FINAL YEAR PROJECT REPORT

GPS BASED AUTONOMOUS VEHICLE

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First of all we are grateful to Allah Almighty who gave us the courage and patience to complete this Project. This report provides detailed information about GPS Based Autonomous Vehicle, its designing, analysis and its practical application.

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Regards,

Group Members.

ABSTRACT

The project includes the construction and design of a self-navigating vehicle capable of navigating a course of several positions of latitude and longitude referred to in the report as a waypoint. A wireless connection allows transfer of waypoints and control data from a client side to the vehicle, and the transmission of telemetry data to the robotic base. The robotic vehicle uses onboard compass and Global Positioning System (GPS) , along with raspberry pi, to compare its location to the location and drive itself towards the destination. Finally, a video link and manual vehicle control are included to assist in obstacle avoidance.

The project consists of three goals: a wireless communication connection based on Wi-Fi to allow user to send command, manual controlling of the vehicle and autonomous navigation to drive itself to final location. This report describes the hardware involved, the theory that controls the vehicle and the client side, various tests of the raspberry pi and its components, and finally the project's result

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