

“Environment Sensing for Smartphone and Mouse Handling of Laptop Using Android Application”

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ABSTRACT

In our mobile all the sensors are continuously broadcasting the data. We are going to make use of that data by reading and converting it into ASCII format. We will be developing various applications using that data for security as well as for saving the battery of mobile. The sensors which we are going to use in our project are Accelerometer, Light, Pressure, Proximity etc. For example, if a mobile phone is in a bag or pocket, it is useless to light up the screen when a phone call is coming. In addition, if a phone is placed on a sofa rather than on a desk, it is better to turn up ring volume to avoid missing calls. Given accurate micro-environment information, a phone can adapt its behavior automatically and properly. To use the data broadcasted by the sensors in order to make useful applications in security and optimization domain. We will be developing different applications using mobile sensors data.

I. INTRODUCTION

In Micro-Environment Sensing For Smartphones, we use different mobile sensors like Accelerometer ,camera,Touchscreen,Pressure Sensor etc.

To use the data broadcasted by the sensors in order to make useful applications in security and optimization domain.

In this project we are going to develop application which support the security and energy consumption.

In this project using the mobile sensors like proximity,accelerometer,touchscreen,camera etc,we are going to create the different modules.

Using this sensors we developing the module which support the security and increase our mobile battery life.

The aim of micro-environment sensing on smartphones is to provide a more general primitive for novel human centric applications, especially in healthcare and behavior monitoring.

Identifying the phones micro-environment also opens new possibilities to perform fine-grained context-aware energy saving strategies, which is essential for battery powered smart-phones.

On detecting being placed in the drawer, for instance, it is reasonable for the phone to infer that it will not be used in

the near future, and can switch to certain power saving mode and turn off unnecessary sensors and software.

II. PROJECT SCOPE

In this project we are going to focus on different modules in which we are developing automatic call picker,mobile security as well as user security,environment changer,battery optimizer.

User Classes and Characteristics: The users of this application are normal people having android smart phone.

Operating Environment: Android device have all the sensors that are needed for the application to performed well.Android 4.0 and above is needed.

Design and Implementation Constraints: Need a mobile that are having all sensors which are present to performed the tasks.

User Documentation: All the user will be provided with user manuals and system information documents.

Assumptions and Dependencies: All the users is expected to use android mobile with operating system 4.0 or above.The mobile should have Accelerometer,proximity,magnetic field detection sensors to broadcast the data.

Goals and objectives

Goal and Objectives:

To read the data broadcasted by sensors To store that data in Sqlite

To convert that data into ASCII format

To write logic for events we need perform by captured data To design GUI for configurable parameters in application

Statement of scope

System Features Functional Requirements:

Automatic Call Picker

Pressure Sensor used for Security GPS and LBS for mobile security

Environment sensor for battery saving Vibrator sensor for soft surfaces

Flash sensor for Morse code generation

External Interface Requirements:

User Interfaces: Login Form

Application On Off Form Settings Form

Hardware Interfaces:

Mobile application will get installed on android smart phone. These devices should have Wi-Fi or 3G connectivity.

Software Interfaces:

Operating System: Android 2.2 or above Database: SQLite

Android 2.2 Supported mobile handset

Communication Interface

Internal database connection string

Non Functional Requirements:

Performance Requirements: For good performance the resources must be dedicated and database must be normalized. Mobile application should get the required RAM to run the application.

Safety and Security Requirements: The data stored will be encrypted data so that only sender and receiver will understand the data.

Software Requirements:

Operating System: Android

Programming Environment: JDK 7.0

Programming Tool: Android Development Tool(Eclipse)

Database Requirements: We are using SQLite as the database. We are using concepts of parser and convertor in this system. The tables will be generated and managed at the run time in this system.

Hardware Requirements:

Processor Type: Dual Core Speed: 2.4 GHz

RAM: 512MB

A description of the software with Size of input, bounds on input, input validation, input dependency, i/o state diagram, Major inputs, and outputs are described without regard to implementation detail.

The scope identifies what the product is and is not, what it will and wont do, what it will and wont contain.

III.APPLICATIONS

This project is used for human security: Pressure sensor use for security module support for this application. In this application,we are going to touch and pressure sensor of screen to measure the pressure on a screen .For example,if any women is in critical condition then this women can use this application for security this application generate alert message.

