Software Requirements Specification

Version 1.0

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Mess Management System

Nikhil J Taji
Makarand Gomashe
Rajkumar Meena
Ravi prakash Gupta

Submitted in partial fulfillment
Of the requirements of
CS 223 Software Engineering

This work is based upon the submissions of the course Software Engineering (CS223). The students who submitted this team projects were << Name of the team members>>.

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List of Figures

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1.0. Introduction

1.1. Purpose

The purpose of this document is to introduce a detailed description of the mess management system. This document will enlists the purpose and features of the system, the interfaces of the system, how the system will work, the constraints under which it must operate etc.. This document is intended for both the stakeholders and the developers of the system and is proposed for future use in the Mess Management System of IIT Jodhpur.

1.2. Scope of Project

This software system will be designed to automate the management of mess services in the institute and thereby help in increasing working efficiency and quality of services to all the stakeholders.

This system will provide an interface of interaction, information, notification, feedback etc between the Mess Vendor or Mess management committee and the service takers such as students, staff, faculties etc. The stakeholder can login to check his/her profile and use amongst several options available as mentioned below in the Functional Requirements based on the type of stakeholder. Functions described below have options for Menu viewing and changing, Menu polling, payment options(fees, fine, dues, refund etc.), utensil

leftover notification, students number notification to vendor(automated), Inform leave, submit feedback, rating etc. Apart from these the admin reserves other functions related to inventory (mess store) which includes current stock display, stock updation options etc.

1.3 Constraints

The major constraints for this project is the time, and hence only Phase1 (basic) features of the mess management system will be implemented for working. Moreover, for efficient management of some feature, manual work would also be needed eg for approval of applied leave, the admin has to approve it after validating the submitted documents.

1.4 Assumptions and Dependencies

The database of students is assumed to available for the project. Other Hardware requirements such as server, scanner etc. is assumed to be made available till development phase.

The system needs proper connectivity to internet for proper connection to the databases and activate notifications feature.

1.3. Glossary

Term	Definition
Database	Collection of all the information monitored by this system.
Mess Admin	The Head of the Mess Management Committee
Mess Vendor	The caterer offering the services.
Student	A student avails the mess facilities.
Staff	Staff of the institute enrolled for the mess services.
Menu	A collection of all the food items which will be served in the mess.
Feedback	The feedback is updated in the database, which can be viewed by admin. A notification will send to Mess vendor and all other Mess management
	committee.
Special Menu (Jain / Fast)	A list of meal preferences along with other data such as the date and time of the special Dinner. A special order will typically be made for special occasions such as festivals or as specified.

1.4. References

IEEE. *IEEE Std 8301998 IEEE Recommended Practice for Software Requirements Specifications.* IEEE Computer Society, 1998.

1.5. Overview of Document

The rest of the document is designed in the following way:

The Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The Requirements Specification section, of this document is for the developers and describes in technical terms the details of the functionality of the product.

Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

2.0. Overall Description

2.1 System Environment

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2.2 Functional Requirements Specification

