GROUP F
BAGUETTE HER BACK END OF PROJECT REPORT

Michael Suttie – 40541599 & Mikolaj Figiel – 40435378

Games Engineering (SET09121)

Edinburgh Napier University

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1. Introduction

Baguette Her Back is a fun and lighthearted platformer. The premise is simple, your character "Jaque la Baguette" has lost his croissant lover to the hands of a pesky seagull and you must travel through various scenes in Paris to rescue her. The game was to include multiple levels with varying settings, all with unique combinations of enemies and hazards for the player to overcome.

The game has multiple ways of providing conflict, the first of which are hazards which include jumping puzzles, sauce pools, and spiked barriers. The player must not make contact with these or they will lose one of their three lives. Additionally, there are two enemy types as of completion. The rat and the seagull. The rat simply patrols a set area, however, the bird will chase Jaque down and shoot at him to stop him from reaching his goal.

Inspiration was drawn from classic platformers such as Mario – the game will follow in the footsteps of having both static hazards as well as mobile "smart" enemies that aim to disrupt the player. Another game that provided some inspiration was Terraria – Terraria has a fantastic, simplistic art style and features a very broad game scene in which the player can traverse horizontally and vertically. Finally, the last two pieces of inspiration are more obscure but somehow managed to form the full idea of the game's story; two simple memes. One of a cat running into a bakery door and another of a seagull stealing a packet of crisps from a co-op.

2. GDD Changes

While we tried to stick to our GDD to add all of the features that we intended to add, the time constraints proved to be a bigger factor in development than initially thought. As a result, there were a number of things that were omitted from the 'final' game that were described in the initial GDD submission.

2.1 . Omissions from GDD

The following features were omitted from the final game:

- The inclusion of power-ups that were initially present in the GDD was scrapped during development.

- The croissant lover is not mentioned or seen within the game.

- The following theorized assets were not used for the project: puddle.png, frenchman.png, dayMusic.ogg, afternoonMusic.ogg, nightMusic.ogg, birdSquak.ogg, jaquéRun.ogg, rodentSqueak.ogg, rodentAttack.ogg, frenchMan.ogg, sauceBubble.ogg, puddleSplash.ogg.

- The general story aspects of the game, while present in the theme, were not added or mentioned due to time constraints.

- While different enemies had their own attack types, they did not have the ability to change their attack types dynamically based on the situation.

2.2. Changes from GDD

- The GDD stated that the player would not be able to leave the boundaries of the screen and that if the player was to venture out with the boundaries, they would be teleported back. This was changed as the game adopted a player-centered camera and the world was designed in such a way that it is (theoretically) impossible to escape the boundaries of the game world.

- The proposed level number was changed from 3 levels to 2 with level 2 being set on rooftops rather than in vents. Level 1 includes simple enemies alongside hazards instead of just hazards as initially proposed. Level 2 includes an 'advanced' enemy that follows the player and attempts to defeat them with projectiles while they attempt to reach the end of the level by navigating through platforming puzzles.

