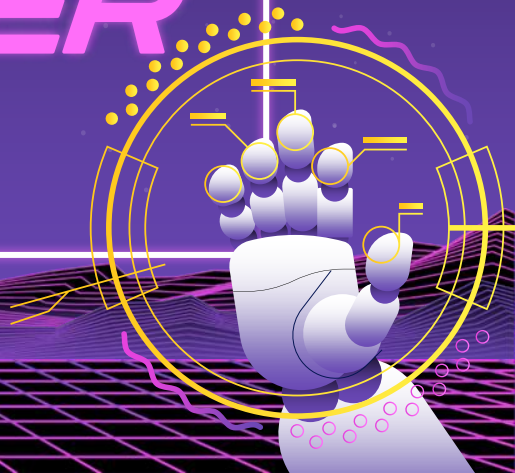
OBJECT ORIENTED PROGRAMMING END SEMESTER PROJECT

Batch B Group 15



Mess Management System

Introduction:

We got the idea of building a mess management system is primarily from the commonly faced issue by almost every hosteller. Mess management plays a vital role in ensuring a smooth and hassle-free dining experience for students who rely on shared meal services. The primary objective of our Mess Management System is to offer a centralized platform that simplifies and automates various mess related operations.

Segregation of Modules

01	User Management

Yeshwanth Balaji

02	Transaction

Sarvesh K

03	Forgotten Password

Forgotten Password Module

04	Notification

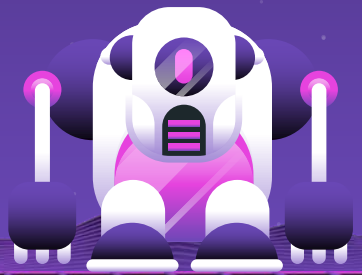
Kishor S

05	Report Generation

Yeshwanth Balaji

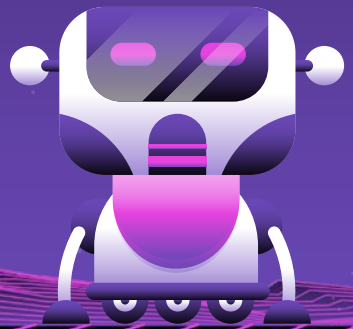
01

USER MANAGEMENT

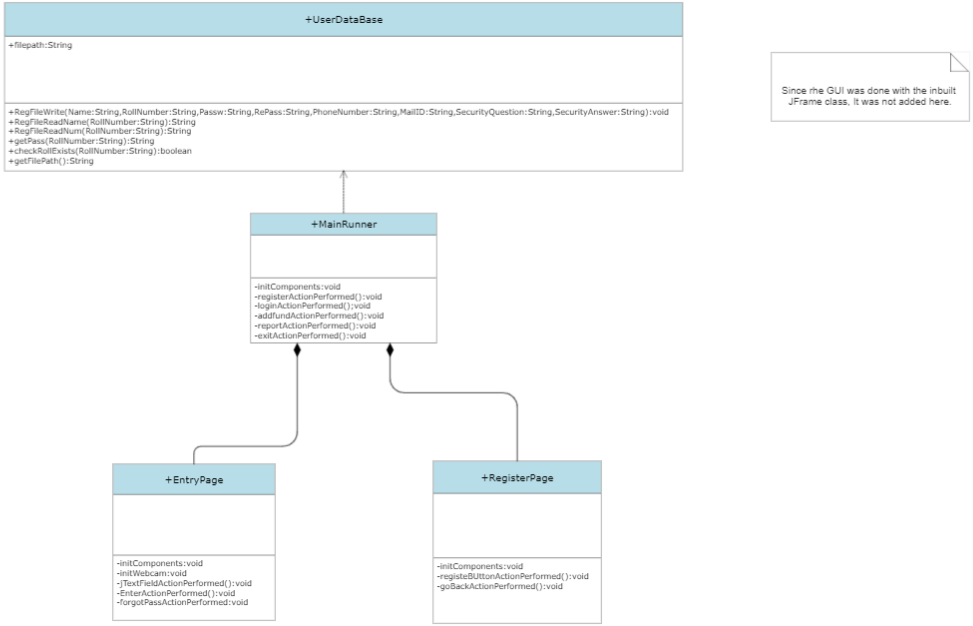


About this module

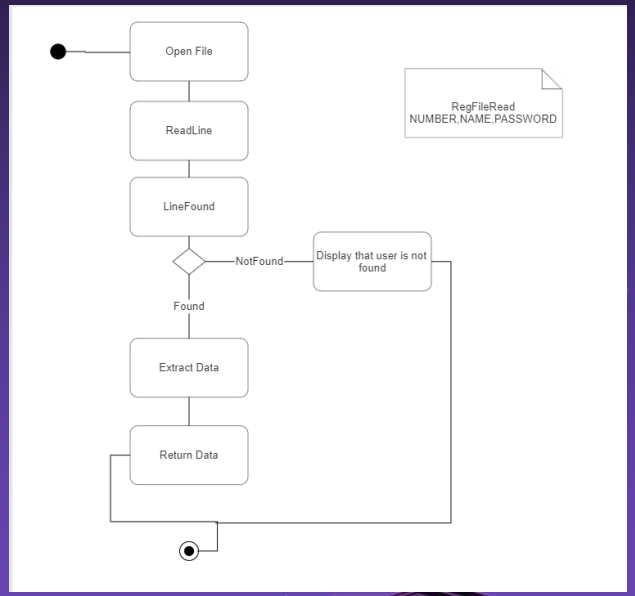
In the First module which is User Management also the main module the user will be able to create an account for themselves and it further validates if the data entered by the user meets all the required criteria. Nextly in the login portal, the same module verifies the values entered by the user with the previously loaded values into the database.

