

# Project Proposal - Snake

## 11.22.2021 Version 0.1

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For CSS 451 - Professor Sung

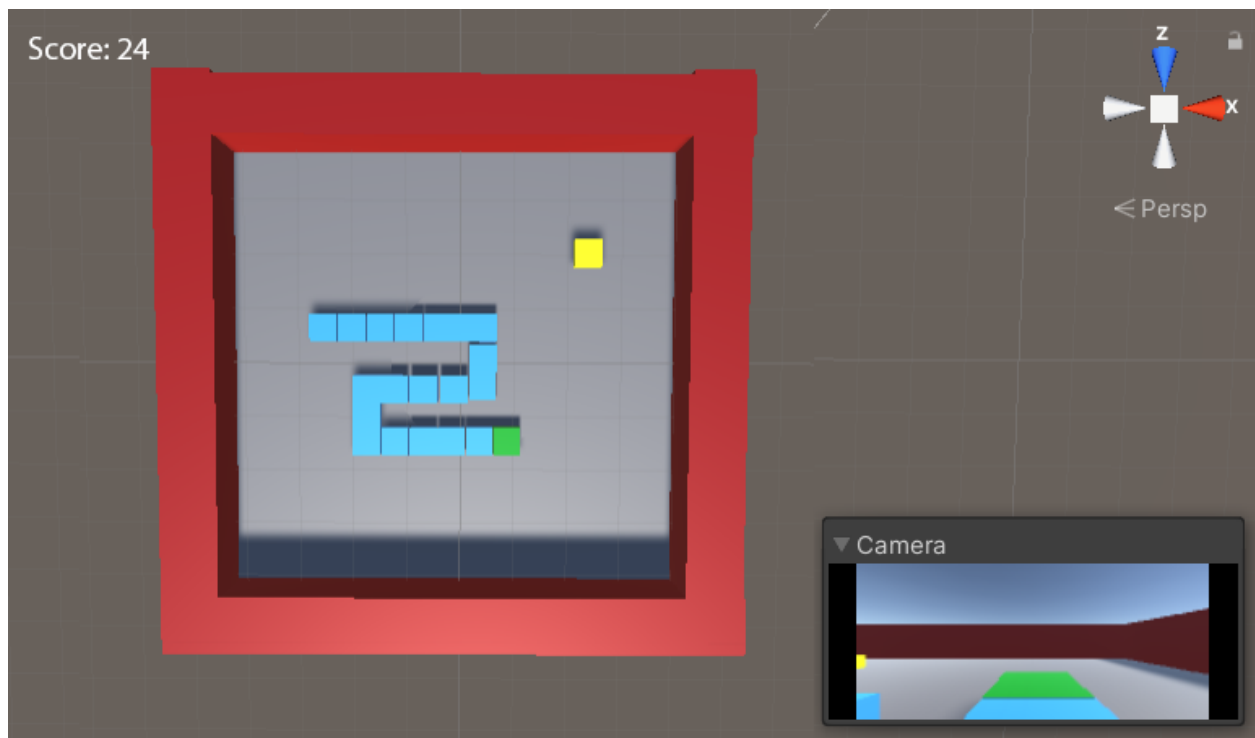
### Description

Our project is a 3D implementation of the classic Snake game. The player controls a constantly moving snake within a bordered plane, as it tries to pick up food while trying to avoid colliding with its own tail. The goal is to try to collect as many points as possible before colliding with either the tail or the wall, at which point the game will end.

### Purpose

The purpose of our implementation of Snake is to create a 3D version in Unity utilizing what we have learned throughout the quarter, such as SceneNode hierarchy to grow the length of the snake as it collects points, and a first-person camera view attached to the snake.

### Project Mockup



## List of Tasks

- Create SceneNode hierarchy for Snake to grow
- Create objects for Snake to interact with
- Implement scoring system
- Create arena for Snake to exist in
- Add camera for first person view of Snakes head
- Add user control of snake
- Support pausing and dragging items/walls to a new location

## Wishlist

Multiple snakes at once

Larger arena with a “map” mode

## Tentative Schedule

11/22 - Present Proposal

11/25 - Finish basic hierarchy ( that does not grow)

11/28 - Finish arena with interactive objects

12/1 - Add secondary camera that moves with snake

12/4 - Add different kinds of objects, scoring system

12/7 - Support snake dragging / pause

12/10 - Fine-tune graphics / textures

12/13 - Finish video demo / resolve any remaining issues

12/15 - Ready for submission

## Technical Requirements

- Compose Snake and walls out of SceneNodes with primitives attached either as main body or cosmetics
- Each SceneNode is manipulated directly via user input with mouse
- Snake will be destroyed on collision with wall or it's own tail, requiring visual destruction of objects
- Snake SceneNodes behind the head need to follow the path of the parents ahead of them via grid rather than being directly behind them
- One camera shows the whole scene, the other shows the First-Person view of the snake