CS 305 – SOFTWARE ENGINEERING COURSE PROJECT FALL 2021-2022 PROJECT

Mehmet's Games

Mehmet VARAN & Mehmet Baturalp ÇAYLAK

181805009 &181805060

Mehmet’s Games

Team Agreement

First of all, every member in group must be accept this agreement. We must be respectful each other.

Methods of Communication: Team member's can use Whatsapp, mail and text message.

Communication Response Times: The group member's must response in 2 hours for Whatsapp, in 6 hours for mails, in a hour for text messages.

Meeting Attendance: Group member's must attend online meeting at 19.00 - 20.00 every day.

Running Meetings: Face to face meetings are Tuesday 17.00 - 18.00, Wednesday 17.00 - 18.00 , Thursday 12.00 - 14.00 . Face to face meeting place is Mehmet VARAN's home at Orta Mah.

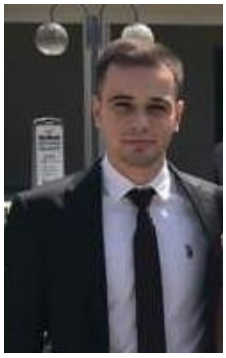
Meeting Preparation: Every group member must bring their personal computer. Before meeting, ever group member must be ready to make a presentation about what they did at that week.

Version Control: Version controll are checked every Friday at 15.00 - 17.00 .

Division of Work: Mehmet VARAN is responsible for level designs. Mehmet Baturalp ÇAYLAK is responsible for game engine design.

Submitting Assignments: The reports must be done together and must be reviewed together before 1 day from due date.

Contingency Planning: If one of the group member wants to drop out or misses meetings, he/she must find someone who can do her/his jobs. Also, the old member will be fined cost of the project.



Mehmet VARAN

Student

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mehmet.v12@gmail.com GitHub:
https://github.com/MehmetVaran

I was born in 1 August 1999 in Bandirma/Balikesir. I was interested in computer even I was 2 years old. We had a IBM computer in our home. Firstly, I started with playing games on it. Then I started to tamper with it. I crashed the computer so many times. A few years later, I started to look in case and tried some different things. After some point, I was dealing with computer problems and solved most of it. Then I decided to study about computer science. First language I studied with was C++. I did some projects with it. But they were basic projects which helped me to learn basics of coding. Then I studied about web programming. I used HTML,CSS,JavaScript,React and ASP.net. I developed web page about cartoon advices for children. Also at the same time, I studied with Java and developed an address book app. But these projects were about my university lessons. So, I decided to study game development. In a random chat with my friend Baturalp, we decided to study about 2D video games. Now, I'm studying Unity and C#.

EDUCATION

Primary School: Atatürk Primary School , Susurluk/Balikesir 2014

High School: Bandirma Anadolu Ogretmen High School Bandirma/Balikesir 2018

University: Adnan Menderes University (Computer Engineering)

Mehmet Baturalp CAYLAK
Student

I am one of the Mehmet's Games members. I was born in 2000 in Isparta. From my 5-year-old I have been playing video games. In high school, my advisor teacher showed me some software and their publishers. After that becoming a game developer become my dream. In years which I was in quarantine; I studied C# language and Unity editor. I have made two projects, but I didn't publish them. My skills at the intermediate level in C# and Unity editor. My partner Mehmet Varan is one of my friends. In a random conversation, I showed him one of my projects then he said we could make a game together. That's how we become a partner.

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Student GitHub: https://github.com/MehmetBaturalpCaylak

Education:
Primary School: Bilecik Malhatun Primary School – Burdur/Tefenni Atatürk Primary School
High School: Fetullah Bayır Science High School
University: Adnan Menderes University (Computer Engineerinng)

Project Proposal

Intended Use of The System: Our project is about a 2D platform game. Basic concept is 2 player try to hit and cause to fall other one. Our goal is that whoever plays the game should be happy and be entertained by it. Target group for our game is 7 – 25 years old people. Also, we choose children because this game is not hard to play compare to the other games.

Its Overall Functionality: It has character that moves, jumps, double jumps, dashes and hits which causes to push other player away. The character movements are controlled with keyboard. Camera is locked in a certain area. After certain amount of time if nobody falls, camera will shrink. The player who is out of vision, will lose the game.

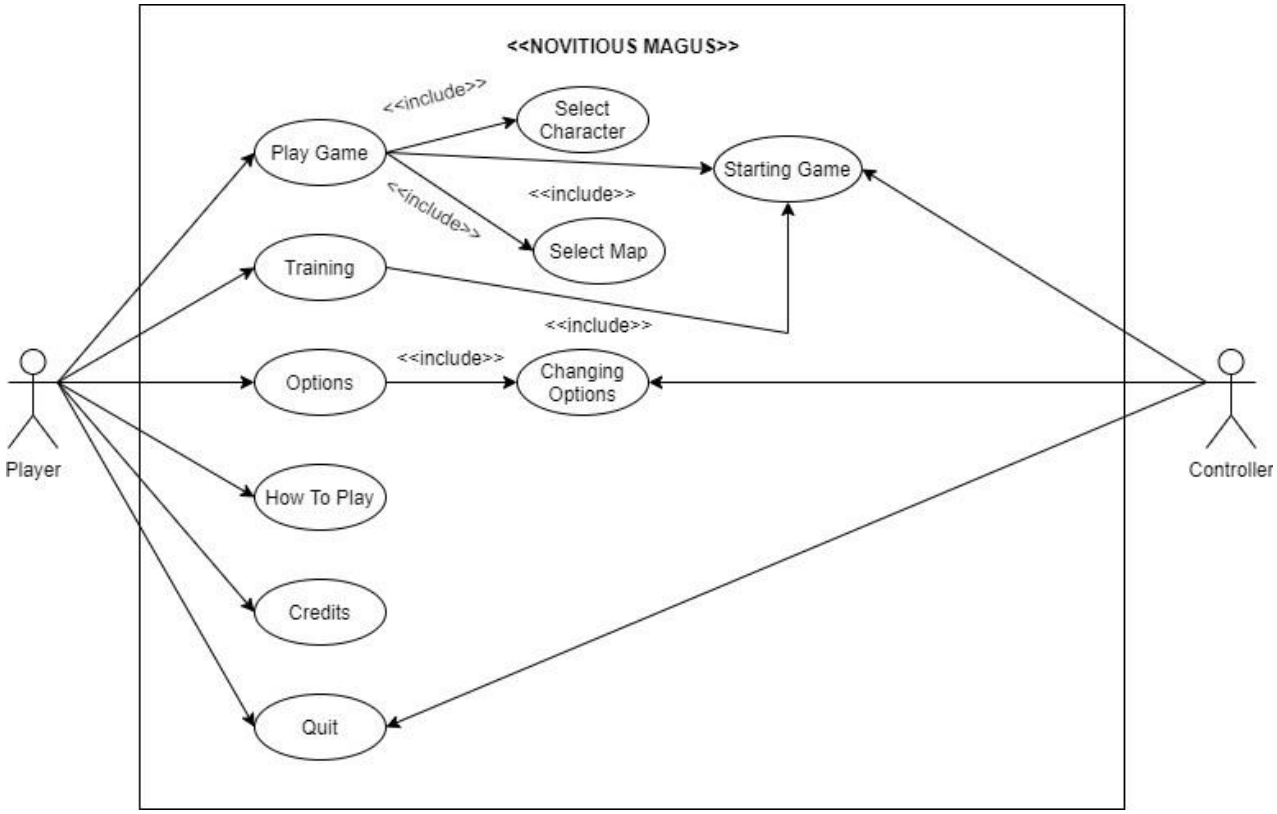
Main Components of The System: The game has 2-5 maps (we haven't decided how many maps we should put in). So, players can select the map which they want. There is a main menu that displays selections (Play Game, Training Options, How To Play, Credits, Quit). That's all for now. Logical components are about maps, interface and design. Architectural components are about game mechanics.