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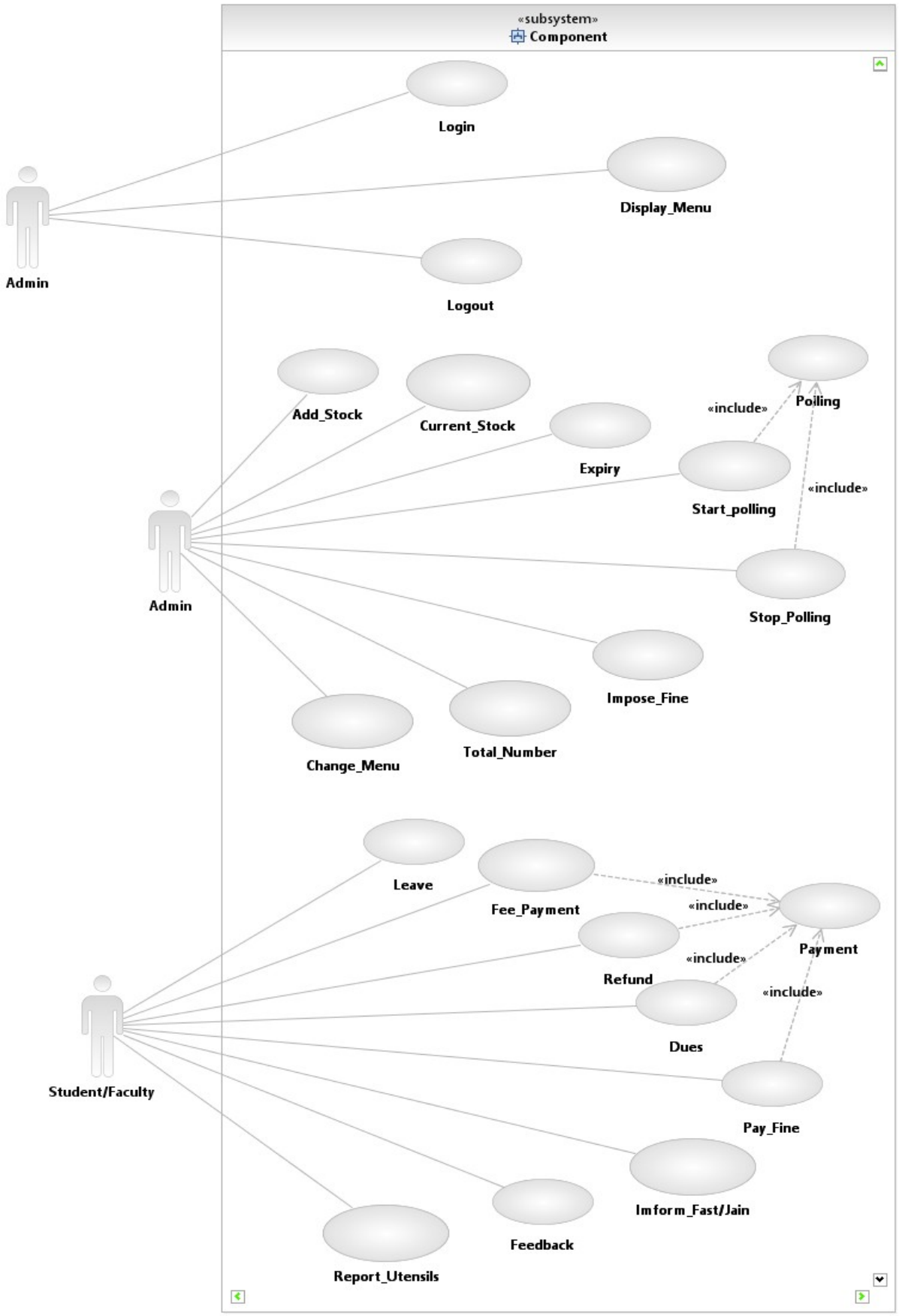
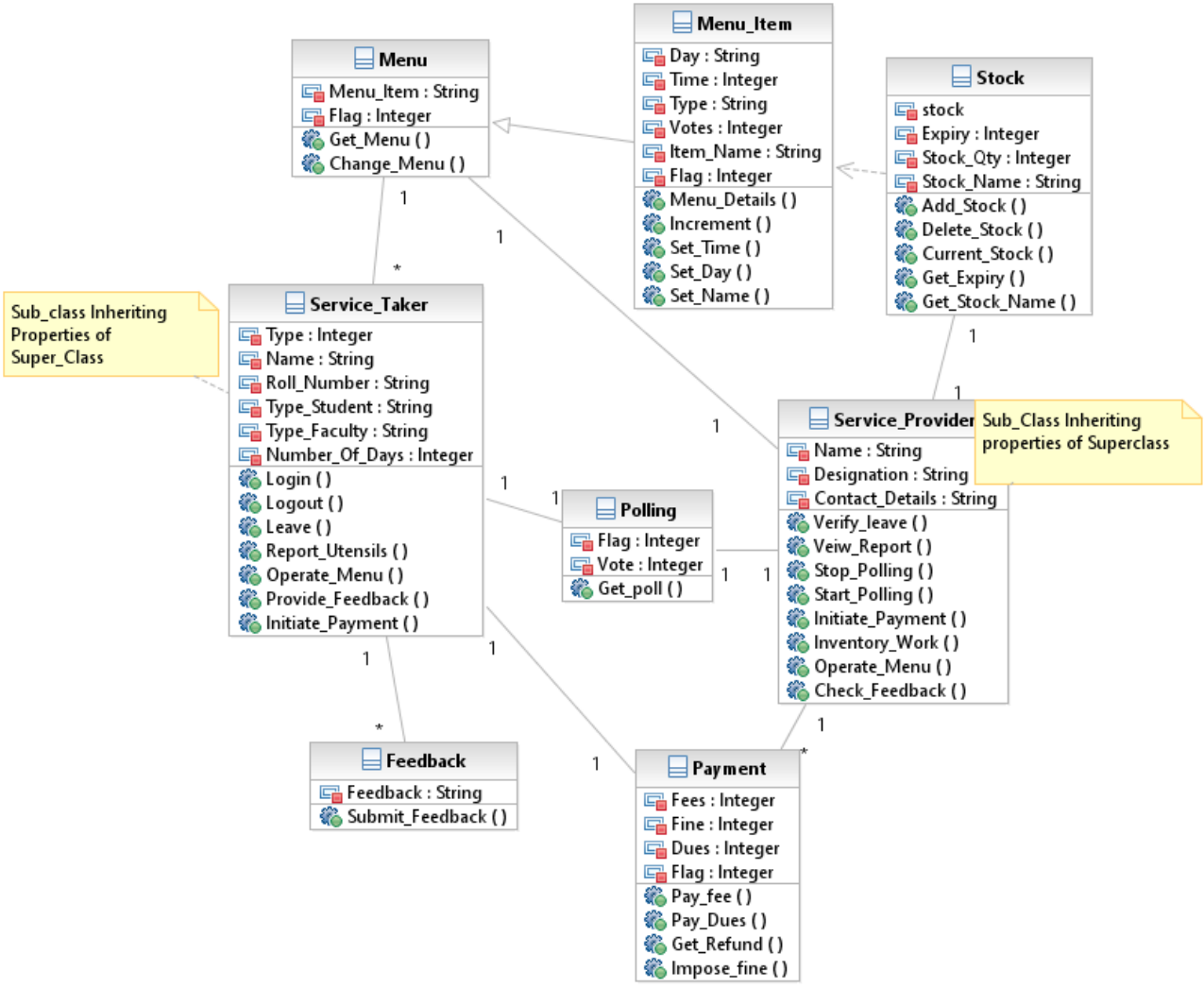
2.2.1 Use case 1

