MESS MANAGEMENT SYSTEM- REPORT

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Contents

0.1 Introduction 2
0.1.1 Aim 2
0.1.2 Relevance 2
0.1.3 Description 2
0.1.4 Existing System 2
0.1.5 Proposed System 3
0.1.6 Impact 3
0.2 Requirement Specifications and Analysis 3
0.2.1 User Requirements 3
0.2.2 Product Backlog 4
0.3 Design 4
0.4 Implementation and Functionalities 5
0.5 Conclusion and Future Work 5

0.1 Introduction

0.1.1 Aim

To create an online portal to facilitate the process of mess registration and Management in IIITG hostels. The project aims to reduce the workload on the hostel authorities by minimizing the paper work and reducing human intervention

0.1.2 Relevance

The Mess Management System helps the user to access all the functionalities of the mess without having to visit the mess physically.
It enables the admin to view and change the mess menu and access guest details. This application is free of cost for the users. Individuals who wish to use any functionality of the mess can simply log in to the system and have everything on their fingertips.
Using the information provided by all the users the admin can take decisions and the inventory for the mess can be managed.

0.1.3 Description

The purpose of this application is to automatize the hostel mess functionality and provide both the user and the admin a smart platform to interact with each other. To use this facility, the users are provided with account credentials. Once logged in, the user can use the functionalities of the mess such as accessing his/her account information, checking the menu, etc. On the other hand the admin can log on and check the inventory details and also get to know the number of guests visiting the mess that day. This application aims at providing ease to both the users and the admin.

0.1.4 Existing System

The existing system to facilitate mess functionalities for the students is the normal pen and paper method. Any query is addressed by physically visiting the mess and records are taken on a register. The balance information is only available with the office staff and it requires a lot of effort to access it.

0.1.5 Proposed System

The new management system will allow the user to interact with the admin directly through the use of this application to address his/her queries and this will also enable the admin to make the functionalities faster.

0.1.6 Impact

It will have a positive impact on the mess proceedings making it more organized. Amount of food wasted will decrease as the mess staff will have a prior estimate of the Guest Count. The students will be able to cancel a meal when they have sudden plans of leaving the hostel.

0.2 Requirement Specifications and Analysis

The set of “Users” in the case of our software consists of the Mess Managing Committee (headed by Mess Manager) and the Student Community. This report briefs about the User Stories of the Student Community and planned Product Backlog.

0.2.1 User Requirements

After interacting with the students of IIITG, following are the prime demands raised regarding the improvement of the functioning of mess. (The ordering is done with respect to the intensity of the demand

Correct Billing must be done by removing any interference of manual work. The current system of calculating bills by following the register maintained at hostels is very faulty. In case of last semester, the bill for the whole month of November was imposed irrespective of the duration of stay which was different in case of every student. This failure happened despite maintaining the hostel register. Even after bringing this issue to the concerned authority, the problem was never solved and a sum of approximately 500 Rs. was charged without any reason.

The assumption that the student if present in the institute will avail the mess facility for all the 3 services (Breakfast, Lunch, Dinner) must be removed. The option to avail selected services must be available. Accordingly, billing must be done.

Currently, the feedback is taken intentionally on those days only when the mess service is good. This helps to generate a false impression on the Mess Managing Committee about the quality of food served. Thus regular feedback is necessary.

Complaints are not taken seriously because of the lack of it's popularity. The complaint register is not taken followed up periodically. Hence the complaints must be transparent to the public and must be answered in real time.

It is better if everyone decides on the menu rather than just mess representatives. A voting will give a clear picture of what the students wish to have in mess.

0.2.2 Product Backlog

By analyzing the demands, following products are necessary

1. Log In System
2. Billing Dashboard
3. Cancellation System
4. Feedback System
5. Complaint Portal
6. Menu Voting

0.3 Design

From the product backlog, the first necessary step is to draw a Usecase diagram which briefly describes the modules that are necessary to be constructed. The next step is to have an understanding of the architecture design which helps in understanding the nature of communication the target software is going to have with the surrounding systems. The collaboration diagram is an illustration of the relationships and interactions among software objects. Component diagram is a special kind of diagram in UML. The purpose is also different from all other diagrams discussed so far. It does not describe the functionality of the system but it describes the components used to make those functionalities.

