SCHOOL OF ENGINEERING

FINAL REPORT

MOBILE ASSETS TRACKING DEVICE

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Abstract

With the growth potential of Wireless Technologies, people now are keen on wireless applications. The most common wireless product would be cellular phone, which is a Global System of Mobile Communication (GSM) module operated product. With in these few years, Global Positioning System (GPS) is also picking up the path in navigation and security area.

Tracking Device is a new approach in tracing vehicle, assets, personnel and assets. In any emergency cases, personnel or things can be allocated within a short time. This project proposes an application, Mobile Assets Tracking Device (MATD) that uses wireless communication to gather positioning data. A working prototype is designed and presented to demonstrate the feasibility.

MATD is designed to work as a position locator, which tracked assets, goods and even personnel. This device enables users to track the assets by calling the Global System for Mobile Communication (GSM), using a mobile phone or a GSM modem. The MATD acknowledges the position data request by established a data line and sends the positioning data that gathered from Global Positioning System (GPS) receiver.

The idea originates in the vehicle environment, where many trucks where hi-jacked and goods where stolen and sold. In order to track the goods in the truck which worth for few million, MATD is proposed.

In order to fulfill the requirement as a tracker for assets, goods, and personnel, MATD has to be portable, compact and small in size. With the GSM modem open AT function, the controller function is integrated in the GSM. Since the controller function were integrated in the GSM module, micro-controller or microprocessor device were eliminated to reduce the power consumption. As a result, Lithium Polymer Battery was proposed to replace the power cable and power step down system, which is totally stand-alone. With the mentioned factor, MATD will have the size of 7 x 12 x 6 cm, which fulfilling the requirement of compact, portable and small of size.