board.

Next Meeting Plans:

1. The sprint 2 planning meeting will be after the customer meeting (10/11/2021).

1.4 Product Backlog

The tasks shown in Sprint 1 Product backlog were completed during sprint 1.

Sprint 1 Product Backlog			
Task	Sprint No.	Assignee(s)	Completed
Set up team working tools	1	Everyone	-
Assign Roles to all the team members	1	Everyone	-
Brainstorming on game ideas	1	Everyone	-
Customer interview preparation	1	Everyone	-
Sprint Planning for Sprint 2	1	Everyone	-
Investigation about different game engines	1	Everyone	-

1.5 Product Documents**1.5.1 Roles**

- Marion Laanemae – Scrum Master/Project Management
- Nishan Fernando – Project Management/UX
- Anj Thampy – UX
- Markos Kounnas – Development Team
- Rufus Stretton-Pow – Development Team
- Nikunj Raghav – Development Team
- Max Behringer – Development Team
- Joseph Dowling – Development Team

1.5.2 Skills Matrix

During meeting 1, team members were asked to rate how comfortable and passionate they are about different skills and rate them on a scale of 1 to 5. This is to identify the strengths of the team early on and assign roles.

Skills Matrix								
Skill/Member	Marion	Nishan	Markos	Nikunj	Joe	Anj	Rufus	Max
User Experience	2	3	3	3	2	3	2	2
SCRUM	4	4	2	3	3	4	3	3
Git	4	4	4	4	4	2	1	1
Design	2	3	1	2	2	4	4	4
Story Narrative	1	2	3	2	3	4	4	4
Documentation	4	4	1	2	2	4	2	3
Programming	4	3	4	4	3	2	3	2
Game Development	1	2	3	3	4	1	1	1

1.6 Customer Interview

The following customer questions were created in the meeting leading up to the customer on 03/11/2021.

1. Do you have any preferences on the game genre?
Answer: No preferences.
2. Are there any preferences regarding the storyline or theme?
Answer: No preferences but the game should have an interesting storyline and multiple endings.
3. Are you happy with a 2D game or are there any other graphical requirements?
Answer: I am happy with a 2D game.
4. Do you have any expectations in regards to the technologies that are used to create the game?
Answer: No expectations regarding the technologies used in the project.
5. Are you happy with a game that can be played on a desktop?
Answer: Yes, a desktop game is acceptable.
6. How long do you expect one gameplay to take for an average player?
Answer: The game length shouldn't be too long or too short. Also, the game should not feel repetitive.

Summary: Following the customer meeting on 03/11/2021, the project team was able to understand the main points of the game. The game should have an interesting storyline and a possibility to complete the game in multiple ways. The team decided to focus on an exciting story as this seemed to be an important factor of the game to the customer. The project team extracted four user stories from this interview (See *section 1.7*).

1.7 User Stories

The user stories were created in collaboration with the feedback received from the customer meeting.

User Stories				
ID	Description	Acceptance Criteria	Date	Assignee(s)
DG-1	As a player, I want to be able to experience a game with an interesting story.	Is the storyline developed? Is the storyline implemented into the working game?	5/11/2021	Max, Rufus and Joe
DG-2	As a player, I want to be able to experience the dungeon game in a university of bath campus.	Is the gameplay happening in a university campus?	5/11/2021	Everyone
DG-3	As a player, I want to be able to play the game in a way that makes the gameplay different and not repetitive.	Is the gameplay different when playing multiple playthroughs?	5/11/2021	Everyone
DG-4	As a player, I want to play a game that is visually pleasing.	Is the game using visually appealing assets?	5/11/2021	Everyone
DG-5	Sprint 1 Documentation	Is the sprint 1 documentation complete?	11/11/2021	Marion and Nishan

1.8 Retrospective

The sprint mostly consisted of organising the groups and setting up the necessary tools to start developing the game. The retrospective included completing the Four L's to analyse the sprint performance, which can be seen in *Figure 1.1*.

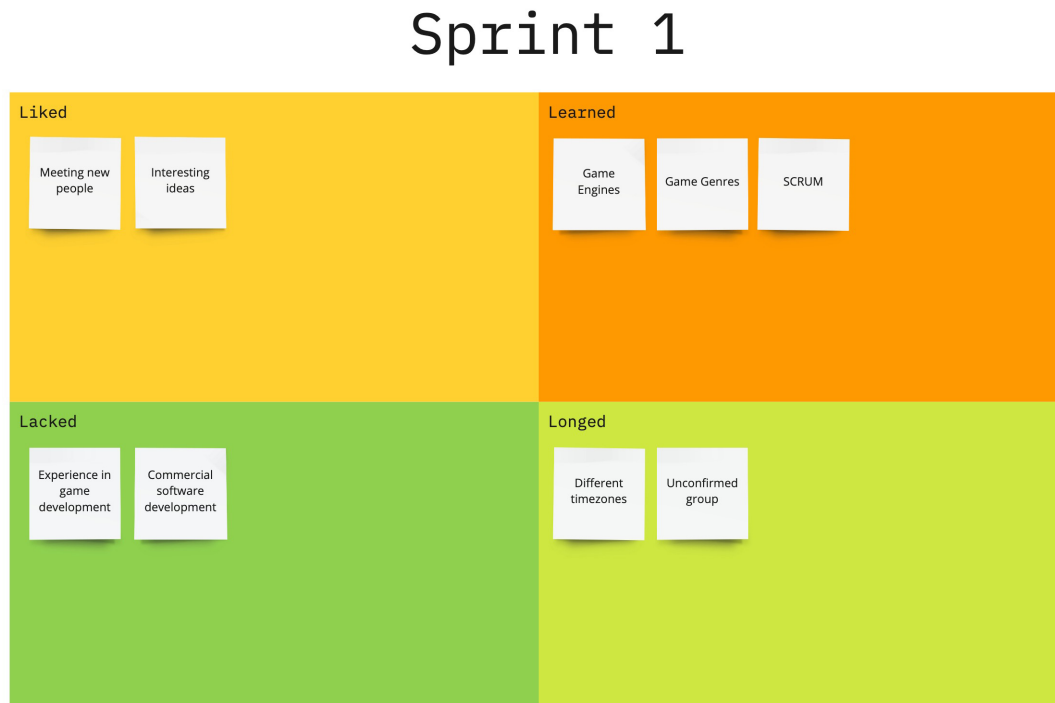


Figure 1.1: The “Four Ls” created during the sprint retrospective.

2 Sprint 2: 11/11/2021 – 17/11/2021

2.1 Overview

The second sprint of the project was revolved around planning out an interesting storyline for the game as this was considered to be a driving factor for the customer. The entire team was tasked with familiarising themselves with Ren'Py to ensure that the team is able to develop the game in the upcoming development sprints.

2.2 Review

The sprint revolved around three areas, Max, Rufus and Joe worked on developing the story. Markos, Nikunj and Anj focused their efforts on learning Ren'Py. Nishan and Marion were tasked to create the process documentation. Overall, the sprint was successful, and a step was taken in the direction to completing an MVP of the game. This sprint was mainly developing the story for the game and the rest of the team used this time to build up their skillset by learning the tools to develop the game. Another two members of the group were allocated to complete the documentation.

