MARMOT.G5

COMP-1869-M01-2025-26 Final Year Group Project

Research Notes

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Vlad : Programmer

Research on grid system:

- I had a look into other popular and successful games such as Hayday and the way they created their farmland interactable. In this case, they used some sort of grid cells that allowed them to place objects into a 1x1 land plot.
- Objects in Hay Day are interactable by pressing onto them, so that gave me ideas on how to interact with the plants in Whisperfield as it's an intuitive way of interacting with objects in phone games.

Research on saving/loading system (storing/loading files from a system):

- I had to explore the C# API that allows me to save files onto devices like computers, phones.
- I did that buy looking into different websites which describe the documentation of how the "File" class works in C# code.
- I also had to research how to break down my complex code structures into smaller saveable JSON structures which were then saved to a file on the player's device.

Research on scriptable objects:

- To find a way to store "blueprint" data for each plant in the game, I researched the best way to do that, and Scriptable Objects seemed to be the best approach for this.
- Scriptable Objects are stored as an .asset file in the project directory and loaded into memory at runtime which is the best choice for loading each individual plant with that data.

Vlada: 3D Modeller

Modelling:

- Developed the main game concept and created early sketches for the initial visual direction.
- Analysed similar farming games and explored how to reinterpret familiar mechanics into a new concept (farming simulator with Weather API and crop selling).
- Conducted research on plant growth representation and designed a three-stage vegetable growth system (sprout → immature stage → fully grown stage).
- Studied real-life vegetable growth patterns to design believable yet stylised low-poly plant models.

- Selected the core colour palette and researched similar games to improve and adapt their ideas into a new concept.
- Created vegetable models based on real plant growth and studied low-poly techniques to keep assets detailed yet optimised.
- Modelled additional decorative assets (pumpkin jack, cobblestone, witch casserole pan) and textured them using Substance Painter.
- Built the final scene layout by placing and organising all assets in the game environment.

Organisational tasks:

- Team communication, task coordination, and providing consistent visual feedback.

Marketing:

- Studied the AIDA promotional model to understand player engagement and marketing flow.
- Researched effective ways to promote the game through social media and open platforms (TikTok, Discord, itch.io) using aesthetic-driven content, trends, popular examples of successful projects.

Eni: UI/UX

- colour themes, finding the colour pallet: went with purples and witchy themes. Also, colours also mattered due to accessibility so i had to go through

- style: type of UI style, looked at Hay Day and Stardew valley: went with a more low-fi/pixel theme.

-placements: looked at different UIs and where they placed their icons and settings and clickable UI. Reasoning, most obvious place, if a user can see it, can it be recognised and used without the user having to think about it. (diegetic UI)

- used Pinterest to make mood boards to set a design idea that we would stick to across the whole game.

- researched into monocycles and witchcraft as well as apothecary (was done for a feature that we wanted to implement)

- researched herbs, wicca religion and astrology to gain inspiration for design so that the design would have more meaning and be able to attract certain niche groups.

Connor: Programmer

Research on WeatherAPI:

- Most common weather api is openweathermap
- Features for the weather to change could be the sunlight intensity, and to spawn a particle effect that emulates rain depending on the temperature, and the weather
- Another feature could be the plants growing faster/slower depending on the temperature and weather

Research on SFX:

- Find out what licensing we need for SFX
- Make a list with Roshni on what SFX we need for the game
- Implement all the relevant SFX and background music

Research on VFX:

- Researching on how particle systems work
- Researching on how to make particles look realistic

Research on C#

- First timing C# language, used a lot of W3Schools and YouTube for answers
- Taught by Vlad on how to program, a lot of the problems I had, he helped with.

Roshni: 3D Modeller

- 3D Modelling :
- low-poly modelling techniques, for environmental assets (e.g., props like streetlamps, and natural terrain features like mountains).
- Plants & Aesthetic Research: research of magical flora and "witchy" visuals create unique plant design, focusing on shape, silhouette, and mystical properties.
- Concept Art & Pre-Production: Creation of example sketches for key game elements, including magical plant types, primary structures and environmental assets (e.g., main shop, props).
- Color Application: Testing of color palettes and combinations to ensure compatibility with the established charming, witch-inspired aesthetic.
- Audio Research
- Exploration of background music genres and styles that enhance the magical, cozy, and nature-connected atmosphere of the game world.