

Women Protection Mechanism with Emergency Communication using Hand Waving Pattern

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Abstract

Smartphone users have their own unique behavioral characteristics when performing touch operations. In this paper we have developed in which user's Hand Waving Pattern is recorded and stored as user's Pattern. In case of emergency, if victim is in peril situation, the victim can protect themselves by using their mobile pattern. The sensor is used to analyze the body behavior of the victim and if pulse rate increases automatically, it is used to trace the victim location by using GPS. The camera and photo are initiated to fetch exact location of the victim. Voice of the victim under the emergency is also recorded and uploaded to the server. Both GPS and audio link of the victim are sent as SMS alert to both nearest police station and the registered custodian / relative.

Keywords: GPS, Pattern, Pulse Rate, Sensor and SMS

I. INTRODUCTION

Smartphone users have their own unique behavioral characteristics when performing touch operations. This Android Application is developed in which user's Hand Waving Pattern is recorded and stored as user's Pattern. Using this application, we can track the location of the affected victim. The heartbeat sensor is used to monitor the pulse rate of the women. If the range of the pulse rate is changed from the normal condition for more than 15 secs, it will send a request to the server. The server will send an emergency alert to the intern persons through gsm modem. Also, it will send an alert to the nearest hospital if the pulse range is decreased and it will send an alert to the nearest police station if the pulse rate is increased. Then the intern person will track the location of the girl using GPS and they will take the remedial action for the affected persons. The mobile numbers of the intern person will be stored in the database. Each user will be provided with the authentication.

II. PROBLEM FINDINGS

In the existing scenario, there is no pulse monitoring system for women it should create many problems for them. The disadvantages of existing work victim cannot protect themselves automatically and monitoring was tedious and mischance in arriving rate.

The proposed work is mainly used for woman's safety. In case of emergency, if victim is in peril situation, the victim can protect themselves by using this application. The sensor will notify the situation and it will send a request to the main server, from the main server it will send an alert to the intern person, nearest hospital, nearest police station. The intern person will go to that location and recover the victim. The advantages of the proposed work are immediate remedy will be taken and recovering the victim immediately. Send alert to the police, hospital and their guardians.

The main objective of designing and developing Hand Waving pattern with women protective mechanism is to provide an unlocking pattern for android users based on their behavior. Using this application, we provide a safety mechanism for women, by monitoring their pulse rates and emergency support for the victim.

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III. RESEARCH SURVEY

I report on the largest corpus of user-chosen passwords ever studied, consisting of anonymized password histograms representing almost 70 million Yahoo! users, mitigating privacy concerns while enabling analysis of dozens of subpopulations based on demographic factors and site usage characteristics. This large data set motivates a thorough statistical treatment of estimating guessing difficulty by sampling from a secret distribution. In place of previously used metrics such as Shannon entropy and guessing entropy, which cannot be estimated with any realistically sized sample, we develop partial guessing metrics including a new variant of guesswork parameterized by an attacker's desired success rate. Our new metric is comparatively easy to approximate and directly relevant for security engineering. By comparing password distributions with a uniform distribution which would provide equivalent security against different forms of guessing attack, we estimate that passwords provide fewer than 10 bits of security against an online, trawling attack, and only about 20 bits of security against an optimal offline dictionary attack. [1]

Smartphones are ubiquitous. An ever-expanding consumer base carries their handsets everywhere. However, this rapid growth comes with new risks. While the proliferation of smartphones equipped with high-resolution sensors has afforded developers an opportunity to create highly interactive applications, users now rely on their smartphones to perform many privacy-sensitive tasks, such as online financial transactions and personal communications that can be eavesdropped or exploited. In this paper, we argue that current security measures in mobile platforms do not adequately address the malware that exploits these high-resolution sensors. [2]

The increasing use of touchscreen smartphones to access sensitive and privacy data has given rise to the need of secure and usable authentication technique. Smartphone users have their own unique behavioural characteristics when performing touch operations. These personal characteristics are reflected on different rhythm, strength, and angle preferences of touch interaction behavior. This paper investigates the reliability and applicability on the usage of users' touch-interaction behaviour for active authentication on smartphones. [3]