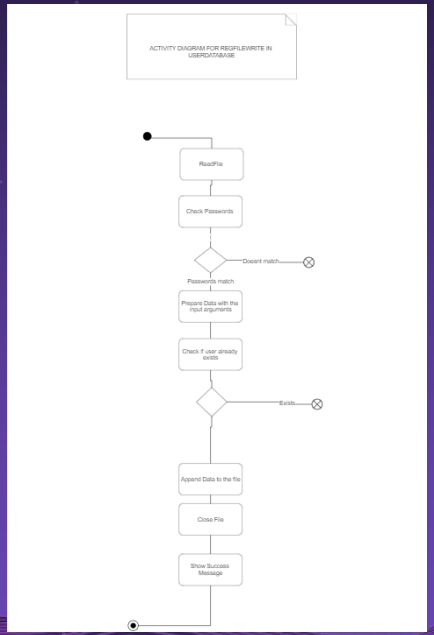


UML

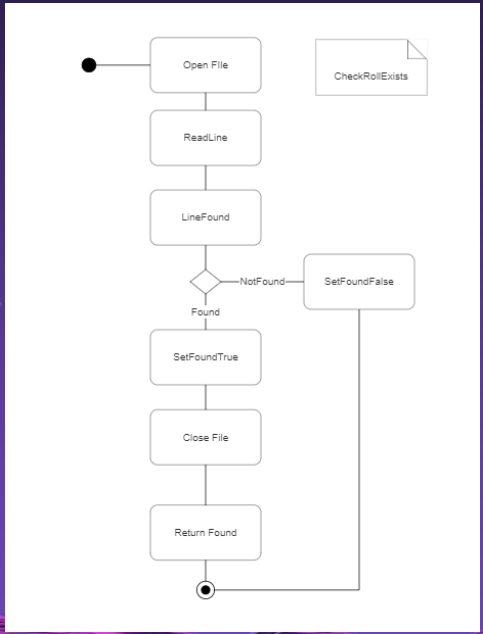

+UserDataBase
+filepath:String
+RegFileWrite(Name:String,RollNumber:String,Passw:String,RePass:String,PhoneNumber:String,MailID:String,SecurityQuestion:String,SecurityAnswer:String):void
+RegFileReadName(RollNumber:String):String
+RegFileReadNum(RollNumber:String):String
+getPass(RollNumber:String):String
+checkRollExists(RollNumber:String):boolean
+getFilePath():String
Since the GUI was done with the inbuilt JFrame class, it was not added here.
+MainRunner
-initComponents:void
-registerActionPerformed():void
-loginActionPerformed():void
-addfundActionPerformed():void
-reportActionPerformed():void
-exitActionPerformed():void
+EntryPage
-initComponents:void
-initWebcam:void
-jTextFieldActionPerformed():void
-EnterActionPerformed():void
-forgotPassActionPerformed:void
+RegisterPage
-initComponents:void
-registeBUttonActionPerformed():void
-goBackActionPerformed():void