- **Logical:** The game will be developed in Unity.
- **Architectural:** The game mechanics will be developed using C#.

SYSTEM REQUIREMENTS

Begin with a narrative to give a general overview of the system's functional requirements. Provide one big use case diagram illustrating the overall functionality of the system. Describe each use case in an easy-to-understand natural language.

Use Case Diagram



General overview of the system's functional requirements

- Player should be able to directed the main menu when opened the game.
- Player should has movement mechanics.
- Player should be able to select character and map.
- Player should be able to train the game.
- Player should be able to see the default options and change them.
- Player should be able to learn game logic without using ethernet.
- Player should be able to see credits.
- Player should be able to quit the game easily.

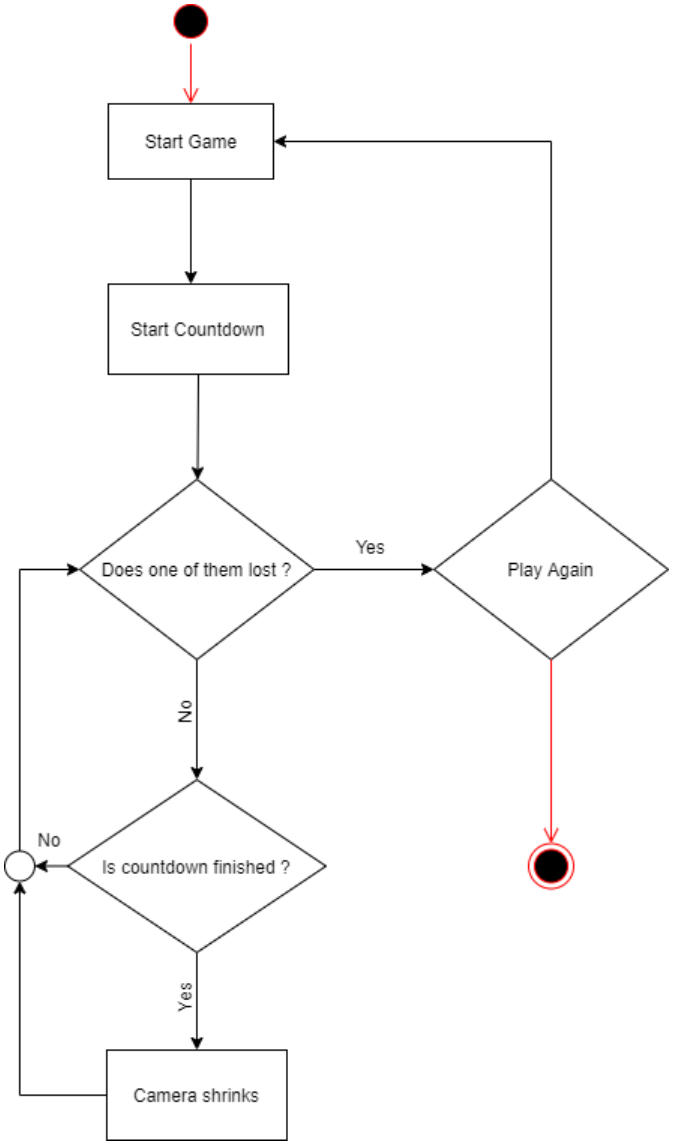
Player:

- **Play Game:** Allows you to select character and map, then starts the game.
- **Training:** Allows you to train game.
- **Options:** Allows you to change options.
- **How To Play:** Allows you to learn how to play giving brief informations.
- **Credits:** Allows you to learn about credits.
- **Quit:** Allows you to quit the game easily.

Controller:

- **Start Game:** Allows to start game mechanics.
- **Options:** Allows to player to change options.
- **Quit:** Allows you to quit the game.

Game Activity Diagram



Using the use case diagram as a starting point, convert each use case into a user story. Organize your user stories as a numbered list. For each user story, provide a set of pre- and post-conditions.

1. As a user, I want main menu so that I can access other menus.

- **Pre-condition:** User must open game file.
- **Post-condition:** User is on the main menu.

2. As a user I want to control my character so that I can play.
- **Pre-condition:** User must has keyboard.
- **Post-condition:** User controls character with keyboard.

3. As a user, I want training map so that I can train the game.
- **Pre-condition:** User must select Training section.
- **Post-condition:** User is in the training map.

4. As a user, I want to see default options so that I can change if I want.
- **Pre-condition:** User must select Options sections, then select the option which will be changed.
- **Post-condition:** User has changed the Options.

5. As a user, I want to learn how to play so that I can adapt the game easily.
- **Pre-conditon:** User must select How To Play section.
- **Post-condition:** User sees game instructors.

6. As a user, I want to see credits so that I can learn who developed this game.
- **Pre-condition:** User must select Credits section.
- **Post-condition:** User sees credits.

7. As a user, I want to quit menu so that I can quit the game easily.
- **Pre-condition:** User must select quit section.
- **Post-condition:** User has quit the game.

8. As a user, I want more than 2 maps so that I can select that I want.
- Pre-condition: User must select Play Game section,then Select Map.
- Post-condition: User selects map.

9. As a user, I want more than 4 characters so that I can select that I want.
- **Pre-condition:** User must select Play Game section, then Select Character.
- **Post-condition:** User selects character.

Are there any user stories that are too big or complex ?

Yes, there is, 7th and 8th user stories are can be divided into smaller parts. Because creating a new map is complicating. It has different parts. Also, creating an new character has same issue.

Provide a separate list of any relevant nonfunctional requirements.

