

Vegas-Style Slot Machine



Daneaya Wallace and Laura M. Roberts
11/14/07

Overview

- To make a Vegas-style slot machine, given its popularity in casinos and the popularity of online gambling
- Will rely on camera-controlled inputs from user, instead of physical touch
- Dividing project into two parts: game inputs and game outputs
- Deliver a fun, interactive, and visually-appealing slot machine

Agenda

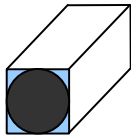
- How a traditional slot machine works
- How our 6.111 slot machine will work
- Implementation
 - Block Diagram
 - Discussion of two modules
- Optional Functionalities
- Time-line

How a Traditional Slot Machine Works

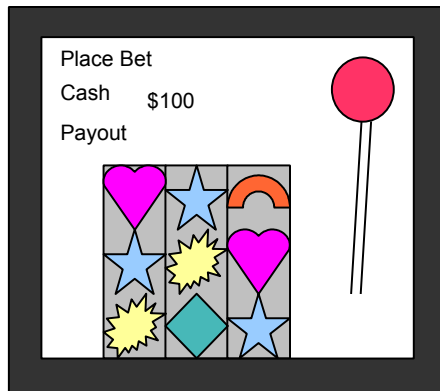
- Three identical reels with pictures that rotate when lever pulled after money has been inserted
- One-player game
- Player wins money based on the pattern of pictures shown when reels stop



Our 6.111 Slot Machine



Camera

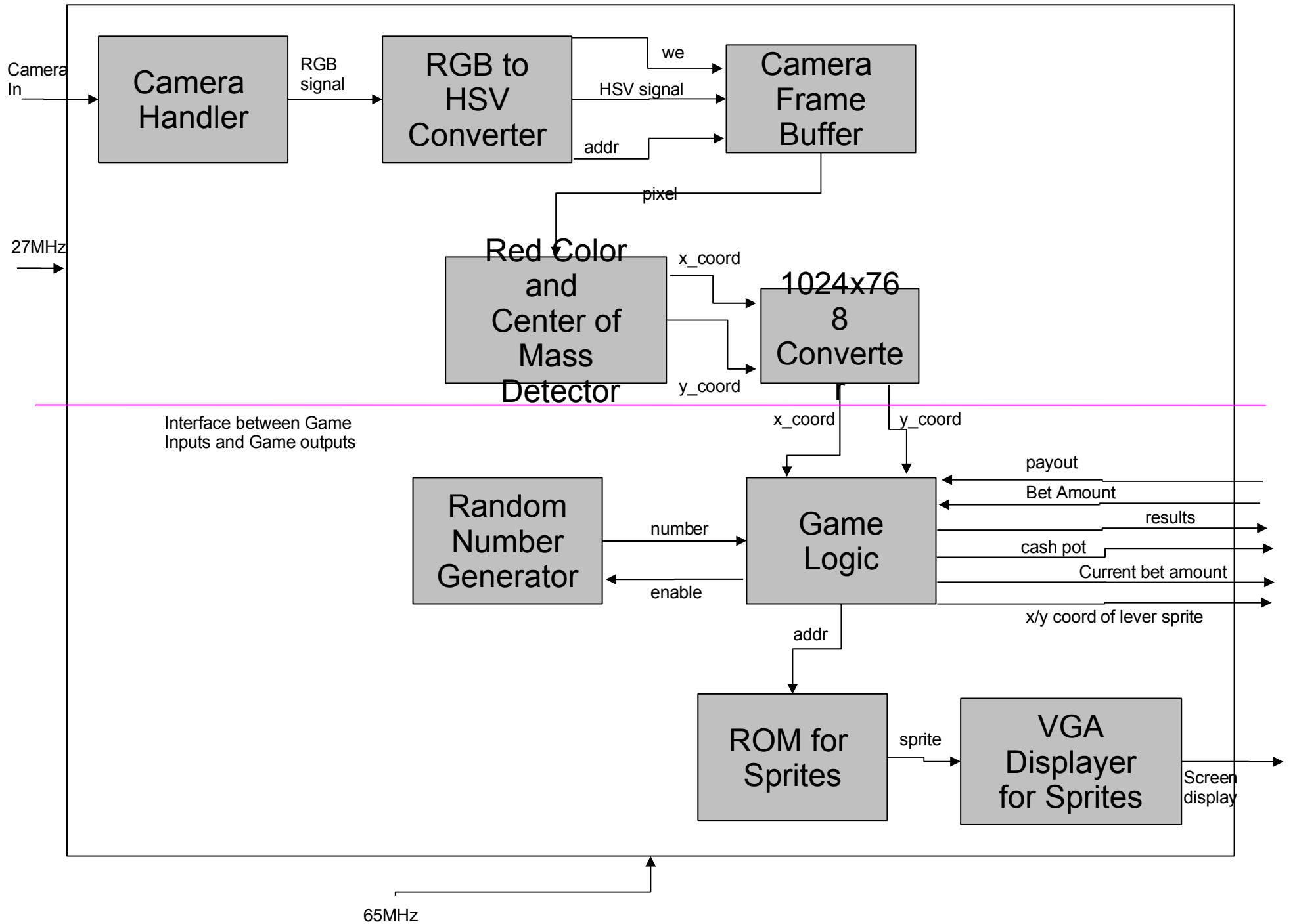


Computer Screen

- Will have the slot machine's elements on a computer screen
- Reels and lever will be animated
- On-screen buttons
- Player will start out with fixed amount of money to gamble with
- Player pulls the lever by standing in front of camera with red glove on one hand and making the correct pull-down motion

Implementation

- Project divided into two major components, which will be broken up into modules
 - Game input component
 - Detects position of the red glove from the camera
 - Game output component
 - Responsible for game functionality
- Modules can be made and tested incrementally



Red Color and Center of Mass Detector Module

- Inputs: pixels from camera frame buffer
- Outputs: read address for next pixel in frame buffer, x-y coordinates of the center of mass of red glove
- Functionality: Take in each pixel, decide whether red or not, if red, then average it into the current center of mass, thus determining a new center of mass. Center of mass must be greater than a certain weight in order to be considered.

Game Logic Module

- Inputs: random number, x-y coordinate of red glove, payout (end game), bet amount
- Outputs: Current bet amount, cash pot, results, enable, reel1, reel2, reel3
- Functionality: Takes in a bet amount, waits until hand is over lever for 2 seconds, then waits until hand makes a “pulling lever” motion until it reaches a certain threshold. The game logic picks random sprites for the reels.

Optional Functionalities

- Make the slot machine user-friendly by having it give the player on-screen directions
- Make the reels spin faster or slower in relation to the force of the pull-down of the lever
- Make it so that a player can place bet by using the on-screen buttons, instead of having to use the switches on the FPGA

Time-line

- Meet together
 - Mondays 12pm-2pm
 - Wednesdays 12pm-3pm
- Current week: Checklist, code
- Week of 11/18: Code
- Week of 11/25: Debugging
- Week of 12/2: Optional functionalities
- Final Week: Preparing presentation and report
- Ongoing: Writing description of modules as we code