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Mobile Tool for analysis of Events, stocks and Management System

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ABSTRACT: The stock is a valuable asset for any business and also probably most susceptible to pilferage, damage, expiry, wastage or fraud. The objective of stock verification is to prove the existence, accuracy, ownership rights and ensure the realizable value of the items in Company's inventory. Since the inventory has many movements on business days, the process of routine physical verification become a difficult task for any organization. It needs proper planning, resource mobilization, and expertise. Therefore combining the processes of stock management and event management using a single mobile tool is done. In this project we are implementing a software to manage an event where we will provide all the equipment list based on the requirements given by the client. We can also hire the items from a third party seller and make it available to the client. The main aim of this project is to reduce the communication gap between the client and the responsible persons of the company and hence reducing the paperwork and tedious tasks. All these processing will be done with the help of an mobile application. We are going to use various layouts such as linear, relative,constraints etc. All our confidential data and credentials will be stored in a very secured database i.e Firebase. The main module in this project will be that the processing of the customer requirements according to the nearest warehouse available hence provided fastest supply of the required items. Floyd Warshall algorithm will be used to track the available stock in the warehouses and a navigation system will be created for the same.

KEYWORDS: Floyd Warshall, Inventory, Stocks, Event, Navigation, Database.

I. INTRODUCTION

Smartphone is a common computational device that possessed by the most of people nowadays, which is the inspiration to create an application that its information can be easily reached anywhere, any time. In addition, it would be difficult to manage all event registration manually, because it will take a long time for a long queue of customers to sign their name at the registration table, also a lot of document to handle. Furthermore, people nowadays prefer convenience for their life. In other words, it is harder for users to open the website then click on an application in their smartphones.The interior of storage management can be considered tobe a kind of layered management and its exterior, together with related entities, such as supplier and customer, etc, forms dynamic network system.First of all, users will be able to reserve and manage their event participation via this application.Additionally, this application provides significant information and news of many interesting events from the event provider.Storage department represents production enterprise to order the needed materials from material suppliers (product suppliers) and transact the warehouse-in, storage and warehouse-out work of materials.Here, we can use Agent to represent material supplier, storage manager and production manager, etc, respectively to carry out business activities.

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II. RELATED WORK

Inventory Management System is a challenging one not only to the developer but also to the consumer. Developer has to choose the component as per the customer requirement. Due to all the customer demands are not equal hence they have to compromise with the existing products.

- **Mohammed Ghazal, Samr Ali, Marah Al Halabi, Nada Ali, and Yasmina Al Khalil (2016)**

Online event management system is an online event management system software project that serves the functionality of an event manager.The system allow only registered user login and new user are allowed to register on the application.This proposed to be a web application. The project provides most of the basic functionality required for an event type e.g. [marriage, Dance Show birthday party, etc.], the system then allows the user to select date and time of event, place and the event equipment. All the data is logged in the database and the user is given a receipt number for his booking.The data is then send to administrator (website owner) and they may interact with the client as per his requirement [1].

- **Phanuphong Hathaiwichian, Lapas Sarawittaya Charoen,Apinat Wongwachirawanich and Chaiyong Ragkhitwetsagul (2014)**

We propose a convenient and user-friendly disaster and emergency management system that includes a server, a mobile application synchronized with a smart watch, and an accompanying website designed for disaster relief authorities, such as the concerned governmental agencies. Our proposed web portal enables governmental agencies to alert users immediately of emergencies as well as maintain the credibility of the alerts. That is because the web portal allows the agencies to view alerts about possible emergencies from users for further investigation about their seriousness. It also enables the notification of all users within the affected radius of an emergency incident. Once a crisis occurs, the concerned disaster management authority, such as the local police, can locate the affected region on the map using the proposed accompanying web interface for governmental agencies [2].

- **Yang Fan (2010)**

It is mainly responsible for the management of the domain, representing manufacturer to interact with material supplier Agent, making bidding plan after accepting a task, receiving a bid before deadline, selecting a suitable bidder according to improved contract net protocol, sending transaction information to material supplier Agent, negotiating and communicating with production manager Agent to determine order quantity and cycle, handling the material demand information of purchasing Agent and carrying out inventory control with storage management Agent. It is mainly responsible for the warehouse-in and warehouse-out of various materials and corresponding cost management in storage, reporting storage management work to storage manager.Agent in time and receiving the feedback information of inventory Agent [3].