We consider the problem of data stream classification, where the data arrive in a conceptually infinite stream, and the opportunity to examine each record is brief. We introduce a stream classification algorithm that is online, running in amortized $O(1/P)$ time, able to handle intermittent arrival of labeled records, and able to adjust its parameters to respond to changing class boundaries ("concept drift") in the data stream. In addition, when blocks of labeled data are short, the algorithm is able to judge internally whether the quality of models updated from them is good enough for deployment on unlabeled records, or whether further labeled records are required. Unlike most proposed stream-classification algorithms, multiple target classes can be handled. Experimental results on real and synthetic data show that accuracy is comparable to a conventional classification algorithm that sees all the data at once and is able to make multiple passes over it. [4]

Recent years have witnessed an incredibly increasing interest in the topic of incremental learning. Unlike conventional machine learning situations, data flow targeted by incremental learning becomes available continuously over time. Accordingly, it is desirable to be able to abandon the traditional assumption of the availability of representative training data during the training period to develop decision boundaries. Under scenarios of continuous data flow, the challenge is how to transform the vast amount of stream raw data into information and knowledge representation, and accumulate experience over time to support future decision-making process. In this paper, we propose a general adaptive incremental learning framework named ADAIN that is capable of learning from continuous raw data, accumulating experience over time, and using such knowledge to improve future learning and prediction performance. Detailed system level architecture and design strategies are presented in this paper. Simulation results over several real world data sets are used to validate the effectiveness of this method. [5]

Now mobile devices are developed to serve various functions, storing the sensitive information. In order to protect those information and mobile systems from unauthorized users, the authentication system must be installed unavoidably. Additionally, the development of the mobile system is moving forward to the touch screen system for user friendly and quick access mechanism. In this paper, we proposed behavioral manners of users over the touchpad acting like touch screen that is able to detect the finger pressure. These behaviors are keystroke dynamics and the finger pressure. The finding has shown that, the finger pressure gives the discriminative information more than keystroke dynamics with the k-NN analytical method. Moreover, using only the finger pressure produces high accuracy rate of 99%. [6]

IV. IMPLEMENTATION & RESULTS

This application is the process of designing and developing Hand Waving pattern with women protective mechanism is to provide an unlocking pattern for android users based on their behavior. Using this application, we provide a safety mechanism for women, by monitoring their pulse rates and emergency support for the victim.

In heart beat sensor, we implement the hardware construction that is here will have BP sensor device which is integrated in the wrist watch and with emergency alert system. So, this integrated device will be connecting with Bluetooth of a user mobile and it will communicate to user relation, police station.

In BP or emergency monitoring, first we'll connect the BP Sensors in the woman's body. So that the server will Monitor the victim by the getting the bio medical values that are passed by the Sensors. The bio-medical values will have passed from periodic time to time. So that we can avoid the concerns about them. We implement the shortest path for ambulance to reach the destination. For that we implement the android apps to fetch the current location of the girls and through the GPS value it will search the nearest hospital and make alert to the ambulance.

When the bio-medical values of the patient are abnormal, an automatic SMS alert will be send to the Guardian mobile number and the doctor's mobile number. Once the abnormal values are monitored, an SMS alert will have generated by using JSMS Conf file. That SMS alert will be send to their guardians or police. So that we can save the victim.

