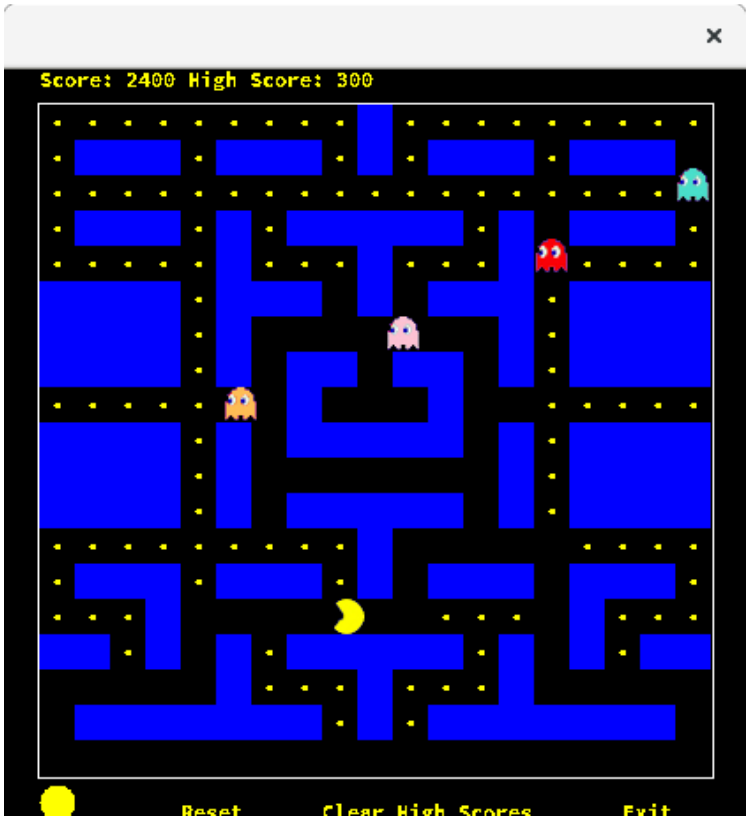
Problem Statement

Game Overview

The game will run on a Java applet, so users will need to download some sort of software in order to run the game on their computer. JGrasp, for example, is available online and is not only free for the player to download, but also has a very user-friendly interface. All of the instructions on how to download and start the game will be provided to the player through the README file. A great example for how a game looks like while running on a Java applet is illustrated in the following two graphics:



There are also countless other examples online that use Java applets to develop games, with many of them found here (https://github.com/topics/java-game) on GitHub.

