**Custom Lab 10: Ace Squadron**

**High Level Description:**

The supplied materials for the game are not yet finished. This document will explain the expected behavior. This game is based on a 2d side scrolling shooter. The plane will move left and right and avoid the enemy planes as they come down. Touching the planes will result in a crash and end the game.

**User Guide:**

Rules:

* Can only move (strafe) left or right
* Do not hit the oncoming planes. Any planes that hit you will result in a loss.
* Avoid/Shoot down as many planes as you can
* Ammo is displayed on the LEDs above the matrix

Controls:

* Press the ‘3’ button to move left. Holding the button will continue to move left.
* Press the ‘1’ button to move right. Holding the button will continue to move right.
* Press ‘B’ to reset the game at any time;
* Press ‘A’ to begin the game
* Press ‘2’ to shoot in the column you are currently in
* Press ‘4’ to reload ammo

**Technologies/Components**

* AVR Studio 6.2
* 2 Atmega1284P Microcontroller
* 1 16x2 LCD Display
* 1 8x8 LED Matrix
* 1 LED Bar
* 1 4x4 Keypad
* 1 Speaker

Demo Link: [Ace Squadron YT Video](https://www.youtube.com/watch?v=YIg3i4gyzUU)

Sources:

UCR CS120B Labs (io.c, io.h,usart.h)