Auto3ot – An Autonomous GPS Vehicle

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GPS and Robotics

Auto3ot is the convergence of global position system (GPS) technology and robotics. Now more than ever, GPS devices pervade our everyday lives in a number of ways. GPS technology has several civilian applications, ranging from turn-by-turn directions to lost pet tracking systems. The potential remains enormous. Robotics, on the other hand, is a rapidly emerging field with countless applications. There exist a variety of tasks and processes that can and should be automated, some of which require robots to have a sense of direction.

What is Auto3ot

The Auto3ot is a vehicle that can be directed to travel a precise GPS route that is specified by the user. Auto3ot receives directions in the form of coordinates, and once programmed, needs no more guidance. Completing this project requires several engineering challenges, including the integration of electronic compass, GPS, infrared sensors, and motor feedback and control subsystems.

Applications of Auto3ot

- Delay tolerant networking – Can carry internet traffic from remote areas (villages) that lack connectivity due to lack of infrastructure, or physical obstruction. If equipped with solar cells, can charge all day and drive all night.

- Remote Sensor Data Collection – Can travel to areas where sensors collect data but lack a physical connection (Delay Tolerant Networking).

- Trash collection – On the side of the freeway along a pre-defined stretch.

- Public transportation – In areas that lack sufficient infrastructure where tracks (or similar) cannot be installed, vehicles can take pre-defined routes or user defined routes using GPS guidance.

- Scout – Robot can be used to scout uncharted jungles.

- Surveillance – Used to keep a watch on warehouses, storage facility, abandoned buildings and young children.

- Household appliances – Incorporated into lawn mower to mow lawn automatically at set intervals or automatic vacuum cleaner

- Assisting disabled or elderly – Can aid disabled or elderly people across traffic intense streets. Can be synched to computers that can collect data on traffic during various times of the day.

- Tour guide – Can accurately lead tourists and provide information regarding the sites.

- Mail courier/collector – If on a large campus or area can collect mail and pool it together in a single location for pick up.