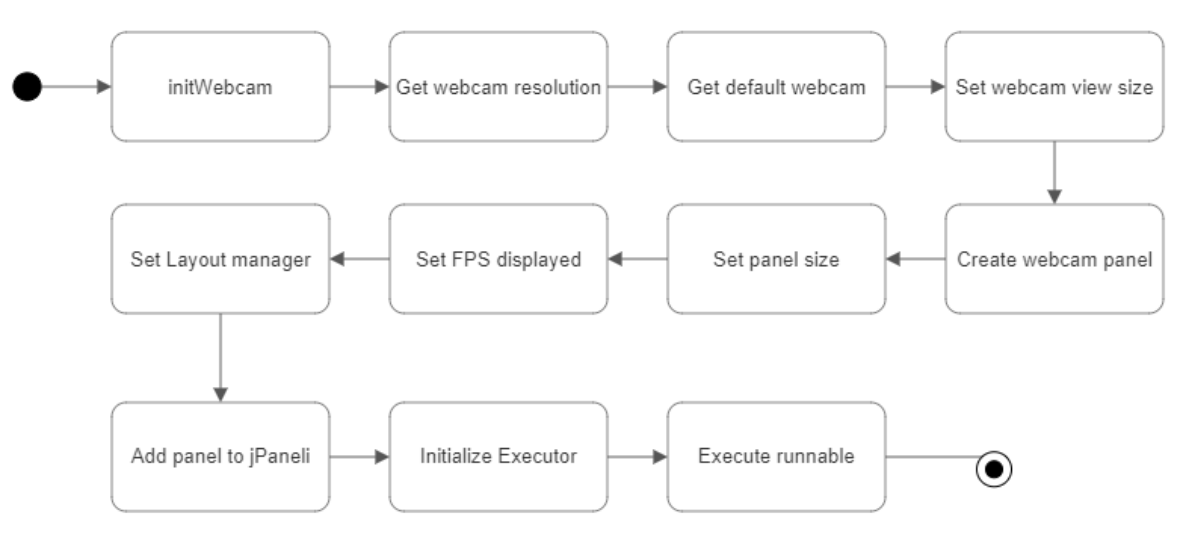
UML


Open File
ReadLine
LineFound
NotFound
Display that user is not found
Found
Extract Data
Return Data
RegFileRead
NUMBER,NAME,PASSWORD

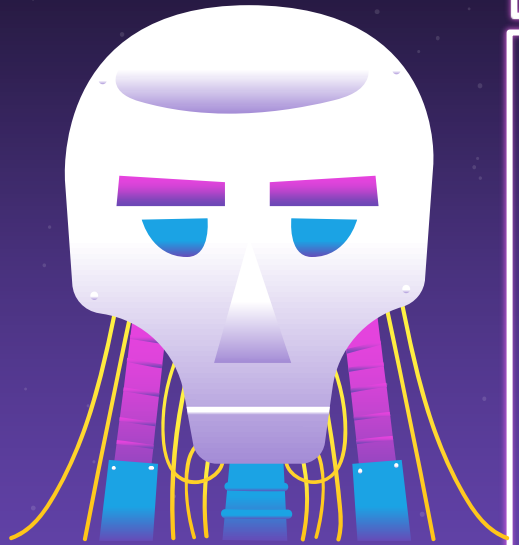

ACTIVITY DIAGRAM FOR REGFILEWRITE IN USERDATABASE
ReadFile
Check Passwords
Doesnt match
Passwords match
Prepare Data with the input arguments
Check if user already exists
Exists
Append Data to the file
Close File
Show Success Message

UML


Open File
CheckRollExists
ReadLine
LineFound
NotFound
SetFoundFalse
Found
SetFoundTrue
Close File
Return Found


initWebcam
Get webcam resolution
Get default webcam
Set webcam view size
Create webcam panel
Set panel size
Set FPS displayed
Set Layout manager
Add panel to jPaneli
Initialize Executor
Execute runnable