2.3 Meeting Minutes

2.3.1 Meeting 1 (12/11/2021)

Attendees: Markos, Anj, Nishan, Rufus, Nikunj, Max, Marion, Joe

Location: Microsoft Teams

Time: 1 hour 38 minutes

Meeting Notes:

1. **Project Management:** Created epics on Trello collaboratively focusing on the core functionality required for the game.
2. **Game Type:** Initiated a discussion about which type of game (RPG, novel-based, platform) to build. Afterwards, we carried out a survey to identify which game genre would be the most suitable. A novel-based game was the most common game genre in the survey.
3. **Game Engine:** Researched different game engines to build a novel-based game. Ren'Py was chosen as the game engine as it was both intuitive to use and all team members were comfortable with it's complexity. The Unity game engine was considered but the complexity and the learning curve deemed to steep for some team members.

Actions to take:

1. Learn and familiarise with Ren'Py using the tutorials to understand what the limitations of Ren'Py are.

Next Meeting Plans:

1. The next meeting will be on 15/11/2021 where specific tasks will be assigned.

2.3.2 Meeting 2 (15/11/2021)

Attendees: Markos, Anj, Nishan, Rufus, Nikunj, Max, Marion, Joe

Location: Microsoft Teams

Time: 1 hour 27 minutes

Meeting Notes:

1. **Storyline:** Joe, Max and Rufus would start working on the story line for the game. While other members familiarised themselves with Ren'Py.
2. **Epics:** Collaboratively looked through all the epics and divided them to more refined “user stories” and distributed them over the team.

Actions to take:

1. Max, Joe and Rufus will start working on an initial draft of the story.
2. Nishan and Marion will start working on the documentation and readying a draft for the next meeting.
3. The rest of the team members would continue to learn Ren'Py to develop the game.

Next Meeting Plans:

1. The next meeting will be on 15/11/2021 where specific tasks will be assigned.

2.4 Product Backlog

Sprint 2 Product Backlog			
Task	Sprint No.	Assignee(s)	Completed
Decide on what type of game to build	2	Everyone	-
Start working on the process documentation	2	Marion and Nishan	-
Complete an initial draft of the game in writing	2	Max, Rufus, Joe	-
Learning Ren'Py through the tutorial	2	Everyone	-
Collect and document requirements for the game on Trello	2	Everyone	-

2.5 Product Documents**2.5.1 Customer Meeting**

As the client's requirements were flexible, the team proceeded to present the story and to follow up the client's preferences for the game.

1. Are you happy with the context (Julia Gadget dodging students to get to her car for Christmas) of the game?
Answer: This seems like an interesting idea.
2. Are you happy to first implement a run through of the game, then for additional story plot paths to be developed later on?
Answer: This is a sensible idea.
3. Are you happy with the all the additional content (Health bar, University Rank) for the game presented?
Answer: Yes, these ideas would add to the uniqueness of the game.
4. Are you happy to give a feedback on game that is using placeholder images in the next meeting?
Answer: Yes, I can provide feedback about the prototype in the next meeting.

The client was happy with the context as it was original and was keen to see a prototype in the next meeting. The client was concerned that the game appeared too complex (the additional content) to be built before the deadline but as extra paths are going to added later, the client seemed less worried. The customer was happy to give feedback about the game that will contain placeholder images in the upcoming meeting.

2.5.2 User Stories

User Stories				
ID	Description	Acceptance Criteria	Date	Assignee(s)
DG-1	As a player, I want to be able to experience a game with an interesting story.	Is the storyline developed? Is the storyline implemented into the working game?	5/11/2021	Max, Rufus and Joe
DG-2	As a player, I want to be able to experience the dungeon game in a university of bath campus.	Is the gameplay happening in a university campus?	5/11/2021	Everyone
DG-3	As a player, I want to be able to play the game in a way that makes the game play different and not repetitive.	Is the gameplay different when playing multiple playthroughs?	5/11/2021	Everyone
DG-4	As a player, I want to play a game that is visually pleasing.	Is the game using visually appealing assets?	5/11/2021	Everyone
DG-5	Sprint 1 Documentation	Is the sprint 1 documentation complete?	11/11/2021	Marion and Nishan
DG-6	Sprint 2 Documentation	Is the sprint 2 documentation complete?	14/11/2021	Marion and Nishan
DG-7	Creating a logo for the game	Is the logo present in the game?	14/11/2021	Nishan
DG-8	As a player, I want to be able to listen to some sound while playing the game.	Does the game have a sound when playing the game?	16/11/2021	Markos
DG-9	As a player, I want to be able to adjust the volume of the game without using the computer settings.	Am I able to change the volume of the sound in the game?	17/11/2021	Everyone
DG-10	As a player, I want to be able to quit the game and continue the game where I left off.	Am I able to quit the game? Am I able to continue the game later?	17/11/2021	Everyone

2.6 Sprint Retrospective

This sprint consisted of mostly the team working on different game ideas and collaborating as a group. This was focused on developing a creative and unique storyline with all team members involved. The retrospective included completing the Four L's to analyse the sprint performance, which can be seen in *Figure 2.1*.

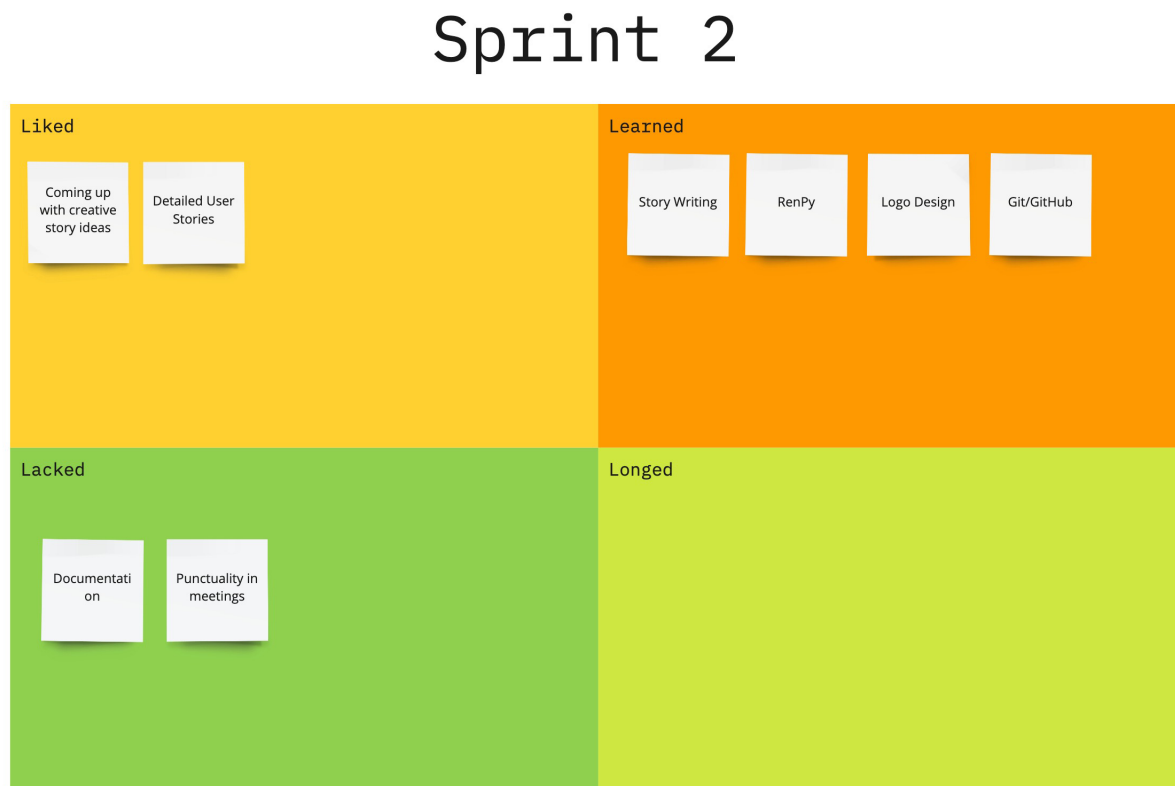


Figure 2.1: The “Four Ls” created during sprint retrospective.

