Dassie Town

Milestone One Documentation

Semester project - Tim Group 1

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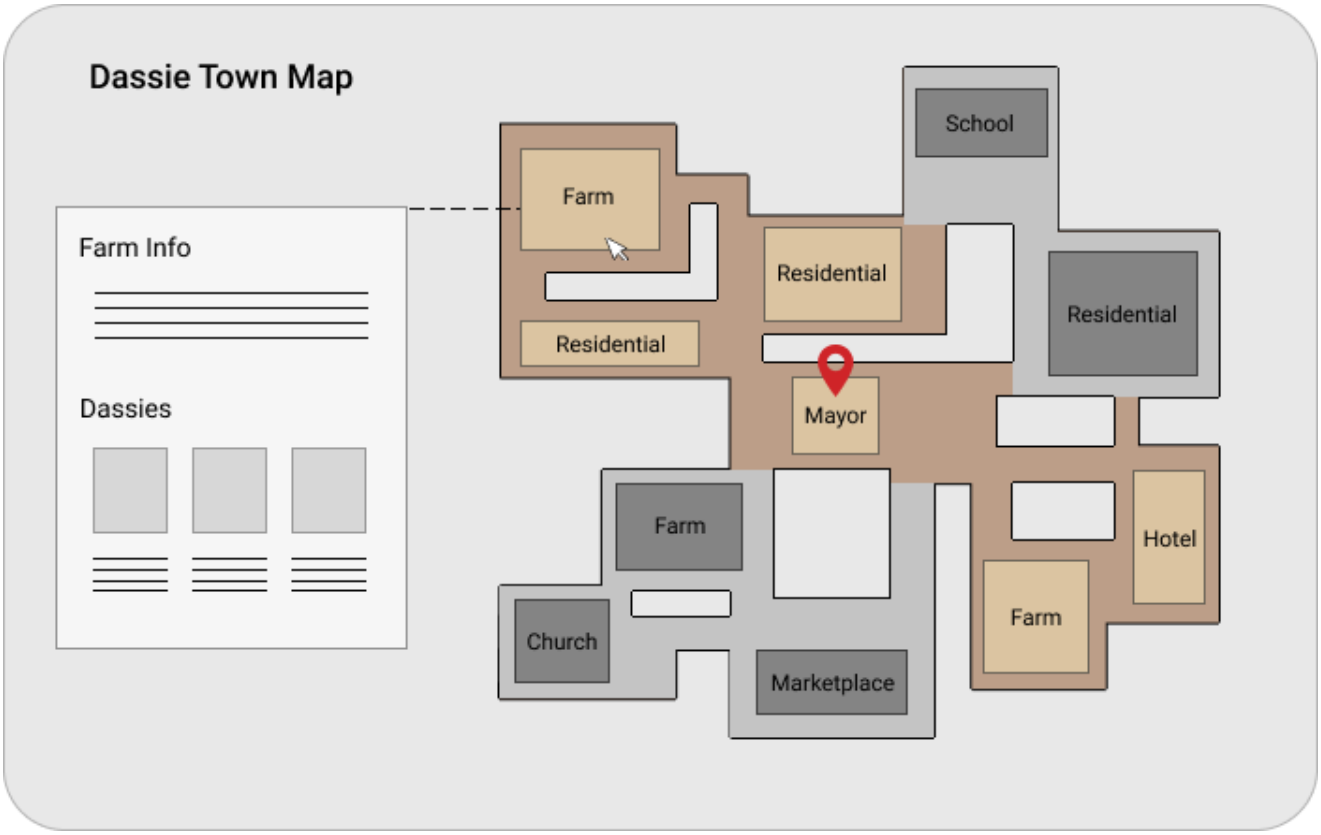
Milestone Focus

Our goal for the first milestone of this project was to have our basic game idea and functions implemented, as well as have a more detailed plan set up for the more specific aspects of our game (such as the locations, characters, map, UI, etc.). We wanted to create a prototype that allows for players to get a sense of the basic mechanics introduced within our game - which includes movement, pipe placement and interaction with water sources, as well as general character (NPC) interactions through a dialogue system. We also wanted to create some initial art assets in order to visualize our art direction more, as well as allow for some of our narrative to be depicted, in its most basic form, to players (i.e., through setting, clothing, etc.).

