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Abstract

The main objective of this project is to develop a system to electronically monitor the movements of trains in Sri Lanka. This system will be set up inside the control center of the Sri Lanka Railway Department as an auxiliary system, to be used by the technical staff. The system is developed keeping the cost at a minimum at all possible times. Since the main function of the system is to track the location of the trains, it is named as the 'trianTracker'.

During natural disasters like Tsunami, locating the exact position of the moving trains is extremely important. Knowing the correct location of the incident makes it easier for the disaster management activities. Probably that could actually be the deciding factor of the fate of thousands of lives. Therefore the trainTracker will function as an important auxiliary system in such situations.

It is evident that our neighboring countries like India and Pakistan are using more and more new technologies for the betterment of the public. This project is also an effort to bring Sri Lanka forward in the South Asian region in terms of using the Information and Communication Technologies in the much overlooked areas like public transportation.

In this train Tracker system, locations of each of the trains will be plotted on a digital map. Control center staff will refer the system whenever they want to locate a particular train. The Global Positioning System is used to derive the location information of the moving trains. The service of a wireless telecommunications service provider is used to send the location information, via short message service from the moving train to the control center.

This train Tracker could also be useful in day to day regular operations as well. The following Chapters in this dissertation present a detailed discussion on analysis, design, and implementation and future improvements of the train Tracker application. A comprehensive user guide of the system is attached to the appendix towards the end of this dissertation.