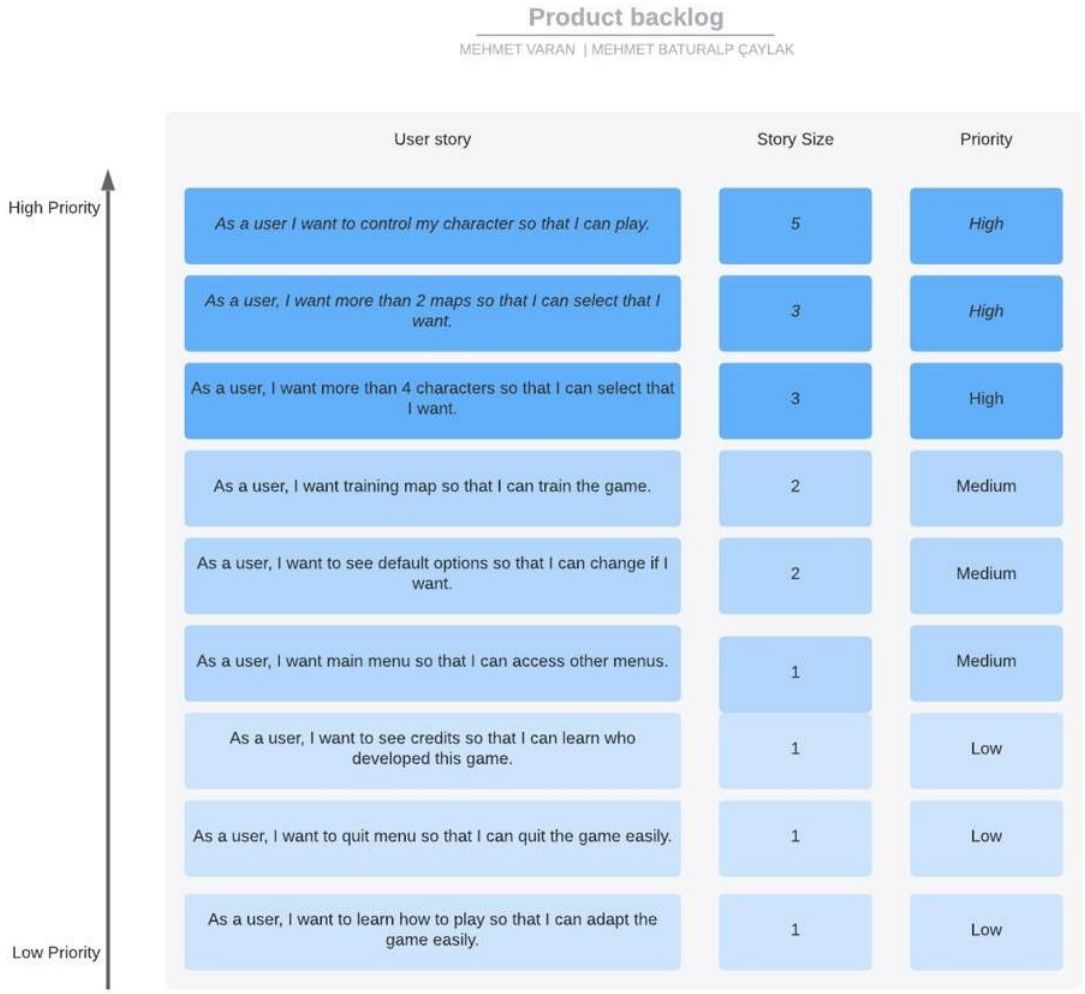
- **Performance Requirements:** The game should not be complex. It should be playable every type of computer.
- **Game Controll Requirements:** 2 player should play the game on keyboard.

PRODUCT BACKLOG

Refine your user stories taking into account the instructor's feedback. Break down previously identified large user stories (epics). Indicate which epics resulted in what new user stories.

Epic Story: 2nd user story "As a user I want to control my character so that I can play." is a epic user story. Because character has different types of mechanics like move, jump, double jump, dash, and attack. So, we seperated all of the mechanics as a new user story.

Estimate the size of your user stories. Use Fibonacci numbers within the range of 1 to 8 to represent a relative size of each user story. Label each user story as high, medium, or low priority. Note the cumulative size of all user stories in your product backlog.



User story	Story Size	Priority
As a user I want to control my character so that I can play.	5	*High*
As a user, I want more than 2 maps so that I can select that I want.	3	*High*
As a user, I want more than 4 characters so that I can select that I want.	3	High
As a user, I want training map so that I can train the game.	2	Medium
As a user, I want to see default options so that I can change if I want.	2	Medium
As a user, I want main menu so that I can access other menus.	1	Medium
As a user, I want to see credits so that I can learn who developed this game.	1	Low
As a user, I want to quit menu so that I can quit the game easily.	1	Low
As a user, I want to learn how to play so that I can adapt the game easily.	1	Low

Provide an updated numbered list of all user stories; indicate pre- and post-conditions.

1. As a user, I want main menu so that I can access other menus.
- **Pre-condition:** User must open game file.
- **Post-condition:** User is on the main menu.

2. As a user I want movement mechanic and right so that I can move.
- **Pre-condition:** Use must have keyboard and use correct keys.
- **Post-condition:** Character moves left and right.

3. As a user I want jumping mechanic so that I can jump.
- **Pre-condition:** Use must have keyboard and use correct keys.
- **Post-condition:** Character jumps.

4. As a user, I want double jump mechanic so that I can jump even higher.
- **Pre-condition:** Use must have keyboard and use correct keys.
- **Post-condition:** Character jumps twice.

5. As a user, I want dash mechanic so that I can dash.
- **Pre-condition:** Use must have keyboard and use correct keys.
- **Post-condition:** Character dashes.

6. As a user, I want attack mechanic so that I can attack the other player.
- **Pre-condition:** User must has keyboard and use correct keys.
- **Post-condition:** Character attacks.

7. As a user, I want training map so that I can train the game.
- **Pre-condition:** User must select Training section.
- **Post-condition:** User is in the training map.

8. As a user, I want to see default options so that I can change if I want.
- **Pre-condition:** User must select Options sections, then select the option which will be changed.
- **Post-condition:** User has changed the Options.

9. As a user, I want to learn how to play so that I can adapt the game easily.
- **Pre-conditon:** User must select How To Play section.
- **Post-condition:** User sees game instructors.

10. As a user, I want to see credits so that I can learn who developed this game.
- **Pre-condition:** User must select Credits section.
- **Post-condition:** User sees credits.

11. As a user, I want to quit menu so that I can quit the game easily.
- **Pre-condition:** User must select quit section.
- **Post-condition:** User has quit the game.

12. As a user, I want more than 2 maps so that I can select that I want.
- **Pre-condition:** User must select Play Game section,then Select Map.
- **Post-condition:** User selects map.

13. As a user, I want more than 4 characters so that I can select that I want.
- **Pre-condition:** User must select Play Game section, then Select Character.
- **Post-condition:** User selects character.

Taking into account the pre- and post-conditions, identify a subset of user stories to be implemented during the first sprint. Taking into account the pre- and post-conditions, identify a subset of user stories to be implemented during the first sprint (there will be a total of four sprints). Be sure that the cumulative size of the selected user stories is about 1/4 of the size of the full backlog. Describe the functionality that your partially implemented system will have at the end of this sprint.