02

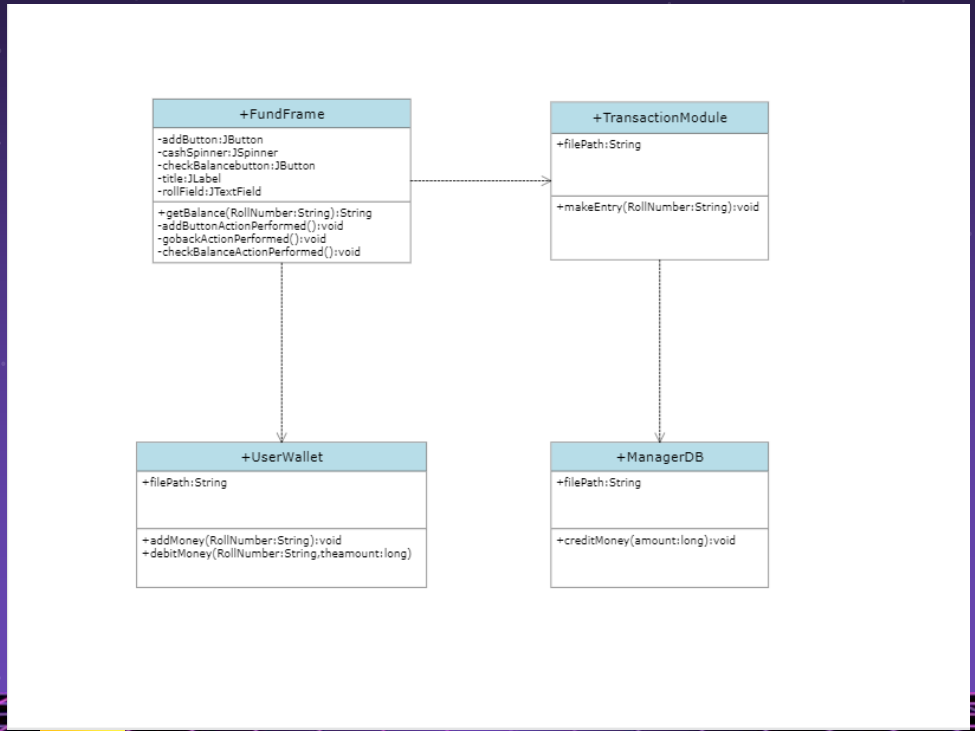


TRANSACTION

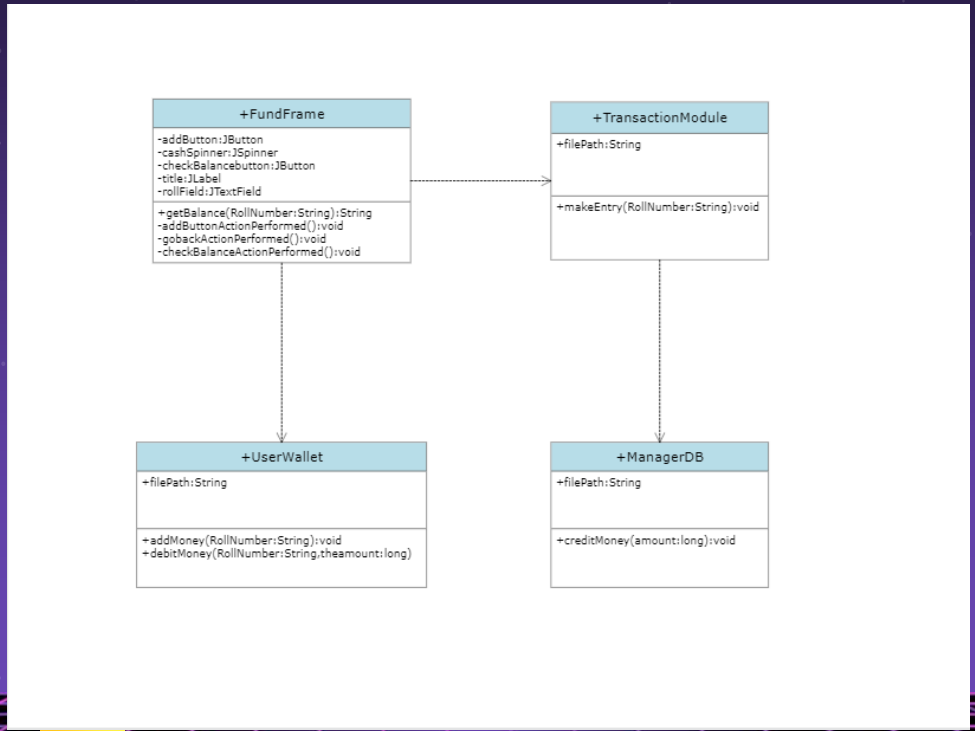
ABOUT THIS MODULE

This module enables the user to create a mess wallet for themselves and make payments for their respective meals, it only detects the money if the meal is being utilized by the user which can be interpreted upon the entry to the mess if the user enters the mess and scans his ID card a sum of Rs.30 will be deducted from his, We have set Rs.30 as an average amount for each meal. After deducting the money from the user's wallet the remaining amount gets stored back in their wallet.

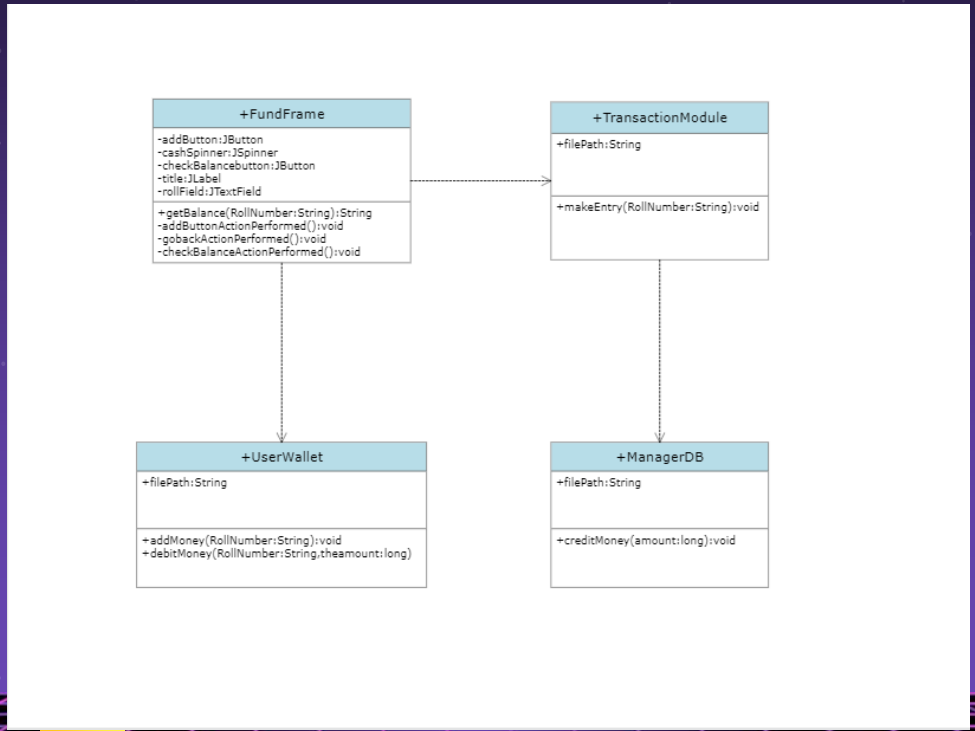
UML


+FundFrame
-addButton:JButton
-cashSpinner:JSpinner
-checkBalancebutton:JButton
-title:JLabel
-rollField:JTextField
+getBalance(RollNumber:String):String
-addButtonActionPerformed():void
-gobackActionPerformed():void
-checkBalanceActionPerformed():void
+TransactionModule
+filePath:String
+makeEntry(RollNumber:String):void
+UserWallet
+filePath:String
+addMoney(RollNumber:String):void
+debitMoney(RollNumber:String,theamount:long)
+ManagerDB
+filePath:String
+creditMoney(amount:long):void