We have therefore created a prototype that shows our 2D isometric game world, including the main player character and one NPC. The player is able to move around the game scene, as well as place pipes in a grid-based system - connecting water sources to machines. The player is also able to interact with the NPC by clicking on them, which triggers a dialogue popup. The NPC is able to guide the player and open some doors for them - allowing for further exploration and progress within the game. In terms of planning, we have detailed out the locations and characters of our game more, as well as given further thought to our game UI - having created a rough sketch and set up of the interactable map UI (which can be seen below).

Ideas and Planning

UI Map



This is our initial idea and plan for the UI map, accessible to the player in-game. The player's position is indicated by the red location tag and is used to allow the player to gain a sense of where they are within Dassie Town. The areas the player has already been introduced to and explored within the game, is in colour - whereas the areas the player still needs to access and explore, is in grayscale. This will allow for the player to more easily see where they need to get to and what they still need to and can do and explore within the game. When the player hovers over a certain area on the map, an information popup will appear - providing them with some information about the place, as well as the dassies (characters) that can be found at that place and a bit of information about them too. This allows for further development and exploration of our game narrative in that it provides information about the town and townsfolk to the player.

Characters and Locations

Dassie Town is a small town located in the Karoo. The dassies of the town are a close knit community and everyone pretty much knows everyone. Being a traditional town, religion is very important to them. They buy fresh produce from the marketplace and everything is grown right in their very town.

Locations	Characters	Description
The Mayor's Office	Mayor le Roux Anneline Coetzee	These will be the first characters the player is introduced to. Mayor le Roux is the friendly town mayor, and Anneline is his secretary.
The Church	Father Joubert Sister Ackermann Sister Bouwer Friar Fourie	These are the characters the player will find at the church. They play a central role in the Dassie Town community.
The School	Mevrou Barnard Meneer de Jager	The Dassie Town school is quite small, as the town is not very populated.
The Marketplace	Tinus Reitz Laurie Schmidt Arno Feldmann	The player can interact with many different dassies at the marketplace - from vendors to customers. These are just a few that often stop by.
The Hotel	Estie de Jager Yvette Geldenhuys	Estie and Yvette have been best friends since young. They've always had a shared dream of being in the hospitality field - so they opened a hotel together.

The Farms	Jaco Pienaar Lourens Fourie Martie Bouwer	Each of these dassies are the proud owners of their own Dassie Town farms.
The Residential Areas	Ruan Coetzee Francine Naude Sonja Reitz	The player will come across many different dassies roaming around residential areas too, including these. Dassie Town had three suburbs: Klou, Pels and Stert.

Obstacles

Art

It was relatively difficult to create pixel art in an isometric viewpoint. The program that I made use of (Krita) is surely made to be able to draw in an isometric view however doing such in a pixelated art style (64 bit) does not work as well as one would hope. The pixels cross borders and when you try to separate the different segments for a tile map, it causes clipping and some pixels to look faded. Also it is near impossible to create straight lines with pixel art in an isometric view. Beyond this the only other obstacle that was encountered was being able to figure out a good color pallet for the environment.

Coding

In terms of the coding the main challenge faced while working towards the first milestone was dealing with how to program the pipe system. Placing, and removing, pipes was straightforward, but the challenge came from how to deal with calculating the flow between sources and machines, and how to detect the connection of pipes. The issue came with the first attempt at attempting to solve this issue.

The original approach was to have every pipe placed get information from any neighbours it was connected to, and if a pipe was deleted then the sources would send out signals to update every connection. This created countless bugs and problematic situations where the system would break. Instead of continuing with this a better approach was designed and implemented where the game will simply send a signal from every machine whenever a pipe is placed or removed, and this signal would go through connected pipes until they hit dead ends or sources, allowing complex branched pipe networks with multiple sources and machines. Once the new approach was implemented it worked flawlessly and all the pipe circuit issues were resolved, but this did waste some time overall.