3 Sprint 3: 18/11/2021 – 24/11/2021

3.1 Overview

The aim of the sprint is to develop an MVP of the game, to showcase the flow of the game to the customer. Starting with a choice of which department the player wants to start with, how the different choices will be displayed in the novel-based game and how the different choices will lead to different story branches and then different endings.

3.2 Review

Sprint 3 was revolved around completing an MVP for the game. Max, Rufus and Joe finished scripts for three different departments. Overall, the sprint goal was met and the MVP was successfully developed and was showcased to the customer. The customer seemed to find the game originality positive.

3.3 Meeting Minutes

3.3.1 Meeting 1 (19/11/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 21 minutes

Meeting Notes:

1. **Documentation:** Marion and Nishan showcased the documentation of Sprint 1 and 2 to the other team members to receive feedback. Also, proposed using the tracked changes for other members to audit the content. Discussed about the structure of the report, what information to include and exclude for the report.
2. **Prototype:** Markos and Nikunj will prepare a prototype of the game to showcase how the game will function.
3. **Background Music:** Discussion about background music to be included in the game.

Actions to take:

1. Markos and Nikunj will create an initial prototype of the game.
2. Nishan and Marion will continue to work on documentation and alter the report as per discussions with the group.
3. Max, Rufus and Joe will continue to develop the storyplot.
4. Everyone will research what background music can be included.
5. Anj will continue to learn Ren'Py.

Next Meeting Plans:

1. Next Meeting (22/11/2021) will be focused on working on the prototype to show to the client.

3.3.2 Meeting 2 (22/11/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 7 minutes

Meeting Notes:

1. **Prototype:** Markos showcased the prototype developed with basic flow. Discussed to create another prototype with assets. Markos's (8-bit) background music was chosen to be added to the game.

2. **Documentation:** Nishan and Marion's finished work of Sprint 1 following the alterations.
3. **Story script:** Max, Joe and Rufus showcased questions developed for one department.

Actions to take:

1. Nishan and Marion will start working on Sprint 2 documentation following the structure set by Sprint 1.
2. Markos will be finalising the prototype with background music.
3. Nikunj will be creating a prototype with assets to showcase to the client what the end product will look like.

Next Meeting Plans:

1. Next Meeting will take on 26/11/2021 to discuss the progress of the project further.

3.4 Product Backlog

Sprint 3 Product Backlog			
Task	Sprint No.	Assignee(s)	Completed
Create a basic prototype of the game	3	Markos	-
Create a prototype with background assets	3	Nikunj	-
Complete Sprint 2 documentation	3	Nishan and Marion	-
Learning Renpy	3	Anj	-
Background Music	3	Everyone	-
Complete script for 1 department	3	Rufus, Max, Joe	-

3.5 Product Documents

3.5.1 Customer Meeting

Showcased the structure of the game, the user will be able to first select which department and the user will be asked questions, which will be randomised.

1. The decisions made will affect how the game progresses, with choices leading to a bad university ranking or a good university ranking. Does this sound exciting?

Answer: Yes, I definitely would want each gameplay to be slightly different creating a different experience each time you play the game.

2. Showcased a sample game with assets to give the customer a glimpse of what the final product will look like. Does this look acceptable?

Answer: Yes, this looks good.

3. Any special preferences to music?

Answer: No, as long as the music is appropriate to the game.

4. Any special preferences to art work style?

Answer: No, as long as the assets are appropriate to the game.

Client showed interest and was happy with the progress so far and was looking forward to a game with actual questions in place instead of placeholders.

3.5.2 User Stories

User Stories				
ID	Description	Acceptance Criteria	Date	Assignee(s)
DG-1	As a player, I want to be able to experience a game with an interesting story.	Is the storyline developed? Is the storyline implemented into the working game?	5/11/2021	Max, Rufus and Joe
DG-2	As a player, I want to be able to experience the dungeon game in a university of bath campus.	Is the gameplay happening in a university campus?	5/11/2021	Everyone
DG-3	As a player, I want to be able to play the game in a way that makes the game play different and not repetitive.	Is the gameplay different when playing multiple playthroughs?	5/11/2021	Everyone
DG-4	As a player, I want to play a game that is visually pleasing.	Is the game using visually appealing assets?	5/11/2021	Everyone
DG-5	Sprint 1 Documentation	Is the sprint 1 documentation complete?	11/11/2021	Marion and Nishan
DG-6	Sprint 2 Documentation	Is the sprint 2 documentation complete?	14/11/2021	Marion and Nishan
DG-7	Creating a logo for the game	Is the logo present in the game?	14/11/2021	Nishan
DG-8	As a player, I want to be able to listen to some sound while playing the game.	Does the game have a sound when playing the game?	16/11/2021	Markos
DG-9	As a player, I want to be able to adjust the volume of the game without using the computer settings.	Am I able to change the volume of the sound in the game?	17/11/2021	Everyone
DG-10	As a player, I want to be able to quit the game and continue the game where I left off.	Am I able to quit the game? Am I able to continue the game later?	17/11/2021	Everyone
DG-11	Sprint 3 Documentation	Is the sprint 3 documentation complete?	19/11/2021	Marion and Nishan
DG-12	As a player, I want to see relevant and interesting backgrounds when selecting choices	Does the game have different background images?	20/11/2021	Max
DG-13	As a player, I want to be notified about the university ranking during the game	Do I get notified about the university ranking when playing the game?	20/11/2021	Markos, Nikunj
DG-14	As a player, I want to select which order of departments I want to play the game in	Can I choose which department I want to visit first?	20/11/2021	Markos, Nikunj