UML


+FundFrame
-addButton:JButton
-cashSpinner:JSpinner
-checkBalancebutton:JButton
-title:JLabel
-rollField:JTextField
+getBalance(RollNumber:String):String
-addButtonActionPerformed():void
-gobackActionPerformed():void
-checkBalanceActionPerformed():void
+TransactionModule
+filePath:String
+makeEntry(RollNumber:String):void
+UserWallet
+filePath:String
+addMoney(RollNumber:String):void
+debitMoney(RollNumber:String,theamount:long)
+ManagerDB
+filePath:String
+creditMoney(amount:long):void

UML


+FundFrame
-addButton:JButton
-cashSpinner:JSpinner
-checkBalancebutton:JButton
-title:JLabel
-rollField:JTextField
+getBalance(RollNumber:String):String
-addButtonActionPerformed():void
-gobackActionPerformed():void
-checkBalanceActionPerformed():void
+TransactionModule
+filePath:String
+makeEntry(RollNumber:String):void
+UserWallet
+filePath:String
+addMoney(RollNumber:String):void
+debitMoney(RollNumber:String,theamount:long)
+ManagerDB
+filePath:String
+creditMoney(amount:long):void

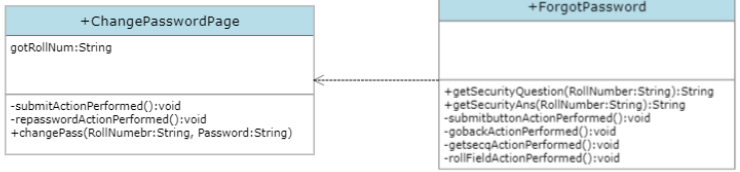
03

FORGOT PASSWORD

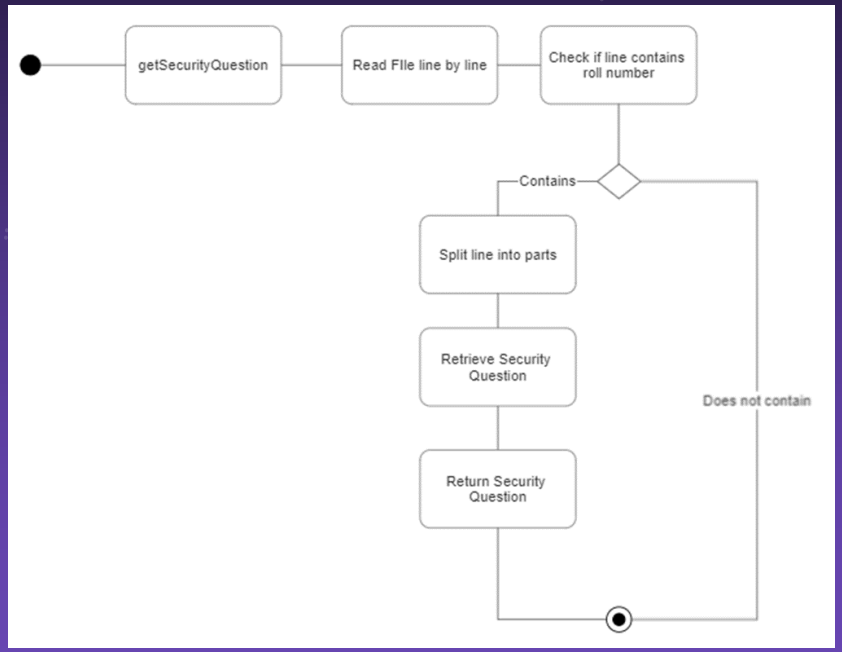
ABOUT THIS MODULE

This module can be interpreted as the extension of the user management module, in the user management for logging in it asks the user for their respective credentials if the user has forgotten their password or if they want to change their password they opt to go for the forgot password option which further enables the user to change their password at the ease by just by answering the security question correctly upon the user entering the correct answer for the security question it allows the user to further modify his password . After this the updated password gets updated in the database.

