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Hot_budr_snake Design

Overview

Essentially, hot_budr_snake is our take on the classic snake game. It's a twist that takes all the fun of chasing squares with a pixelated snake, and makes you chase good ol' hot butter instead. But that's not all. In addition to being on the lookout for hot_budr, you need to be careful to avoid the dangerous instances of not_budr located on the game map. Also, running into the walls or colliding with yourself will put an end to your game as well. Cheerful 8-bit music will play in the background during the menu and sound effects will play during the game when you eat butters or die. Moreover your current score will be displayed in the upper corner while playing.

Our game will contain 3 seperate levels: easy, medium and hard. As levels increase in difficulty both the initial speed and number of obstacles increase as well. Easy will start with a low speed and no obstacles, medium will start with a moderate speed with 4 obstacles, and hard will be high speed with 9 obstacles. Moreover, as the snake increases in size and eats more butter, the speed will progressively increase over time.

In order to make hot_budr_snake properly complex and increase accuracy, collision detection will be done with edge detection and image processing. Instead of checking the locations of obstacles and butters in comparison to the snake head, we will check neighboring pixel color in order to get a more accurate hit box, since our images are not precise shapes.

Classes

Main - Calls all display and update functions, handles button and mouse clicks, and determines current length/score and game state. Will contain the following functions:

- keyPressed
- mouseClicked
- setup
- draw
- gameState

Snake - Draws the snake and detects collisions. Handles whether it collides with a butter, an obstacle, or itself. The snake updates according to calculated velocity and add more units if it eats butter. Will contain the following functions:

- update
- display

- detectCollision
- eatBuddr

Budr - Will display the hot_budr images at random locations. If eaten, remove the butter and generate a new one. Will contain the following functions:

- display
- reset

Obstacle - Will display not_budr images at static positions. Will contain the following functions:

- display

Menu - Handles all logic pertaining to the main menu, like selecting level difficulty, starting or exiting the game.

<u>Program Requirements</u>

- Import the Sound Library