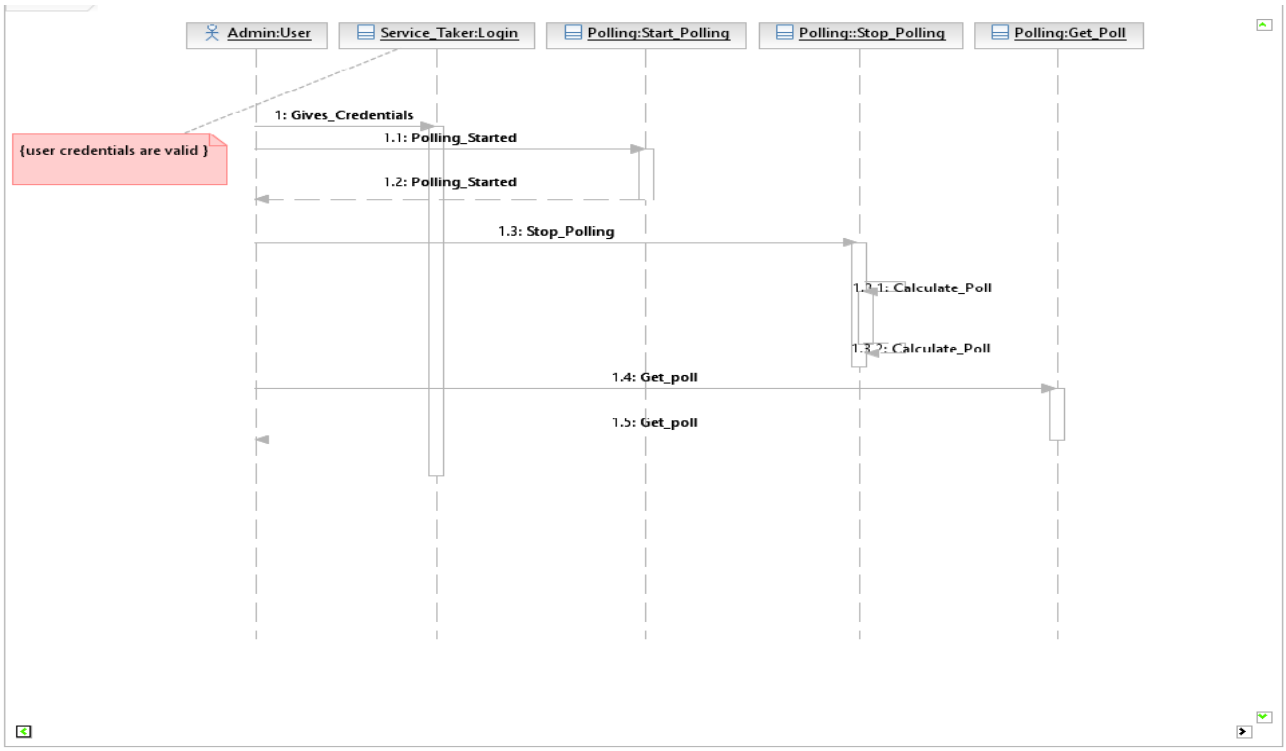
Use case:-**Diagram**

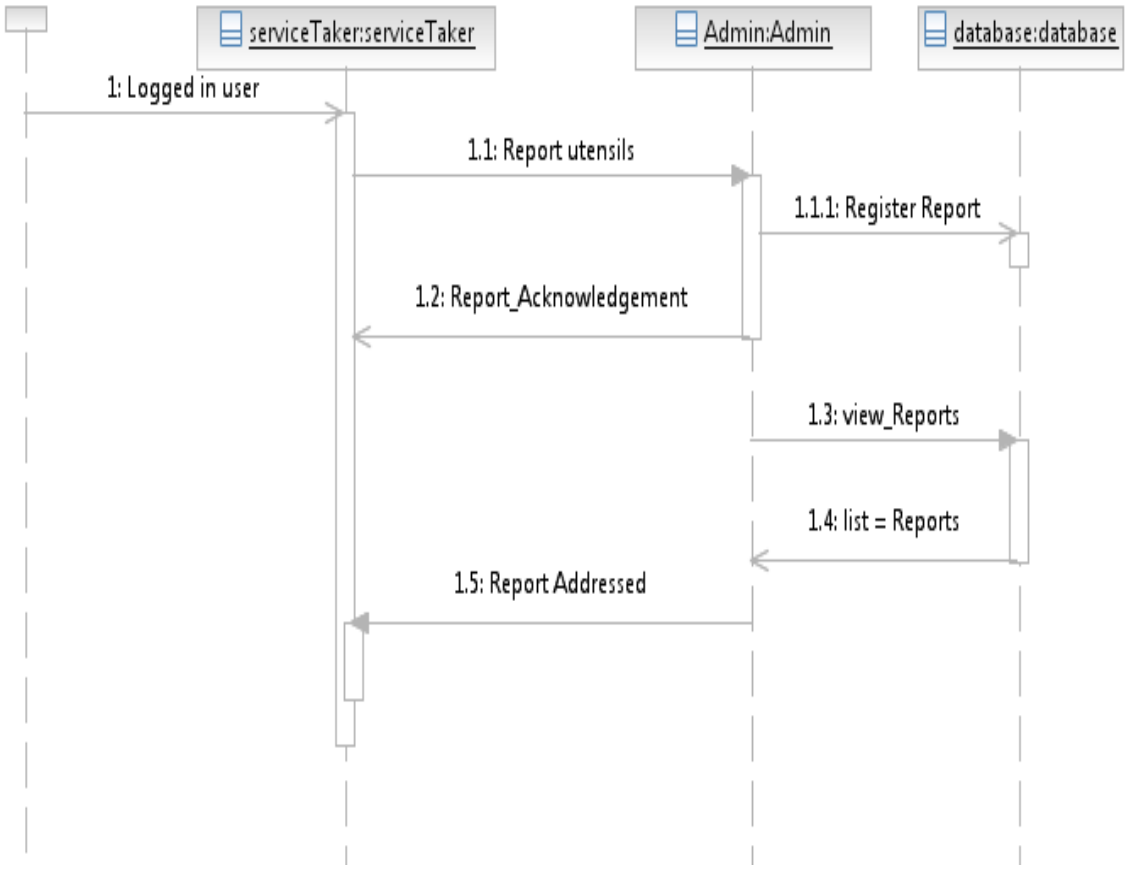

«subsystem»
Component
Login
Display_Menu
Admin
Logout
Add_Stock
Current_Stock
Expiry
Poiling
«include»
Start_polling
«include»
Admin
Stop_Polling
