Snake Game

By group number 32

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Objective and Requirements

The requirements for this game development is:

- Displaying the game on the embedded system chipkit uno32 on the basic I/O shield.
- To move accross the display in X and Y direction.
- To implement functions for the game to restart, to grow in pixels as a snake by reaching pixel food.
- Use triggers such as push buttons to move in Y and X directions.
- To make restart functions if the player as snake collides with itself or the wall.
- To display the amount of food eaten on the latest game played.
- If there is time left we can add other features like making the LED:s on the board get blinked after reaching a food.

Solution

We will develop the game to be functional and playable on the ChipKIT Uno32 board combined with the Basic I/O shield. The Basic I/O shield will host the screen for displaying the game, and the buttons and switches for navigating the game menu and controlling the snake in the game.

The clock will be used for updating the screen and game. The clock will update the snake's position, collision variable, snake's length, apples eaten, etc. The "apples" that the snake will eat will be generated in random positions within the screen and not inside the snake.

The development of the game will be done using the MCB32tools and all the code will be written in C.

Verification

We will verify that the game does meet the requirements by manually testing the game for all cases it will handle. We intend to define different test scenarios and handle any problems emerged. For example handling the game if any other interrupts such as unused toggles or push buttons are triggered.

Contributions

We intend to divide this project evenly during the period. We will discuss and try to solve any problems that emerges with each other or seek help from the teaching assistants. If we shall develop the program by having a pair-programming approach or implement the program remotely in iterations, will be decided by how much work we get done in a specific session.

Reflections

Is written and reflected after the project.