



MOBILE ANTI THEFT SECURITY USING PROXIMITY AND MOTION DETECTION

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ABSTRACT: Mobile Security is an emerging concept and name in Information Technology Security. Most other security application focus on lost mobile, antivirus and other vulnerability. But in this mobile security not only mobile is covered

but also the users are also protected. Not only the application will be prove useful if device gets lost but also will be useful when the user of the device is in any danger such as riot or any worst scenario. It is the protection and system against the attack and vulnerabilities and applicable to the smart phones, tablets, laptop etc.

The concept of securing mobile devises becomes important and valuable and increasing rapidly in recent past. Today the organizations and institutions of different kinds are using various Information Technology tools and components and all are connected to the internet or online systems and as a result vulnerability became crucial.

Even if device is offline this application will be turn out to be useful as the module can work in offline mode too also support low ended device too.

Keywords: *Your-security, sensors, security, online protection.*

I.INTRODUCTION

In recently years, the usage of smart phone is accelerating. Smart phone has played an important role in people's daily life to provide various convenient services such as navigation.

Android have brought various sensors such as camera, GPS, accelerometer, magnetometer, gyroscope, microphone and so on to its platform. Sensors will continue to be an important part of the smart phone platform. As the hardware specifications of smart phone devices improve, so do the number of available sensors and their quality.

A motion sensor, or motion detector, is an electronic device that uses a sensor to detect nearby people or objects. Motion sensors are an important component of any security system. When a sensor

detects motion, it will send an alert to your security system, and with newer systems, right to your mobile phone. If you have subscribed to an alarm monitoring service, motion sensors can even be configured to send an alert to your monitoring team.

A proximity sensor is a sensor able to detect the presence of nearby objects without any physical contact. A proximity sensor often emits an electromagnetic field or a beam of electromagnetic radiation, and looks for changes in the field or return signal. The object being sensed is often referred to as the proximity sensor's target.

Unlike a traditional electroscope, the Charge Sensor can make quantitative measurements. Numerical measurements improve many electrostatics experiments, such as charging by

induction, charging by friction, and charging by contact.

II.METHODOLOGY

The project aims at designing a prototype which firstly ask security pin which will only know to the user of the device and the device itself. User will get the choice of security they want to enable. There are three type of security module which can be enabled using Proximity sensor, motion sensor, charging sensor.

After enabling pocket service which is based on proximity sensor, it will collect data from the sensor. Once the enable sensor trigger a high frequency full volume alert will be generate. With a pin application can't be minimize nor close. Volume cannot be decrease in this process. The

only way to close the alert is to input the correct pin which was set at the first opening of the application by the user.

III.FEATURE EXTRACTION

Enabling pocket protection function will be in help if the device fall of out of the pocket or someone intent to still device from your pocket. Motion detection function will be help in when you keep your device on your office desk and forget to pick up. If anyone intent to pick up the phone alert will be generated.

This application support all the android devices without any lags also zero ads.

IV.LITERATURE SURVEY

Emergence of powerful data sensing, data processing, low power and low cost sensors has been possible with the recent technological advancements in the area of wireless communications and electro mechanical systems. These multifunctional sensor nodes are tiny in size and capable of communicating readily over short distances. These significant features of the sensor nodules illustrate the capabilities of the modern sensors and its supremacy over traditional sensors.

It has been possible for advances to be made in different verticals of an organization by the introduction of sensor nodules. The innovative usage of sensors in mobile phones has let them to act as a sensing device.

Mobile phones (especially smart phones) typically comprise of almost 8 different sensors for capturing crucial details. Each of these sensors is classified based on different criteria's. The most important criteria that is taken into account in a mobile phone is the application standard. Various sensors (that includes both trivial and non-trivial sensors) available in a mobile phone. Using few of this sensors for security purpose is done in this chapter. Accelerometer and gyroscope sensor (orientation based), GPS sensor, Proximity sensor has exceptional sensing capabilities.

Traditional mobile sensing-based applications use extra equipment's which are unrealistic for most users. Smartphones develop in a rapid speed in recent years, and they are becoming indispensable carry-on of daily life. The sensors

embedded in them provide various possibilities for mobile applications, and these applications are helping and changing the way of our living.

V.PROPOSED SYSTEM

Our project is divided into 4 stages, starting with data collection, data preprocessing, data classification and assessment. Data processing describes the process of preparing the data for sensor analysis. Data classification gives the structure and pattern to the data, which is to be processed for triggering alert on/off. The evaluation describes the classification results by comparing the entire pattern and then give results as follows.

i] Data Collection

The data is collected from the sensor input, sensors like proximity accelerometer and gyroscope sensor. Data collection starts when a user enables the functionality. In this way battery are saved in emergency and sensors get the ready signal when needed by the user. That data is monitored by the system later to use it to identify the behavior of the user, how the user use the device.

ii] Data Processing

Data collected by the sensor are later process by the application. If the device doesn't have that particular sensor hardware it will show no output and so as the application. Some

