

Mess Management System using Android App

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Abstract - With the advent of computer technology and the internet, consumers prefer to conduct their business digitally. These digital transactions can be monitored and carried out efficiently. This paper focuses on the need and construction of a digital software system to establish modern medium to carry out regular food business.

The main aim of any mess is to provide clean and fresh food to the students/employees of the organization. In many messes, there is no facility to see the menu and then mark their attendance according to their choice. Here we are providing features of mark attendance and also to see today's menu. It would be possible to reduce the food wastage in mess by marking attendance and without using much efforts and manpower if, there existed a software for the same. Thus, there arises a need to create an app for the same. Such software would make the entire Mess related management an automated system. The app is not only restricted to food attendance and see future menu but also have feature to vote for future menu in mess.

Key Words: Pre-attendance of customer, future menu, digitalise, food business, mark attendance.

1. INTRODUCTION

The application effectively manages the mess halls. The system allows users to access and mark their attendance through this app. It also enables customers to select dishes from the available menu of the day. The menu will be decided on the choice of the customer. The customer will mark their choice of dishes for upcoming days and the mess manager will provide the dish based on the customers' selection.

The app has the functionality which allow user to mark attendance and select the menu before 4 hours of the opening time of mess. By taking the attendance there will be less wastage of food and the mess managers can manage the mess in a better way with the staff. The app also gives the notification to the user for attendance. This app also provide feature of maintaining attendance for staff.

The app also has different features for both customers and managers. The manager will be the admin of the app and have access to set today's menu and see today's attendance i.e. the number of customers who are coming to mess. The managers also have the functionality to set future menu for upcoming days and customers vote for the upcoming menu which should be good for all customers. We believe that the technology can give this type of facility effectively and helps to reduce food wastage.

2. LITERATURE REVIEW

The attendance tracking system is a tedious process. The system is used to track the attendance of the students in a systematic manner automatically. The development of the application reduces the inefficiency of the attendance system. So Before developing the tool it is necessary to determine the time factor, integrity and security of the system. Once these things are satisfied, then the next step is to determine the operating system and language can be used for developing the tool. Many systems and applications have been developed in this regard to solve the automating the process of attendance, but almost none of them fulfil the whole requirements. Many problems can be seen on those existing applications, some lack GUI, some lack automating the process of informing the caretaker or guardians.

There is software available for automating such a problem of attendance but being the fact that desktop consumes more energy or power than the mobile. Nowadays, attendance is generally taken on the piece of paper in a register. Using mobile for taking attendance, consumes not only less energy but also helps in reducing the wastage of paper and can serve as a greenway for taking the attendance.

Nowadays, the use of paper can be eliminated by digitalization in the process of attendance. Today's fast-paced world is overloaded with new and ever-changing technologies, to cope up with these technologies and constant rise in the user demands one need to maintain a very high quality of each and every product being launched. The software industry is no different and is constantly striving hard to develop and maintain high-quality software.

Mess Management System will help small business owners to manage their business. This project is developed for Mess Management System. Much such software is available in the market but they are tedious and complicated with complicated user interface. But Mess Management System is an android application so we can provide very user-friendly UI which is easy to understand and manage. The approach/model used for developing software depends on the kind of system we want to develop.

We analysed the requirements thoroughly first and then spent lots of time in System Designing. But when we went for implementing the desired system, we realized some shortcomings in the design and had to revise the design again. We aimed at following the waterfall model but finished up using the Modified waterfall model. While making the design of the system emphasis was put on having an efficient modular design. It has been implemented during the implementation phase by taking care of basic things that ensure effective modular design. Software testing is a very critical element of software quality assurance and represents the ultimate reviews of specification, design and coding.

Testing represents an interesting anomaly for the software. Testing is vital to the success of the system. Errors can be injected at any stage during development. System testing makes a logical assumption that all the parts of the system are correct; the goal will be successfully achieved. During testing, the program to be tested is executed with a set of test data and the output of the program for the test data is evaluated to determine if the program is performing as expected.

We have seen over the years that the process of manual attendance has been carried out across almost all educational institutions. The process is not only time consuming but also sometimes inefficient resulting in the false marking of attendance. Today, we need not maintain a pen and paper-based attendance registers. Following this thought, we have proposed an attendance marking and calculation system which is implemented on Android mobile application that communicates with the database. This Android application will give the students information on attendance.

3. SYSTEM OVERVIEW

3.1 Customer Module

I. Login:

Customer login and validation of details will be handled in this module. Complete verification of email-id is done by sending verification code to the email-id of the given customer.

II. Mark attendance:

Marking daily attendance of the customers will be handled here, customers are having two options here, first yes if the customer is interested in the menu and second no if the customer is not interested in the menu.

III. Vote for menu:

Voting for menu items will be handled by this module.

IV. User:

Customers can access their profiles and other meal-related data.

