

# Mobile Theft Detector

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## ABSTRACT

while smart phones allow for more flexible and convenient business as well as personal operations, they are susceptible of thefts. When a mobile device is in the thief's hand, it can compromise the data on the phone in addition to the loss of the phone. To prevent mobile phone thefts, we designed an application for android smart phones to retrieve the location and information of the thief through the smart phone's in-built features.

**Keywords:** Serial Unique ID, GPS Network, SIM Change detection, Camera trap/Snapshots, Profile modes-SMS Control.

## I. INTRODUCTION

Smart phones are changing the way we live our lives and have become a very important part of our day-to-day lives. It changes the ways of communication using phones. Its functionality isn't just to call contacts but includes storage of personal documents, contacts, information etc of an end user. Due to the smart phone's attractive features and modernized usage, people around the world likely tend to always have their phone with them. If their device is missing or stolen at any situation, it means that their personal information is going to be in wrong hands. In this paper, we develop an android application through which the thief, who steals any android mobile is caught through installation of this application, and the user can obtain the location through last SIM change. This application uses the technology like SMS, GPS through which the current location of the thief, snapshots, SIM changed will be caught by the application. It gives the exact details about the theft and his/her last location and

an SMS and email will be sent to the registered email-ID and phone number.

## II. RELATED WORKS

### Standardization of Mobile phone positioning for 3G systems :

Finding the location of the mobile phone is one of the important features of the 3G mobile communication system. Many valuable location based services can be enabled by this new feature. Telecommunication managers and engineers are often puzzled by location terminologies and techniques as well as how to implement them, since location systems are not natural evolution from past generations of telecommunication systems. In this paper, we discuss briefly why locating mobile phone becomes a hot topic and what technologies are being studied. We then describe and clarify the latest standards issues surrounding the positioning methods specified for 3G systems. These include cell-ID-based, assisted GPS, and TDOA based methods, such as OTDOA, E-OTD, and A-FLT. There are three most

commonly used location technologies: standalone, satellite-based, and terrestrial-radio-based [2]. As examples, a typical standalone technology is dead reckoning; a typical satellite-based technology is GPS; and a typical terrestrial radio-based technology is the “C” configuration of the Long Range Navigation (LORAN-C) system. For wireless E911, E112, and many other applications, radio-based (satellite and terrestrial) technologies are most popular. Cellular networks are terrestrial-based communications systems. It is natural to utilize the signals of the network to determine the mobile phone location or assist in location determination. The AOA system determines the mobile phone position based on triangulation.

#### **Design of Location Areas for Cellular Mobile Radio Networks :**

In order to track the location of a mobile terminal in a cellular mobile network, the radio coverage area of a network is partitioned into clusters of Base Stations, called Location Areas. As mobile terminals cross the boundaries of Location Areas, a significant overhead location-updating traffic is injected into the controlling signal network. The intent of this paper was to solve the problem of designing Location Areas for a given network such that the load of location-update-signal traffic on the signal network is minimized in the context that the intra-cluster communication is less expensive than the inter-cluster communications. In order to solve the problem, a two-phase matrix-decomposition based recursive algorithm is presented in the present paper. The proposed algorithm partitions a cellular network into required number of Location Areas in a hierarchical fashion, and is capable of generating optimal or near optimal solution in very short times. By considering a range of network problems, it is demonstrated that the proposed algorithm can be applied to solve large-scale Location area design problems.

### **III. DESCRIPTION AND WORKING**

Smart phone theft has been on the rise for a while, and numerous measures including phone tracking and kill switches are floating around as possible disincentives for thieves. More than 1 million smart phones are stolen each year, and 34% of smart phone owners still don't turn on any security controls. It is hard to determine the flow of stolen goods once they leave the owner's hands, or the characteristics of the thief.

Bringing up the security features of mobile phones is one of the best things a manufacturer can provide for its loyal customers. Not only is such a strategy to gain more following, but also that could mean a proof of its goodwill to the faithful ones.

Nowadays, suppose a person's phone has been stolen, we don't have an optimum way to track it. So far, to find the phone we will have to register a complaint in the police station and even after that there's no guarantee of getting our phone back.

In this application, we concentrate on finding our lost phone by its location and identify the thief in case the phone is stolen. This can be achieved using SIM Serial Unique ID which will be initially saved in the database when the user first registers. Once the SIM is changed, the application gets triggered and by the help of GPS, it will get the current location of the thief according to the latitudinal and longitudinal lines and automatically capture snaps without the notice of the thief and emails both the snaps and location to the predefined email-id and number.

This will happen each time the thief uses the phone and the thief will be totally unaware of this because the application performs all these activities in the background.

The advantages of our application is that there are more possibilities of locating our lost device if it is stolen. Most of the operation will happen in the

background so the thief will be unaware of this operation. The major advantage of this application is that profile modes can also be switched over with the help of another mobile phone and no special indication is required.

#### IV. CONCLUSIONS

This paper presents a novel Mobile-theft Detection application for android based devices. The application deploys a solution that meets users immediate and long term requirements by providing the images and location of the thief, which makes it easy for the user to identify the thief and get him/her and arrested. We are enhancing this application by providing the information about the location of the android based smart phone with the help of text messages. With the advent of time, technology is evolving every day. Our application will further be developed and improved. Currently this application is available for android based mobile phones.

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