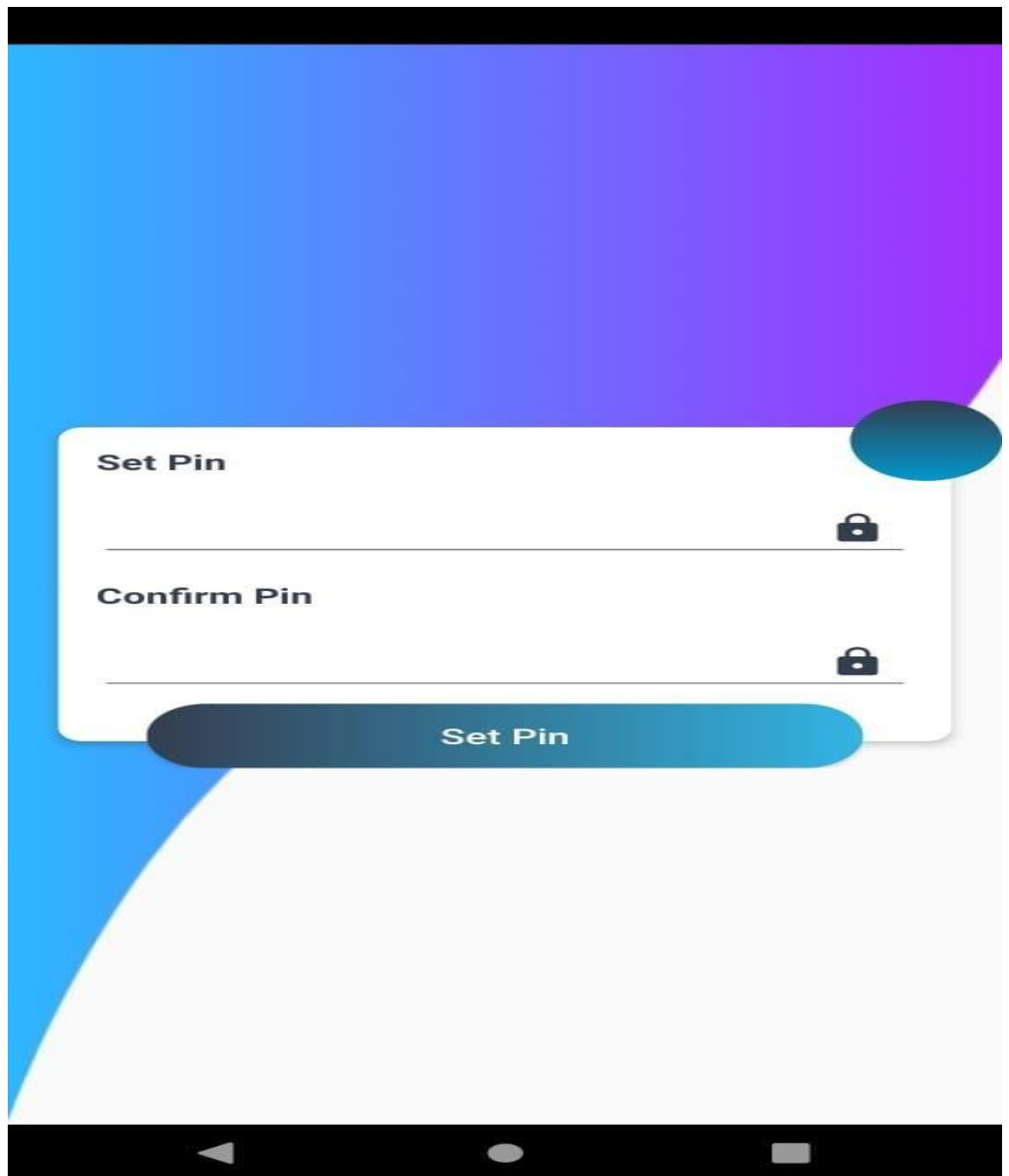
device may be having sensor hardware damage for such critical situation features will be disabled on such devices. Each sensor will send data to the application process in 0's and 1's format. That data will get compared with the data mentioned in the code and the output will be accordingly. As data is always in monitoring application will know the correct data changed compare to the output of the sensor.

iii] Data Classification and assessment

Alert will generate as soon as the data from sensor get changed. All the application will be shift to background and only one activity will pop up on the screen. That activity cannot be minimize or close, also an alert sound will generate at full volume. Volume up/Volume down button will be

disable until the alert activity get close. In the alert activity user will have to mention the pin which was set at the first opening of the application. If and only if the correct pin is given as the input by the user then only the alert sound will be off and all the background application will be accessed.







VI.CONCLUSION

This paper evaluates sensor performance of the state of the art smart phones and focuses on accuracy, precision energy consumption. The sensors that are evaluated in the paper are

accelerometer, proximity, charging sensor. The test results show that the builtin accelerometer sensor and proximity sensor is very stable. There are only approximately 0.1-0.8 unit deviations between the measured value and the real value. It can show a rough orientation of the phone. This application helps the user not only protect the device but also protect in emergency of the user. Most application focus on the scenario of lost device, but in this paper we learn that this application can be used in many other scenario.

VII. REFERENCES

[1] Nicholas D.Lane et al., "A Survey of Mobile Phone Sensing". IEEE Communications Magazine, pp. 140-150, 2010.

- [2] Zhijie Shen et al., "Automatic Tag Generation and Ranking for Sensor-rich Outdoor Videos". ACM Multimedia, 2010.
- [3] Eladio Martin et al., "Precise Indoor Localization Using Smart Phones". ACM Multimedia, 2010.
- [4] Ubejd Shala, et al, "Indoor Positioning using Sensor-fusion in Android Devices", Thesis, Kristianstad University, 2011.
- [5] Sakire Arslan Ay et al., "Viewable Scene Modeling for Geospatial Video Search". ACM Multimedia, 2008.

- [6] Viacheslav Filonenko, et al, "Investigating Ultrasonic Positioning on Mobile Phones", IPIN, 2010.
- [7] Reitmayr, Gerhard et al., " Going out: robust model-based tracking for outdoor augmented reality". ISMAR, 2006.
- [8] Android, "Sensor Coordinate System";
https://developer.android.com/guide/topics/sensors/sensors_overview.html
- [9] Android, "SensorManager";
<https://developer.android.com/reference/android/hardware/SensorManager.html>