3.6 The overall game flow

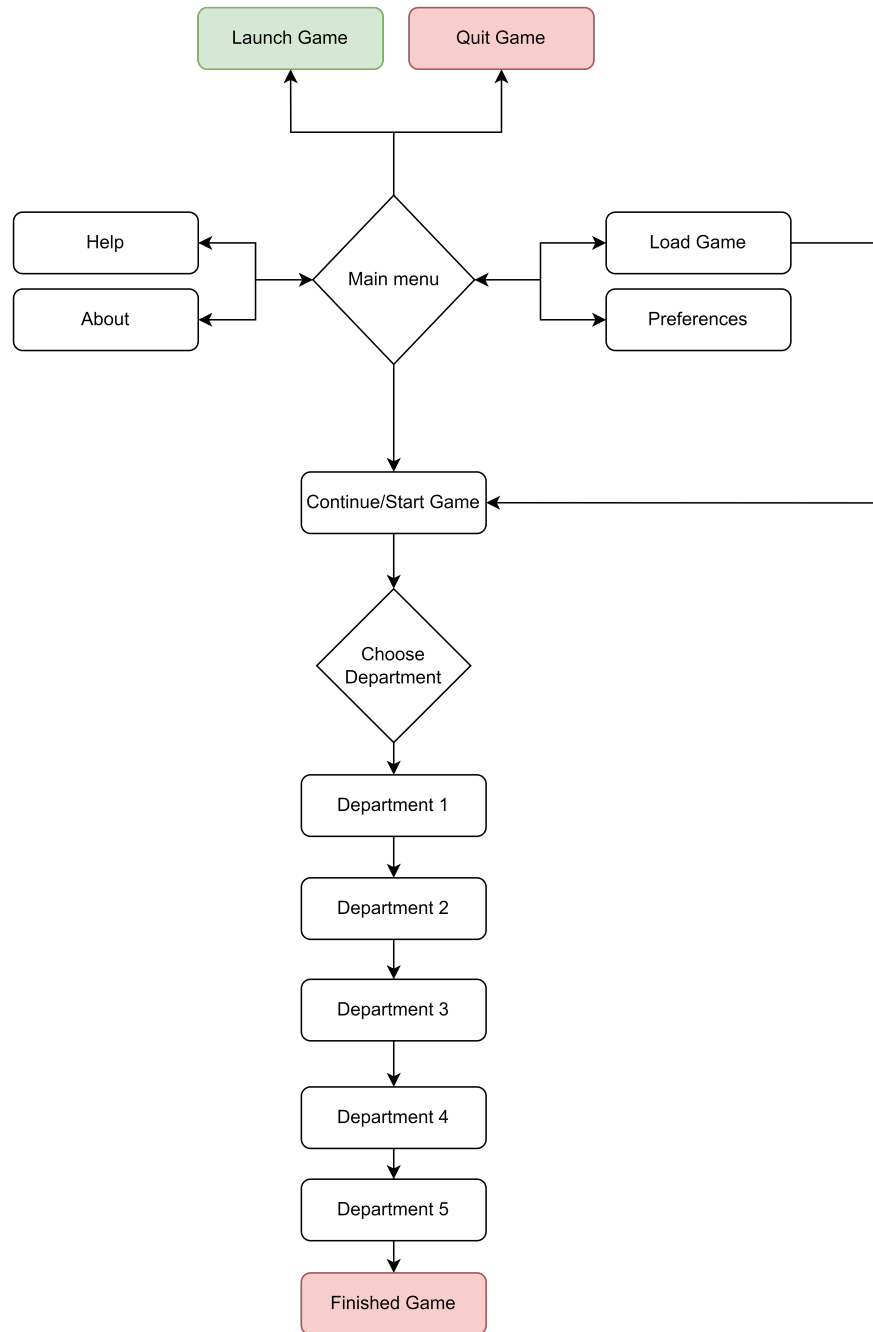


Figure 3.1: The Game Flowchart

3.7 Sprint Retrospective

Game development has begun, the team was focused on developing a prototype to showcase to the client. The team now understands how to work better as a group. The team was mainly faced with technical difficulties. The team also worked on how to approach client meetings better. The retrospective included completing the Four L's to analyse the sprint performance, which can be seen in *Figure 3.1*.

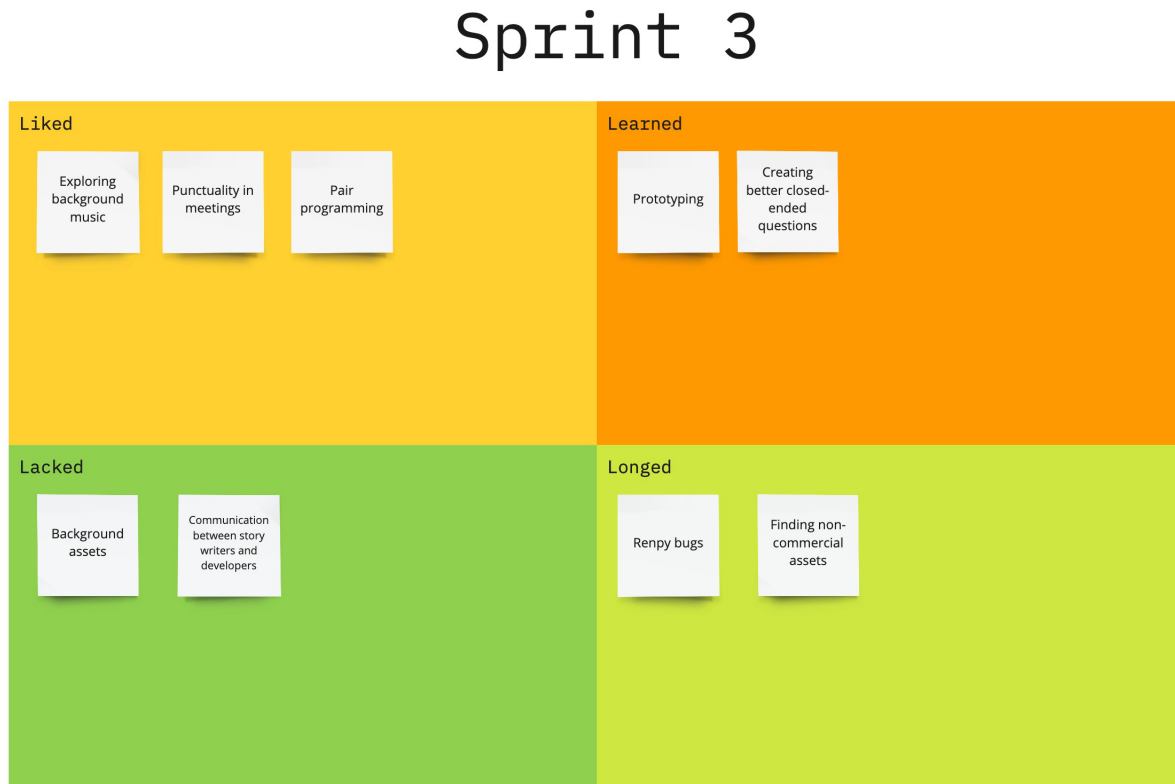


Figure 3.2: The “Four Ls” created during sprint retrospective.

4 Sprint 4: 25/11/2021 – 01/12/2021

4.1 Overview

Sprint 4 will be incorporating the questions for the Math department and working towards a complete game with three departments in place. A ranking meter will be added to the game to conform with usability heuristic – keep users informed about what is going on, through appropriate feedback.

4.2 Review

Sprint 4 incorporated all 3 departments in to the the game with the listed questions. This was an expansion of the initial MVP game. The expanded version of the game includes the ranking meter that makes the game more interesting and enjoyable to play. In addition, the questions for three departments were fully completed.

