An Enterprise Resource Management Model for Smart Business Analysis Based on Employee Monitoring System

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Abstract— Enterprise Overseer Analysis System (EOAS) is used in the computerization of attendance report. An EOAS can handle roles such as Administration, Manager, and Field officers of the enterprise. The system is easy to use and economical in terms of time and cost. Business Intelligence can be obtained by performing data analytics with the data obtained in the database. The proposed android application is easy to use easily configurable as well as economical in terms of time and cost. Moreover it can be easily adapted on any android device and used for attendance marking and analysis purpose. Implementation of the proposed system will be extremely beneficial for the enterprise as it will monitor attendance as well the enterprise turnover at required intervals of time.

Key words: EOAS -Enterprise Overseer Analysis System, Business Intelligence, Attendance analysis, Graphical analysis

I. INTRODUCTION

Enterprise Overseer Analysis System (EOAS) is a system which will help the enterprise to manage its employee attendance and the everyday turnover. It based basically on concepts of ERMS (Enterprise Resources Management System) which is used for business management as it can manage more than one resource such as employees, clients and vendors. It has a unified system for management of products, bills, workforce, stocks, inventories and the business can predict the risks and challenges using ERMS modules [1]. EOAS is just a system which will manage the employees well so that the company works smoothly. It will help the business persons to take proper decisions regarding the business employee attendance and the financial issues of the company. It includes various modules like attendance, business analysis, management module and the complaint/remark module to help take proper decisions for betterment of the company. Developers now make more effort to integrate mobile devices with this system. EOAS can adapt to any processor easily, so the enterprise need to only use the existing devices for implementing this system. As it will use mobile devices it is easily portable and can be accessed easily on the mobile devices by any of the user.

EOAS will help the users with following management point:

1) It will help the supervisors to mark the attendance count of the employees.
2) It will help the management users to view everyday attendance of employee and view the analysis of it day to day.
3) It will give the overall business turnover till date.
4) Graphs of analysis will be created for attendance and the turnover obtained.
5) Reduce paper records through digitization of business data.
6) Greater precision with charts that tracks down loss of business and helps to recover the losses immediately.
7) Gives the management everyday overview of how business is going on.
8) It will enable the company to improve its employee behavior and the also keep proper records.
9) It will also give the complaints and remarks about the employees to the supervisors and the management staff.
10) It will make work of employee attendance management and business analysis easier.

EOAS includes various modules for the enterprise employee management. The basic modules are:

1) Attendance module:

It will help the supervisors to mark the count of the employees present every day. It will also show analysis of the attendance so that improvement can be done later on.

2) Business Analysis module:

It will provide information of Turnover Company makes every day. This module will help the management team to take proper decisions regarding business. It will also help them in managing the financial benefits of the enterprise.

3) Complaint/Remark module:

The various complaints about the employees can be put on this by the clients. It will be directly send to the management so the proper actions are taken. Any remarks by the client will also be included in this module.

The above three modules are included as sub modules by the main three user modules. The user module mainly includes FO module, Admin module and the Management module. Thus the EOAS system will be extremely useful by enterprise to make proper decisions and manage the employees well.

II. LITERATURE REVIEW

Enterprise Overseer Analysis System (EOAS) is based on the concept of the Electronic Records Management System (ERMS) [1].An existing system has different modules like account management, record analysis, record management. Existing system is working on the client-server model like chatting application. System is neither reliable nor manageable. Existing system may suffer data loss which further leads to improper record information. The present system has advantage over the previous one. Due to exact data preservation, proper analysis can be done to enhance the capital count and achieve the target. Client management system helps to manage the clients and their preferences. Feedback system collects the feedback of clients. Clients are very important for the success of business. These modules are absent in the existing systems. An attendance system issued for managing the assets and liabilities of the business; a record management system is used to keep track of employee count on daily basis. Lack of complain and remark system and the Client management system can cause inconsistency in the working plan of the company. Moreover, the topmost executives of the company would not able to know the current state of the company, to know the current state he has to ask the employees to prepare reports

and further combine the data in reports manually to assess the enterprise resource.

III. PROPOSED SYSTEM

The proposed system composed of following three modules – admin field officer and management. In this system the admin has all control over the application. This system is implemented in android app. In this application the admin will create the all accounts of FOs and management account. The field officer will mark attendance and take complaints and remark from clients so that good quality of service will be given to clients. Management has no active work. They will just see the analysis, complaints and remarks given by FOs and depending on that they will make decision.

As shown in following diagram the data given by management, FOs and admin are passed to firebase a cloud platform and the data are given to server database for backup purpose. The modules will be integrated so that data can be easily flow between modules. The application will be develop on agile process which is standard model for developing software or application used in corporate world. Due to proper data flow the application gives best performance. In this application the data will be stored in centralized storage system like firebase. From that stored data the data is mined and its will be used for improvement in business profit. Business Intelligence helps in identifying opportunities for innovation, optimal usage of resources, succeed in competition and so on [1]. Enterprises opportunities and risks can also be evaluated [1]. It helps to understand the client better. The data which is stored in centralized storage system will analyze and that will be shown in graphical form.