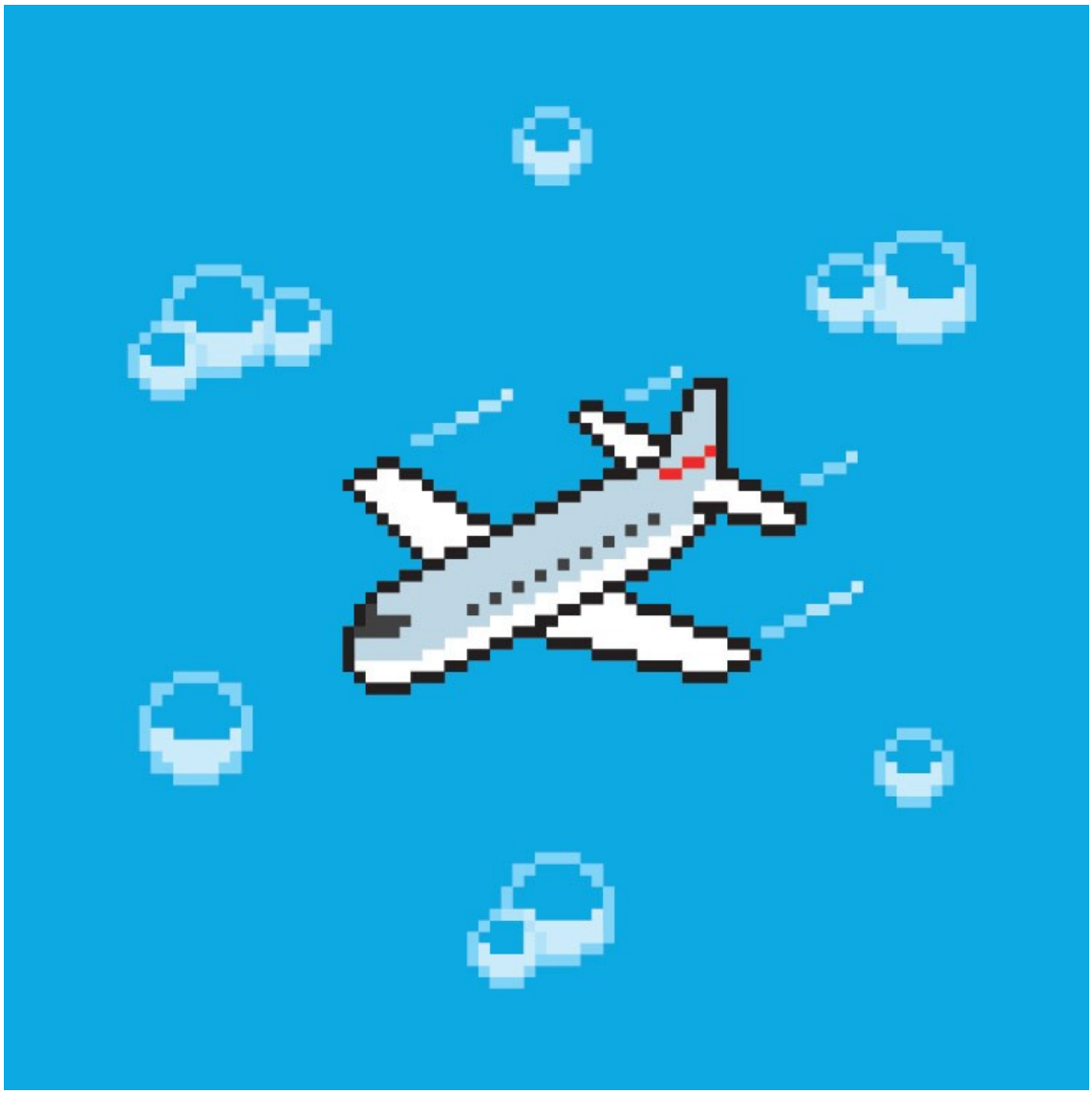
Game Interface

In essence, the game will follow a graphical interface somewhat similar to Nintendo's The Legend of Zelda: Link's Awakening. Like the following illustrations, our game will have a 2-D, top-down perspective, with some objects having an ‘angled’ view.

It is important to note that even though our game will not be this complicated (there will be no red heart containers, complex buildings, etc.), these models provide an early visualization that will allow us to model our own game environment.

Game Storyline

The game's main storyline will revolve around a character that was involved in a plane crash but somehow managed to survive (that is, the character woke up on a isolated island). After users choose their game character and input their name, the game will assign to them specific tasks to complete (with increasing difficulty as the game progresses) in order to successfully be rescued from the island. (Note: More information about the opening cutscene and other major details can be found on our Minimum Viable Product **(https://nmsu.instructure.com/groups/224287/pages/minimum-viable-product)** page).



User Input

In order to make user input as simple as possible, players will only be allowed to use a small amount of keys (e.g. enter and up/down/right/left arrow keys) in order to satisfy our *Simple Controls* user story requirement, which can be found on our User Stories **(https://nmsu.instructure.com/groups/224287/pages/user-stories)** page. In essence, we want the game player to manipulate the entire game (including the character) with a reasonable amount of keyboard keys in order to make the game controls intuitive and simple.

General Scope of the Game

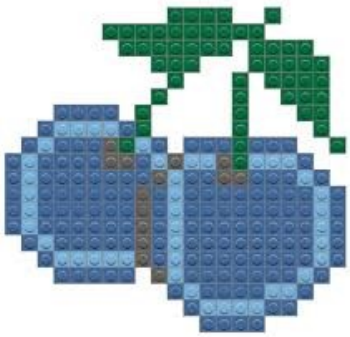
Our story and game are task driven with the player being provided different tasks every level. Each level will contain its own missions that need to be completed before the player can move on to the next level. For example, the first level is intended to introduce the player to controls and the storyline and should, in essence, be a tutorial level. Here, they will be given their first task of learning the necessary movements to maneuver through the island (the ultimate goal being to alert someone and be rescued). The following levels will add traps, obstacles, and more demanding objectives to require that the players apply and hone their problem-solving skills in the process. It is important to note that, unlike the Minecraft snapshot below, our game will *not* be a 'sandbox' game; the player will not be allowed to do whatever he or she pleases.