Impose_Fine
Change_Menu
Total_Number
Leave
Fee_Payment
«include»
«include»
Payment
Refund
«include»
«include»
Dues
Student/Faculty
Pay_Fine
Imform_Fast/Jain
Feedback
Report_Utensils

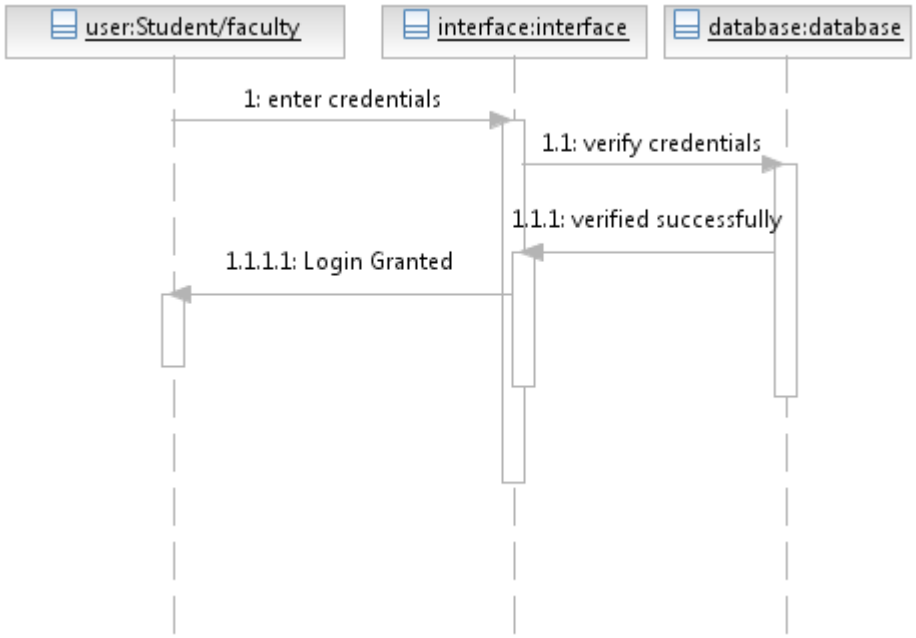
Class diagram :