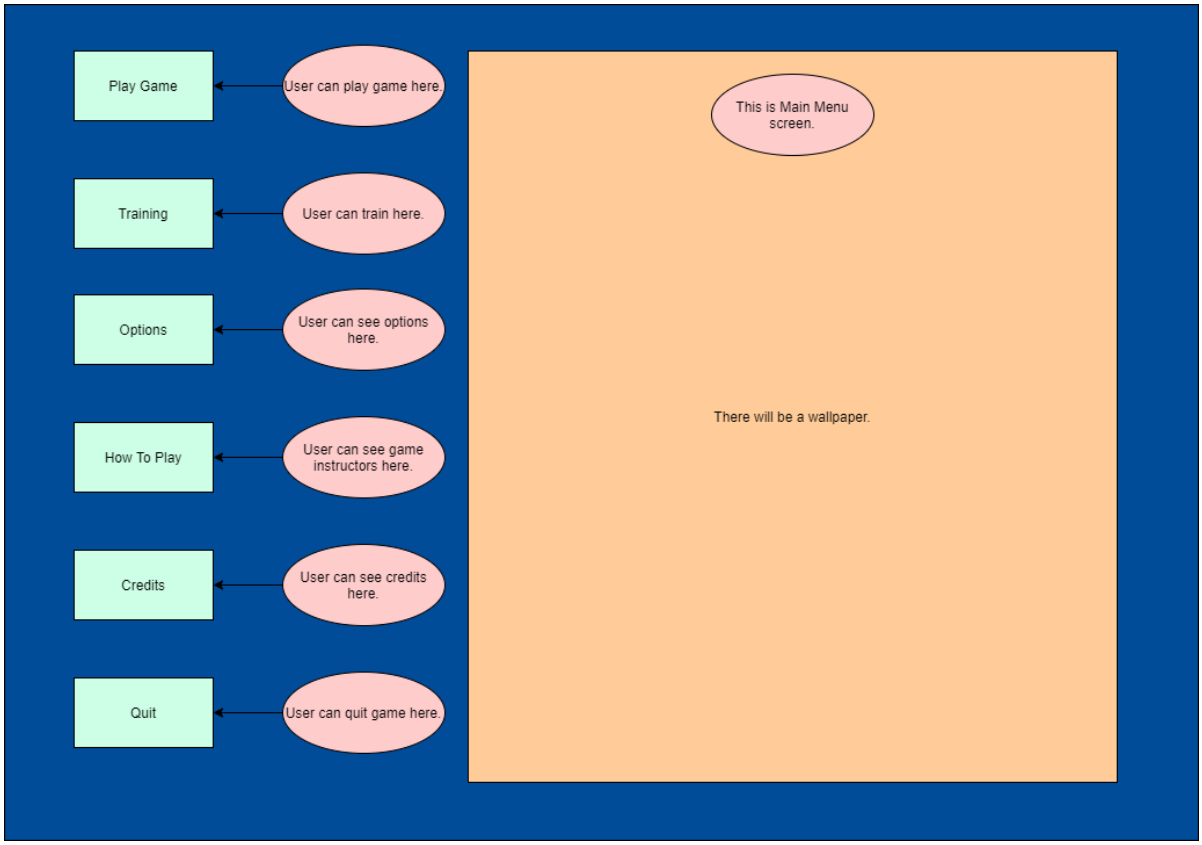
First Sprint

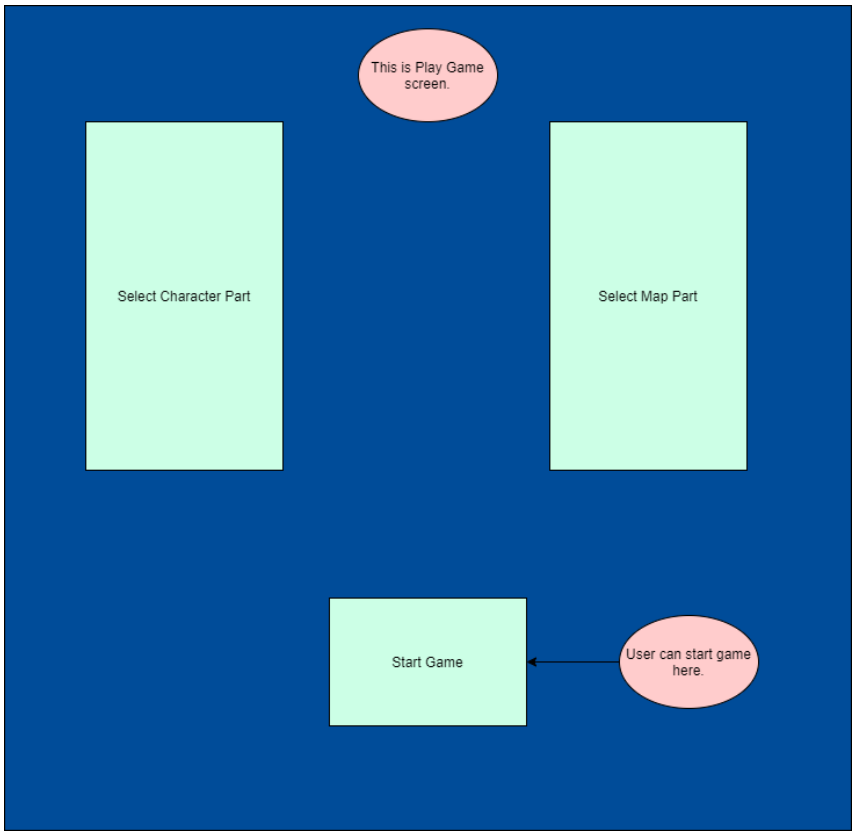
1. As a user, I want to control my character so that I can play.

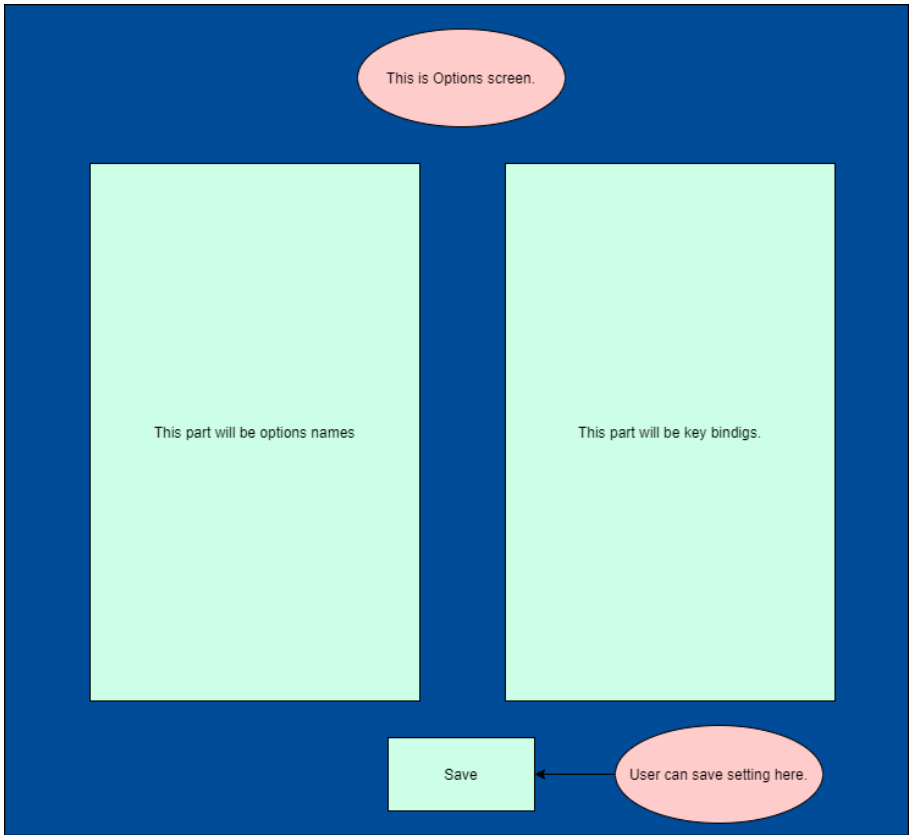
   SIZE = "5"