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A.**Summary of Related Work**

Sr.no	Paper	Conclusion/Summary
I.	Yang Fan, (2010) "Development of Inventory Management System".	In the design of storage management system model based on multi-Agent in this paper, we use a hierarchical federation multi-Agent system organization structure and the cooperation among Agents is based on improved contract net protocol, which enhances system performance on the whole.
II.	Phanuphong Hathaiwichian,Lapas Siriwittayacharoen ,Apinat Wongwachirawanich,and Chaiyong Ragkhitwetsagul,(2014) " Event Management System"	This application will provide significant information of events in order to be easily reached by users and will be able to manage their event participation.Additionally, this application can be used from everywhere, anytime.
III.	Mohammed Ghazal, Samr Ali, Marah Al Halabi, Nada Ali, and Yasmina Al Khalil (2016) "Smart Mobile-based Notification System"	This paper proposes a real-time emergency management and notification system using mobile applications.

Table 1 Summary of literature survey

II. **PROPOSED WORK**

This mobile Tool is used as both storage management and also as a navigation device .This solves the problem of having different application for these two different functions. This Tool helps in reduction of paper-pen work and also helps to reduce the to and fro communication by the salesman on which warehouse to go and which warehouse has the items that the customer requires and also we are using floyd warshall algorithm to find the shortest distance to the warehouse which reduces the time taken to deliver the product by fair amount. This application has a module that helps to find out the next nearest warehouse which contains the stock of items and if that particular item is not present in the nearest warehouse then it will search the items in the next nearest warehouse .There is an added feature that helps the salesperson to block the items required by the customer for some particular days .This helps the other salesman to check the particular item is present for that particular date.After the selection process temporary quotation will be displayed and once the contract is done final bill will be downloaded in the form of pdf.

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A.*System Architecture:*

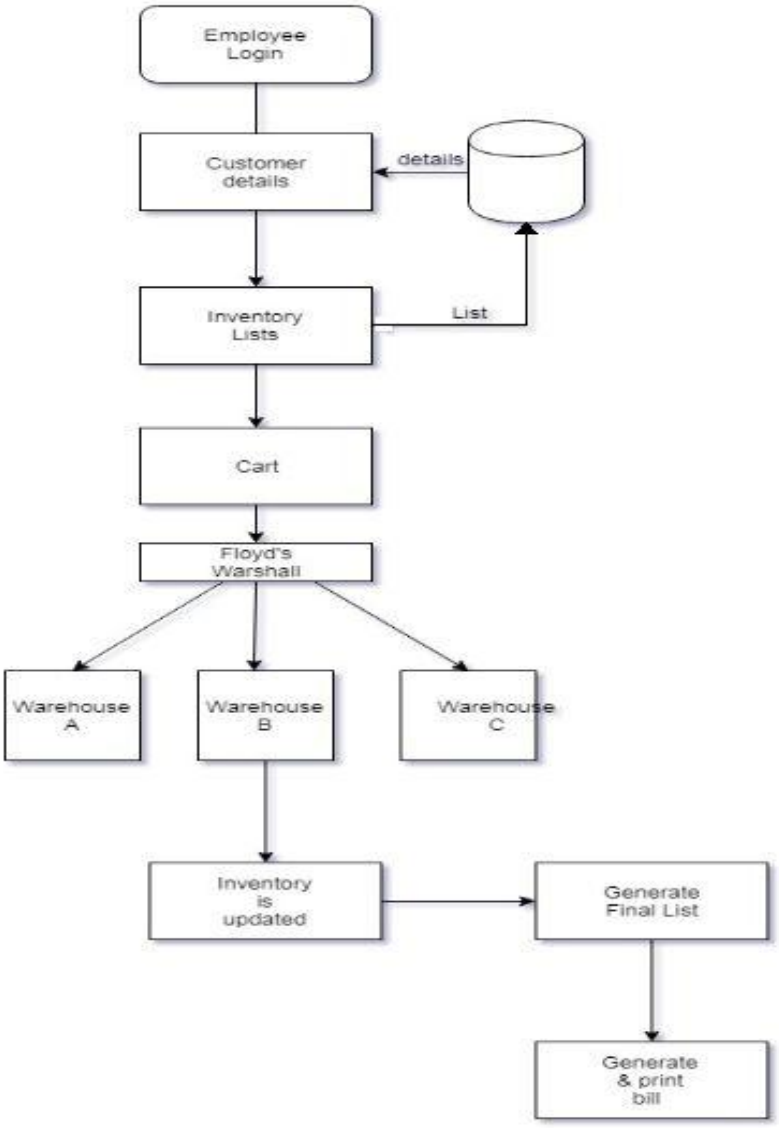

Fig. 1 Block diagram of smart secure office automation system.