4.3 Meeting Minutes

4.3.1 Meeting 1 (26/11/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 28 minutes

Meeting Notes:

1. **Ranking Meter:** Adding a meter to indicate the university ranking to the game to satisfy the user requirement.
2. **Math Department:** Completed questions and reviewed by the team.
3. **Departments:** Decided to work on 3 departments initially and then develop further depending on the time remaining.
4. **Funny Questions:** To make the game more interesting.
5. **Documentation:** Reviewed documentation for Sprint 2.

Actions to take:

1. Joe and Max will work on creating questions for Languages department.
2. Nishan and Marion will research more into background images and continue to work on Sprint 3 documentation.
3. Marocs will work on how to implement the ranking meter.
4. Nikunj will redesign the UI to make it more appealing to the user.

Next Meeting Plans:

1. Next meeting will take place on 29/11/2021.

4.3.2 Meeting 2 (29/11/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 4 minutes

Meeting Notes:

1. **Department Selection:** Discussed creative methods how to implement the department selection process and decided on using a top-down university map.
2. **Questions:** Incorporating funny questions to make the game more interesting.

3. **Transitions:** Max completing intro and outro to be added to the game
4. **Assets:** Nishan and Marion showcased the background image proposal but decided against as it was not inline with the theme.

Actions to take:

1. Nikunj will work with a placeholder to implement the map functionality.
2. Max will work on researching more relevant background images.
3. Rufus will work on creating generic/funny questions.
4. Joe will work on randomising the questions to create a unique experience at each iteration.

Next Meeting Plans:

1. Next meeting will take place on 03/12/2021.

4.4 Product Backlog

Sprint 4 Product Backlog			
Task	Sprint No.	Assignee(s)	Completed
Complete questions for languages department	4	Max and Joe	-
Ranking meter to show university ranking	4	Markos	-
Work on department assets	4	Nishan and Marion	-
Re-design the UI	4	Nikunj	-

4.5 Product Documents

4.5.1 Customer Meeting

The customer meeting on 01/12/2021 was cancelled.

4.5.2 UI design



Figure 4.1: Basic sketch of the prospective UI of the game.

4.5.3 User Stories

User Stories				
ID	Description	Acceptance Criteria	Date	Assignee(s)
DG-1	As a player, I want to be able to experience a game with an interesting story.	Is the storyline developed? Is the storyline implemented into the working game?	5/11/2021	Max, Rufus and Joseph
DG-2	As a player, I want to be able to experience the dungeon game in a university of bath campus.	Is the gameplay happening in a university campus?	5/11/2021	Everyone
DG-3	As a player, I want to be able to play the game in a way that makes the game play different and not repetitive.	Is the gameplay different when playing multiple playthroughs?	5/11/2021	Everyone
DG-4	As a player, I want to play a game that is visually pleasing.	Is the game using visually appealing assets?	5/11/2021	Everyone
DG-5	Sprint 1 Documentation	Is the sprint 1 documentation complete?	11/11/2021	Marion, Nishan
DG-6	Sprint 2 Documentation	Is the sprint 2 documentation complete?	14/11/2021	Marion, Nishan
DG-7	Creating a logo for the game	Is the logo present in the game?	14/11/2021	Nishan
DG-8	As a player, I want to be able to listen to some sound while playing the game.	Does the game have a sound when playing the game?	16/11/2021	Markos
DG-9	As a player, I want to be able to adjust the volume of the game without using the computer settings.	Am I able to change the volume of the sound in the game?	17/11/2021	Everyone
DG-10	As a player, I want to be able to quit the game and continue the game where I left off.	Am I able to quit the game? Am I able to continue the game later?	17/11/2021	Everyone
DG-11	Sprint 3 Documentation	Is the sprint 3 documentation complete?	19/11/2021	Marion, Nishan
DG-12	As a player, I want to see relevant and interesting backgrounds when selecting choices	Does the game have different background images?	20/11/2021	Max
DG-13	As a player, I want to be notified about the university ranking during the game	Do I get notified about the university ranking when playing the game?	20/11/2021	Markos, Nikunj
DG-14	As a player, I want to select which order of departments I want to play the game in	Can I choose which department I want to visit first?	20/11/2021	Markos, Nikunj
DG-15	As a player, I want the game to be equipped with an intuitive UI	Is the game easy to use?	26/11/2021	Nikunj
DG-16	As a player, I want to have at least three departments	Does the game have at least three departments?	26/11/2021	Max and Joe
DG-17	As a player, I want to have interesting gameplay in various departments	Are the questions interesting in different departments?	26/11/2021	Rufus
DG-18	As a player, I want to see a consistent theme and style to the game	Is the style consistent throughout the game?	26/11/2021	Everyone