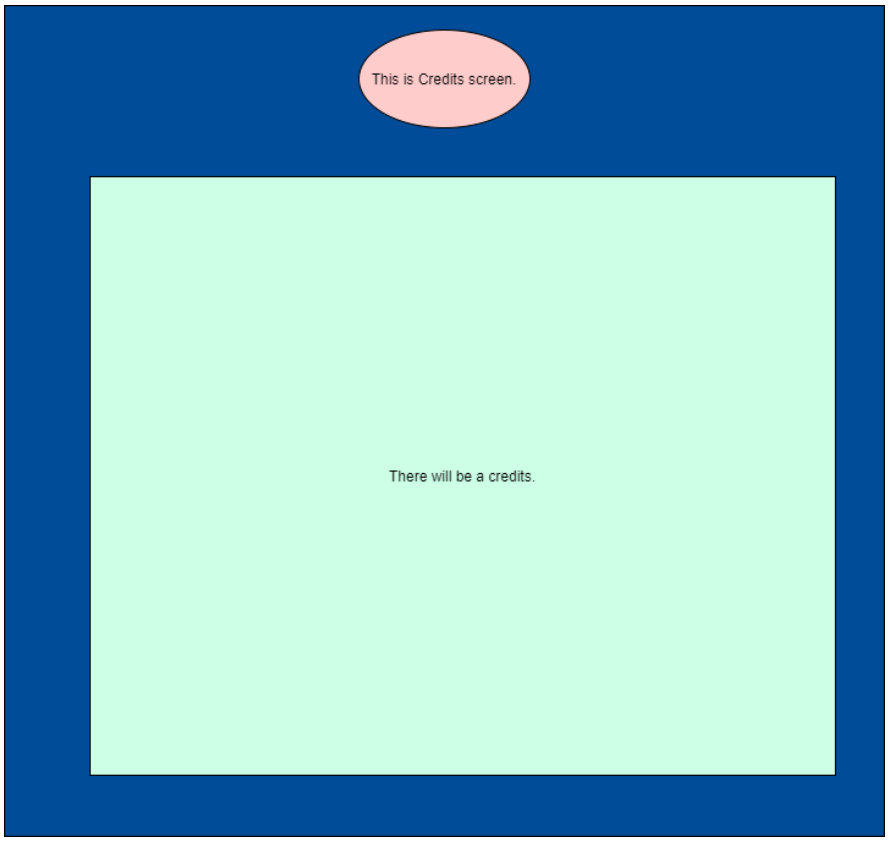
   Cumulative size of first sprint user stories is "5".

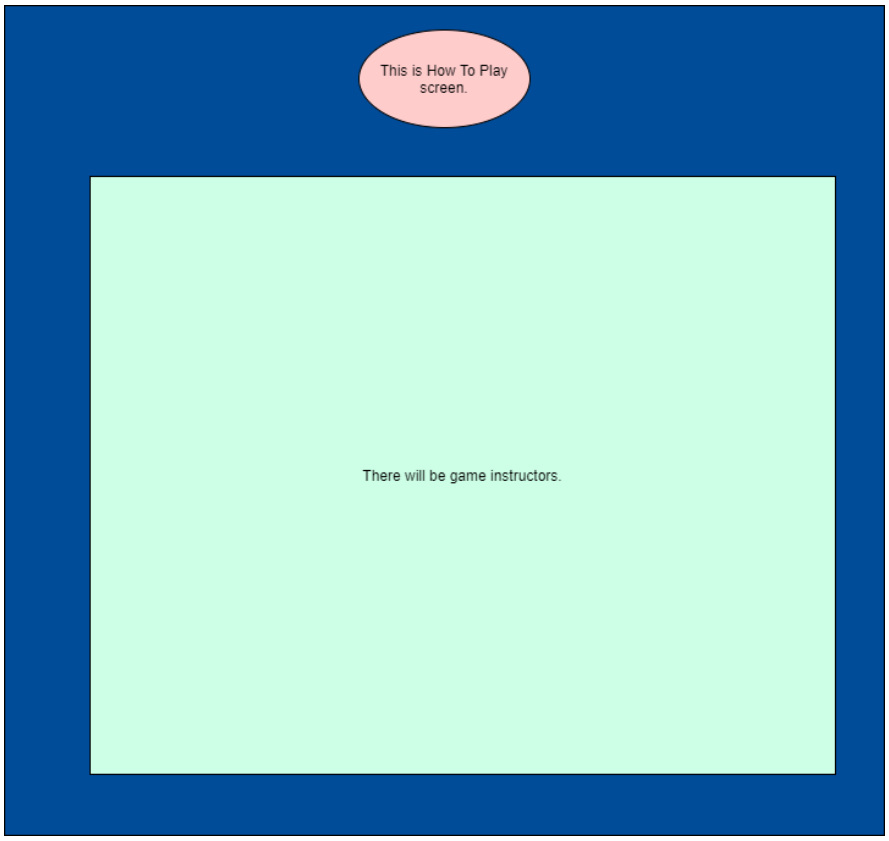
Design key features of the user interface; provide sketches of your designs.


Play Game
User can play game here.
Training
User can train here.
Options
User can see options here.
How To Play
User can see game instructors here.
Credits
User can see credits here.
Quit
User can quit game here.
This is Main Menu screen.
There will be a wallpaper.


This is Play Game screen.
Select Character Part
Select Map Part
Start Game
User can start game here.


This is Options screen.
This part will be options names
This part will be key bindigs.
Save
User can save setting here.


This is Credits screen.
There will be a credits.


This is How To Play screen.
There will be game instructors.

CSE-305 Presentation

MEHMET VARAN
181805009

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181805060

Content

- What is the project about ?
- What are the project's needs ?
- Use Case Diagram
- What are the main functional requirements of the project ?
- What are the main non-functional requirements of the project ?
- What are the highlights of the product backlog and sprint planning s trategies ?
- What is going on right now ?
- What we have learned so far ?

