

This Snake is Down Right Fierce

Charles Hung
6.111 Final Project

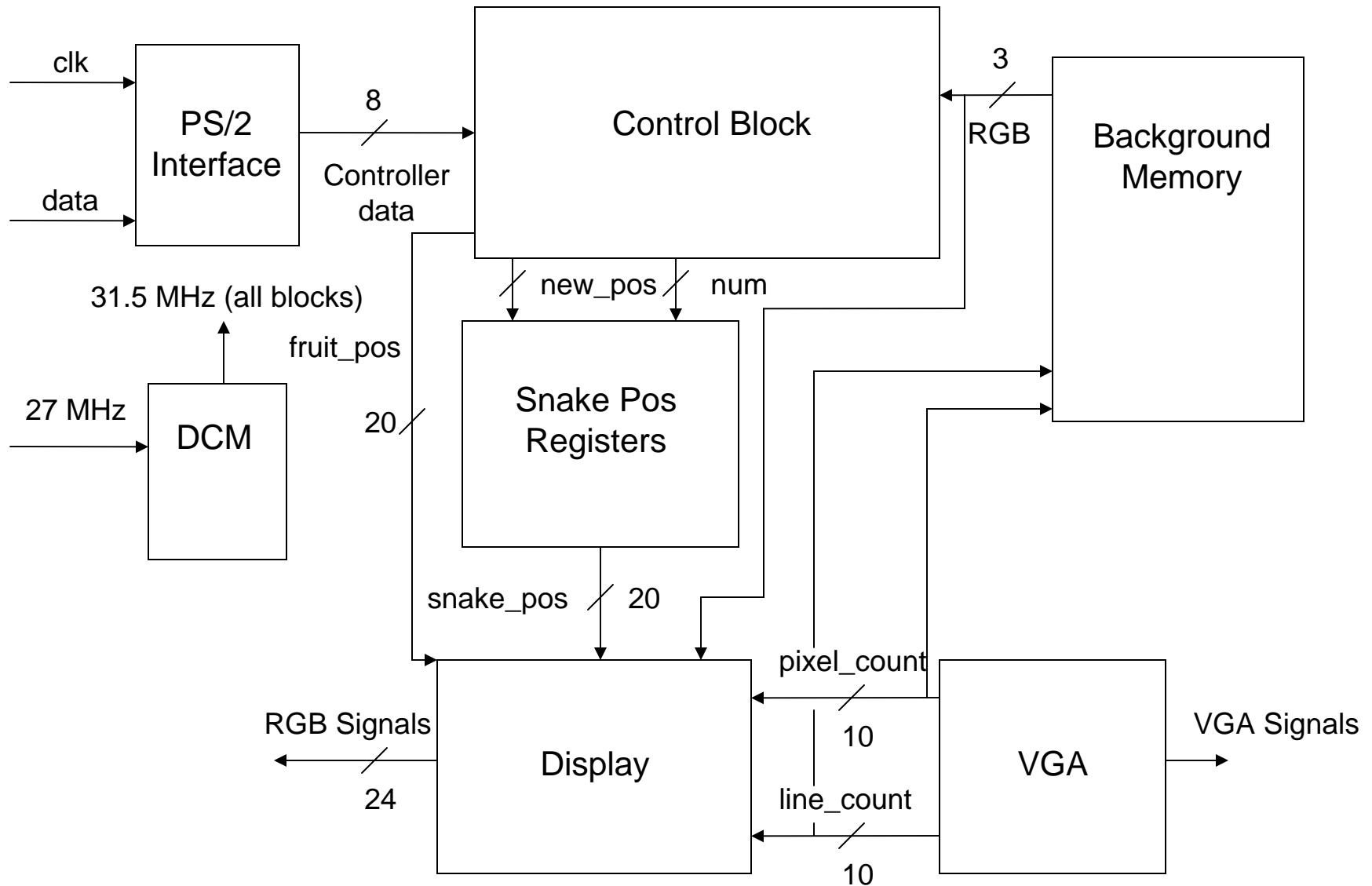
Introduction

- Object of the game is to eat “fruit” to grow longer and avoid hitting the walls or yourself
- 3 different levels
- Player can control the snake using a PS/2 controller

