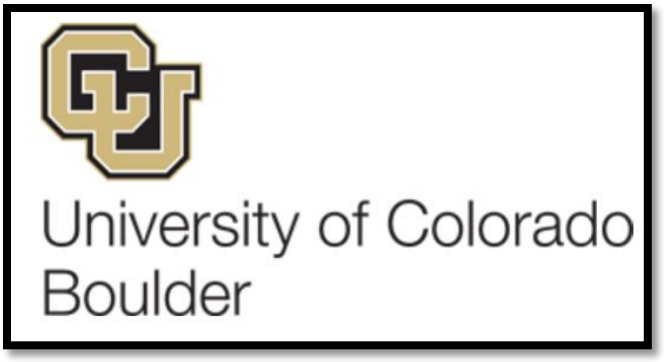

MODULE 4 PROPOSAL

MAGICAL PUG

PROGRAMMABLE LOGIC EMBEDDED SYSTEMS DESIGN (ECEN 5863)

SPRING 2020

REPORT BY:

OM RAHEJA

DEEPESH SONIGRA

OBJECTIVE

The basic idea that we plan to implement for the final module of Project 3 is a game based on the Altera DE-1 SoC. The objective is to create a game called “Magical Pug”, where the movement of the pug will be controlled by the player. The pushbuttons on the development boards can be configured to enable movements of the pug in different directions. The pug has to be moved from the starting point to its destination by dodging the obstacles along the way. The duration for which the player is able to control the pug by dodging the obstacles, the harder it will get as the game progresses. The game will be displayed on the monitor (connected via a VGA connector). Bringing this game into hardware distinguishes our project from previous implementations as such games have been mainly implemented in software.