3.2 Manager Module

I. Login screen:

Handling manager login done from a web portal.

II. Account handling:

The manager can activate a customer's account from this module.

III. Approve customer:

Approving or disapproving of the user.

IV. View votes:

The manager can see the total votes and attendance of customers.

V. Handle feedbacks:

The manager can view all the feedbacks in this module.

VI. Update menu:

Manager will update the menu daily.

4. TECHNOLOGY USED**4.1 Android**

Android is a mobile operating system developed by Google, based on the Linux kernel and designed primarily for touch-screen mobile devices such as smart-phones and tablets. Android software development is the process by which new applications are created for the Android operating system. Applications are usually developed in Java programming language using the Android software development kit (SDK) integrated with Android Studio. Android Studio is the official integrated development environment (IDE) for the Android platform.

4.2 XML

Extensible Mark-up Language (**XML**) is a mark-up language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. The design goals of XML emphasize simplicity, generality, and usability across the Internet. It is a textual data format with strong support via Unicode for different human languages.

4.3 HTML-CSS

HTML stands for Hypertext Mark-up Language, and it is the most widely used language to write Web Pages. Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext. As its name suggests, HTML is a Mark-up Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

Cascading Style Sheets (**CSS**) is a style sheet language used for describing the presentation of a document written in a mark-up language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG, XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging web pages, user interfaces for web applications, and user interfaces for many mobile applications.

4.4 Apache

The Apache HTTP server is the world's most used web server software. Apache supports a variety of features, many implemented as compiled modules that extend the core functionality. These can range from server-side programming language support to authentication schemes.

4.5 My-SQL

My-SQL is the world's most popular open-source database. With its proven performance, reliability and ease-of-use, My-SQL has become the leading database choice for web-based applications. It is also open source.

My-SQL is a fast, easy-to-use RDBMS being used for many small and big businesses.

My-SQL is developed, marketed and supported by My-SQL AB, which is a Swedish company. My-SQL is becoming so popular because of many good reasons -

- My-SQL is released under an open-source license. So you have nothing to pay to use it.
- My-SQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
- My-SQL uses a standard form of the well-known SQL data language.
- My-SQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc. My-SQL is very friendly to PHP, the most appreciated language for web development.

5. RESULTS

The snapshots of the system are as follows:

I. Register page:



The register page features the 'Mess Manager' logo at the top, which consists of a fork and knife icon. Below the logo are three input fields labeled 'Name', 'Email', and 'Password'. A 'REGISTER' button is positioned below the password field. At the bottom, there is a link that says 'Already Having An Account, Login here...'

II. Login page:



The login page features the 'Mess Manager' logo at the top. Below the logo are two input fields labeled 'Email' and 'Password'. A 'LOGIN' button is positioned below the password field. At the bottom, there is a link that says 'No Account yet? Create one'

III. User interface:



The user interface for 'Ambhuja Mess Home Kitchen' displays the following information:

- Ambhuja Mess Home Kitchen**
- 3.7 Rating
- 10AM to 10PM Timing
- Rs.100 Avg. Price
- Serving Now:** Sev Tamatar, Roti, Moong Dal, Fry Rice

Four interactive buttons are provided:

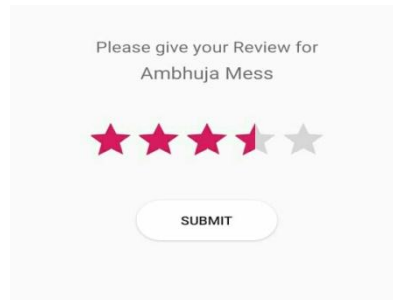
- Full Menu
- Vote
- Mark Interest
- Rate

A notification at the bottom states: 'Survey for this date was not Created'. Contact information is provided: 'Contact: 8871566671' and 'Email: care@gurujji.com'.

IV. Attendance page:



The attendance page for 'Ambhuja Mess' prompts the user to 'Please Mark Your Interest For Date: 05-Apr-2020'. It shows the current serving: 'Sev Tamatar, Roti, Moong Dal, Fry Rice'. There are two radio button options: 'I'm Interested' and 'Sorry! Will Not Attend'. A 'MARK INTEREST' button is located at the bottom.

V. Menu page:**VI. Rating page:****6. CONCLUSIONS**

- The project is based on the requirement specification of the user and the analysis of the existing system, with flexibility for future enhancement.
- The expanded functionality of today's software requires an appropriate approach towards software development.
- Mess management software is designed for the customers who regularly visit outside for their lunch or dinner.
- The numbers of mess are increasing day by day and they all try to provide the best facility to a customer and hence all things are becoming digital therefore we provide a facility for the customer such as:
- Easy choice of food dishes from the menu.
- It will also help manage the mess in a better way and help in decreasing the wastage of food.
- Only when we like the menu we put our attendance otherwise not.
- The project is developed using android, java and My SQL.

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