

Bugging Out - Group 5

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1 Logline

"The rains are over and the flood is coming; save the colony before the flood destroys everything in its path!"

2 Gameplay Synopsis

2.1 Overview

In *Bugging Out* the user is chased by a torrent of water running down the colony's tunnel. The rainy season has caused a flood to race down the bug colony's tunnel and the last bug into the tunnel must save the colony from certain peril. The player must maneuver their bug character around the screen avoiding obstacles and staying ahead of the waves of water at the same time. As the user progresses further down the tunnel, the wave gets faster and the obstacles become more difficult to avoid, making the game play more intense. The user will navigate their bug up, down, left, and right keep it safe. The wave represents a constant obstacles moving in from the left. New obstacles appear as the bug and wave moves to the right. The obstacles can come from above, below, and the right.

2.2 Gameplay Descriptions

The goal of the game is simple. Keep the bug alive as long as possible, avoiding all the obstacles as they come. The bug is flying so it allows movement in all four directions. The game is score based. That is, it does not contain different levels, it just progressively becomes more difficult. The timer shows how long the bug has survived since the flood began and the score represents both how long the bug has been alive and how many of it's species have escaped while it has been evading the wall of water.

The obstacles and some short descriptions are listed below:

- **Flood** - The flood is a large, raging wave of water moving down the bug tunnel from the left. The water moves gradually faster the longer the bug spends in the tunnel. If the water ever catches up with the bug, the game is over.
- **Leaks** - Large leaks from the ceiling can knock the bug into the ground, temporarily stunning it. While stunned the wave continues to move forward. After the bug recovers, it flies back into the air and the game continues.
- **Sprays** - Pressurized jets of water can shoot up out of the ground, spraying into the air. When these jets of water hit the bug, it will be forced upward toward the ceiling, possibly forcing it into the game ending spikes.
- **Enemy Bugs** - These bugs have only one goal, to destroy your bugs entire species. They will gladly sacrifice themselves to the flood in order to destroy you. If they get a hold of you they will fly you directly into the flood, destroying your colony and ending the game.
- **Spikes** - The rock spike protruding from the ceiling can spell instant doom for your bug. Avoid them at all costs. Flying into these will cause the bug to get impaled, trapped until the flood comes and washes it away.
- **Venus Fly Traps** - These obstacles can be found growing from the floor and/or ceiling and will try to maneuver withing their short operating range trying to devour your bug. If you are caught by one of these plants you will wish it was the flood that had got you first.

2.3 Controls and Interfaces

Controls: The controls for the game are extremely simple and are summarized in the instruction screen accessible off the main menu of the game. The controls are as follows:

1. **Up or 'W'** - Moves the bug up, towards the ceiling.
 2. **Down or 'S'** - Moves the bug down, towards the floor.
 3. **Left or 'A'** - Slows the bug down, moving it closer to the wave.
 4. **Right or 'D'** - Speeds the bug up, moving it further away from the wave.
5. **NOTE: The bugs speed is limited, that is, there is a limit as to how fast you can fly otherwise you could simply fly away from the wave.**

Interfaces: The overall interface is the same throughout the whole game. Please see the "Gameplay Diagram" section for a visual representation of the interface. The wave is always rushing in from the left, traveling with the bug down the tunnel. As they travel new obstacles will appear on the ceiling, floor, and even in between. These obstacles will be generated randomly so that the user cannot achieve abnormal results from memorizing a pattern in the obstacles. The user does not control the obstacles in the level, they simply try to avoid them.

