Obstacle Runner (Draft)

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This project aims to reach the advanced level.

Objective and Requirements

Our game uses the concept of side-scrolling games in combination with an obstacle course. The main objective is to avoid these obstacles by either jumping or ducking depending on where the obstacles are placed on the screen (these obstacles are either on ground-level or suspended in mid-air).

The pivotal requirements are:

- Post-game menu.
- The runner *must* be able to duck and jump depending on which button is pressed on the ChipKIT board.
- The background moves from right-to-left along with the obstacles.
- The game keeps track of the score by using a counter.
- The game *must* increase the speed of the background/obstacles progressively as the game goes on.
- Distance between objects are randomized within an interval.

Solutions

The ChipKIT Uno32 board and the basic I/O shield will be used for the purposes of this project. The display of the I/O shield will be used for displaying the game and the buttons will provide the required inputs for the game (jumping, ducking, menu accessing).
All of the functions that are used in this game will be implemented with C programming with MCB32 tools.

Verification

We will be testing the various functions step-by-step. First, we will focus on the runner isolated from all other functions that are in the game. Second, we will implement the background and the objects without the runner. When these two implementations work correctly, we will combine these two functions. When this process is completed, we will begin to test additional functions such as the scoreboard, the speed, randomizing obstacles in this environment.