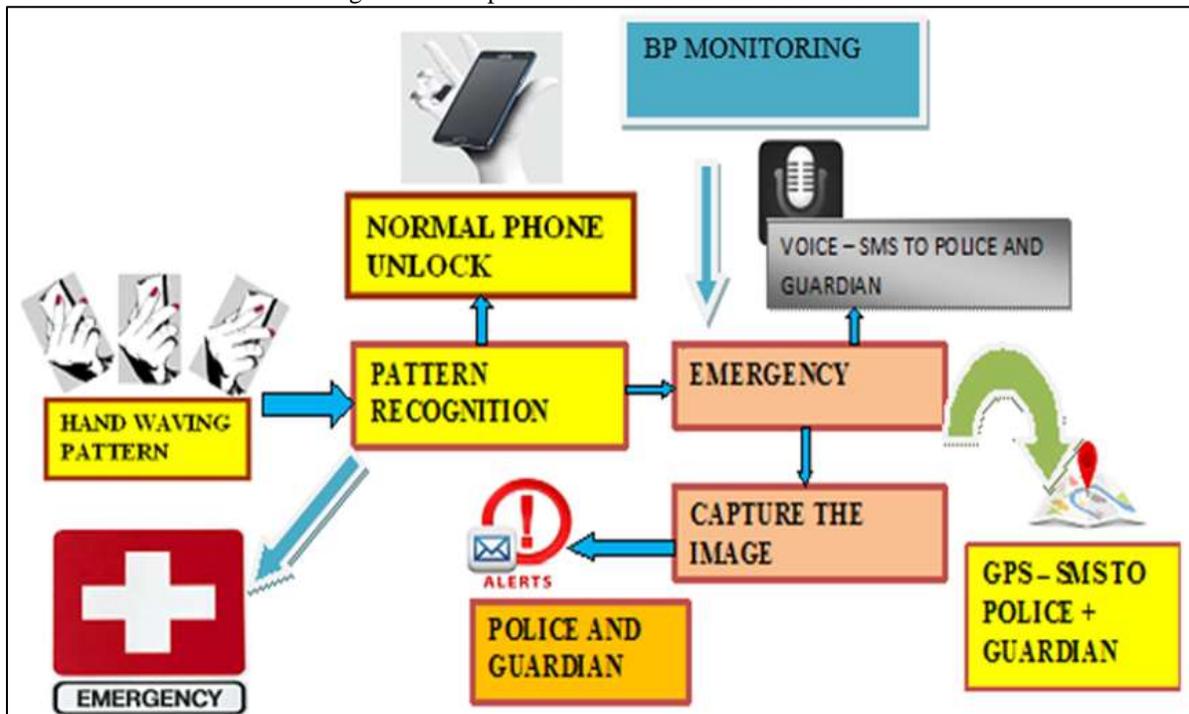


Fig. IV-A: Frame work of protection mechanism

This system architecture Fig IV-A contains the process of how the hand waving pattern will be recognized and the mobile can be unlocked and how it can be used as emergency mechanism. It provides a safety mechanism for women, by monitoring their pulse rates and emergency support for the victim. The Fig IV-B and Fig IV-C below shows the Registration Page and SMS alerts respectively.



Fig. IV- B: Registration Page

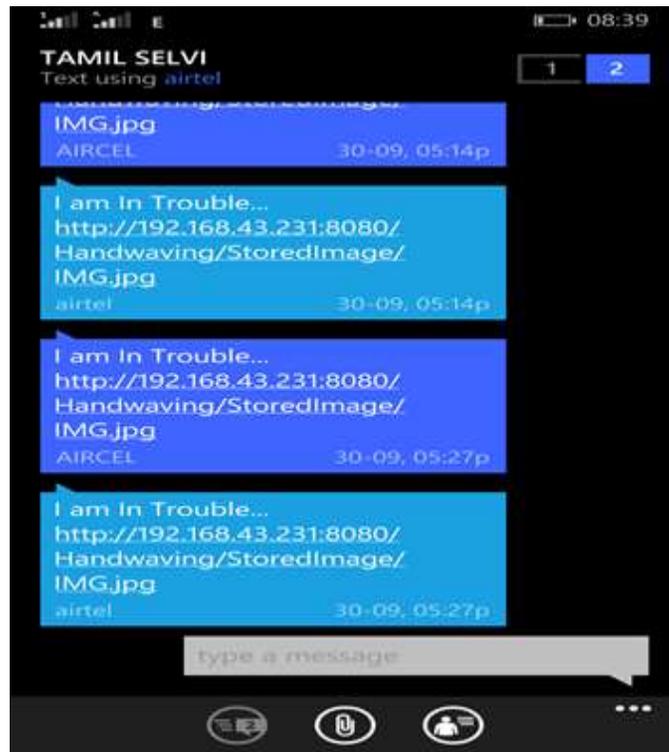


Fig. IV- C: SMS alerts

V. CONCLUSION

Our work would be more helpful for woman's protection and their safety. This system will provide security and safety for a woman in a peril situation and it will also monitor their pulse rate. The android users can get this application with ease of purchase and reasonable price.

Future evolution of these mechanisms would be driven in large part by potential future applications and uses of the internet. The sensor will be used for analyzing the body behavior of the victim and if pulse rate increases automatically, it is used to trace the victim location by using GPS. The camera and photo are initiated to fetch exact location of the victim. Voice of the victim under the emergency is also recorded and uploaded to the server. Both GPS and audio link of the victim are sent as SMS alert to both nearest police station and the registered custodian / relative.

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