4.5.4 Department Flow

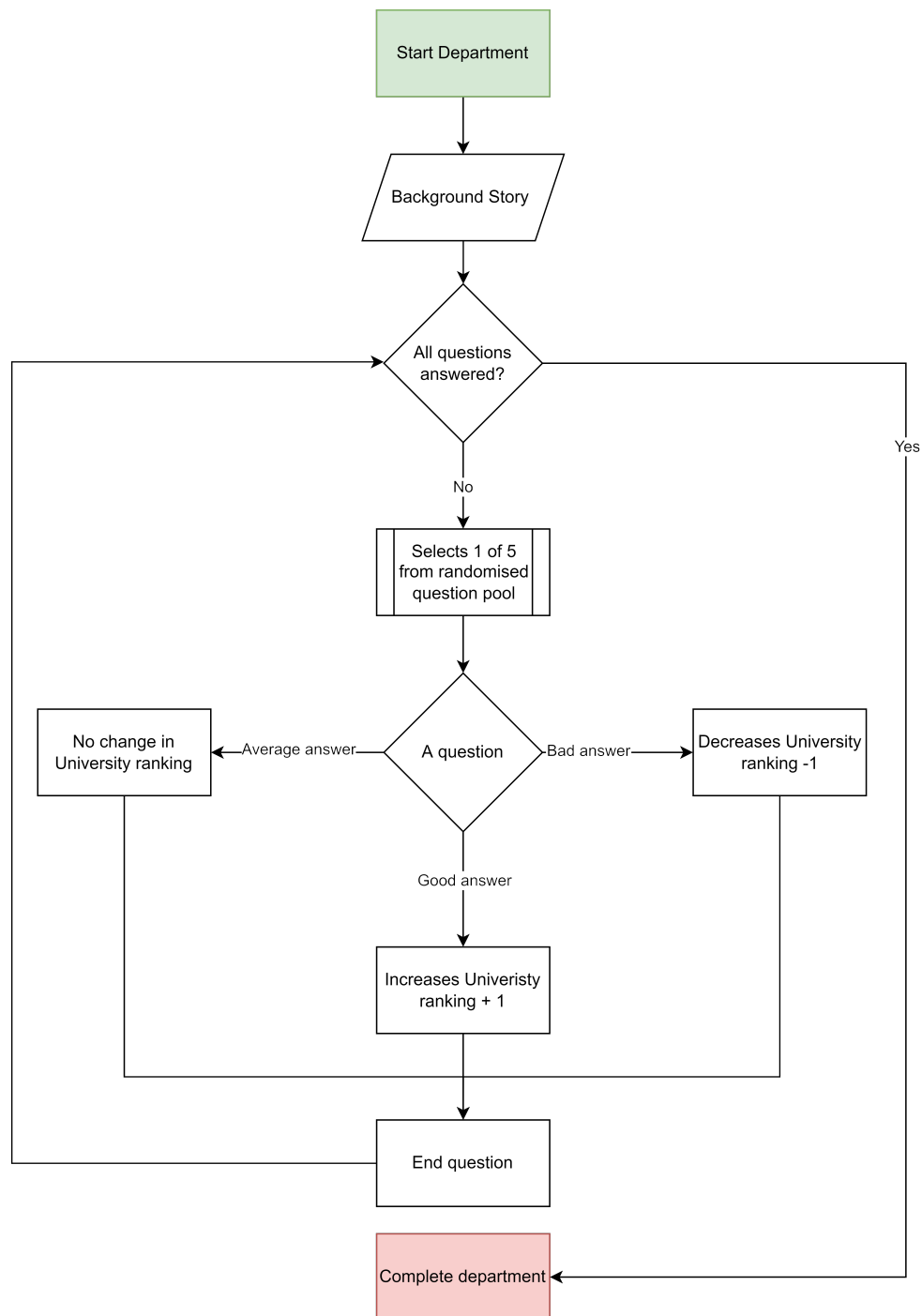


Figure 4.2: The Department Flowchart

4.5.5 Use Cases

ID: UC-1	Use Case: The user can see their ranking throughout the game	Level: User Goal	User Stories:
Context: The player is notified about their current ranking. The ranking goes up or down depending upon the users answer to questions As the ranking passes thresholds, the background and audio changes. The background varies depending upon the final ranking			
Frequency: Throughout the whole game.			
Open Issues: There is only one asset for each background, so there is no way to show a visual change when the ranking changes.			

ID: UC-2	Use Case: The user can select departments	Level: User Goal	User Stories:
Context: The player can select the departments they wish to visit first. There is a visual distinction between visited, and non-visited departments.			
Frequency: Whenever the user is on the map			
Open Issues: The user can select any department, there is no proximity considerations. The user can still click on a department after previously visiting it.			

4.6 Sprint Retrospective

During this sprint, the team continued to function well. The main issue was the lack of longer client meetings, which restricted the amount of feedback. The retrospective included completing the Four L's to analyse the sprint performance, which can be seen in *Figure 4.2*.

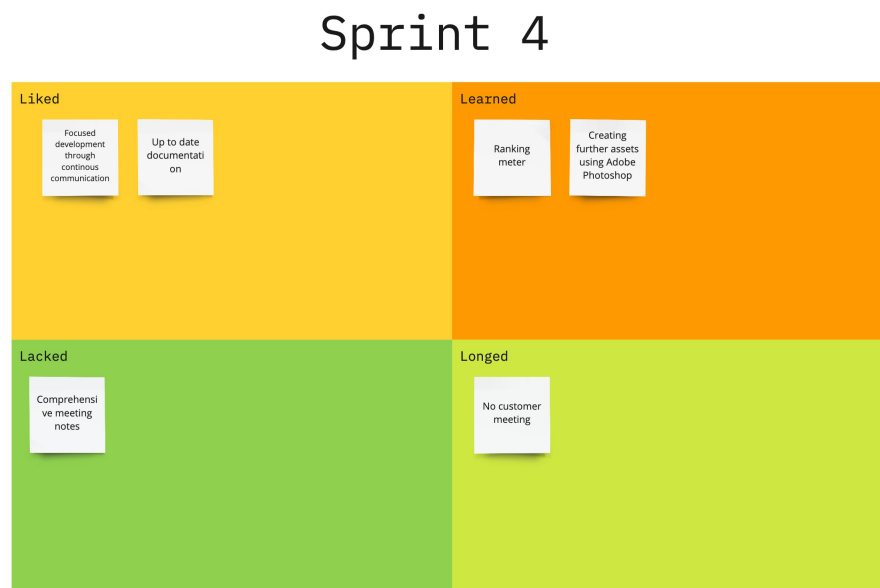


Figure 4.3: The “Four Ls” created during sprint retrospective.

5 Sprint 5: 02/12/2021 – 08/12/2021

5.1 Overview

Sprint five will be focused on creating all 5 departments for the game. The game will also be equipped with a map, to allow the user to select which department they want to visit. The game will also include a leaderboard to make multiple playthroughs challenging and interesting.

5.2 Review

The sprint five was a successful sprint as all five departments were completed. The game now includes a map that allows the player to navigate between different departments. Furthermore, there is a leaderboard that makes the game more entertaining.

5.3 Meeting Minutes

5.3.1 Meeting 1 (03/12/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 37 minutes

Meeting Notes:

1. **Map:** Nikunj showcased the implemented map functionality for the game with a placeholder image.
2. **Leaderboard:** Decided on implementing a leaderboard for the game, to improve the gamification aspect.
3. **Assets:** Decided to create different characters for different students to make the game more interesting and fun to play.
4. **Script:** Computer Science department questions need to be reviewed.
5. **Stats:** Adding a game feature which will increment or decrements depending on the answers selected in the game. This statistic will also affect the available answer options in future questions.
6. **Documentation:** Reviewed sprint 4 documentation.

Actions to take:

1. Nishan and Marion will create an initial design for the map.
2. Anj will create different characters for the game.
3. Max, Joe and Rufus will create questions for Music department.

Next Meeting Plans:

1. Next meeting will take place one 07/12/2021

5.3.2 Meeting 2 (07/12/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 47 minutes

Meeting Notes:

1. **Map Design:** Nishan and Marion showcased the initial design for the map in the game. Discussed what is to be included in the game to improve.
2. **Characters** Anj showcased the different characters for the game which was to be incorporated. One character's art style was not in compliant hence was removed.

3. **Department:** Reviewed and finalised music department questions.
4. **Leaderboard:** Showcased an initial draft and discussed about different ways to gather points for the leaderboard, work will continue to finish development.
5. **Inventory:** A proposal to add inventory to the game as a mechanism that would allow the character to pickup new items and enable different answer choices.

Actions to take:

1. Max will incorporate the characters to the game and adjust the backgrounds.
2. Nikunj will explore how to implement inventory.
3. Nishan and Marion will continue to work on map design.
4. Markos will continue to work on the leaderboard implementation.
5. Art questions need to be developed further.

Next Meeting Plans:

1. The meeting on 09/12/2021 was cancelled due to many other coursework deadlines.
2. Next Meeting will take place on 13/12/2021.

5.4 Product Backlog

Sprint 5 Product Backlog			
Task	Sprint No.	Assignee(s)	Completed
Create an initial map design for the game	5	Nishan and Marion	-
Music Department questions. (totalling up to 5 departments)	5	Max	-
Leaderboard	5	Marocs	-
Different characters for the game	5	Anj	-
Documentation for Sprint 4	5	Nishan and Marion	-

5.5 Product Documents

5.5.1 Customer Meeting

1. Are we allowed to use assets licenses for non-commercial use or educational use?
Answer: I am happy for you to use both.
2. Are you happy with the map implementation and find it clear how it functions?
Answer: Yes, this looks good.
3. Are you happy with the ending of the game that was shown?
Answer: Yes, this looks good.
4. Do you prefer silhouettes or different character for Julia?
Answer: I think it would work in both ways, I think silhouette would also create a sense of mystery.
5. Do you prefer silhouettes or different character for students?
Answer: I think different characters would work better, but I leave the decision to you.
6. Are you satisfied with how the stats work in the game?
Answer: Yes, this sounds good.