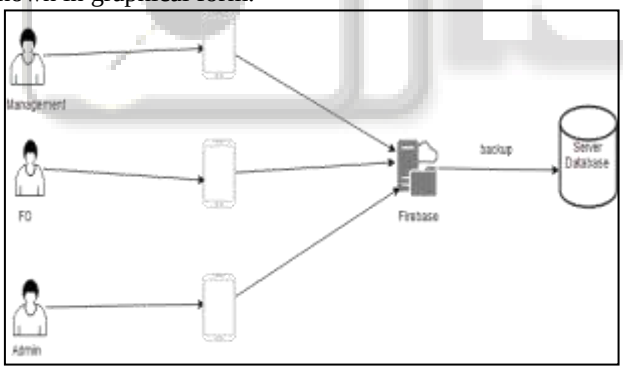

Fig. 1: Deployment Diagram

As said earlier that there are three main modules admin, FOs and management. This are also main users of this app. Now let us discuss this module:

A. *Admin module:*

This module is the most important module in this application. This module is responsible for creation of FOs and management account. The account deletion work is also done in this module. Adding new clients and removing client is also done in this. In account adding data require will be employee Id, password, name and clients if it is FO account. There is also one important function perform in this module and this function is giving cost per employee depending on this data the analysis part will be perform

B. *FO module:*

This module is used by the field officers. Field officers have to visit their respective client and mark the attendance. After marking the attendance if there any complaints then that should me marked and if remark is there then that should also be taken. FO is also able to see the analysis part. But this analysis is in the graphical form only of his work. So privacy is also privacy is also maintained. So there will three sub modules for these three tasks. These modules are *Attendance marking*, *Analysis* and *complaints and remarks.* The attendance marking task will be done in attendance marking module. The analysis part will be displayed in this sub module. And last but not least the complaints and remark marking is done in last remaining sub module.

C. *Management module:*

This module is used by management persons. Management will only able to see the analysis part of the particular FO. They are also able to see the overall analysis part. Whatever complaints and remark are given by client via FO is responded by management. So there are two sub module *analysis* and *Complaints and remarks.*

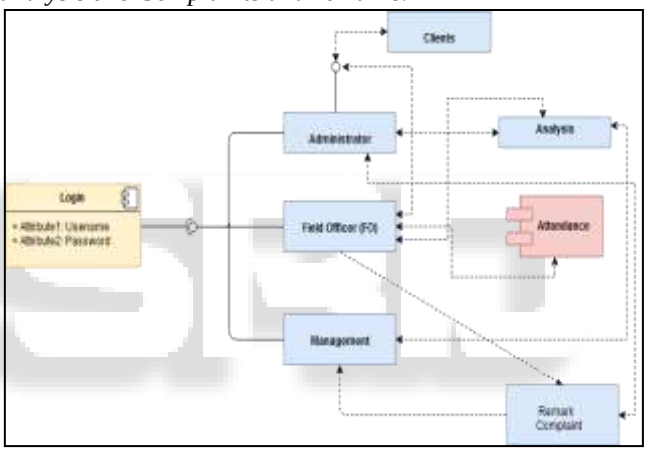

Fig. 2: Component Diagram

As shown in fig. 2. All the users that is admin, management and FOs will do Login. After that they will ask for changing the password if they want. Now the FO will mark attendance is displayed to Management and admin. The complaints and remark are also taken from client by FO and they are displayed to admin and management.

IV. IMPLEMENTATION

The Enterprise Overseer Analysis System(EOAS)is implemented by using Core Java and Advanced Java and the framework is being functioned in Android Studio AP where the layout is designed using XML which includes front end process and backend process is done in Java . The data is configured and stored in database by using Database connectivity in SQLite. The data is processed at Local server and stored on Cloud. Later on, the storage is backed up on the main Server. For Cloud storage Firebase is been used. The activity consists of Administrator module, Management module and FO (Field Officer) module. The sub modules are designed for Attendance, Remark, Analysis, Complaints. A search based algorithm is designed to search the name of Clients and Field Officers within the

EOAS system. The Attendance is marked based on Time system.

The EOAS system is applicable to all android devices. The FOs has access to the application only for their specified field. The Administrator has full access to the entire data stored in the system. The Management is a passive user in this application. The EOAS system is actual a benefit to analyze the attendance and relate the business the analysis according to estimated and actual cost which will increase business profits.

V. FUTURE SCOPE

Enterprise still using the SMS/Third party chat applications (e.g. Whatsapp) application to handle the attendance data hence using the same for revenue analysis. EOAS will use the direct access for data manipulation making the system easy to use and reliable.

Afterwards the system will have the tracking system to enhance the data consistency by tracking the location of the employees. Addition of conversation module in the system will increase the degree of communication which will help in keeping the whole system in synchronization. Additional security will be provided by using the biometrics for accessing the system for corresponding user. Enhancement in the system will later on will increase the business intelligence and will help in better management of employees.

VI. CONCLUSION

EOAS has been designed with the module like Admin, management and FOs. The proposed EOAS model can be used by any enterprise for developing their own EOAS that works efficiently in all android devices. EOAS plays a key role in every enterprise and can be used to manage its entities and modules easily.

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