Game Structure

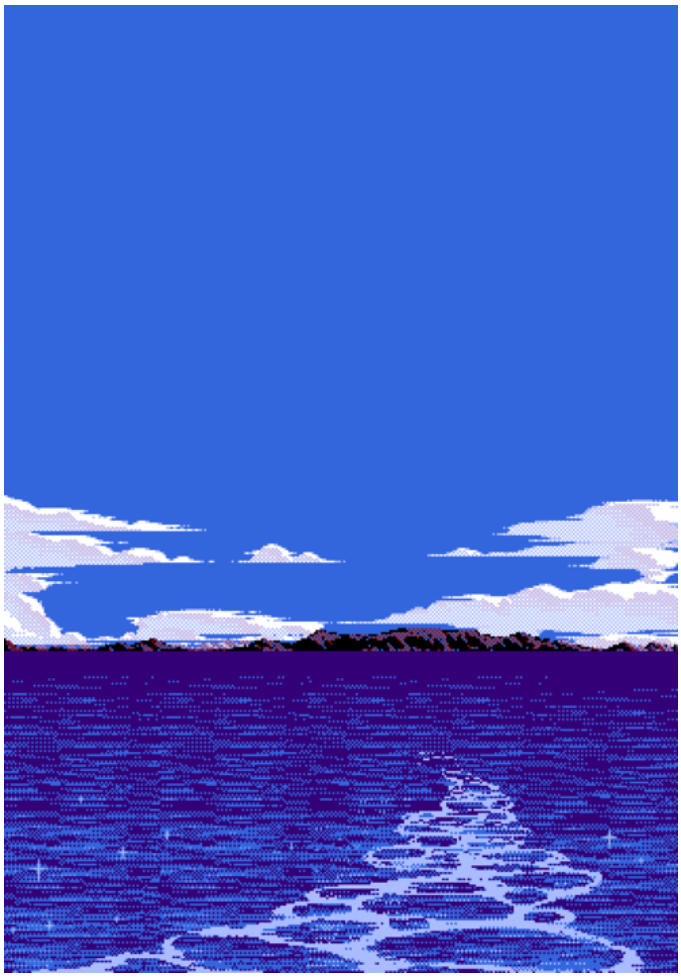
The game is being developed for the purpose of giving players an enjoyable gaming experience that is simple to learn but challenging to complete. Each level is an increasingly difficult trial in a series of obstacles that will lead to the ultimate goal: being rescued from the deserted island. While the purpose is to challenge players, the game itself will include fun elements, including the type of objects encountered and the sound effects. Ultimately, this combination of challenges and entertainment should create a game which players feel is fully worthwhile to engage in.

The game will take place on an abandoned island, and the character will be a survivor of a plane crash. The character's goal is to look for items around the island in order to send out an S.O.S. signal and be saved from the island and its terrors. Along the way, the player will encounter various "dynamic" creatures and "static" objects that will prevent him or her from completing the assigned tasks. The first class of these dangers are bees while the second class are monkeys. It is important to note that the player will die if contact is made with them. Therefore, the player will always be required to avoid running across these deadly objects.

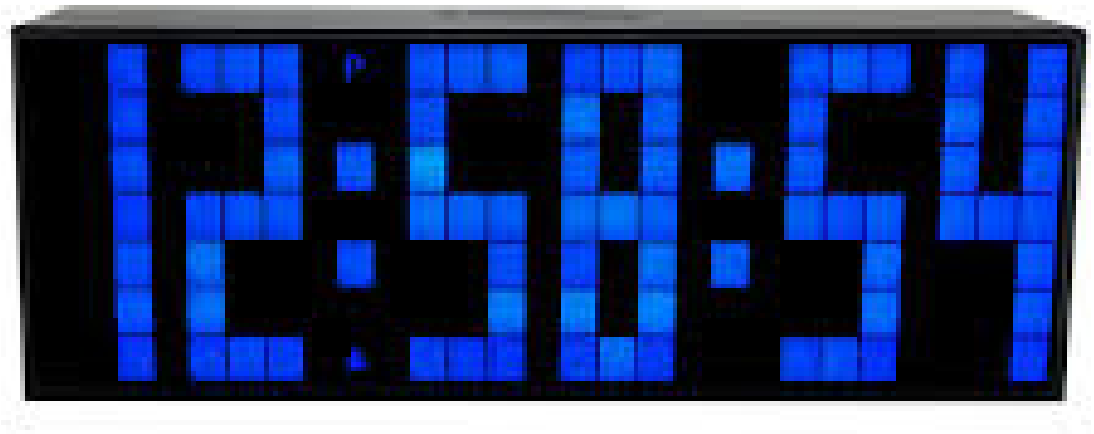
The third class of these dangers is poisonous foods. One of the advanced levels, which will take place days after the crash, will require the player's character to find edible food. However, the character will first eat a secretly poisonous food, which will not kill him or her, but instead alter the player's controls or the visibility of the map. One poisonous food may switch all of the character's controls (e.g. to move the character up, the user will have to use the down key), while another poisonous food may only allow the player to see one square in each direction from their current location (FUTURE WORK. Only one type of poisonous food was introduced.)



The fourth and last class of these dangers is drowning. In other words, players must avoid touching the ocean at all costs for certain levels in which they have access to it. If they accidentally enter the water, the character will immediately die.



Lastly, the final level, which is set weeks after the crash, will have a timer that the player must beat to complete the final task and make it off the island. If the time expires, the character has lost the time window they had to escape the island and thus fails the level.



In all of these situations, death or failure to complete the challenge results in the player restarting the current level. The intent is for the player to figure out how to complete each challenge by learning from their mistakes. Ultimately, if the player completes all tasks and finds the items necessary to notify others of his or her presence on the island, a rescue airplane will appear and save the player from the island, thus completing the game. (FUTURE WORK. Time constraints did not allow for the implementation of the timer on the last level.)