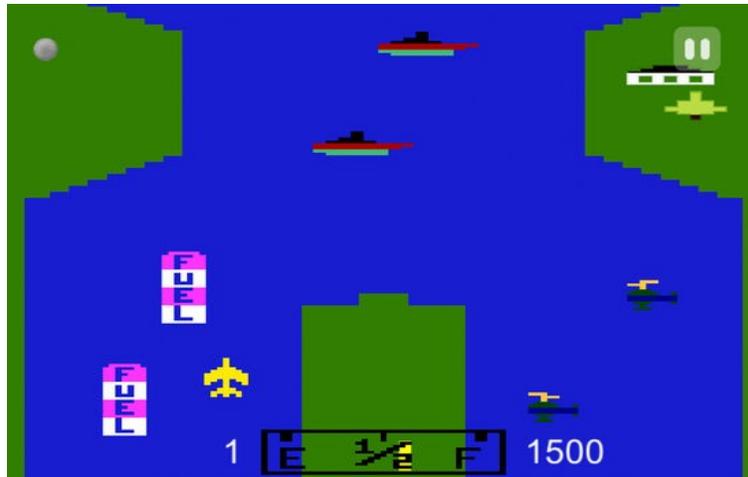


RIVER RAID

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1) Introduction

River Raid is a classic vertical scrolling shooter video game by Atari. The player controls player airplane which can go left-right, accelerate-decelerate and fire at enemy crafts. The player has to avoid collision with enemy crafts and river banks, and refuel from time to time.

2) Components

a. Sprite generator

The graphics for the game will be generated by hardware based sprite generator. Sprites will be stored in FPGA memory.

b. Audio generator

The game will have hardware generated low-fi sounds, either sampled or from hardware tone generator.

c. Player Joystick

Player can either use the keys on the DE1-SOC board or connect an ATARI joystick on one of the GPIO connector to play the game.

d. Game logic

The game logic will be software based. The software will take inputs from the joystick and control sprite generator and audio generator based on the game logic.

3) Milestones**a. Milestone 1**

- i. Complete the basics core of sprite and VGA output generator.

b. Milestone 2

- i. Sprite generator and audio generator should be fully functional and controllable from software.

c. Milestone 3

- i. Complete game logic.