

## Overview

Snakes is a competitive video game. Players guide their snakes to eat pellets and avoid walls or other players. All player simultaneously play on the same board. There are 2-4 players competing each round. Each player guides their own snake over the internet or in person. Games should only last around 1-2 minute. Different boards will be available and will be selected before games.

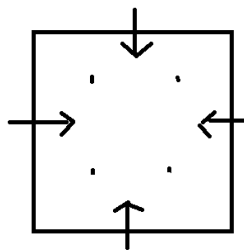
## Motivation.

Snakes is interesting because while the game is easy to learn adding other players into the game adds more variables. As game rounds will only be 1-2 minutes long the mechanics of the game need to be as precise as possible. While coding the game itself wouldn't be difficult the design of levels, internet protocol, and control scheme would be difficult to perfect. This is a challenge in user design rather than coding.

## Description

Players start at opposite ends of a square(see diagram 1). The snakes will then start moving forward.

Diagram 1:

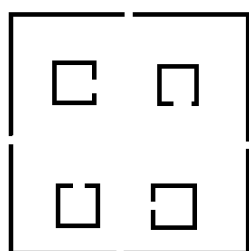


Players cannot stop the forward movement. Players can turn their snake left or right and the snake will then continue to move. If a players snake hits a wall or another snake that player is eliminated and the game continues until 1 player is remaining. The final player remaining is the winner of that round.

As players collect pellets their snake will grow. This will make it easier to eliminate other snakes. There will also occasionally be special pellets that are larger and glow. These will have special random effects such as reversing other players controls or shortening their snakes.

There will be at least 3 levels. The first is the original square. This is the basic level with no special features. The second level will leave spaces open where the snakes enter the square. If a snake enters the space they will appear on the opposite side of the square. Players can use this to avoid others or entrap others. The third level will have 4 smaller squares inside the original square(see Diagram 2). If a snake enters one of these squares they will randomly exit either another square or one of the 4 sides. This is the most complex stage.

Diagram 2:



## Tools and Technology

Tiles.

The following graphic tiles will be made to build the game and levels(currently filler images)

1. Left Top Corner



2.Right Top Corner



3. Left Bottom Corner



4.Right Bottom Corner



5.Horizontal Wall.



6. Vertical Wall



7.Horizontal Opening



8.Vertical Opening



9.Snake Head



10.Snake Body



### 11.Snake End



### 12.Pellet



### Level Creation Tool.

A level creation tool will be made to quickly create levels. Levels will be read from an array of numbers representing each graphical tile. The level will then be generated from the array. The level creation tool will allow users to place graphical tiles on a grid that represents the level. Once completed and exported the level creation tool will create a file containing the array to be read. This will allow creation of levels without coding experience.

Example of outputted array.

Key.

0 = Blank Space

1 = Left Top Corner

2 = Right Top Corner

3 = Left Bottom Corner

4 = Right Bottom Corner

5 = Horizontal Wall

6 = Vertical Wall

7= Horizontal Opening

1	5	5	5	7	5	5	5	2
6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
3	5	5	5	7	5	5	5	4

Example of level Outputted by Array.