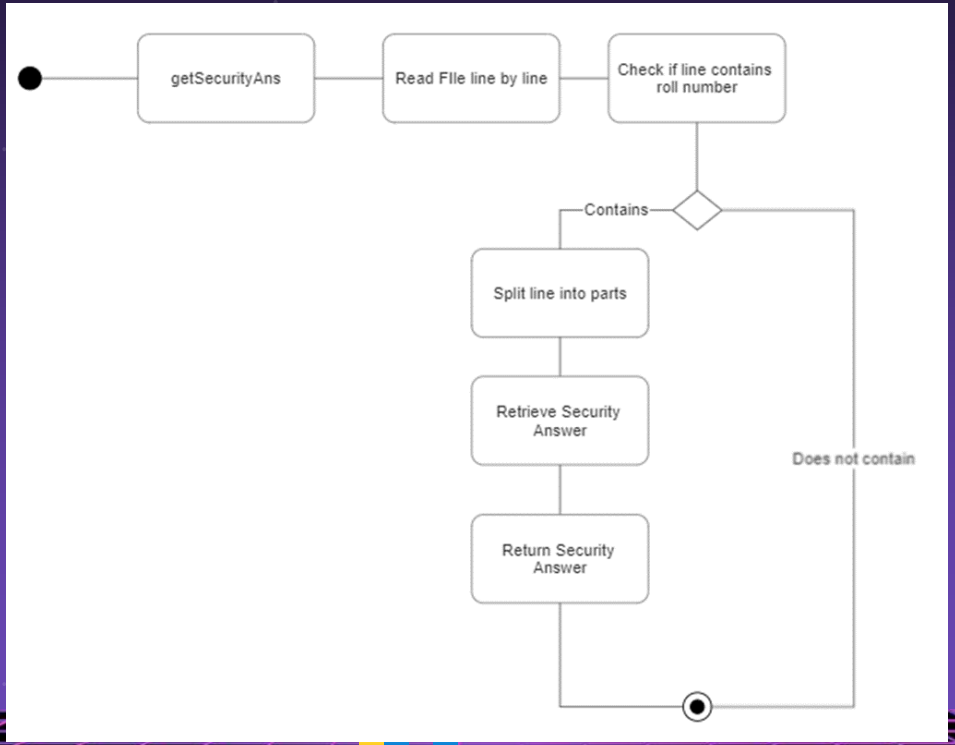
UML


+ChangePasswordPage
gotRollNum:String
-submitActionPerformed():void
-repasswordActionPerformed():void
+changePass(RollNumebr:String, Password:String)
+ForgotPassword
+getSecurityQuestion(RollNumber:String):String
+getSecurityAns(RollNumber:String):String
-submitbuttonActionPerformed():void
-gobackActionPerformed():void
-getsecqActionPerformed():void
-rollFieldActionPerformed():void

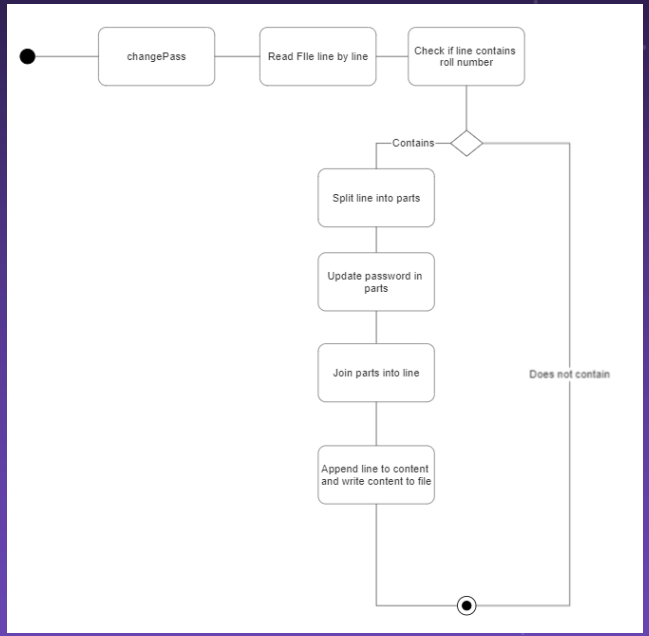
UML


getSecurityQuestion
Read FIle line by line
Check if line contains roll number
Contains
Split line into parts
Retrieve Security Question
Return Security Question
Does not contain

UML


getSecurityAns
Read FIle line by line
Check if line contains roll number
Contains
Split line into parts
Retrieve Security Answer
Return Security Answer
Does not contain

UML


changePass
Read FIle line by line
Check if line contains roll number
Contains
Split line into parts
Update password in parts
Join parts into line
Append line to content and write content to file
Does not contain

