

Title: GAP-robot: Shortest Path Finder Robot connected via Bluetooth

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ABSTRACT

This project presents GAP-robot which is a shortest path finder robot that uses a mobile device controller connected via Bluetooth. It uses A* Search Algorithm which is a variation of Best-first Search and Dijkstra's Algorithm. GAP-robot is capable of finding the shortest path to take from the given points set by the user. The robotic vehicle has the capability of being manually controlled or can be set to autopilot controlling. The mobile application is compatible with Android devices ranging from Gingerbread to Kitkat versions. First In, First Out (FIFO) Algorithm is also utilized by the robotic vehicle to take the commands based on the order the user had inputted it.

Keywords: Robotics, Shortest Path, Arduino Autonomous Vehicle, Master-Slave Transmission, A* Search Algorithm, Autopilot