# ECE241 Project Proposal

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**Project Summary:**

A hardware implementation of the classic snake game to which the goal is to eat as much food as possible without colliding with the boundaries of the playing area or with the snake's own body. With each piece of food consumed, the snake grows longer. Additional options to extend the game are a multiplayer battle mode, and a scoreboard displaying past high scores.

# High Level Block Diagram



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# Milestones

| Milestone # | Date | Description | Deliverables |
| --- | --- | --- | --- |
| 1 | 11/07 | Lab 7 & 8 Completion | Familiarize ourselves with the VGA adapter module, display, and monitor. Solidify understanding of embedded memory blocks. |
| 2 | 11/14 | ModelSim Individual Modules | Nadia - P2S input interfacing and control module |
| Matthew - Main Datapath module established |
| 3 | 11/21 | Testable on Hardware | Nadia - Fully double buffered VGA display screen ready |
| Matthew - Game and Food FSMs established |
| 4 | 11/23 | Debugging & Integration | Both - Integration of PS2 input and VGA output with game implementation + debugging |
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| 5 | 12/05 | Project Demo | Present final project in tutorial |

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# Division of Tasks (Total Pts: 2)

Matthew - Finite State Machine: Game and Food FSM (2 FSMs, one big) (0.5 pts)

* Datapath: Main Datapath (complex) (0.5 pts)

Nadia - Inputs: PS2 keyboard (0.5 pts)

* Outputs: VGA display w/ double buffering and no tearing (0.5 pts)