3. Software Design

3.1.   Gameplay Loop Flowchart
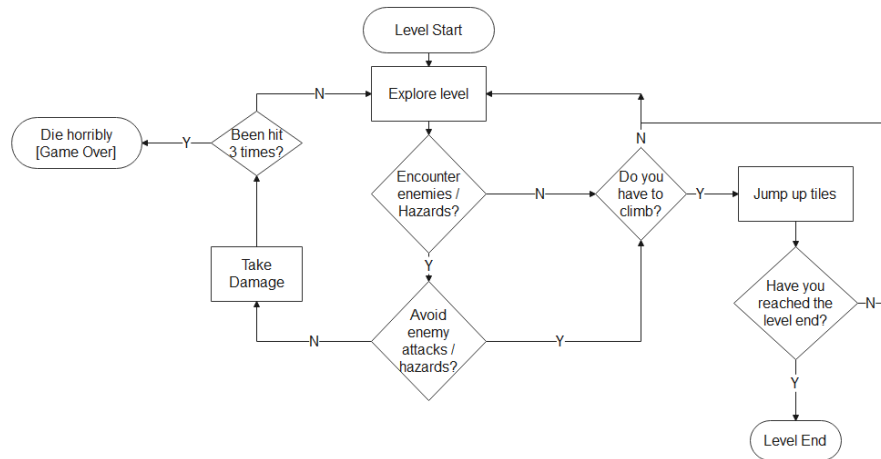
3.2.   Entity Relationship Diagram
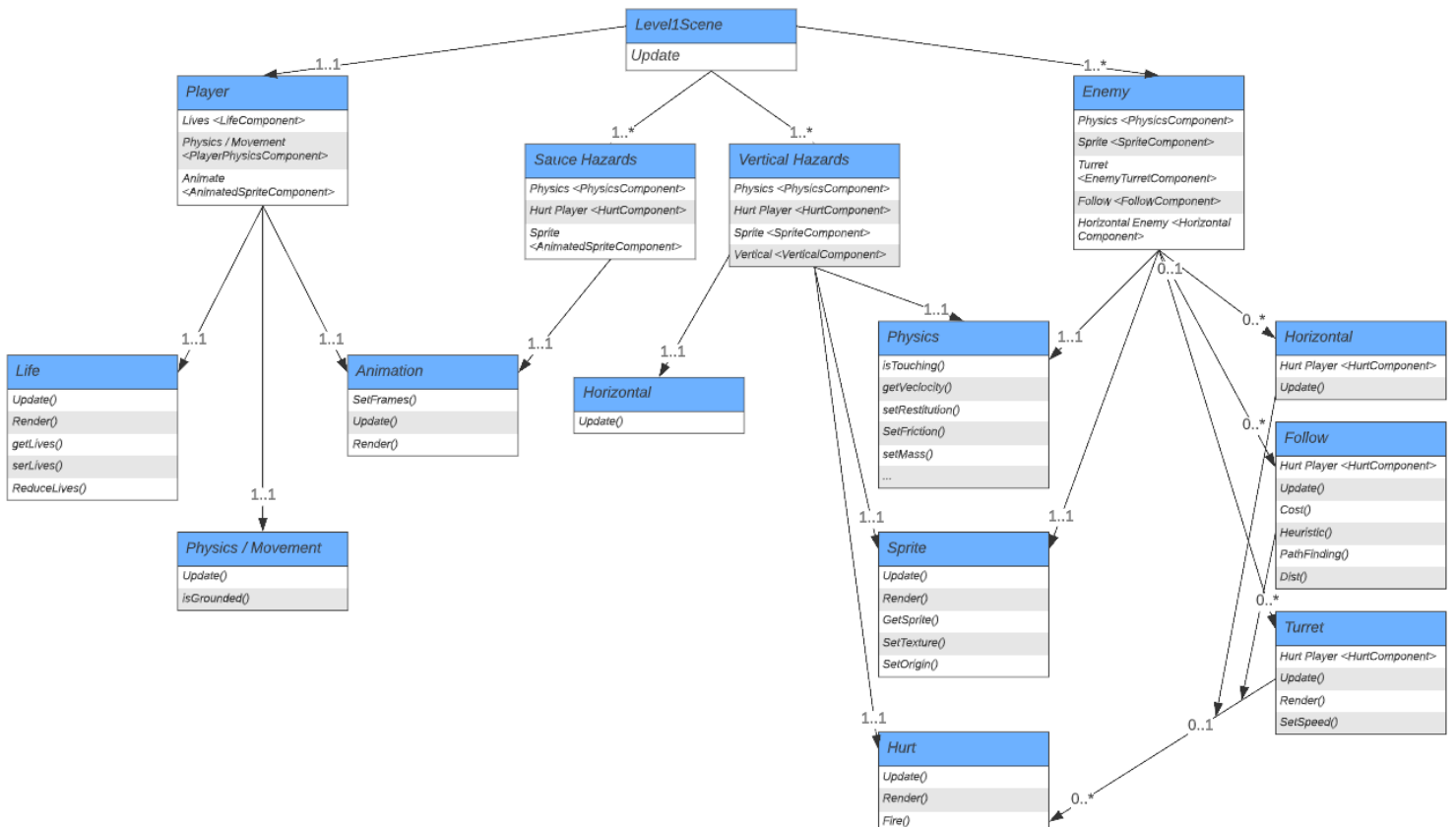
3.3. Turret Enemy State Diagram

4. Implementation

4.1. Main Menu

When the game launches, the player is taken to the main menu. The menu has buttons to play, change settings, change controls and quit.

The settings menu allows the user to change the screen resolution of the game and to toggle fullscreen on or off by clicking the text with the mouse.

