

A Survey on Employee Tracking and Monitoring System using Android

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Abstract - Smartphones are very effective tools for increasing the productivity of business users. With their increasing computational power and storage capacity, smartphones allow end users to perform several tasks and be always updated with the latest updates available. In the organization, most of the employee do many activities apart from their office work that is unknown to office manager. "Employee Tracking and Monitoring System using Android" provides a tool for managers to track their employee and monitor their official cell phone activities which are other than the official work. The manager can monitor the location of employee (through GPS). It sends alert message to manager if employee goes outside the approved zone. All incoming and outgoing calls, texts messages can be seen and interrupted on receiving from unapproved numbers. The aim of this paper is to track the employee and monitor the employee activity by the android app and improve the growth of the company by securing company data. It also analyzes the employee behavior by using number of unauthorized activities. This system is very helpful for manager in future planning of the company.

Key Words: GPS, Android smart phone, Java programming and SQL database, Employee tracking.

1. INTRODUCTION

Android is a mobile operating system developed by google, based on Linux kernel. Android is designed primarily for touch screen mobile devices. E.g.: smartphones, tablets. This android system consists of four layers: the Linux kernel, native libraries, the virtual machine, and an application framework. In which Linux kernel provides basic operating system services and hardware abstraction to the upper level software stacks. The native libraries provide functionalities of web browsing, multimedia data processing, database access, and GPS tracking optimized for a resource-limited hardware

environment. The Virtual Memory runs Java code with low memory acceptance. AT the top layer of the Android architecture provides a component-based programming framework because of that user can easily build own application. Traditionally monitoring of employee is done with the manual reports generated by the employee or team leader. Performance of the team is calculated by team leader or manager. It requires lot of paper to keep record of each employee activity. This application reduces the paper work. Employee Tracking and Monitoring System Using Android is an advanced monitoring technique which is used for communication among the company. We are designing and implementation of android app which is continuously running in 3 backgrounds on the android phone of employee. In additional we are using new module such as know the employee activities such as (good or bad).

1.1 PROBLEM STATEMENT

Design and implement tracking and monitoring android app using Raspberry Pi. Tracking location of employee/Staff using GPS. MYSQL is database which is used for accessing database from the server and display on LCD.

1.2 OBJECTIVE

The main objective of this project is to track the Staff/employee and monitor the Staff/employee activity by the android app and improve the growth of the company by securing company data. It also analysis the employee behavior by using number of unauthorized activities and which is very helpful for manager in future planning of the company.

1.3 RELEVANCE

We are all well known the situation of today's world everyone is too much busy with smartphones which leads them distraction from work and in this we lost many times, so thinking about this we came with this

project idea Which will save our time and make will make growth in company.

2. LITERATURE SURVEY

Various researches have been carried out and many papers have been published in order to design to automated employee tracking system. Only some of them are discussed here The literature survey is a literature review include for understanding on some of the fundamentals of learning the definitions and concepts that will help in discovering topics that are based on previous research. It identifies the most relevant research papers from a study on a project. It is often written as a part of thesis, dissertation, or research paper, in order to situate your work in relation to existing knowledge.

SR NO.	PAPERS	IMPLEMENTATION USING RASPBERRY PI	ANDROID OPERATING SYSTEM	LANGUAGE DETECTED
[1]	DESIGN AND IMPLEMENT AN ANDROID BASED EMPLOYEE TRACKING AND MONITORING SYSTEM WITH GPS.	NO	YES	NO
[2]	DESIGN AN EMPLOYEE TRACKING AND MONITORING IT WITH THE HELP OF RASPBERRY PI WITH MULTIPLE ACCESSING LANGUAGES	YES	NO (LATER)	YES (ENGLISH AND HINDI)

Table -1 Literature Survey

3. METHODOLOGY

In this project, the whole project is divided into two parts. The first one consists of app and the second one consists of dashboard side. We are providing an app named Schedule is specifically for professors only. We

used HTML CSS and Java script for programming. Cognito is used for login/signing up process DynamoDB for database. For computing functions, we used lambda here. As we are making a real time system, we are using App sync.