Design Considerations

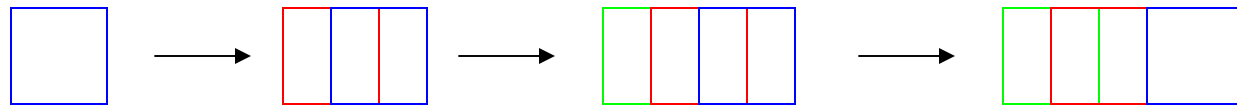
- Major/Minor FSM abstraction to control game logic
- Use block RAMS to display background and sprite to display the rest of the objects

System Overview



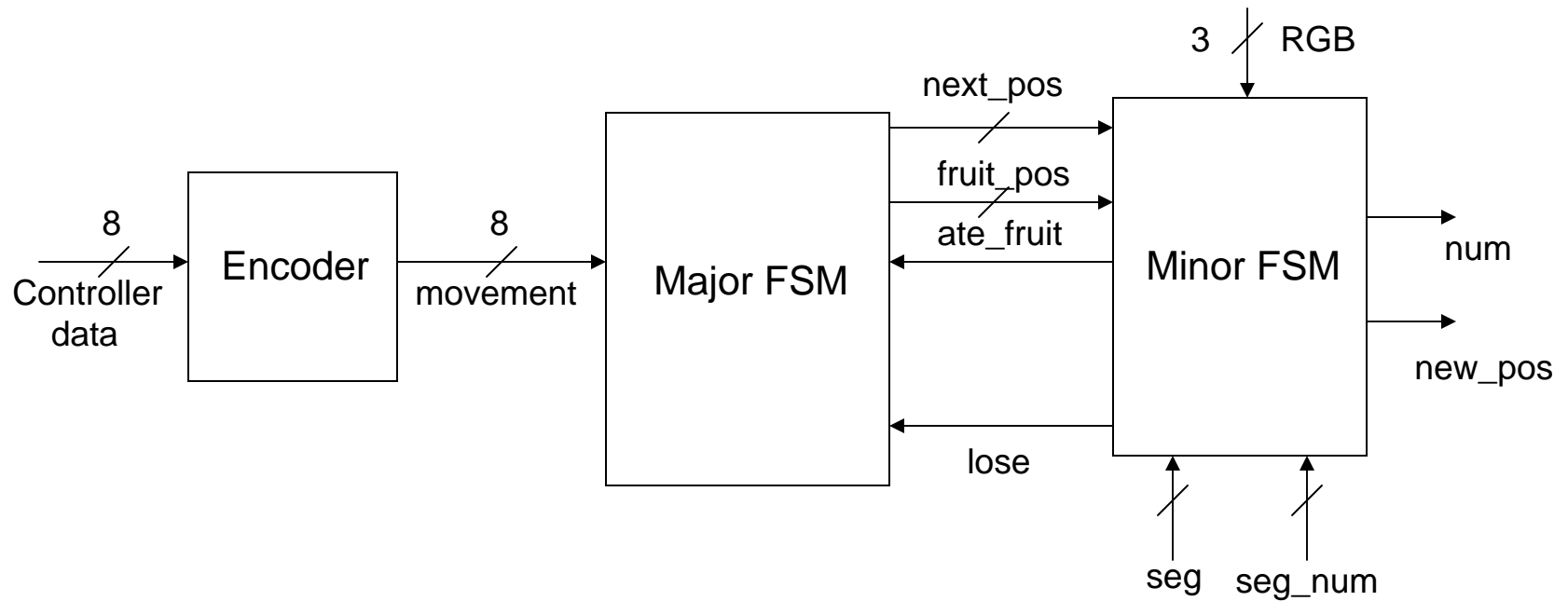
Growing the Snake

- Snake represented as many segments drawn on top of each other
- Can grow the snake by changing the relative position of the sprites



Control Block

- Control Block contains game logic and encoder for output from the PS/2 interface



Control Block

- Minor FSM checks for collisions between the snake and the wall, the snake and itself, and the snake and fruit
- Checks for collisions with walls by using the RGB value from memory
- Checks for collisions with snake by comparing position of the head with the position of the rest of the segments
- Outputs a lose signal if snake does something that causes the game to end
- Writes new positions of the snake segment to the registers if game continues