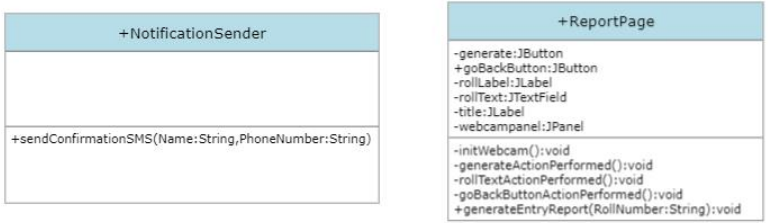
04

NOTIFICATION MODULE

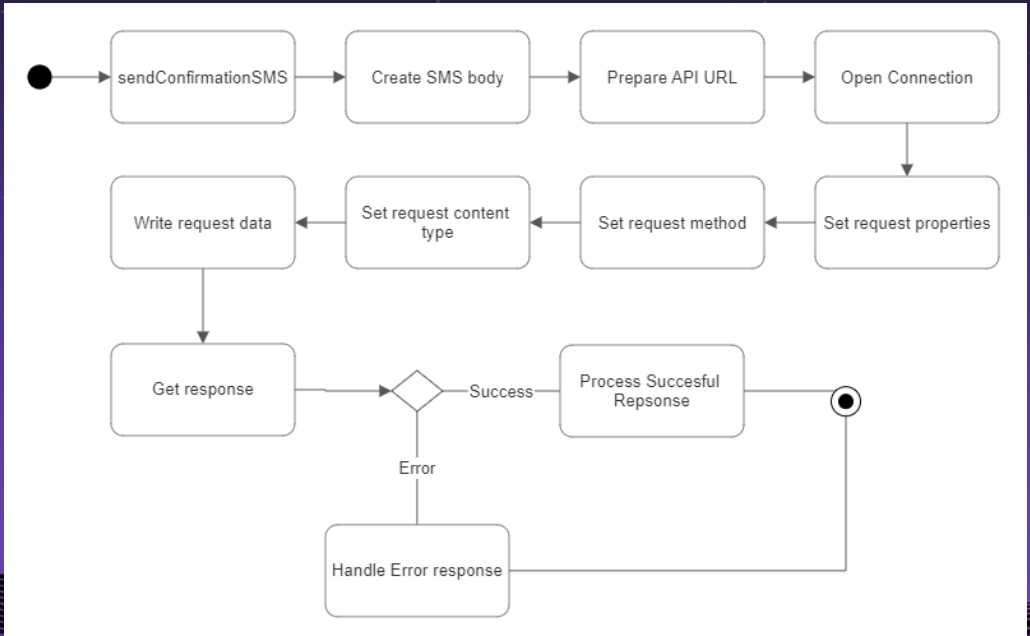
ABOUT THIS MODULE

The main purpose of this module is to send confirmation notifications to the user, this module enables us to do it automatically, just after entering the recipient's name and phone number after getting these information from the user it automatically generates an SMS to the respective phone number of the user.

UML


+NotificationSender
+sendConfirmationSMS(Name:String,PhoneNumber:String)
+ReportPage
-generate:JButton
+goBackButton:JButton
-rollLabel:JLabel
-rollText:JTextField
-title:JLabel
-webcampanel:JPanel
-initWebcam():void
-generateActionPerformed():void
-rollTextActionPerformed():void
-goBackButtonActionPerformed():void
+generateEntryReport(RollNumber:String):void

UML


sendConfirmationSMS
Create SMS body
Prepare API URL
Open Connection
Set request properties
Set request method
Set request content type
Write request data
Get response
Success
Process Succesful Repsonse
Error
Handle Error response

