Ghost Hunter - Game Design

Game Design Document

You can't always catch success by its tail

Contents

1. Vision, Scope And Goal of Project

Vision

The intention behind "You Can't Always Catch Success by the Tail" was to create a dynamic game where you're able to dodge and catch enemies. It's sort of a mix of games like "tanks" or "airplanes" where you hit a target or obstacles in front of you. And also such multi-level games with passage like "Super Mario", the first prototypes of such games were still on Nokia button phones. The idea is to create at the same time as an easy game for easy entry and understanding of mechanics, and not a very complex game in terms of functionality, which we would not be able to handle.

Scope

As you may have noticed, the scope of the game is not particularly large and includes only one level so far, as this is our first experience and we wanted to experience it for ourselves. Other features of the game include a fixed amount of bullets and also certain points for killing ghosts. Since this is just a prototype, the game does not include some features such as moving to the next level and regulating the difficulty. We will add more additional fitches as we continue to update the game.

Goal of Project

- Apply our knowledge in writing game code
- Create an interesting and easy game for users
- Develop a good template for a larger game

2. Game Overview

Title

As stated in our file header, the name of the game is "Ghost Hunter".

Gameplay Hook

The name of the main character in this game is "JustMeat", he is a born hunter of ghosts and different monsters. He is waiting for a long journey through the dark steppe of despair, but he has his weapon against ghosts, with which he can clear the way to his hometown. The game's tagline "You can't always catch success by its tail" epitomizes the game's concept that you can't always win. That is, the game requires you to use all your bullets to kill the ghosts, if you miss, then you'll run out of ammo and just lose the game.

Genre

2D Side-Scrolling Shooter

Target Audience:

Players who enjoy arcade-style shooters and casual games.

Platforms

This is our first experience, so the game is still only as a prototype running on pc. In the future we can add more functionality and add both on mobile device and game console.

3. Gameplay Mechanics

Movement

The player can move left and right across a 2D landscape and jump to avoid obstacles or incoming ghosts.

```python
walk_left = [
    pygame.image.load("images/left/left1.png").convert_alpha(),
    pygame.image.load("images/left/left2.png").convert_alpha(),
    pygame.image.load("images/left/left3.png").convert_alpha(),
    pygame.image.load("images/left/left4.png").convert_alpha()
]
walk_right = [
    pygame.image.load("images/right/right1.png").convert_alpha(),
    pygame.image.load("images/right/right2.png").convert_alpha(),
    pygame.image.load("images/right/right3.png").convert_alpha(),
    pygame.image.load("images/right/right4.png").convert_alpha(),
]
```

Shooting

The player can shoot bullets to defeat ghosts. There is a limited supply of bullets, requiring players to collect more or manage their usage wisely.

```python
if bullets:
    for el in bullets:
        screen.blit(bullet, (el.x, el.y))
        el.x += 10
        if el.x > 1292:
            bullets.pop()
```

Enemies

Ghosts appear at intervals and move towards the player. The player must shoot them to gain points and prevent them from causing damage.

```python
ghost = pygame.image.load("images/ghost.png").convert_alpha()
ghost = pygame.transform.scale(ghost, (60, 60))
ghost_x = 1284
ghost_list_in_game = []
```

Scoring

Players earn points by shooting ghosts. A high score is required to win the game.

```python
is_jump = True
jump_count = 0
score = 0
bg_sound = pygame.mixer.Sound("sounds/bg.mp3")
bg_sound.play(-1)
```

Lives and Ammo

The player starts with a limited number of bullets. The game ends if the player is hit by a ghost or runs out of bullets.

```python
bullets_left = 15
bullet = pygame.image.load("images/shot.png").convert_alpha()
bullet = pygame.transform.scale(bullet, (32, 32))
bullets = []
```

Win/Lose Conditions

The player wins by reaching a score of 1500 points. The game ends with a loss if the player fails to meet certain conditions (e.g., being hit by a ghost, running out of bullets).

```python
if score == 1500:
    screen.fill((0, 0, 0))
    screen.blit("win", (450, 350))
    pygame.display.update()
    pygame.time.delay(3000)
    running = False
```

4. Graphics & Audio

Visual Style

Cartoonish and vibrant, with clear, appealing character and enemy designs.

Characters

The player character and ghosts have distinct animations for moving left, right, and being hit.

Background

2D Side-Scrolling Shooter

Audio

Background music plays throughout the game, with sound effects for shooting, hitting enemies, and game-end scenarios.

5. User Interface

Start Screen

Includes the game title and a "Play" button.

Characters

The player character and ghosts have distinct animations for moving left, right, and being hit.

In-Game Display

Shows the player's current score and remaining bullets.

End Screen

Displays a "You win" or "You've lost!" message based on the game outcome, with an option to play again.

6. Development Tools

Engine

Pygame

Languages

Python

Assets

2D sprites for characters, enemies, bullets, and backgrounds. Sound files for music and effects.

7. Future Development

Levels

Adding multiple levels with increasing difficulty and variety in ghost behavior.

Power-Ups

Introducing power-ups to give temporary advantages, such as increased bullet speed or invincibility.

Leaderboard

Implementing a leaderboard to encourage competition among players.

8. Design concept and Screenshots

Visual direction

Visual direction for our game in the style of 2d console games. It makes us nostalgic for the past when we played similar games like ninja turtles. We will develop other design concepts in the future, maybe it will even develop with levels.

Screenshots