3.1 RASPBERRY PI

RASPBERRY PI 3 is a development board in PI series. It can be considered as a single board computer that works on LINUX operating system. The board not only has tons of features it also has terrific processing speed making it suitable for advanced applications.



Fig.3.1 Raspberry pi

- Quad Core 1.2GHz Broadcom BCM2837 64bit CPU16
- 1GB RAM • BCM43438 wireless LAN and Bluetooth Low Energy (BLE) on board
- 100 Base Ethernet • 40-pin extended GPIO
- 4 USB 2 ports
- 4 Pole stereo output and composite video port
- Full size HDMI
- CSI camera port for connecting a Raspberry Pi camera
- DSI display port for connecting a Raspberry Pi touchscreen display
- Micro SD port for loading your operating system and storing data
- Upgraded switched Micro USB power source up to

3.2 LCD



Fig.3.2 LCD

LCD modules are very commonly used in most embedded projects, the reason being its cheap price, availability and programmer friendly. Most of us would have come across these displays in our day-to-day life, either at PCO's or calculators. The appearance and the pinouts have already been visualized above now let us get a bit technical. 16x2 LCD is named so because; it has 16 Columns and 2 Rows.

- Operating Voltage is 4.7V to 5.3V
- Current consumption is 1mA without backlight
- Alphanumeric LCD display module, meaning can display alphabets and numbers
- Consists of two rows and each row can print 16 characters.
- Each character is built by a 5x8-pixel box
- Can work on both 8-bit and 4-bit mode
- It can also display any custom generated characters
- Available in Green and Blue Backlight

4. DESIGN AND IMPLEMENTATION

4.1 FLOW CHART

As fig. 4.1 shows the overview of the system and the flow in the employee tracking and monitoring system. Admin can view the GPS location of the employee by entering employee Identity number. Admin can view longitude of the GPS location sent by the employee. This application helps admin to

easily check the salary of the employee. Since GPS location of the employee is tracked, so employee will not attempt to add proxy attendance.

