**Game Design Document**

**Deadline –** 10/04/2024

**Summary**

This is a third person video game that aims to teach computer science students how to solve problems using algorithms. Depending on the map, the player will be given a range of algorithms available to them, in which they must choose the appropriate one to complete their tasks efficiently.

**Minimum Viable Product**

* Completed Main Menu
* Contains one maps:
  + Village
* Players rewarded with points after completing a task
* Players given feedback after completing the game.

Map Design:

* **Village:** This map uses the sorting and searching algorithm. The player has to manage a farm with different types of crops and animals, which are going to be transported by a truck. The player gathers what they need around the farm and brings them to the barn. Here, the player uses an appropriate sorting algorithm to sort them into different categories based on what they game wants (such as by colour, price, alphabetical , etc), and they must complete before the truck leaves. This measures the time and steps it takes for the player to sort the item. The game will also introduce different challenges, such as limited space, random items, or changing orders. The player will learn how different sorting algorithms work and compare their performance.
* **Knights:**
* **City:**

**Game Elements Diagram**

* Dynamics
  + Trade-offs:
  + Feedback: They’ll be given feedback based on how many points the player gained and how long they took. The results will either be positive or negative, which would help players improve in the future.
  + Learning:
* Mechanics
  + Hacking
  + Puzzles
  + AI
  + Score System
* Components:
  + Background music & environmental sounds
  + NPC
  + Player
  + Post Processing
  + Blender Assets
  + Third party assets (Unity Asset Store)
  + Small attention to detail

**­UI**

Link to UI assets: <https://www.figma.com/file/duEVpWMLZbyKoJcHdbC4wE/Algorithm-Adventure-Wireframe?type=design&node-id=0%3A1&mode=design&t=wjrqHQc4aflFT75T-1>

**Version Control**

**Link to GitHub:** [**https://github.com/fali0909/AlgorithmAdventure**](https://github.com/fali0909/AlgorithmAdventure)