Entity Relationship Diagram is a type of structural diagram for use in database design. It contains different symbols and connectors that visualize two important information: The major entities within the system scope, and the inter-relationships among these entities.

0.4 Implementation and Functionalities

Django framework is used for this project which is Python based MVC framework. It offers streamlined features. There are 5 modules implemented with each having its own extended sub modules. The Mess Management System is a web-app built using HTML/CSS. It also utilizes Bootstrap CSS framework for better designing and formatting. Bootstrap is an open source toolkit for developing with HTML and CSS. It makes development of responsive and mobile-friendly websites very easy. Most of the times, people use smart phones to use the internet. Hence, it becomes important to build responsive websites so that they are easy to use on mobile devices.

The back-end part of the system is made using Django which is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. The reason we chose to work with Django is that it is free, open source software and easily available on the internet. Since experienced developers build it, it takes care of much of the hassle of Web development, so we can focus on writing our app without needing to reinvent the wheel. Django is a very powerful framework, which has secure methods for authentication and storage of data.

The database used for storing information is SQLite3. It is a self-contained, highly reliable, embedded, full-featured, public domain, SQL database engine.

0.5 Conclusion and Future Work

The implemented project almost completes the user requirements and offers a software solution to the problem statement. Important features like Cancellation of service, Complaint portal, Menu voting etc. are implemented and working. However, there are some modifications that can be done. Some of the improvements include connection to a payment gate away for online payment and inclusion of QR code system for authentication.