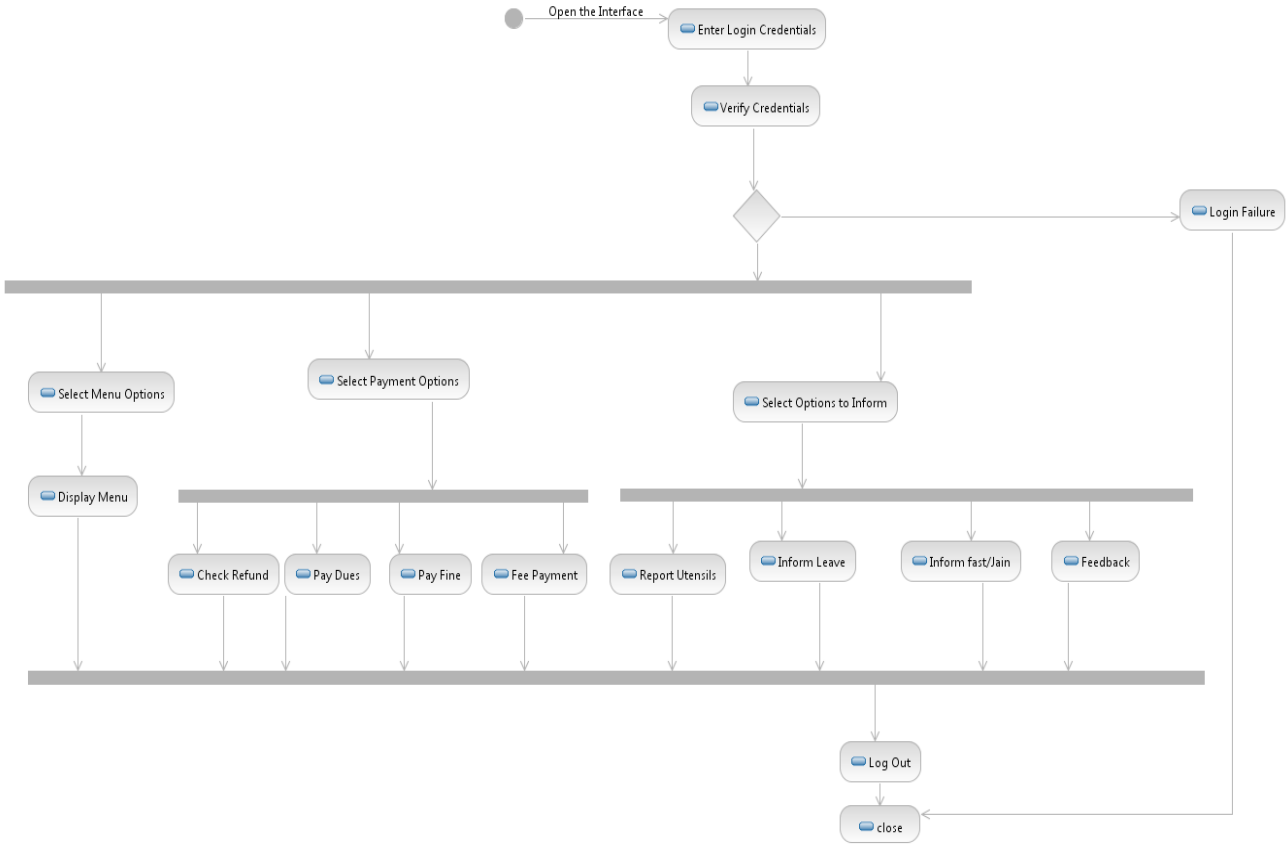
Sequence Diagram :