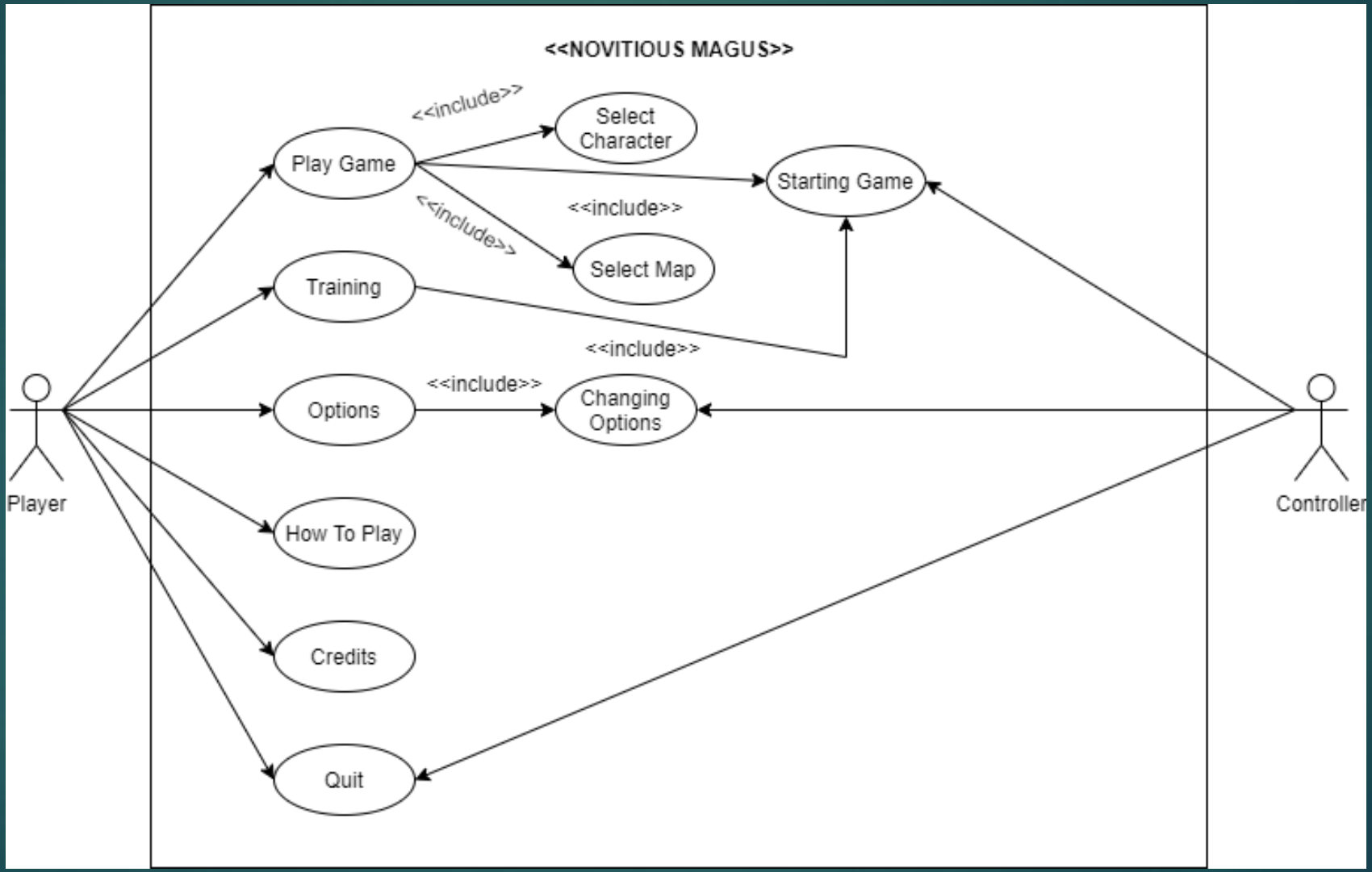
The Project

- About developing computer game.
- It has two parts: Level design and game mechanics design
- Game Type = 2D platform game(A platformer, or platform video game, is one that traditionally features two-dimensional graphics in which players control characters who jump or climb between different platforms on the screen.)
- 2 player try to hit each other and cause the fall other one.

It's Needs

- Our goal is that whoever plays the game should be happy and be entertained by it. Target group for our game is 7 – 25 years old people. Also, we choose children because this game is not hard to play compare to the other games.

Use Case Diagram



What are the main functional requir ements of the project ?

- Player should be able to directed the main menu when opened the game.
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- Player should be able to see the default options and change them.
- Player should be able to learn game logic without using ethernet.
- Player should be able to see credits.
- Player should be able to quit the game easily.

What are the main non-functional requirements of the project ?

- **Performance Requirements:** The game should not be complex. It should be playable every type of computer.
- **Game Controll Requirements:** 2 player should play the game on keyboard.

What are the highlights of the product backlog and sprint planning strategies ?

First Sprint

- Start Game (Game mechanics design).

Second Sprint

- Select Character and Select Map (Level and character design).