2.4 Rules

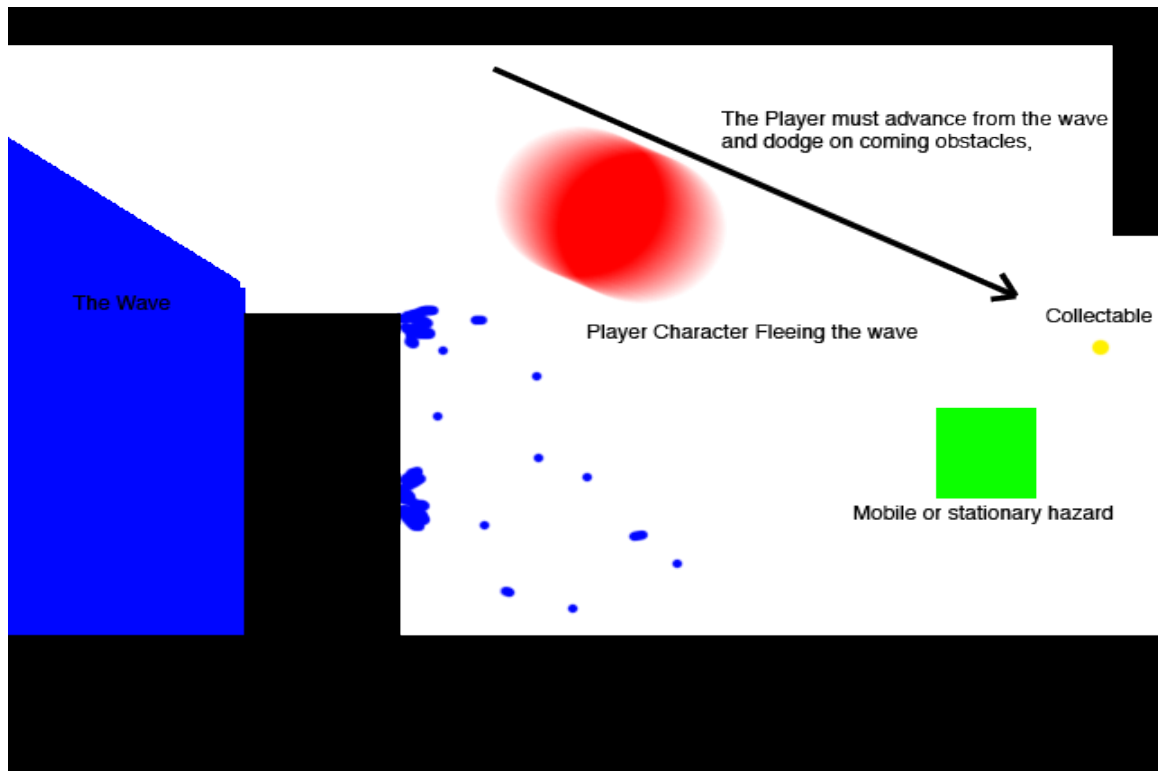
The rules are simple avoid all the obstacles for as long as possible, giving your colony time to escape the flood by making it out of the tunnel to higher, drier ground. The only rules

governing the game are the ones controlling the ways in which the bug moves. The user can move in any direction at any time, some direction, however, may result in the death of the bug.

2.5 Scoring/Winning Conditions

This is a score based game with the ultimate goal being to set the score so high your friends never even come close. The losing conditions are easy, being destroyed by one of the obstacles. The score increments based on how long you spend in the tunnel because the longer you spend in the tunnel, the more of your brethren are able to escape the death sentence that is the flood.

2.6 Gameplay Diagram



3 Division of Labor

We will be using the framework from the last project to control and generate the level and entities in the levels. Since that part is already nearly done, we have identified these major tasks below and assigned them accordingly:

- **Collision Detection** - *Team* -We need a good way to tell when our bug hits an obstacle so we can respond accordingly.
- **Media** - *Tom* -We will need new music and sounds for this game as well as animation for the flying bugs, the leaks, sprays, enemies, Venus fly traps, and the flood. Also, we will need art for the level design and backgrounds.
- **Logic** - *Team* -The logic of the fly traps, the main character and the enemy bugs need to be implemented so that the obstacles act in some logical manner while the main character responds to user input in a timely manner. We also need logic built into the game to determine when to increase the difficulty and how to do this(from an obstacle standpoint).
- **Timers** - *Tom, Jocelyn* - The overall game timer will need to be kept and displayed. This will, no doubt involve the use of the SDL TTF library. Also, we need to keep some form of score and keep this and the time running on the screen so the user can see how they are doing.
- **Game Screens** - *Donald* -The main screen, instructions screen, and high score screens will need to be implemented as well as a way to switch between the screens and keeping and updating the high scores.