VizAlgo – PathFinder

Software Requirements Specification

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1.0

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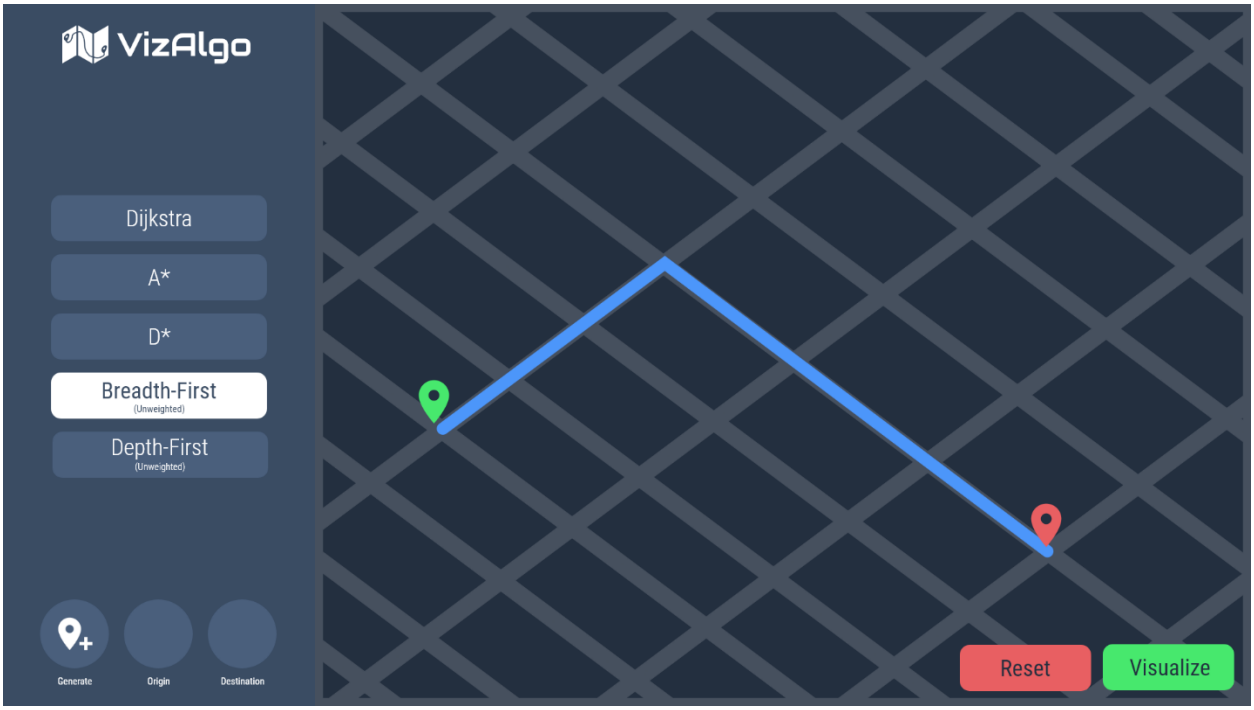

Table of Contents

Introduction

Purpose

The purpose of this document is to describe an overview of the functionality of VizAlgo – Path Finder. This should give the reader an idea of what the user can do with this program.

Scope of Project

Software which visualize pathfinding algorithms have been made; however, they often contain a large map with no routes, which is unrealistic. VizAlgo – Path Finder, shall allow users to be able to visually see the process of different pathfinding algorithms in more realistic, dynamically generated maps.

Glossary

Term	**Definition**
User	The end-user of the system
Algorithm	A process a system goes through or a solution used to complete a problem
Pathfinding Algorithm	An algorithm which discovers the most efficient path in a map or graph environment
Origin	The starting location in the map
Destination	The ending location in the map

Requirements Specification

Overview

Below, the specified requirements, such as functionality, for the software are listed.

Functional Requirements

ID	Requirement
F01	The user shall generate a map
F02	The user shall choose an algorithm
F03	The user shall choose an origin
F04	The user shall choose a destination
F05	The user shall click “Visualize” button
F06	The user shall click the “Reset” button
F07	Upon a user choosing an algorithm, the system shall give options such as Dijkstra, A*, D*, Breadth-First, and Depth-First
F08	Upon a user choosing an origin, the system shall allow the user to drag and drop a pin onto the map
F09	Upon a user choosing a destination, the system shall allow the user to drag and drop a pin onto the map
F10	Upon a user clicking the “Visualize Algorithm” button, the system shall graphically visualize routes traversed by the algorithm through map-like animations
F11	Upon a user clicking the “Reset” button, the system shall remove all path marks on the map and replace the origin and destination pins to its original location

Non-Functional Requirements

N01	The system shall handle errors such that it recovers from them, at at-most 10 seconds
N02	The system shall notify the user that an algorithm must be selected before clicking the “Visualize” button, when a user happens to click it before selecting an algorithm
N03	The system shall display helpful tooltips upon hovering the cursor on the “Generate Map” button as well as the “Origin” and “Destination” pins