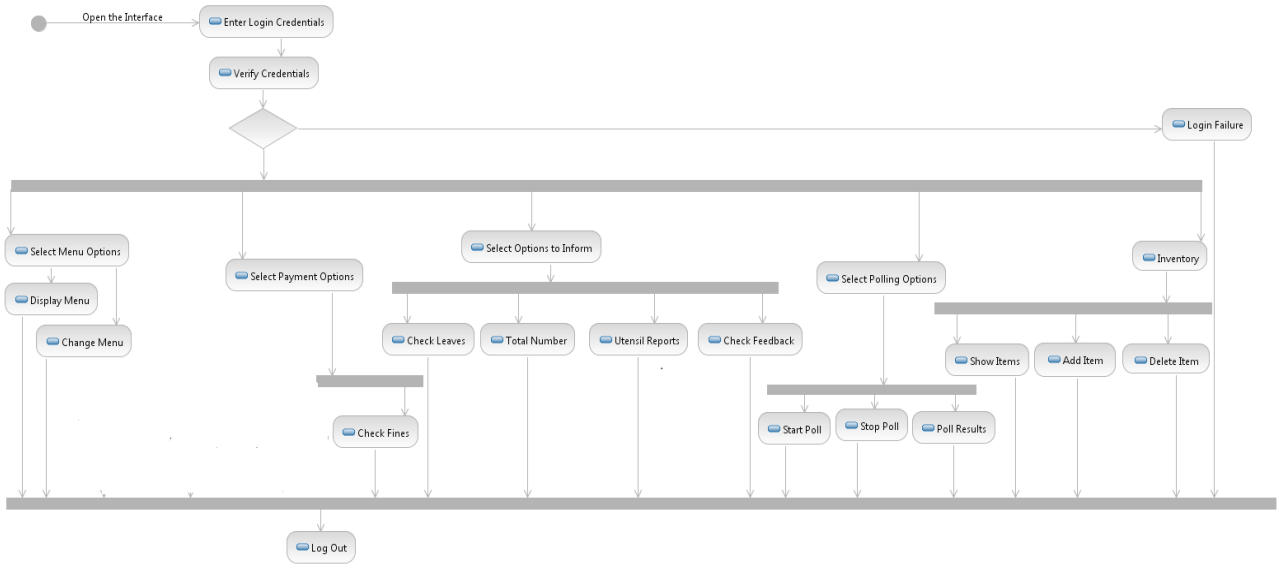




Activity Diagram : Student/Staff



Admin:



Brief Description

Initial Step-by-step Description

2.3 User Characteristics

The stakeholders must have access to the internet and they must know how to operate one computerized device or basic knowledge about how to operate.

2.4 Nonfunctional Requirements

The system will be a web based client connected to the database via an internet

connection. The different operations will be simulated after login by different stakeholders. Weighing machine will be required for the purpose of weighing the food wasted, and the data will be used for displaying statistics. The scanner will be required to scan the id of student while entering the mess for registering him/her in the database.

3.0. Requirements Specification

3.1 Functional Requirements

3.1.1 Login

Use Case Name	Login
Trigger	The Stakeholder clicks on to the Login icon/button.
Precondition	The Stakeholder must have account.
Basic Path	1. The Stakeholder logs in to the software. 2. The Stakeholder clicks on to the Login icon.
Alternative Paths	No alternative path.
Post condition	The Stakeholder profile picture will be visible.
Exception Paths	1 .If login fails, ask user to contact admin to logs user to logs into the software. 2. If Username or Password is invalid. Ask user to enter valid username and password.
Other	This option is used to login into your profile page.

3.1.2 Display Menu

Use Case Name	Display Menu
Trigger	The stakeholder clicks on the Display Menu button/icon
Precondition	Any of the stakeholders must be logged in.
Basic Path	1. The stakeholder logs in to the software. 2. The stakeholder selects the day. 3. That day's menu is displayed.
Alternative Paths	
Post condition	The menu is visible to the stakeholder.
Exception Paths	The menu if unavailable, then 'No Menu Available' will be displayed and stakeholder will be given the concerned contact details of related representative.
Other	This use case can be used to display the menu of food day wise, which is currently being served in the mess.

3.1.3 Change Menu

Use Case Name	Change Menu
Trigger	The admin clicks on the Change Menu button/icon
Precondition	The admin must be logged in.
Basic Path	1. The admin logs in to the software. 2. The admin selects the day. 3. That day's menu is displayed on screen and update button is available corresponding to that menu for updating. 4. Click update.
Alternative Paths	
Post condition	The menu is updated, which can be viewed by all stakeholders. A notification will send to Mess vendor and all other stakeholders.
Exception Paths	If update fails, update failed message will be displayed. The admin will be asked to re update.
Other	This option can be used for all purpose of updation. In case of sudden change in menu (eg. on special occasions) this use case can be used.

3.1.3 Inform Fast/Jain

Use Case Name	Inform Fast/Jain
Trigger	The Stakeholder clicks the Inform Fast/Jain icon/button.
Precondition	The Stakeholder must be login to his profile page.

Basic Path	1. The Stakeholder logs in to the software. 2. The Stakeholder clicks on the Inform Fast/Jain icon. 3. The Stakeholder has to selects the days of week for the fast food. 4. The Stakeholder has to select the Jain food option for the whole week. 5. The Stakeholder clicks on the confirm option.
Alternative Path	No alternative path.
Postcondition	Separate food will be served.
Exception Paths	
Other	

3.1.3 Start_Polling

Use Case Name	start_polling
Trigger	The admin will select the polling option as open
Precondition	The Stakeholder must be login to his profile page.
Basic Path	The stakeholder select the polling option polling menu is displayed the stakeholder selects his preferences the stakeholder submits his final list by selecting submit option the polling count is updated
Alternative Paths	No alternative path.
Postcondition	The Stakeholder enters into the login page.
Exception Paths	If polling update fails, update failed message will be displayed. The stakeholder will be asked to re update.
Other	This option can be used to close his profile page.

3.1.4 Stop_Polling

Use Case Name	stop_polling
Trigger	The admin will select the polling option as close
Precondition	The admin must be login to his profile page.
Basic Path	The admin select the polling option. The admin selects his the option to close polling and final results are shown
Alternative Paths	No alternative path.
Post condition	polling is closed
Exception Paths	If polling update fails, update failed message will be displayed. The admin will be asked to re update.
Other	This option can be used to close his profile page.

