

Cafeteria Management System (Cashless Canteen)

High Level Design Document

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DA-IICT, Gandhinagar

Overview

This is the high level design document for the system of DAIICT's cafeteria. The first part gives a brief description of the project topic. The second part is the overview of the design of the software. The third part is the system components which contain the database table and the detailed description of the modules.

Target Audience

Software Developers

Document Revision History

Version	Author(s)	Description	Reviewer(s)	Date
1.0	<ul style="list-style-type: none">• Primary Authors: Jay, Dipen• Database Tables made by: Jay, Dipen, Ashish	High Level Design Document v1.0		10 October, 2013

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1. Introduction

1.1 Purpose

The purpose of this document is to provide a brief description of the design for the system of DAIICT's cafeteria.

Its main purpose is to-

- Provide high level design of the system.
- Document to show how the various components would be implemented.
- Provide a definite roadmap for developers to code the software.

1.2 Document Overview

This document contains brief design of the system – brief description of modules and database tables.

1.3 Scope

This document contains the design of the planned implementation of software. Logic design for every module is documented here. Hence the developers can code directly by referring to this document with minimal effort of debugging and testing.

2. Design Overview

2.1 Approach

The project aims to equip the current manual system with following enhanced capabilities which are listed below:

- We plan to make a bulletin board on student portal to display promotional offers and today's special menu.
- User profiles for all registered user - which has there details and they can block their RFID card in case of theft or lost.
- User notification for their placed order via email.

- Archival system is not there in current scenario - The order history should be maintained and billing cycle with admin should also be maintained. In case of any dispute it will provide sound proof.
- RFID integration with user profile so that order transaction will be handled smoothly without cash.
- Direct cash transfer scheme which enable users to transfer their balance to other user or they can receive balance from other users.

Since we have concluded to follow 'Iterative Waterfall Model' as our project model throughout the development of our software.

3. System Components

3.1 Database Tables

Table 1 : Login

Name	Type	Comment	Nullable	Unique
da_id	Bigint	None	No	Yes
password	Varchar	None	No	No
role	Int	Student, Faculty, Admin, Canteen	No	No

Table 2 : User Profile

Name	Type	Comment	Nullable	Unique
da_id	Bigint	None	No	Yes
first_name	Text	None	No	No
last_name	Text	None	No	No
room_no	Varchar	None	No	No
contact_no	Number	None	No	No
rfid_no	Number	None	No	No
status	Boolean	Block the card if lost	No	No

Table 3 : Complaint

Name	Type	Comment	Nullable	Unique
complaint_id	Int	None	No	Yes
da_id	Bigint	None	No	No
complaint_text	Varchar	None	No	No
complaint_status	Varchar	None	No	No
datetime	Datetime	None	No	No

Table 4 : Order Master

Name	Type	Comment	Nullable	Unique
order_id	Int	None	No	Yes
seller_da_id	Bigint	None	No	No
buyer_da_id	Bigint	None	No	No
Datetime	Datetime	None	No	No
Final_amount	Double	None	No	No

Table 5 : Order Detail

Name	Type	Comment	Nullable	Unique
order_id	Int	Foreign key	No	No
Item_id	Int	Foreign key	No	No

Table 6 : Item List

Name	Type	Comment	Nullable	Unique
seller_da_id	Bigint	Combine primary key	No	No
Item_id	Int	Combine primary key	No	No
Item_name	Varchar	No	No	No
Item_amount	Double	No	No	No

Table 7 : Admin Log

Name	Type	Comment	Nullable	Unique
Datetime	Datetime	None	No	Yes
Balance	Double	None	No	No

Table 8 : Student Log

Name	Type	Comment	Nullable	Unique
student_da_id	Bigint	None	No	Yes
Datetime	Datetime	None	No	Yes
Balance	Double	None	No	No

Table 9 : Canteen Log

Name	Type	Comment	Nullable	Unique
seller_da_id	Bigint	None	No	Yes
Datetime	Datetime	None	No	Yes
Balance	Double	None	No	No

Table 10 : Student Canteen Transaction

Name	Type	Comment	Nullable	Unique
da_id	Bigint	(canteen or student)	No	No
Datetime	Datetime	None	None	No
order_id	Int	None	None	No
Flag	Boolean	(C or D)	None	No
da_id	Bigint	(canteen or student)	None	No

Table 11 : Admin Transaction with Student & Canteen

Name	Type	Comment	Nullable	Unique
admin_da_id	Bigint	None	No	No
Datetime	Datetime	None	No	No
Amount	Double	None	No	No
Flag	Boolean	(C or D)	None	No
da_id	Bigint	(canteen or student)	None	No

Table 12 : Student Transaction with Student

Name	Type	Comment	Nullable	Unique
transfer_id	Bigint	None	No	Yes
Student_da_id	Bigint	None	No	No
Datetime	Datetime	None	No	No
Amount	Double	None	No	No
Flag	Boolean	(C or D)	None	No

3.2 Description of Modules

3.2.1 Registration Module: This module restricts the user to register with her/his DA-IICT webmail ID only. If the entered email is non DA-IICT webmail id, the user is given an error instructing to register with webmail-id. The username would be considered as daiict id. Password must contain at least 6 characters. Error is given when entered password has less than 6 characters. RFID id would be associated with user profile.

3.2.2 Student Portal Module: This module will enable all the registered students to view their daily or monthly expenses. It will help them to restrict their expenses. Any kind of promotional offers will also be displayed on student portal like today's special.

3.2.3 User Profile: This module will deliver user profiles feature for all the registered users and will have their basic information. Block their RFID in case of theft or stolen or lost.

3.2.4 Notification System: This will notify the users whenever they make order from any one of the cafe.

3.2.5 Order Module: This module will enable user to place an order. After verifying the final amount user will produce RFID card at the cafe counter. Based on reading RFID card final amount will be deducted from the respective user account.

3.2.6 Recharge Module: This module will enable users to recharge their account with admin. So that they can continue to get benefits of cashless transaction with cafe.

3.2.7 Fund Transfer Module: This module provides an add-on facility to users. It will enable users to transfer this balance to their friend's account or receive balance from their friend's account.

3.2.8 Archival Module: This module will provide admin a more robust archival feature. Admin will able to search various transaction that was happened with users like cafe owners or students or both.

3.2.9 Menu Module: This module will create menu for various cafe's and even it will handle any kind of updates in menu or price revise.

4. References

Purav Chitaliya, et. al., Software Requirements Specification v1.0, Team 2, IT632 Software Engineering, Autumn 2013-14, DA-IICT

Purav Chitaliya, et. al., Project Plan v2.0, Team 2, IT632 Software Engineering, Autumn 2013-14, DA-IICT