We showcased the game on how it works. The client seemed happy with the art style and the backgrounds chosen. The client commented on the silhouette characters which was described as original but also expressed interest in seeing other student characters to make the game visually appealing and interest but the ultimate decision was set to be decided.

5.5.2 User Stories

User Stories				
ID	Description	Acceptance Criteria	Date	Assignee(s)
DG-1	As a player, I want to be able to experience a game with an interesting story.	Is the storyline developed? Is the storyline implemented into the working game?	5/11/2021	Max, Rufus and Joseph
DG-2	As a player, I want to be able to experience the dungeon game in a university of bath campus.	Is the gameplay happening in a university campus?	5/11/2021	Everyone
DG-3	As a player, I want to be able to play the game in a way that makes the game play different and not repetitive.	Is the gameplay different when playing multiple playthroughs?	5/11/2021	Everyone
DG-4	As a player, I want to play a game that is visually pleasing.	Is the game using visually appealing assets?	5/11/2021	Everyone
DG-5	Sprint 1 Documentation	Is the sprint 1 documentation complete?	11/11/2021	Marion and Nishan
DG-6	Sprint 2 Documentation	Is the sprint 2 documentation complete?	14/11/2021	Marion and Nishan
DG-7	Creating a logo for the game	Is the logo present in the game?	14/11/2021	Nishan
DG-8	As a player, I want to be able to listen to some sound while playing the game.	Does the game have a sound when playing the game?	16/11/2021	Markos
DG-9	As a player, I want to be able to adjust the volume of the game without using the computer settings.	Am I able to change the volume of the sound in the game?	17/11/2021	Everyone
DG-10	As a player, I want to be able to quit the game and continue the game where I left off.	Am I able to quit the game? Am I able to continue the game later?	17/11/2021	Everyone
DG-11	Sprint 3 Documentation	Is the sprint 3 documentation complete?	19/11/2021	Marion and Nishan
DG-12	As a player, I want to see relevant and interesting backgrounds when selecting choices	Does the game have different background images?	20/11/2021	Max
DG-13	As a player, I want to be notified about the university ranking during the game	Do I get notified about the university ranking when playing the game?	20/11/2021	Markos, Nikunj
DG-14	As a player, I want to select which order of departments I want to play the game in	Can I choose which department I want to visit first?	20/11/2021	Markos, Nikunj
DG-15	As a player, I want the game to be equipped with an intuitive UI	Is the game easy to use?	26/11/2021	Nikunj
DG-16	As a player, I want to have at least three departments	Does the game have at least three departments?	26/11/2021	Max and Joe
DG-17	As a player, I want to have interesting gameplay in various departments	Are the questions interesting in different departments?	26/11/2021	Rufus
DG-18	As a player, I want to see a consistent theme and style to the game	Is the style consistent throughout the game?	26/11/2021	Everyone
DG-19	As a player, I want to select departments through an interactive map	Is the map interactive?	03/12/2021	Nikunj
DG-20	As a player, I want to be able to record my highscore on a leaderboard	Does the game have a leaderboard?	03/12/2021	Markos
DG-21	Sprint 4 Documentation	Is the sprint 4 documentation complete?	03/12/2021	Nishan, Marion

5.5.3 Use Cases

ID: UC-3	Use Case: Enter Name	Level: User Goal	User Stories:
Context: Users can enter their name in the provided field after finishing and can view their name and score in the leaderboard. Users can enter their name in the provided field after finishing but cannot view their name and score in the leaderboard.			
Frequency: Every time game ends			
Open Issues: If the leaderboard is full and the users score is below lowest score, is does not appear on the leaderboard and there is no explanation to the user. The user can enter their name and score multiple times.			

ID: UC-4	Use Case: Best answers dependant on statistics	Level: User Goal	User Stories:
Context: When answering a question, sometimes the best answer will be locked and only answerable if the user has the sufficient requirements of a certain statistic.			
Frequency: Whenever you encounter a student question.			
Open Issues: You can select the answers, but it informs you that your statistic is too low and makes you answer the question again, instead of blocking off the answer. There is no way to raise your statistics, so these answers can never be chosen			

5.5.4 Initial Map Design

Initial map design (see *Figure 5.1*) for the game consisting of five unique buildings for each department.

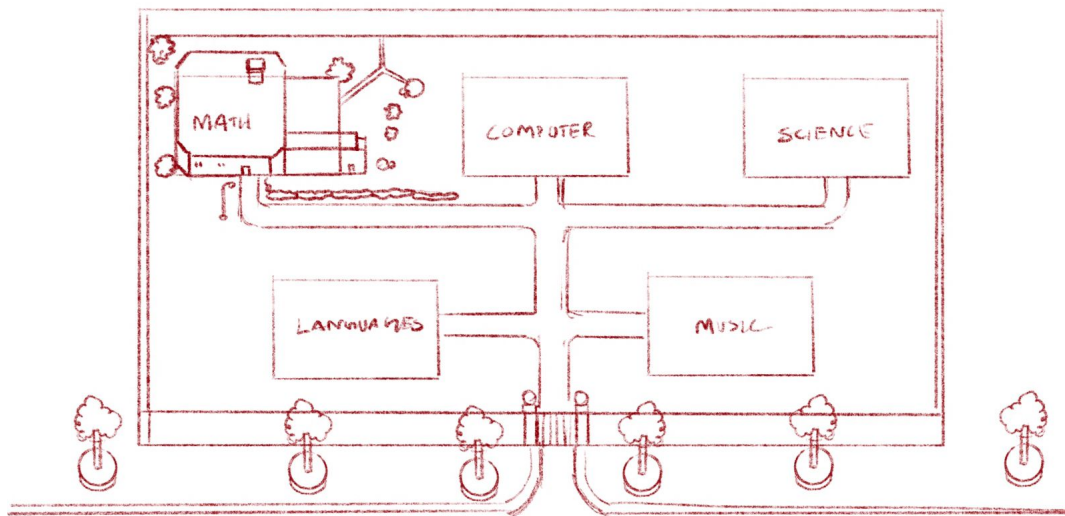


Figure 5.1: Initial Design of the Map

5.6 Sprint Retrospective

This week was difficult as most team members had multiple other coursework deadlines however I believe the Sprint planning was successfully in assigning tasks and everyone was able to complete their assigned work independently. The story writing team also encountered some difficult with creating creative story ending, we discussed to approach any creative work with the whole team as more ideas can be shared and built upon prior to working exhaustively to come up with new ideas. The retrospective included completing the Four L's to analyse the sprint performance, which can be seen in *Figure 5.2*.