3.1.5 Report Utensils

Use Case Name	Report Utensils.
Trigger	The stakeholder reports for any utensils found by clicking on Report Utensils Found button.
Precondition	The stakeholder must be logged in.
Basic Path	1. The stakeholder logs in to the software.
	2. The stakeholder clicks on the Report Utensils Found button. 3. The form with two textboxes is displayed. 4. The stakeholder enters the location in first box and the details of utensils in the second. 5. The stakeholder clicks Report Utensils Found.
Alternative Paths	No alternative option.

Post condition	The details will be sent to the mess vendor and concerned staff to take action and collect utensils soonest possible
Exception Paths	If reporting fails, reporting failed message will be displayed. The report will saved in the log. The stakeholder will be asked to report again.
Other	This option can be used for reporting of stray utensils that are simply left out by stakeholders in their rooms/floors.

3.1.6 Fees Payment

Use Case Name	Fees
Trigger	The Stakeholder (Students) clicks Fees icon/button on his account page.
Precondition	The Stakeholder (Students) must have an account.
Basic Path	1. The student logs in to the software. 2. The student selects fees option. 3. Student is directed to the payment portal. 4. The Student enters account number. 5. Click on confirm icon. 6. A notification pops out if payment is successful. 7. return to home button/option appears. 8. student clicks on return option.
Alternative Paths	No alternative path.
Post condition	The stakeholder (Students) fees details will be displayed.
Exception Paths	If payment fails, payment failed message will be displayed. The student will be asked to repay.
Other	This option can be used to pay mess fees.

3.1.7 Dues

Use Case Name	Dues
Trigger	The Stakeholder (Students) clicks on to the Dues icon/button on his account page.
Precondition	The Stakeholder (Students) must have an account.

Basic Path	1. The student logs in to the software. 2. The student selects Dues option. 3. Student is directed to the payment portal. 4. The Student enters account number. 5. Click on confirm icon. 6. a notification pops out if payment is successful. 7. return to home button/option appears. 8. student clicks on return option.
Alternative Paths	No alternating path.
Post condition	The Stakeholder (Student) Dues details will be displayed.
Exception Paths	If payment fails, payment failed message will be displayed. The student will be asked to repay.
Other	This option can be used for the purpose of paying Dues.

3.1.8 Refund

Use Case Name	Refund
Trigger	The Stakeholder (Students) clicks on to the refund icon/button on his account page.
Precondition	The Stakeholder (Student) must have account.
Basic Path	1. The student logs in to the software. 2. The student selects refund option. 3. Student is directed to the payment portal 4. The Student enters the account number 5. Click on confirm icon 6. Notification for successful Payment 7. Return to Home button/options appears 8. Student clicks on return option.
Alternative Paths	No alternating path.
Postcondition	The Stakeholder (Student) Balance Amount details will be displayed.
Exception Paths	1.If student enter wrong account number, payment will be discarded. 2.Ask Student to reenter account number.
Other	This option can be used to refund his amount into his account.

3.1.9 Impose fine

Use Case Name	Fine
Trigger	The admin clicks on the fine button.
Precondition	The admin must be logged in.
Basic Path	19. The admin logs in to the software. 20. The admin selects the fine option. 21. Admin is asked for the id and the amount of fined to be imposed. 22. The admin enters the id of the person to be fined 23. Click confirm.
Alternative Paths	No alternative option.
Postcondition	The fine is paid, which can be viewed by the student on whom the fine is imposed and admin. A notification will send to admin about the payment.
Exception Paths	If payment fails, payment failed message will be displayed. The
	student will be asked to repay.
Other	

3.1.10 pay fine

Use Case Name	Pay fine
Trigger	student clicks on the payfine button.
Precondition	The student must be logged in.
Basic Path	1. The student logs in to the software. 2. The student selects payfine option. 3. student is directed to the payment portal. 4. the payment portal returns details about the payment 5. a notification pops out if payment is successful 6. return to home button/option appears 7. student clicks on return option
Alternative Paths	No alternative option.

Post condition	The fine is imposed ,which can be viewed by the student on whom the fine is imposed and admin . A notification will send to student.
Exception Paths	If update fails, update failed message will be displayed. The admin will be asked to re update.
Other	

3.1.11 Leave

Use Case Name	Leave
Trigger	The stakeholder clicks on the Report Leave button/ico
Precondition	The stakeholder must be logged in.
Basic Path	1. The stakeholder logs in to the software. 2. The stakeholder clicks on the Report Leave button. 3. The stakeholder will be asked to fill ‘Leave form’ and ‘Leave till’ from drop down calendar. 4. The stakeholder will be required to upload any relevant documents for leave(Travel ticket/ leave application). 5. Click on Report Leave button.
Alternative Paths	No alternative option.
Post condition	Leave reported and sent for approval, a message will be displayed, and the stakeholder will be directed to his homepage. The leave report will be sent to admin, mess vendor and mess managing committee for approval.
Exception Paths	If reporting fails, reporting failed message will be displayed. The stakeholder will be asked to re report.
Other	This option can be used for reporting of all kind of leaves. The relevant authorities will receive notification regarding leave and will be asked to approve the leave based on document submitted. The database will be updated correspondingly to that student/faculty, for all calculations of dues/fine/student_number.

