

# Lost Sands: SE 101 Project Proposal

## Project Description

We plan to make a game that uses both the Arduino and a computer to facilitate gameplay. The game will be played on the computer, with the Arduino acting as a second screen and a controller. We plan on making an Adventure RPG, taking place in a desert. The player will explore the wasteland, looking for dungeons to explore and plunder. As the player explores these dungeons they will acquire different items and upgrades that change and deepen gameplay.

## Major Components of Software

- Implement button functionality on Arduino
- Implement LCD Screen onto Arduino for dual-screen gameplay
- Code adventure game to run on computer
- Implement connectivity between Arduino and computer (map, item switching)

## Prototype Plan

To start, we plan on creating experimental horizontal prototypes in order to familiarize ourselves with the Arduino and its functionalities. After we get the hang of the hardware we plan on switching to a vertical evolutionary plan, implementing smaller parts of the software before branching off to create different parts of the game, such as items and dungeons.



A quick mock-up of the game

## Hardware Intended to Use

- Arduino Uno R3 (or similar device)
- LCD Shield
- 2 Buttons and a D-Pad/ 6 Buttons
- USB Cable Type A/B

## Foreseen Challenges

- Proper connectivity between Arduino and computer; getting them to work simultaneously
- Implementation of additional hardware onto Arduino
- Correctly implementing boundaries for objects