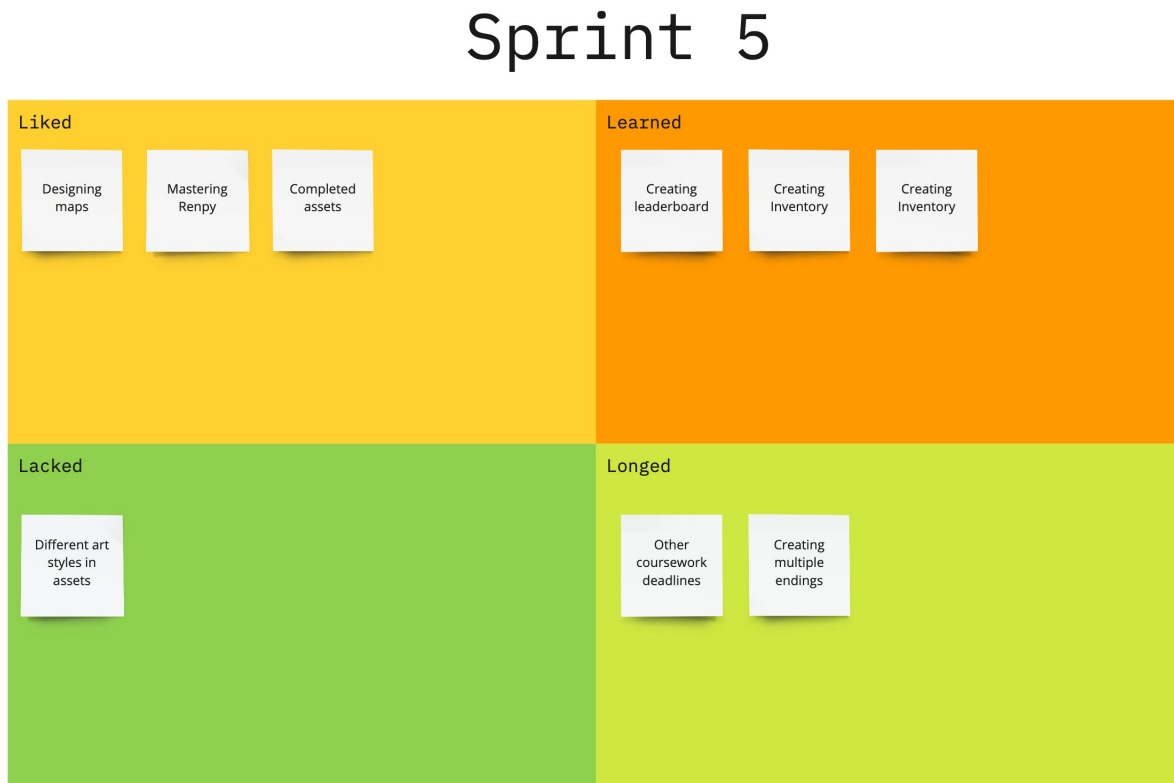


Figure 5.2: The “Four Ls” created during sprint retrospective.

6 Sprint 6: 09/12/2021 – 15/12/2021

6.1 Overview

This sprint was dedicated to project wrap-up by fixing the remaining bugs. Furthermore, the remaining product documents were completed in this sprint as well as the process documentation. This sprint was used to complete the team questionnaire.

6.2 Meeting Minutes

6.2.1 Meeting 1 (13/12/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 41 minutes

Meeting Notes:

1. **Guides:** The product documents were divided amongst team members. Discussed how to best approach the documentation to conform to a similar style.
2. **Process Documentation:** Marion and Nishan working towards finishing the process documentation.
3. **Testing:** All members of the team will be testing the game before the next meeting to identify any bugs that need to be fixed prior to release.
4. **Release:** The game release will be created once all bugs are fixed. The release will be bundled up with the rest of the submission.
5. **Video Demonstration:** Joe will record the video that will be used to demonstrate the working game.

Actions to take:

1. Rufus will complete the User Manual.
2. Markos, Nikunj and Joe will complete the maintenance guide.
3. All members must test the game to find any issues that would affect gameplay and notify the relevant members.
4. Joe will work on creating the video.

Next Meeting Plans:

1. Next Meeting will take place on 15/12/2021.

6.2.2 Meeting 2 (15/12/2021)

Attendees: Markos, Nishan, Rufus, Max, Marion, Anj, Joe

Location: Microsoft Teams

Time: 1 hour 34 minutes

Meeting Notes:

1. **Process Documentation:** All team members were asked to review the documentation with tracked changes. Once completed, during the meeting the changes were discussed and approved/declined as appropriate.
2. **Inventory:** Inventory will be added to the game as a demo option as the feature remains unfinished. This feature is to be developed further into the game before incorporating it.
3. **Guides:** All team members reviewed the guides to ensure the information was both accurate and up to date.
4. **Game Release:** Set up GitHub releases to release the first version of the game with appropriate documentation and directions on how to play the game.
5. **Bugs:** Bugs that were found in the game were tested once again to ensure they were fixed by the development team.

6.3 Project Completion Retrospective

Sprint 6 was successful in achieving its goal to complete the game and fix any bugs before releasing to production. This sprint was mainly focused on reviewing other team member's work to ensure high quality of work produced. Overall, the sprint achieved the goals and the game was released as expected. Each sprint cycle was focused on a limited number of work-in-progress (WIP), following by team meetings and then client meetings. An illustration of this can be seen in *Figure 6.1*. The game consisted of numerous questions for five different departments, with a map, a university ranking function, and a leaderboard.

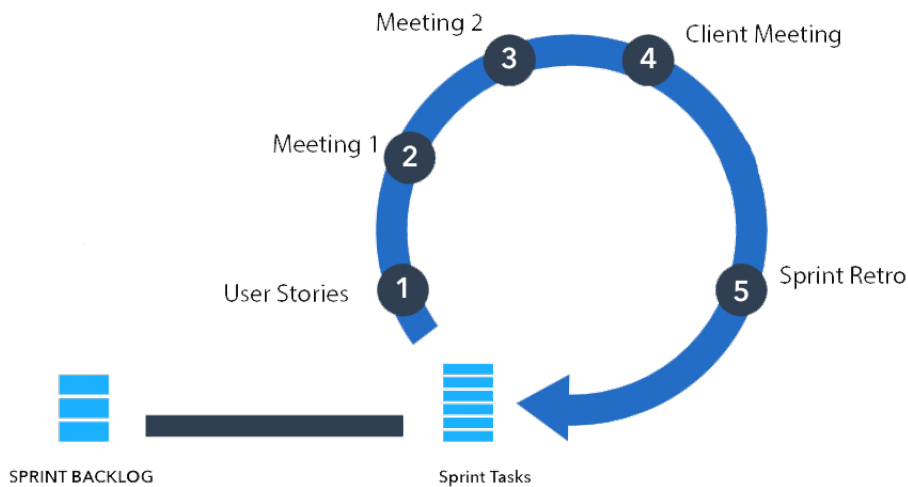


Figure 6.1: Sprint Chart

7 Future Product Backlog

The remaining items of the product backlog includes any additional functionality that could be introduced in a second version of the game.

Future Product Backlog	
ID	Description
1	Inventory
2	Different universities with additional maps to explore
3	Multiplayer functionality to play with friends
4	NPCs/ Chance encounters
5	Character Audio
6	Quests
7	Secret room depending on stats
8	Zombie version
9	Shortcuts in game depending on stats
10	Easter Egg: Snake minigame on Julia's phone
11	Easter Egg: Low chance to encounter characters that resemble Magenta Team members