3.1.12 Feedback

Use Case Name	Feedback
Trigger	The Students, faculty and staff clicks on the feedback button/icon.
Precondition	The stakeholder must be logged in.
Basic Path	1. The stakeholder logs in to the software.
	2. The stakeholder selects the feedback option. 3. Submits the feedback. 4. Click submit.
Alternative Paths	No alternative option.
Post condition	The feedback is updated in the database, which can be viewed by admin. A notification will send to Mess vendor and all other Mess management committee.
Exception Paths	If submission fails, submission failed message will be displayed. The stakeholder will be asked to resubmit.
Other	This option can be used for the purpose of giving feedback and notify the managing committee to take relevant and needed action.

3.1.13 Current Stock

Use Case Name	Current stock
Trigger	The admin and management committee clicks on current stock button/icon
Precondition	The admin/ managing committee must be logged in.

Basic Path	5. The admin logs in to the software. 6. The admin selects the Inventory option. 7. The admin has to select ‘Current Stock’ from drop down menu and click Ok. 8. Various items with their stock will be displayed.
Alternative Paths	No alternative option.
Post condition	The Stock items with their quantities will be enlisted on screen.
Exception Paths	If database retrieval fails, ‘Stock cannot be loaded’ message will be displayed. The admin will be asked to re update.
Other	This option can be used to check the current stock in the mess inventory.

3.1.14 Add stock

Use Case Name	Add stock
Trigger	The admin clicks on add stock button/icon.
Precondition	The admin must be logged in.
Basic Path	5. The admin logs in to the software. 6. The admin selects the add stock option. 7. List of stock that needed to be updated is asked. 8. Admin gives the list and the new number. 9. Submits the new list. 10. Click on submit icon.
Alternative Paths	No alternative option.
Post condition	The menu is updated, which can be viewed by all stakeholders. A notification will send to Mess vendor and all other stakeholders.
Exception Paths	If update fails, update failed message will be displayed. The admin will be asked to re update.
Other	This option can be used for the purpose of giving feedback

3.1.15 Expiry

Use Case Name	Expiry
Trigger	The Stakeholder (Admin) clicks on to the Expiry option.
Precondition	The Stakeholder (Admin) must be login to his profile page.
Basic Path	1. The Stakeholder logs in to the software. 2. The Stakeholder clicks on the Expiry icon. 3. Details of the Items will be appeared.
Alternative Path	No alternative path.
Post condition	Expiry dates will be shown of the Items.
Exception Paths	None
Other	This feature of the system will look after the expiry dates of products in the inventory and if any, crosses the date will be notified to the management committee and the mess vendor.

3.1.16 Logout

Use Case Name	Logout
Trigger	The Stakeholder clicks Logout icon/button on his account page.
Precondition	The Stakeholder must be login to his profile page.
Basic Path	The stakeholder clicks logout page.
Alternative Paths	No alternative path.
Post condition	The Stakeholder enters into the login page.
Exception Paths	
Other	This option can be used to close his profile page.

3.1.17 Total Number

Use Case Name	Total Number
Trigger	How many students do their breakfast/lunch/dinner per day
Precondition	Student must be registered.
Basic Path	1.System will automatically count number of students. 2.It calculates number of students on the basis of how many students on leave, fast etc.. 3.It will send a notification to admin.
Alternative Path	
Post condition	Minimization the wastage of food.
Exception Paths	
Other	This feature counts the total number of students/staff/faculty availing the service of mess on that particular day. A notification with an exact number will be sent to the mess vendor before a few hours providing him the required details on different categories of food services.

3.3 Detailed Non-Functional Requirements

Stakeholders Data Entity

Data Item	Type	Description	Comment
Name of stakeholder	Text	Institute Email Id of student	
Food Type	Text	Mess food type	
ID number	Text	student's roll number	
Passwords	Text	Password of student	
leave	Number	Number of days student will take a leave	helps in counting number of students

Menu Item Data Entity

Data Item	*Type*	*Expiry Date*	*Description*	*Comment*
Name	*Text*		*Name of Item*	
Type	*Text*		*Regular*	

Menu Data Entity

Data Item	*Type*	*Expiry Date*	*Description*	*Comment*
Day	*Text*		*Day of the week*	
Meal	*Text*		*Lunch, Dinner etc*	
Type	*Text*		*Regular or NC menu*	

3.4 Logical Structure of the Data

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4.0 Supporting information

4.1 Table of contents and index

4.2 Appendixes