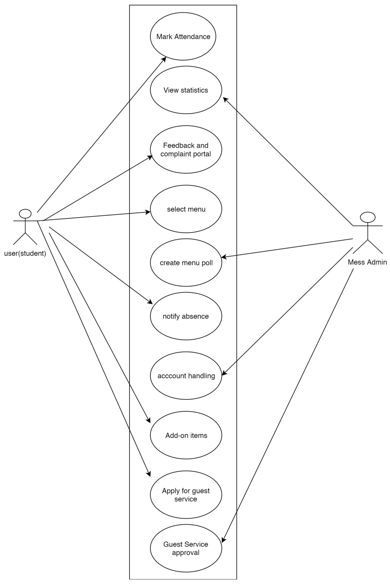

Figure 1: Usecase Diagram

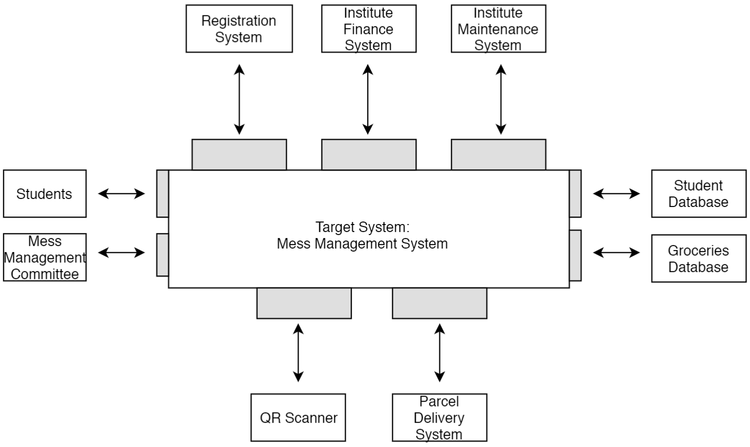

Figure 2: Architecture Design

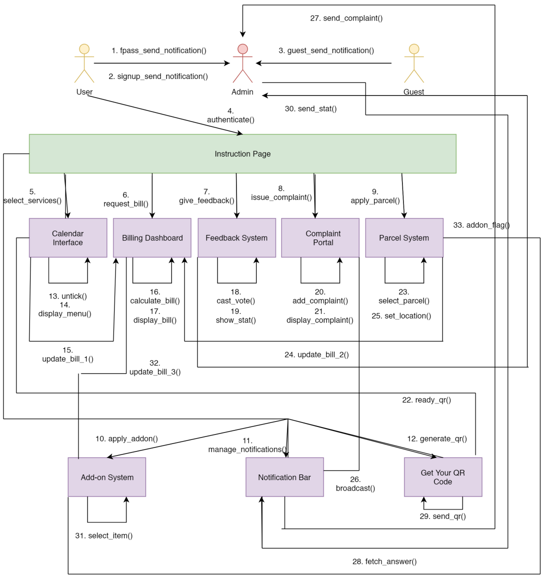

Figure 3: Collaboration Diagram

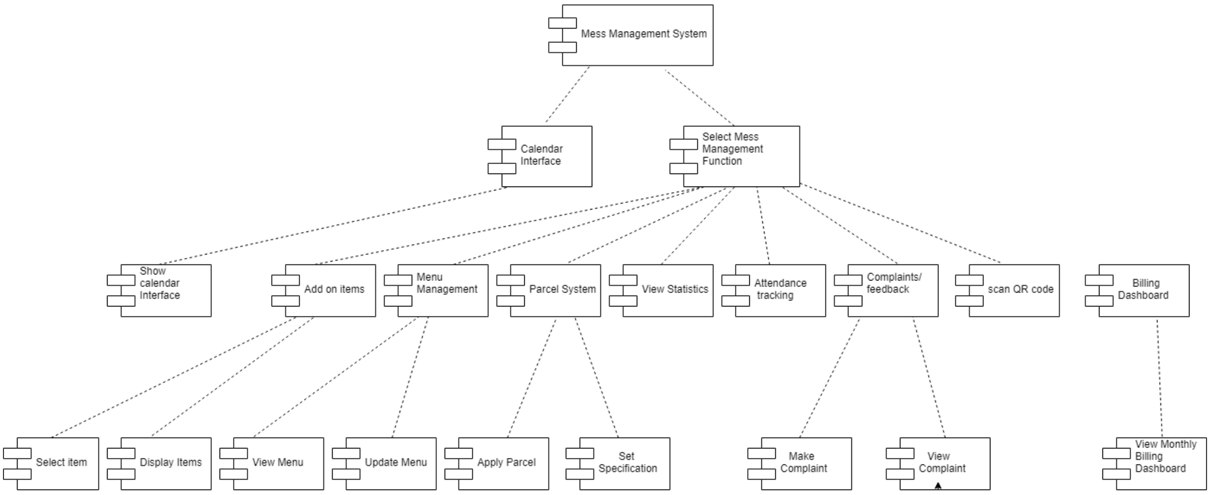

Figure 4: Component Diagram

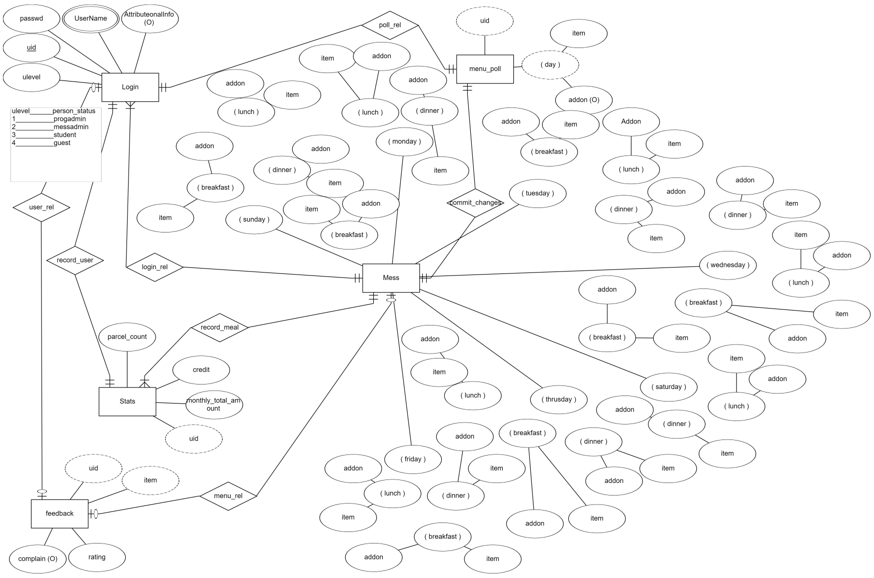

Figure 5: ER Diagram