

CSCI 4600

Use Case Scenarios

Pathfinder Visualizer

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Clear Board Use Case Scenario

Pathfinder Visualizer: Clear Board	
Actors	User, Pathfinder Visualizer program
Description	The user, via a graphical user interface, clicks a button to clear the board. The program removes all wall and weight nodes. All nodes shown as visited or as part of a search path to the Target Node are reset blank. The Start and Target nodes remain unaffected.
Stimulus	User command issued by program user
Response	Nodes as shown on the GUI are reset by the Pathfinder Visualizer program

Generate Search Path Scenario

Pathfinder Visualizer: Generate Search Path	
Actors	User, Pathfinder Visualizer program
Description	The user, via a graphical user interface, clicks a button to generate a path from the Start Node to the Target Node with an algorithm pre-selected by the user. Nodes that have been visited are color-coded one color by the Pathfinder Visualizer. Nodes that are part of a search path are color-coded another color by the Pathfinder Visualizer.
Stimulus	User command issued by program user
Response	The Pathfinder Visualizer visualizes the pre-selected search algorithm via a graphical user interface to the user.

Add/Remove Wall Nodes Scenario

Pathfinder Visualizer: Generate Search Path	
Actors	User, Pathfinder Visualizer program
Description	The user adds/removes wall nodes to the maze pattern in the Pathfinder Visualizer program. Wall nodes cannot be traversed by any search algorithm and have their own unique color.
Stimulus	User selects a "Wall Node" option and then clicks desired node locations on the maze pattern.
Response	If selected node is not a wall node, the node is turned into a wall node and color-coded appropriately. If selected node is a wall node, the node is returned to a blank state. The Pathfinder Visualizer visualizes this response on the GUI.

