OOPDA Final Project Proposal

Spring 2025

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Snake - Enhanced

The goal of this project is to design and program the popular game “Snake” solely in Java, using the vast number of libraries supplied by the Java framework. However, rather than copying the standard game, the goal of this project is to design it using object-oriented programming in mind, allowing for things like modularity and ease of updates. Using classes to properly structure the game, modifications can quickly and easily be made.

Now that you know the goal of the project, let’s go over what the project will include, and what allows it to differ from the well-known snake game. The core gameplay will remain the same, involving a 2D plane where the player controls the direction of an ever-moving snake. The goal is to eat apples and reach a high score. With each apple eaten, the length of the snake increases, making the game more difficult. In order to achieve this, the Shape classes designed in projects 6 and 7 will be used. These classes provide information such as coordinates, which will be essential to tracking the snake's location. A grid can be designed on the canvas, which the snake's body will snap to, allowing for a smooth gameplay experience. Other functionality needed includes checks during each simulation for things such as collisions with itself or apples. Collision detection can be done easily using the shape classes, as coordinates can be compared to one another.

Roles:

Eric Bradley

- Grid generation Code
- Snake Class and movement handling
- Random apple generation

Harrison Tran

- Collision Detection Utility class
    - Used in core gameplay to detect apple or self-collisions.