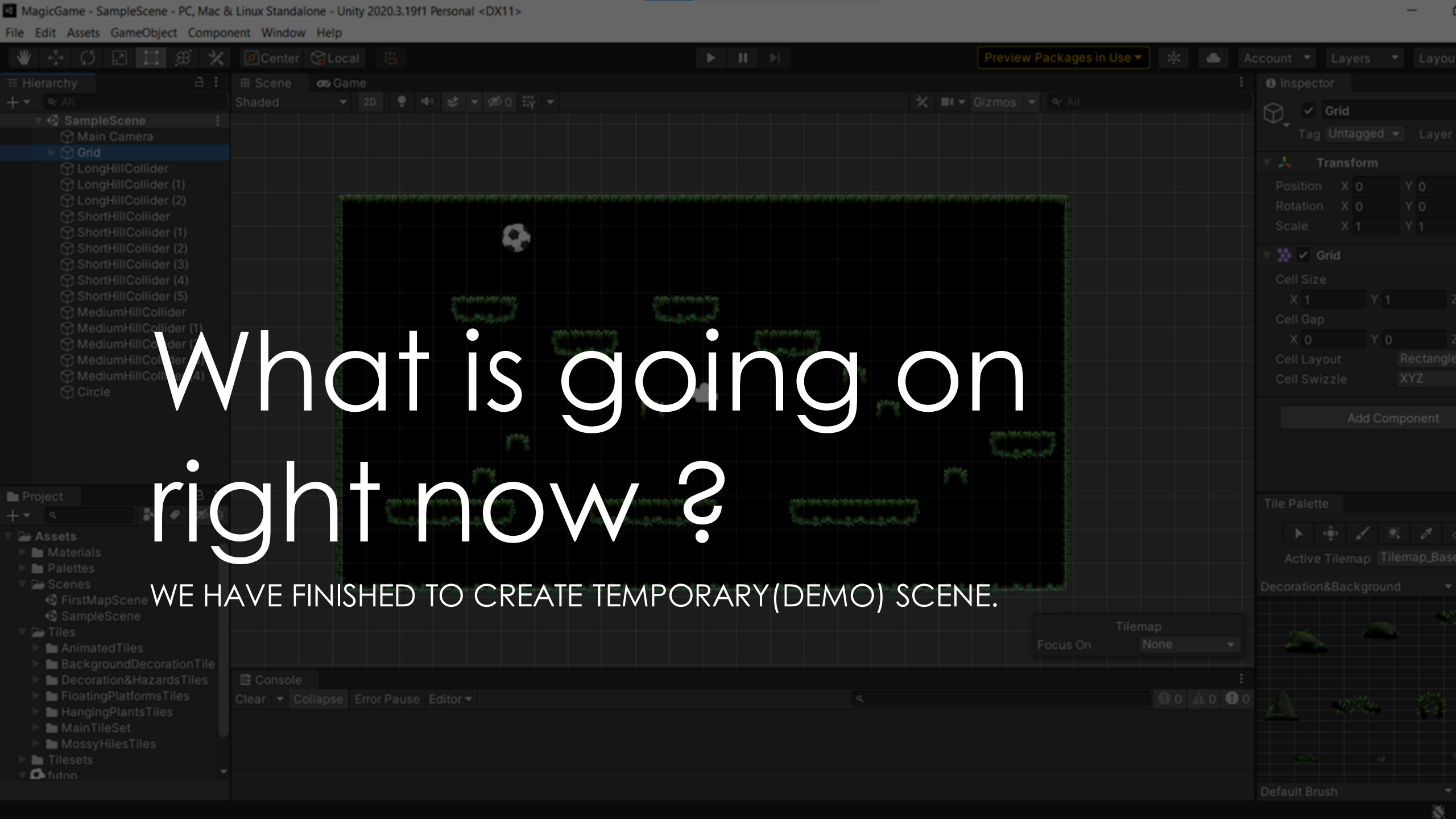
Third Sprint

- Training
- Options

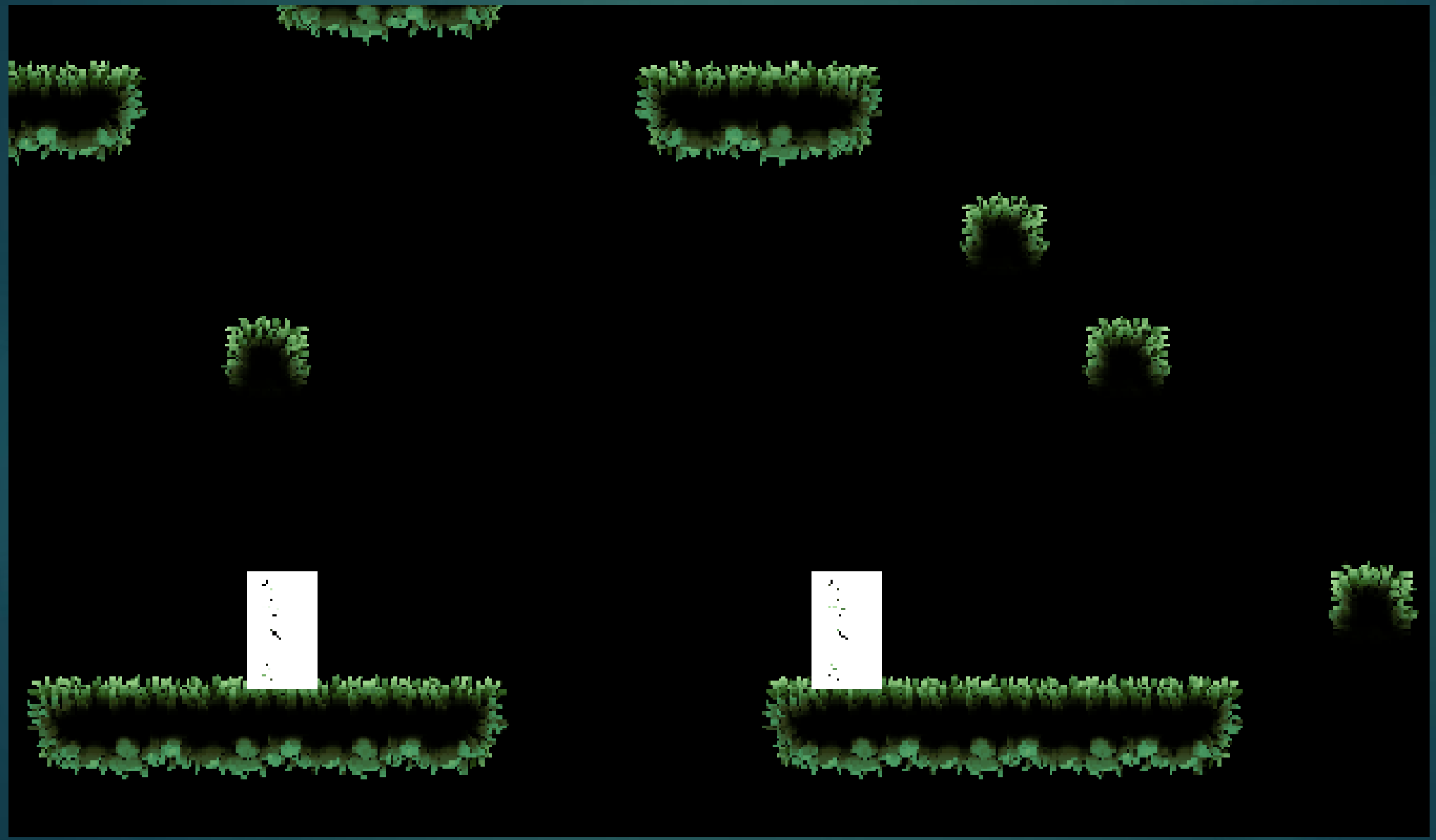
What are the highlights of the product backlog and sprint planning strategies ?

