ECE385 Final Project Proposal

Project Idea: Frogger

Eric Meyers, Ryan Helsdingen

Section ABG; TAs: Ben Delay, Shuo Liu

April 6th, 2016

emeyer7, helsdin2

I. Introduction

II. Ideas and Overview

Our idea is to create a "Frogger" game with the basic premise of moving a frog across the street without getting hit by any moving obstacles (refer to Figure 1 for more details). This will be accomplished via similar techniques used in lab8 and interfacing VGA graphics with a USB keyboard controller.

A NIOS-II Processor will be used and hardware...

III. Block Diagram

IV. List of Features

Basic Functionality

- User controlled block moves according to grid set on VGA display
  - Up, down, left, or right depending on input
- Moving obstacles that are different shapes
  - Different types of objects can lead to different outcomes - i.e. object can either allow "frogger" to move with it or kill it.
- Multiple levels with increasing difficulty
- Starting point and ending point on any given level
- Timer
  - 5 minutes to complete level
- Color
  - Must be able to clearly differentiate between obstacle, user controlled block, and the map
- Score/Highscore

Optional Functionality and Complexity

- Multiple maps
  - Maps taking place with different shaped obstacles and different background
- Sound - 8-bit soundtrack
- Sprites and animations
- Start menu - Options Help Highscores, Start Button
- Powerups:
  - Slow-down/speed-up obstacles
  - Longer blocks for "frogger" to hop onto
  -
- 2-Player Mode

V. Expected Difficulty

The basic functionality of this game will not be much difficulty at all (3 pts). We are relying on implementing a majority of our "Optional Functionality and Complexity" that will give us the bulk of the difficulty points. This project will most likely approach a 6 in terms of difficulty.

The basic functionality is not too difficult to implement and will require This will be due to the amount of features we will be implementing. Sprites, animations, different maps, levels and power-ups will all require efficient memory usage.

VI. Proposed Timeline

(RYAN)

VII. Figures

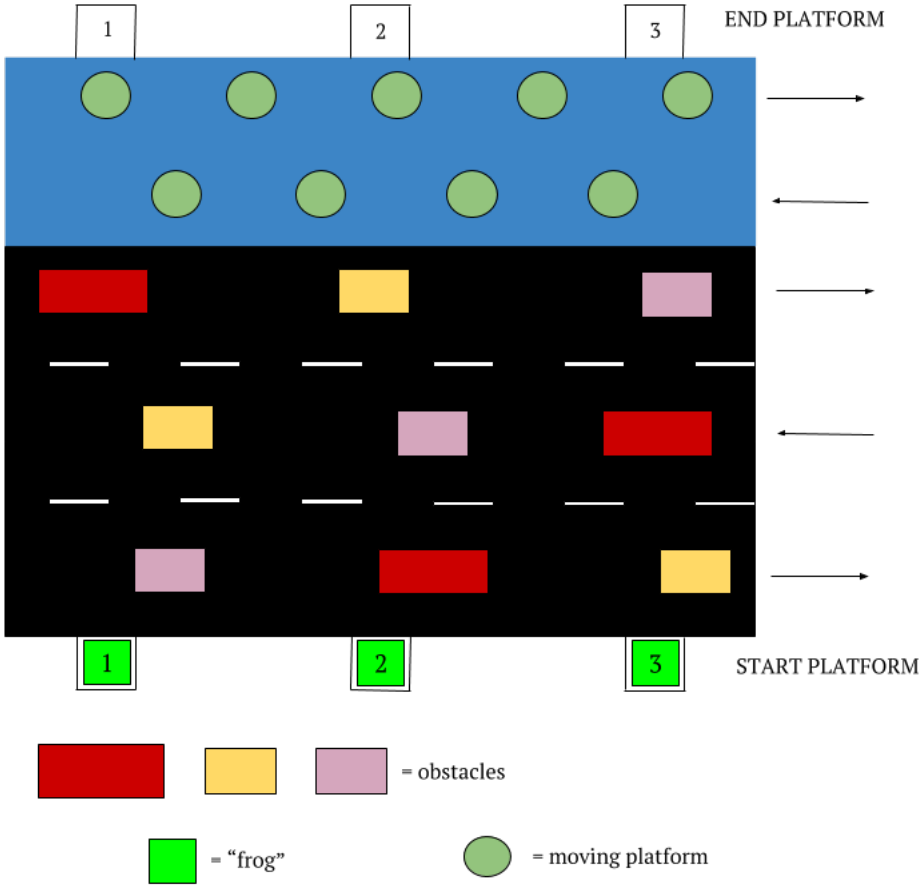

Fig. 1: Basic Gameplay Demonstration