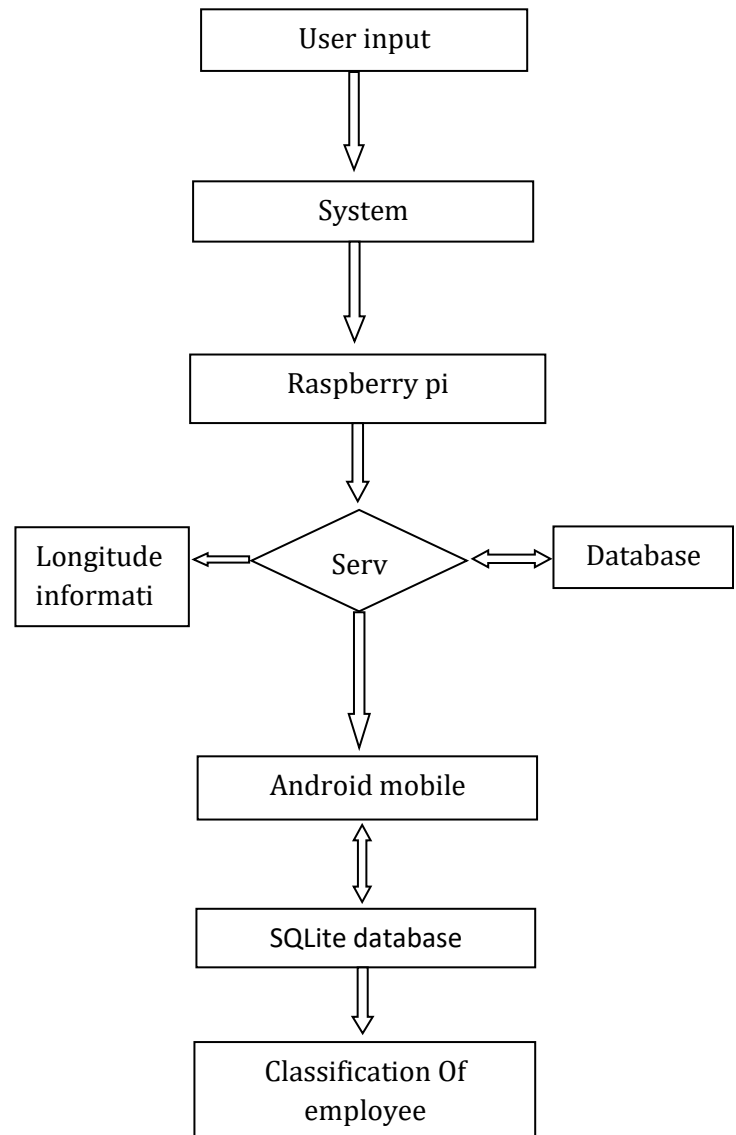


Fig.4.1 The system flow chart

4.2 BLOCK DIAGRAM

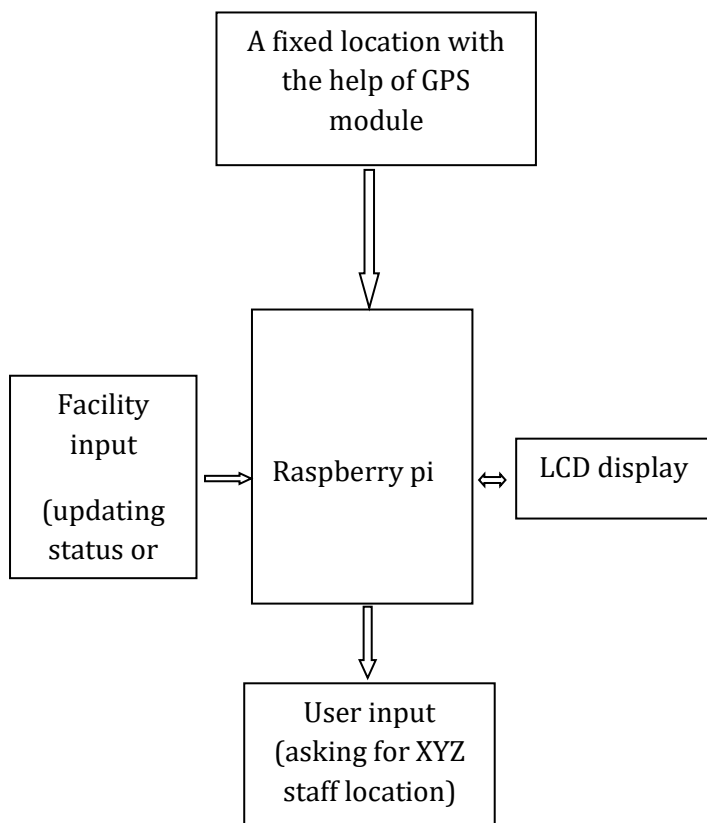


Fig.4.2 Block diagram

Block diagram show the exact representation how the system works by using hardware and software. It gives us idea about system performance process. The system which is currently developed are using Wi-Fi and 4G technology which faces the problem of speed due to which the manager is not able to correctly determine the exact location of employee/staff is now can find exact location of employee/staff using this system. Other information such as incoming /outing calls, messages, browser history we can find using GPS module and raspberry pi and information is shown on LCD display.

5. CONCLUSIONS

By using this system, it is possible for the manager to track an outdoor employee in the organization and it will allow manager to analyze the employees progress and activities. So, all this activity tracked by the manager will help to improve the growth of the organization. In this paper, the purposed system aims at reducing the cost of the hardware. This device is relatively very cheap as compared to the other devices using which a user can track and define

the boundaries as per their requirements. The details like SMS history, incoming call list, outgoing call list, web browser history, data usage, unauthorized call list accessible to the manager using this system. It helps to increase the output of the company thus getting good position in the world.

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