The controls menu informs the player of where they can find the config file to manually rebind the controls of the game.
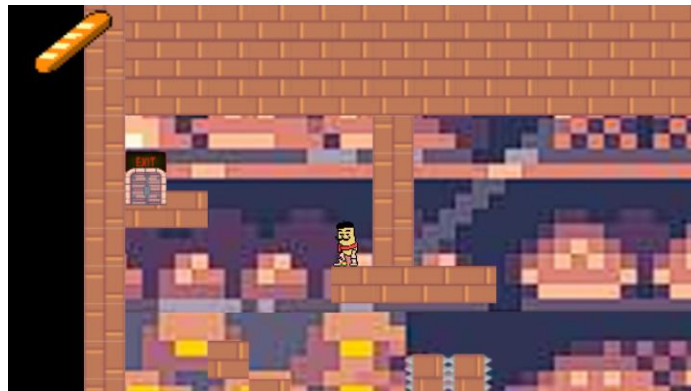
4.2. Level 1

Loaded into Level 1, the player must now traverse the level by avoiding obstacles and enemies. Touching a hazard or enemy will deduct a point of health. Here we can see our health (Top left), our player Jaque, the Sauce hazard as well as the spike barrier hazard, and finally, the rat enemy on the floor above.

Progressed through Level 1, and took 2 points of damage on the way. Here we see another enemy, the 'angry bread' that will throw projectiles at you.

End of level 1, loads level 2 upon contact with the door.

4.3. Level 2

Level 2 where the player must run from the bird. Note that the lives have reset, and the new bird enemy.

The bird actively moves closer to the player's position by constantly calculating the best path to where the player currently is and moving one step towards it, then finding the best path again. This movement occurs every 0.65f which gives the bird the appearance that it's teleporting.

The exit for level 2, we can see the doors as well as the hazard for this level, the roof vent smoke which will hurt the player should they fall into it.

5. Evaluation of Implementation

5.1. A Comparison Against the Original Concept

Compared to the initial concept for the game the final version has remained relatively close to what was planned in terms of gameplay and aesthetic, with mild changes based on scope and time available. Originally the game was meant to have more story-driven gameplay with context being given for the protagonist's journey and why they must traverse these levels.

5.2. Comparison Against Other Games in the Genre

Compared to games like Super Mario, the game keeps itself distinct even though they are both 2d platformers. The lack of collectibles lets the player focus on their movement in order to progress through the level, without needing to be distracted by unnecessary items. The ability to go back does open the game up as you're free to explore at your own pace without worrying about missing things or running out of time, unlike Mario where the camera prevents you from going back and the time can run out forcing you to restart.

5.3. Quality of the Game

The game is of sufficient quality to be called a complete prototype however there is always room for improvement. Certain enemies in the game had to be rushed during development and as such don't have animated textures, instead being a still image. The projectiles fired by the bird and the turrets are also missing textures and are instead represented by a red circle. In addition to this, the hitboxes for the hazards are very inconsistent to the point where it was often difficult to complete a level during testing and demoing. This is something that definitely brings down the quality of the game a touch from what it could be. Furthermore, the audio can be considered repetitive and get stale after prolonged play as there is a lack of variation in both SFX and music. Finally, the second level was rushed in design, therefore, it does not look and feel quite to the same level of quality and depth of the first while at the same time being very challenging, sometimes to the point of frustration, which is made even worse by the fact that you cannot save and reload into the second level.

5.4. Possible Improvements

The game can be improved by adding proper animated sprites for all mobile enemies, this would make the game seem more fluid and professional as everything would feel more cohesive with proper animation in place. More sound assets can be added to break up the monotony of the same sounds over and over, different background music for levels, audio cues for turret attacks, idle audio cues for enemies such as a rat squeak or a bird squawk, or even 1 or 2 more jump sounds to stop it from being one sound repeatedly. Finally, the hitboxes must be addressed and the first level made easier in order to make the game more fair and to make it more accessible.

6. Resources and References

RESOURCE	SOURCE
Boing Sound	Short Link
Player Hurt Sound	Short Link
New York Baguette (Menu Music)	Short Link
Swing Time (Level Music)	Short Link
Menu Background	Short Link
Baguette Healthbar	Short Link
Menu Buttons	Short Link
Level Tiles	Short Link
City Sunrise (Level 2 background)	Short Link