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Serpiá 1.0

Nostalgia. That's the word for the Snake game we all have played endlessly, years back. This summer we'll recreate the game. Making it lively and more interesting than ever.

Displaying the gameplay through a discrete LED screen and controlling the snake through momentary push buttons (and if time and life cooperate, through an android app), we take immense pleasure in proposing a LED simulation of the classic snake game.

What do we need?

- Arduino UNO Board
- Mini Solderless Breadboard for Arduino
- LEDs (Lots of them)
- Resistors
- Momentary Push Buttons
- Wires
- (If life cooperates) Bluetooth UART Module

What do these do?

Arduino will be our platform to use the LED matrix through a breadboard. The push buttons mounted on the breadboard will be used to control the "snake" moving through the LEDs.

This will require programming the arduino appropriately to light up the LEDs making an apparent snake. We can add subtle modifications such as varying speeds et cetera through the code.

Kittna Paisa?

Estimated Around Rs. 5000

The Timeline

o Week 1: Get Started.

- Obtain essential knowledge about Arduino and basic electronics.
- Procuring the equipment and resources.

o Week 2: The Assembly.

- Ideate appropriate model for the LED matrix. (We wish to use Solid Works 3D printing to obtain the material base for the matrix) Otherwise a simple cardboard structure should work fine.
- Make the LED Matrix.
- Establish the Arduino-Breadboard-Matrix connections.

o Week 3: Code & Complete.

- Create the necessary Arduino algorithms.
- Finalize this model.

If we complete this much within the stipulated time, we'd like to explore the sphere of app development.

o Days ahead: The Android App extension.

- We'll try to create a new interface for the game through a mobile app. The user will interact with the arduino through this app connected through the Bluetooth module.
- The possibility of this app will also require re-coding the arduino simultaneously allowing us to expand the spectrum of the features in the game.

Whatcha learn?

- The Arduino: Learn and use the arduino.
- Programming: Create basic codes for a game.
- The Matrix: Design a physical model for the LED matrix.
- (Possibly) The Bluetooth Module: Using the UART module as a connecting link for the arduino and a mobile phone.
- (Possibly) App Development: Creating an android app to connect and communicate with an Arduino UNO.