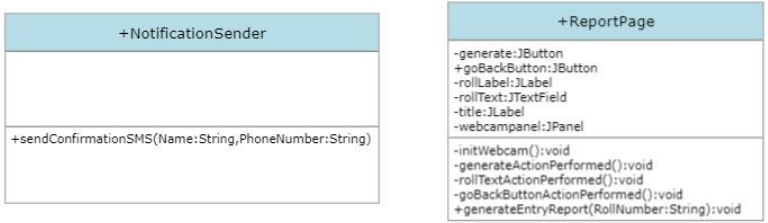
05

REPORT

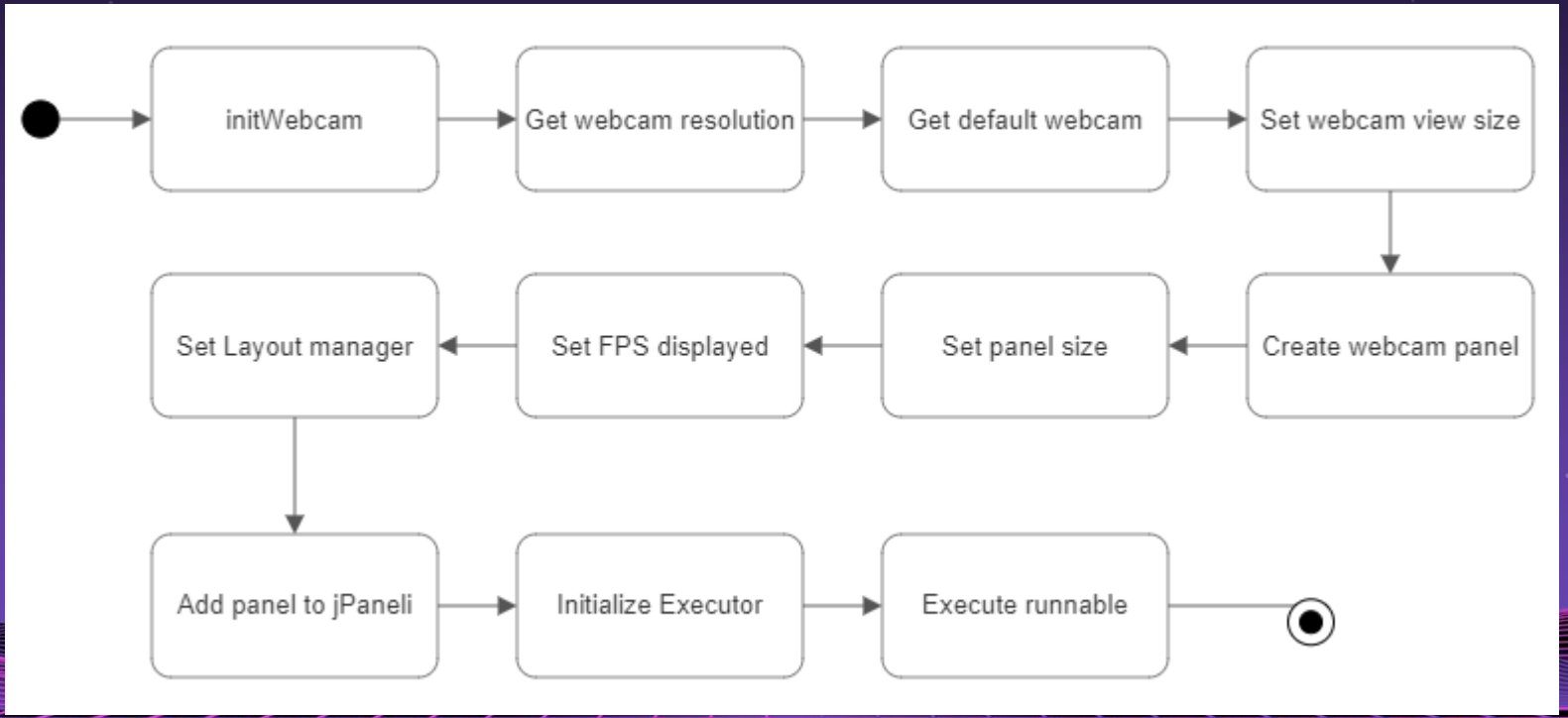
ABOUT THIS MODULE

This module is responsible for generating various reports that provide various insights and information about the mess operations. The module collects the data from different sources within the system (which are other modules) and it further transforms the data into meaning full reports so that it can be used for analysis.

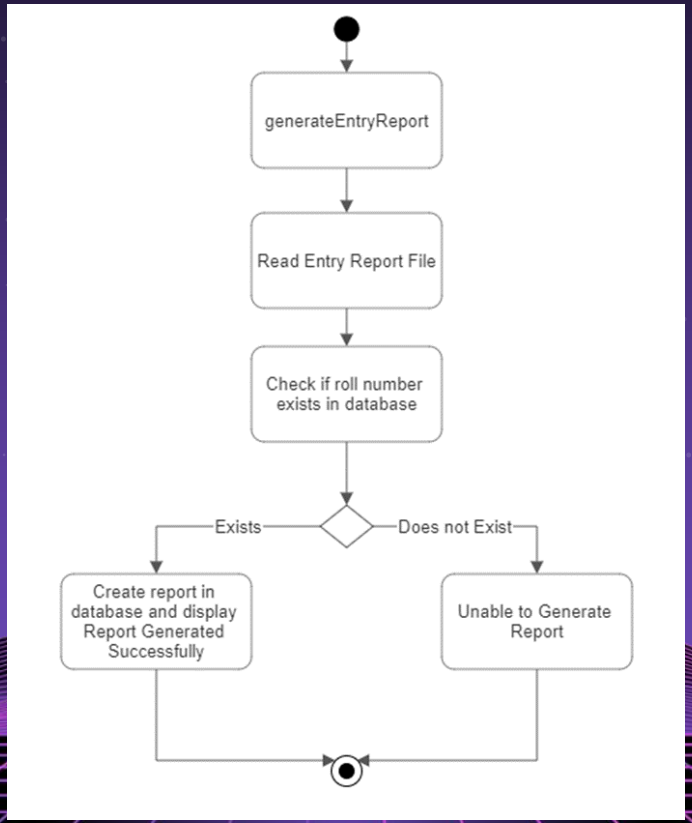
UML


+NotificationSender
+sendConfirmationSMS(Name:String,PhoneNumber:String)
+ReportPage
-generate:JButton
+goBackButton:JButton
-rollLabel:JLabel
-rollText:JTextField
-title:JLabel
-webcampanel:JPanel
-initWebcam():void
-generateActionPerformed():void
-rollTextActionPerformed():void
-goBackButtonActionPerformed():void
+generateEntryReport(RollNumber:String):void

UML


initWebcam
Get webcam resolution
Get default webcam
Set webcam view size
Create webcam panel
Set panel size
Set FPS displayed
Set Layout manager
Add panel to jPaneli
Initialize Executor
Execute runnable

UML


generateEntryReport
Read Entry Report File
Check if roll number exists in database
Exists
Does not Exist
Create report in database and display Report Generated Successfully
Unable to Generate Report

Conclusion

In our Mess Management System we have used various OOPS concepts and divided the whole project into 5 different modules of which all have their own set of functions which all put together conclusively forms our Mess Management System. On addition to it making our Mess management system more interactive we have also integrated a GUI.