Fourth Sprint

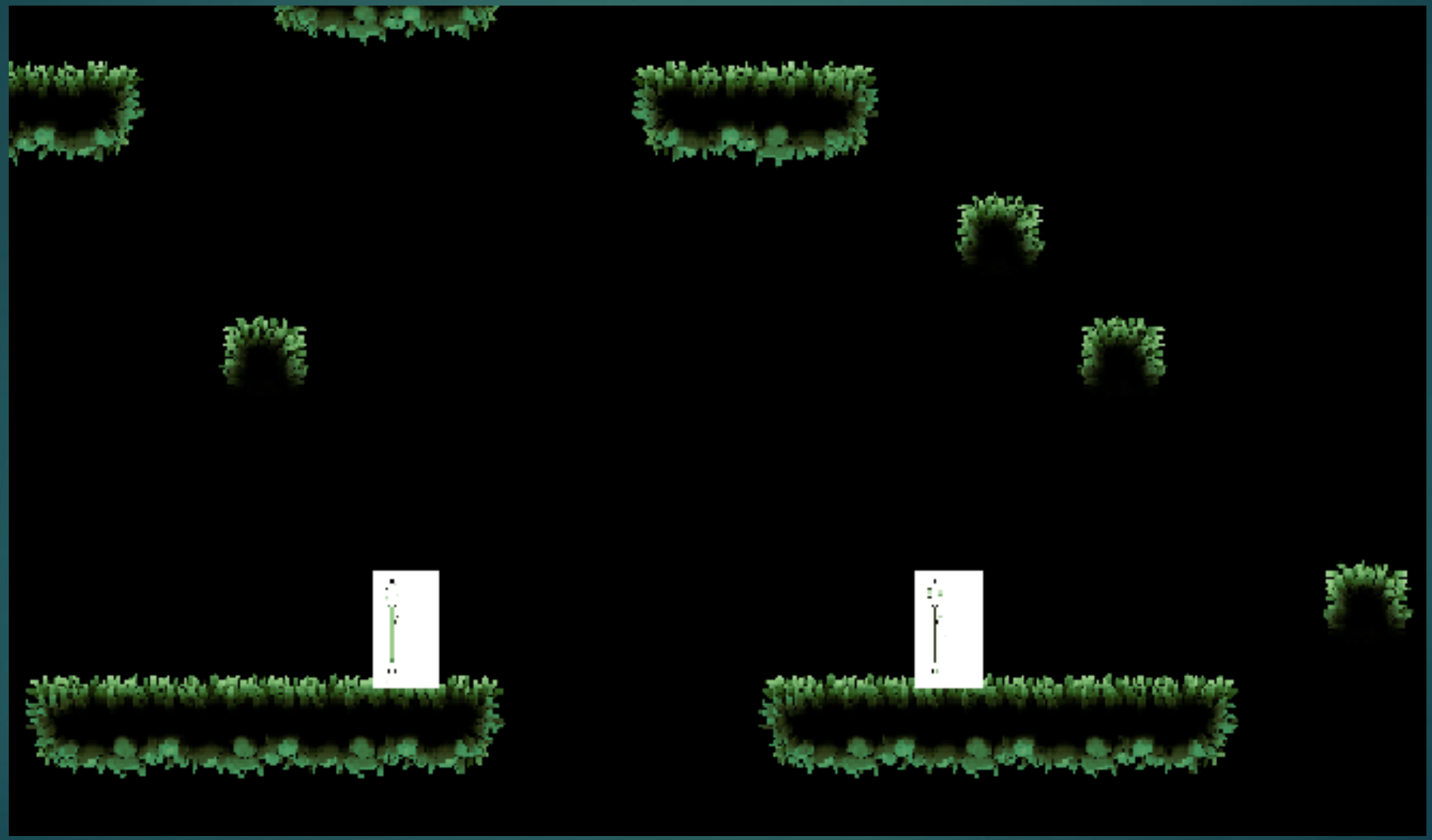
- Main Menu
- Credits
- Quit
- How To Play

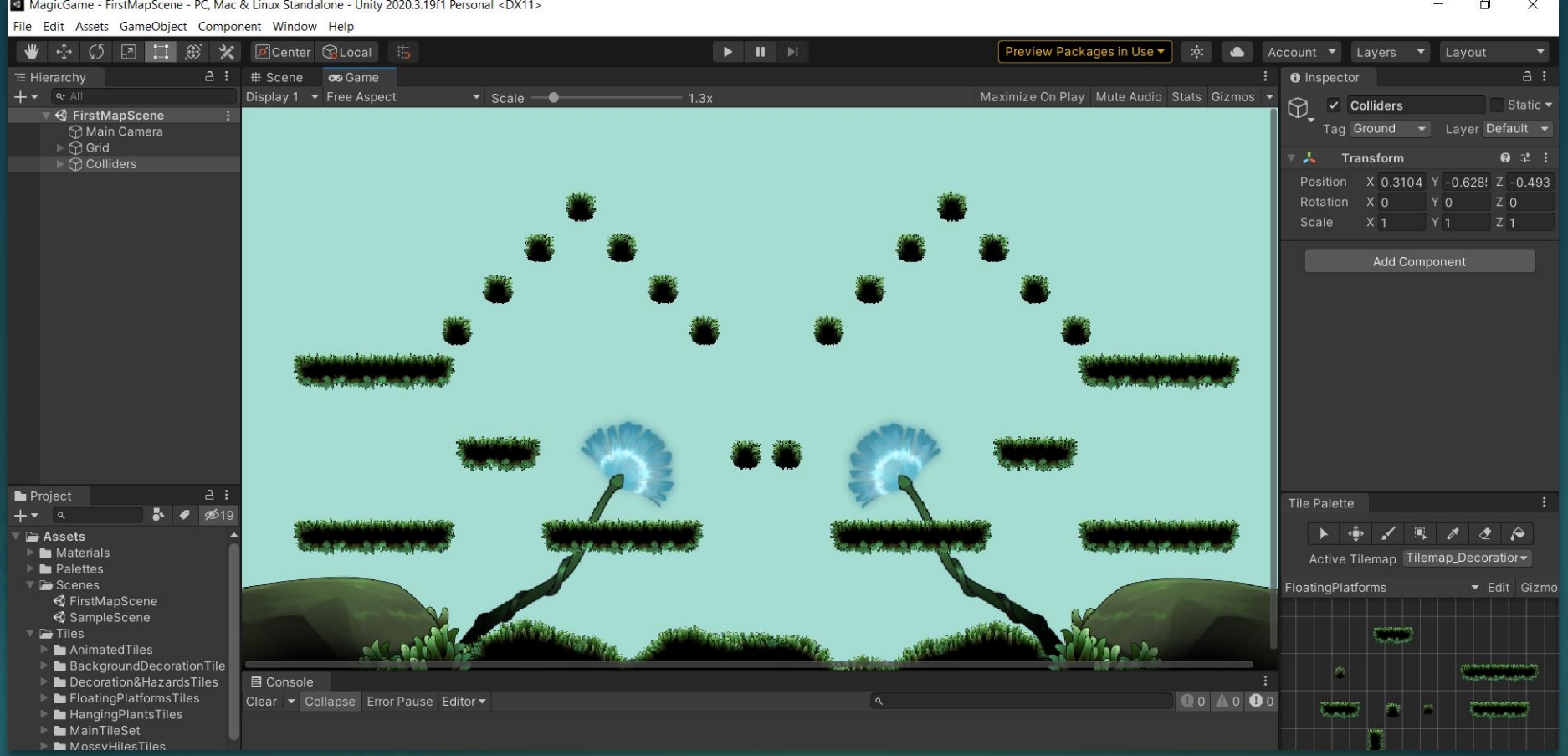

What is going on right now ?
WE HAVE FINISHED TO CREATE TEMPORARY(DEMO) SCENE.

Movement



Dash





What is going on right now ?

WE ARE DEVELOPING OUR FIRST MAP.

What we have learned so far ?

- Agile project management.
- Managing project is very detailed job.
- Working as a team leader.
- Active feedbacks from customers.

Thank You For Listening

181805009 – Mehmet VARAN

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