**Design and Implementation of Employee tracking and monitoring system**

### 1.0 INTRODUCTION

The Employee tracking and monitoring system (ETMS) is an application which will run on any android mobile phone which has a GPS connectivity. The application will be a background application which will not disturb the function ability of the phone and will not prompt the user for any kind of confirmation. It is also an advanced monitoring technique in which 3G or 4G network is used for communication among the company. The central server is designed to store the database of all the details of the Employee including incoming call history, outgoing call, sms history, data usage, web browser history, location and unauthorized call list. The manager is only having the permission to access the central server. For security purpose Advanced Encryption Standard (**AES**) algorithm is implemented. The advantage is it reduces the wastage of company’s value. It helps to determine the behavior of the Employee’s working in the company as Good, Loyal, Best, Average or Worst. For determining the behavior of the Employees K-means clustering algorithm is implemented. It helps to avoid the wastage and thus help to increase the company’s output. This application also helps the manager and supervisors to keep track of the Employee from outside or inside of the Company premise also(Y Zhauniarovich and G Russell, 2014).

## BACKGROUND

At Bindura University, monitoring employee has consistently been a manual process. The University operates using multi-departments system and presently has five Campuses; namely Main Campus, Astra Campus, Town Campus, FSE and Mt Darwin Campus, Science Education, Social Sciences and Humanities and Agriculture and Environmental Sciences. All these Campus are in different locations and several kilometers apart, there is need for an automated method of keeping data, more so there is a greater need for an online Employee tracking and monitoring system. Hence, this will go a long way in alleviating the various problems and challenges involved in the manual method of clearance. This idea of developing an Employee tracking and monitoring system will curtail the existing manual system which is tedious and time consuming.

## **1.2 PROBLEM STATEMENT**

It is impossible for the managers to control every employee individually in the workplace because all site are not centralized. It is also difficult for him to track all employees who are absent because of the manual process of attendance register.

## **1.3 AIM**

According to Solent website (2019) an aim is a statement of intent. Thus what one is hoping to achieve at the end of the project. Therefore the aim of this project is to develop an Employee tracking and monitoring system (ETMS).

## **1.4 OBJECTIVES**

Field (1998) described objectives as what the organization or an individual wants to achieve. Therefore the objectives of this project are:

* To develop an Employee tracking and monitoring system (ETMS).that is real time, which enable the Manager to keep track of the Employee from outside or inside of the Company premise.
* To track or get current location of employee working place.
* To track employee like history of incoming calls, outgoing calls, SMS history, web browser history, data usage, unauthorized call list

## **1.5 INSTRUMENTS AND METHODS**

Kumar (2014) defined instruments as “tools which are used to accomplish a certain task and methods are the techniques used to collect relevant information from a specific group of stakeholders needed for understanding the operations of a certain activity as well as their expectations from that activity”. Chiromo (2006) found out that there is also need to describe and justify the research design and procedures that will be followed in collecting data therefore procedures and techniques will be followed in developing this system.

**1.5.1 INSTRUMENTS**

Instruments that will be used to develop this application include Android Studio, or Java software, PHP (Hypertext Preprocessor), and XAMPP which has got MySQL for the database. Microsoft office will be used for documentation. Other devices to be used will be an HP laptop with a Windows 10 operating system installed on it and an Android phone.

## 1.5.2 DATA COLLECTION PROCEDURES

### Observations

### Observations are one of the data collection tools to be used. According to Chiromo (2006), “observations seeks to ascertain what people think and do by watching them in action as they express themselves in various situations and activities”. Hence, they give accurate information on matters of most interest, in this case how employees operates around premises.

### Questionnaires

### According to an online site Tutorials Point (2014), a questionnaire was defined as “a document with pre-defined set of objective questions and respective options is handed over to all stakeholders to answer, which are collected and compiled”. Questionnaires are going to be distributed to manager who will be monitoring and tracking, employees from various departments that are directly involved in the monitoring process of the employees.

* **Interviews**

This refers to the interaction between the person who is collecting data and the people he/she is collecting data from Chiromo (2006), highlighted that interviews are helpful for getting the tale behind a participant’s experiences. Therefore in view of this, interviews will be carried out to the manager as well as to employees who are directly involved with the monitoring and tracking process.

## **1.7 CONCLUSION**

The system is going to be developed based on the explanation of the problem that has been highlighted and the laid down objectives. Since the world we are living in has become dynamic and more technical, the development of such a system is of great significance to Employees, supervisors, manager and the University at large.

## **1.6 JUSTIFICATION AND RATIONALE**

The proposed system will ease the queuing system currently used at the University as the Employee tracking and monitoring system (ETMS will help the Institute to keep track of the Employee from outside or inside of the Company premise:

To save time thereby alleviating things like psychological stress to the manager. The proposed system will conveniently enable to apply for Employee tracking and monitoring since most people notably employees’ use android smart phones.

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