It saves battery: Battery saving module support for this application in this module we would find out the place where mobile is placed.We would check the condition of mobile weather it is in hand or Bag or some surface. If it is found that mobile is not in use then by stopping the running process would save the battery.

User Friendly:This application is user friendly so any authentic user can access and handle the modules.

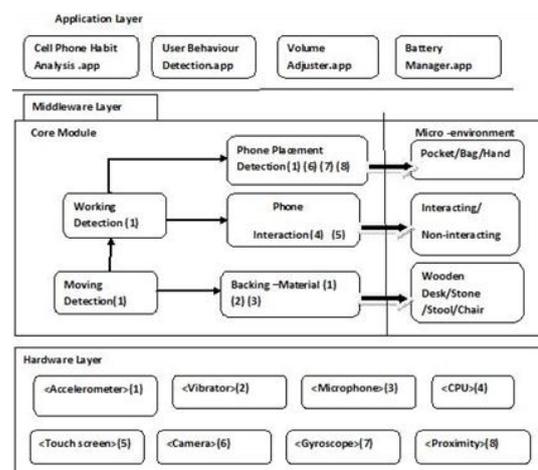


Fig: Architecture Diagram

IV. IMPLEMENTATION

Automatic Call Picker: In this module we are going to use proximity sensor. We will be checking open and close conditions of proximity sensor. Suppose mobile is in the pocket or in closed environment, then proximity sensor will be close. Application should not receive call at that time. We will check Close-Open-Close condition at that time. If mobile is in an Open environment then we will pick up the call for Open-Close condition of proximity sensor.

Pressure Sensor used for security: In this module, we are using touch and pressure sensor of screen to measure the pressure on a single point of screen. If that pressure is greater than the threshold pressure of application. Application will trigger the alert to the configured numbers in an application. It send SMS to particular number in case of emergency

Battery Saving Application: In this module, we are trying to get the place where mobile is placed. We will check the condition of mobile is in hand or kept on some surface. We will be doing this by using Environment, Metal Detector, Magnetic Field Detector sensor. If we found that mobile is not in use, then we will stop the running processes to save the battery. Once mobile is back to active mode we will start those processes.

Morse code generation: In this module, we will be generating Morse code using flash sensor. We need to type a word we need to generate in an application and flash sensor will do the rest.

Noise_alert: IT send sms on mobile when noise threshold is greater than specified value.

WIFI MOUSE: It access the laptop using our application.

WIFI Webcam:

It capture all activity like wifi webcam.

IMPLEMENTATION CONSTRAINTS

We need to check the code on different android version to make it compatible for all the devices. We need to write an adaptive parser algorithm which will change for each sensor as per the data transfer of sensor.

Adaptive Parser Algorithm

Parsing is the transformation from flat text to data structure.

Usually, this requires some kind of syntax definition as input in addition to the text to be parsed.

An adaptive parser performs the transformation with minimal additional input.

In particular, adaptive parsing requires only syntactical information that can be provided by a typical user without the help of programmer.

Application Of Adaptive Parser

Some possible applications of an adaptive parser is as follows:

Automatic Screen-Scraping: Building scrapers (specialized parser) for each target document can be tedious. In many cases document like web pages contain lists and tables that represent records consisting of similar fields. The present adaptive parser could be used to read tables and lists in documents like web pages, assignment list, new posting, search results with minimal user direction.

Anomaly Detection: If a large stream of textual data is presumed to have approximately regular structure and is received from an unreliable source, early detection of irregularities may be useful. An adaptive parser could train on known correct data and flag data that seems to be malformed.

Biological Parsing: Development of this idea would require talking to biologist, but genetic sequences may contain structures that would benefit from automatic discovery of structure.

Support for Data Mining: In large-scale machine-learning endeavor large stores of human data like the web are often used for training. Adaptive parsers could separate human-generated content from machine-generated structure and presentation in data pools like the web.

V. CONCLUSION

We are going to present the design for micro-environment sensing for smartphones via collaboration among built-in sensors.

Using mobile sensors we are going to develop the application for security and battery saving.

We club various sensors in this application of those result achieves low energy and competitive Micro-Environment Sensing Accuracy.

The platform automatically collects sensor hints and characteristics the immediate surrounding of smartphones providing environment information to application.

VI. REFERENCES

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