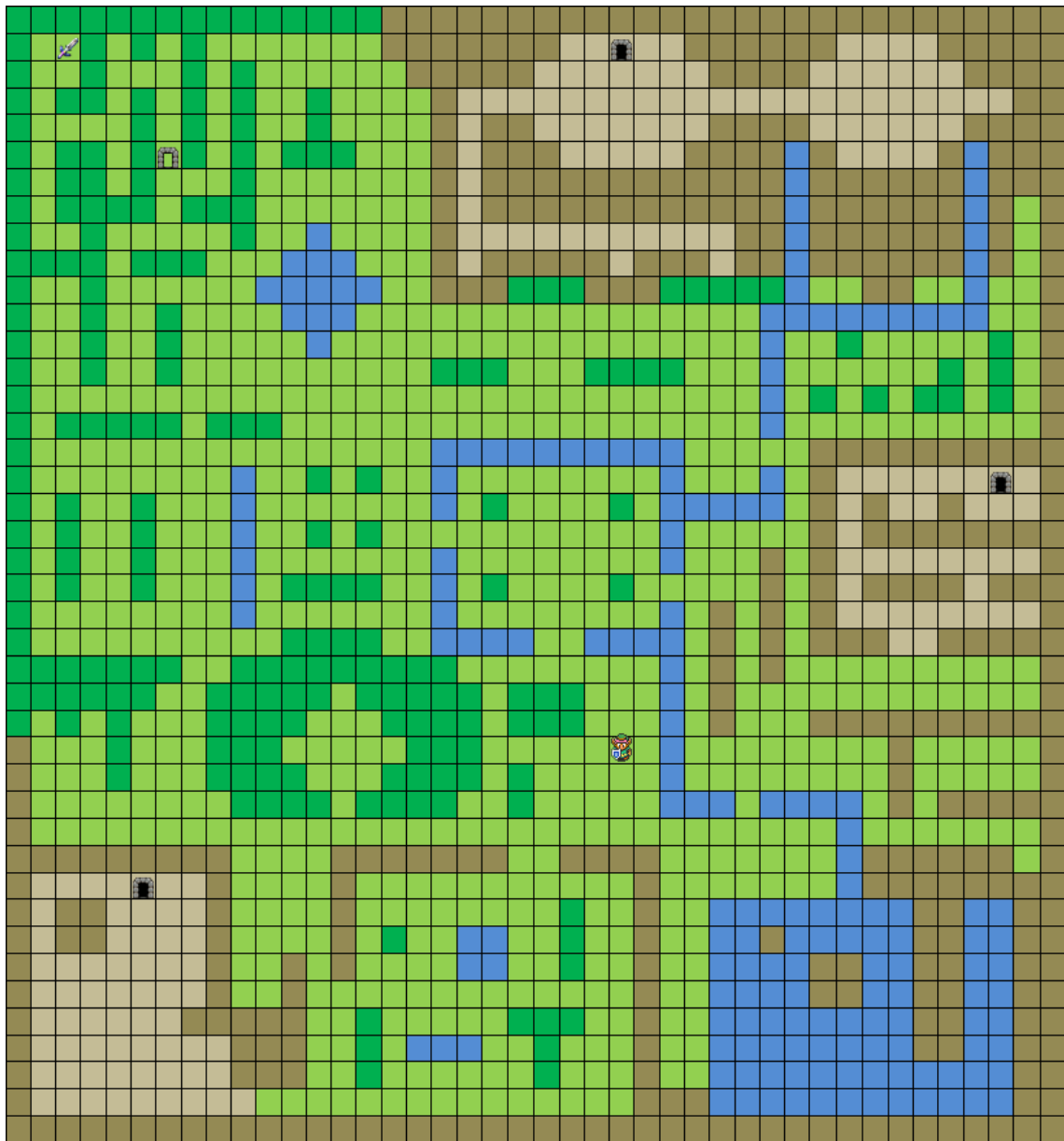


## A\* Path Finding - Zelda

This project consists in a visual implementation of an agent capable of moving autonomously through Hyrule Kingdom, exploring dungeons to gather the three virtue pendants. To achieve this, it uses the path finding algorithm A\*.



*Hyrule Kingdom*

Hyrule Kingdom is assembled of five terrain types: grass (light green), water (blue), mountain (brown), sand (light brown), florest (dark green).

**The costs for each terrain type are the following:**

☐ **Grass** – Cost: +10

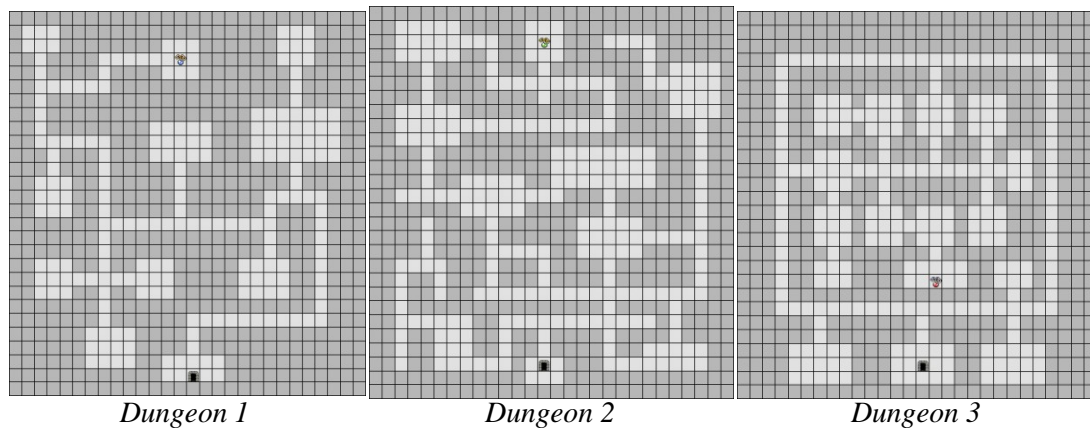
☐ **Sand** – Cost: +20

☐ **Florest** – Cost: +100

☐ **Mountain** – Cost: +150

☐ **Water** – Cost: +180

The three virtue pendants are located inside three different dungeons, which are located in the Hyrule Kingdom and can be accessed through the entrance gates.



Inside a dungeon it is only possible to walk on the brighter floors, and the cost to do so is +10.

The goal of the agent is to reunite the three virtue pendants and go to the entrance of Lost Woods, located at the top left portion of Hyrule Kingdom, with the lowest cost possible\*.

\*Optimal solution achieved through the implementation of A\* algorithm