A. Input Stage Description: The first part of the system defines the login of the employee which is used to take the customer details at a particular place. As soon the details of the customer are taken as the input to the employee the following details are stored in the database. Further The requirement which is needed by the customer is taken the next input. The following process is carried through a smartphone where the customer will be provided with a checklist of the items.Therefore all the requirement is created as list of items and is stored in the database. The details which are stored in the database is used at the time of bill preparation.

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B. Floyd Warshall Algorithm : Our system will be implemented using Floyd Warshall Algorithm. This is an algorithm for finding shortest paths in a weighted graph with positive or negative edge weights (but with no negative cycles). A single execution of the algorithm will find the lengths (summed weights) of shortest paths between *all* pairs of vertices. Although it does not return details of the paths themselves, it is possible to reconstruct the paths with simple modifications to the algorithm. Versions of the algorithm can also be used for finding the transitive closure of a relation R {\displaystyle R} , or (in connection with the Schulze voting system) widest paths between all pairs of vertices in a weighted graph.

C. Overall Description: The second part receives a a list of items required by the customer for the event. The items finalized in the cart in searched in the inventory of the particular company in realtime. Hence reducing the communication gap between the employee and the higher authorities. There are multiple warehouses in our system and each of them are tracked through Google API. A navigation device is associated with the employee and whenever he visits the customer and takes input of the inventory the shortest distance is calculated with the help of Floyd Warshall.The shortest distance when calculated is assigned to the inventory of the nearest warehouse from which the inventory is to be decremented.

E. Output Block Description: After the process is finished a final bill is generated for the customer in a sorted manner. To avoid fraud disturbance everything is done in real time. The finalized bill will contain the details of the items used and the discount given to the customer after communicating with the higher authorities and hence a soft-copy of the bill is sent to the customer's email id in real time.

III. REQUIREMENT ANALYSIS

The setup is installed on a computer that includes some hardware and software components.

A.***Software:***
Software used for implementing the proposed system will be Android Studio. Android Studio is the official integrated development environment (IDE) for Google's Android operating system,built on JetBrains'IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems. It is a replacement for the Eclipse Android Development Tools (ADT) as the primary IDE for native Android application development.

B.***Hardware:***
The first step of this algorithm is to convert the input address and navigate it to the nearest warehouse. This is done by making the coordinate system equal to the entire pixels of the warehouses around the given customer address. By doing so, the warehouse inside any given map can be calculated using the coordinate values.The application is the real time software(mobile application) and therefore there is no use of specific hardware device.

IV. APPLICATIONS

- **Customized Data Collections**

  When you use Collection Services to collect performance data, you control what data is collected and how often it is collected.Data is collected from various sources to analyze and help our clients with the best possible solutions.

- **Backup and Recovery**

  Incase if data is lost we have an entire data backup to avoid losing data without interrupting our further work. The features included in Backup and Restore may differ depending on the edition of Windows. Only Windows

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Vista Home Premium, Business, Enterprise or Ultimate editions can schedule automatic backups or back up files and folders to a network location.

- **Event Registration**

Event registration is the process by which an event planner organizes attendance to an experience for one or more attendees. Event organizers should choose a event registration process that fits the needs of each event, and can help them achieve their goals. The venue and the time of our event is recorded so that we can perform our task in the given deadline and in the best possible way.

V. CONCLUSION

Inventory management system has been one of the most widely used system. This helps in having a clean record of the stocks and also reduces the errors in high level management.Now talking about the event management system this helps to manage the events with the customer and fulfill the requirements. There are very less system in the market that does both these jobs in one single platform ,what this application does is that it takes the customers requirement and checks the stocks with the nearest warehouse, if it is present in that particular warehouse the salesman can help select the items for the customer. If it is not present in the nearest warehouse it finds the next nearest warehouse using Floyd Warshall algorithm. Then once the items are selected and the order is confirmed , a confirmation mail will be sent to the customer . And once the contract is done a final bill will be generated , this helps in clean management of the event and the inventory.

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