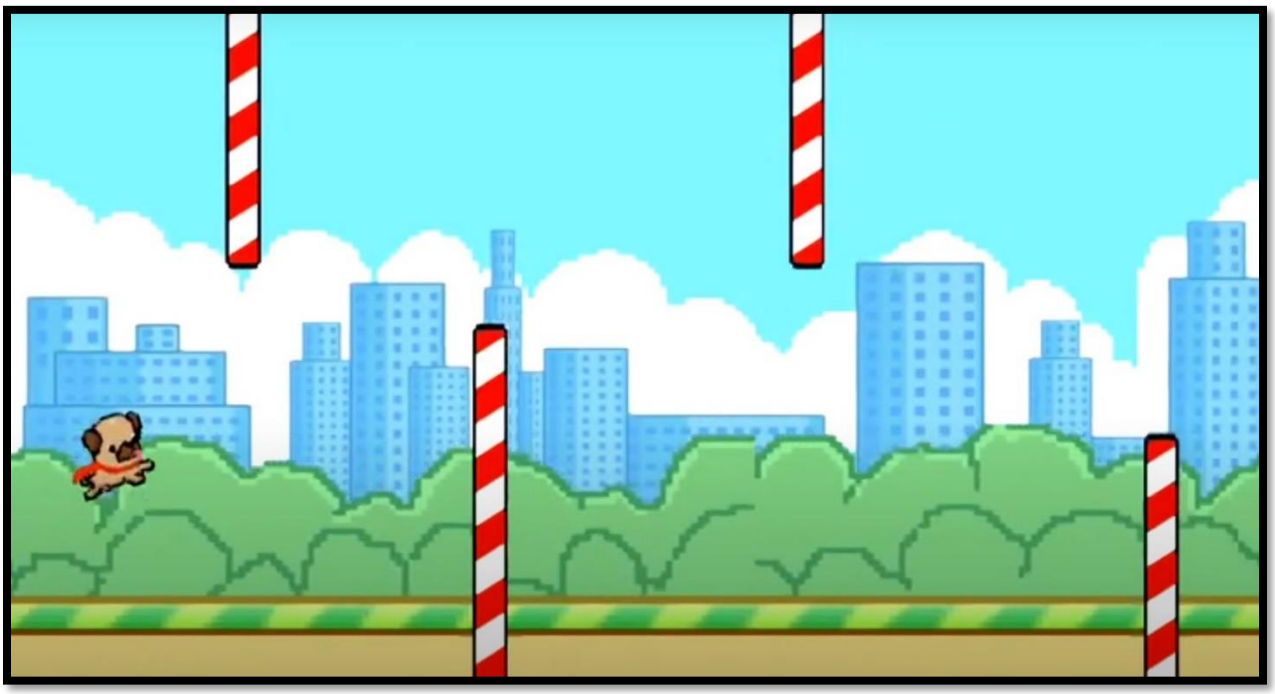

Figure 1: Game Animation

BLOCK DIAGRAM

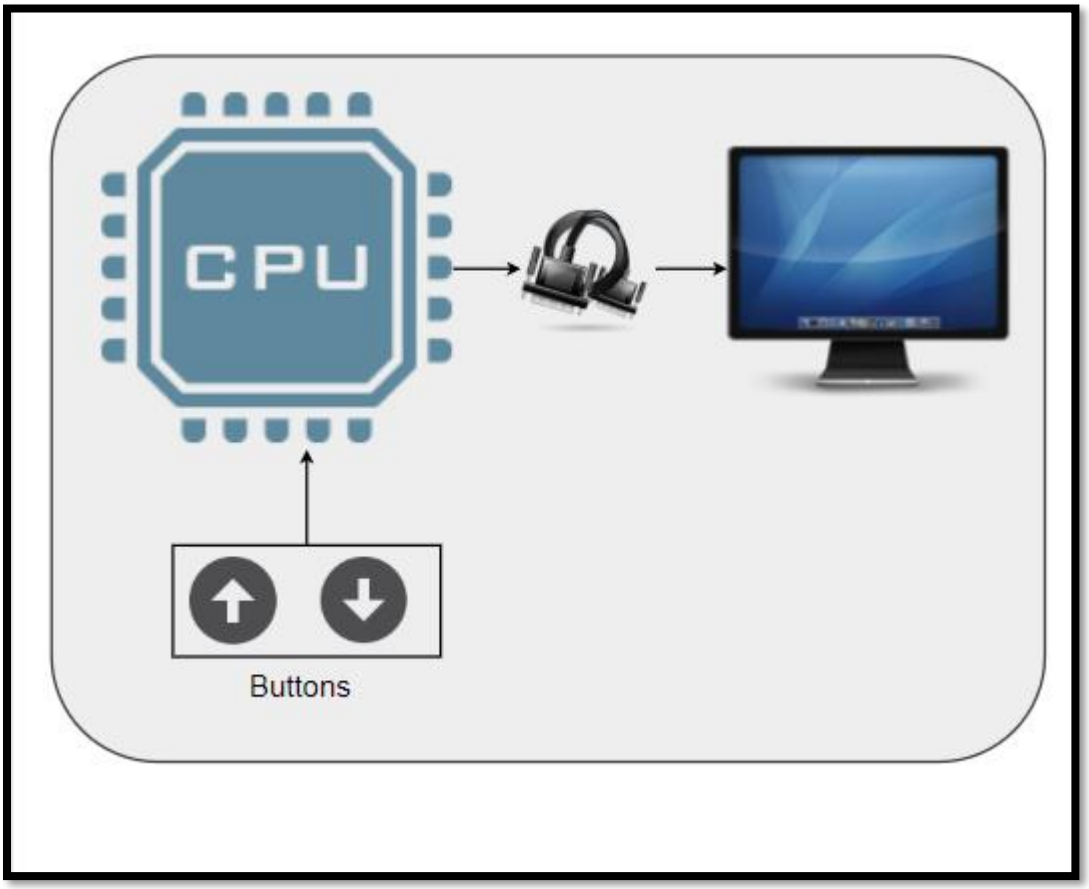

Figure 2: System Block Diagram

HARDWARE REQUIREMENTS

- **Altera DE-1 SoC development board**
- **Quartus Prime 18.1 Tool**
- **Programming Languages we plan to use Verilog/VHDL**