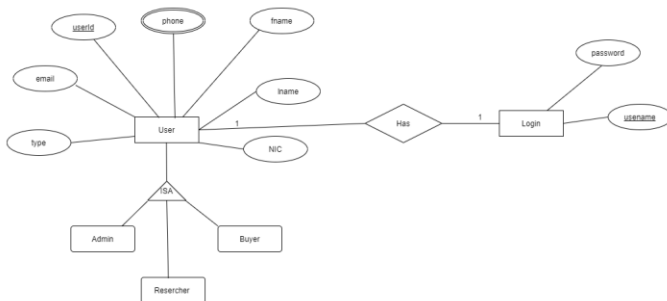
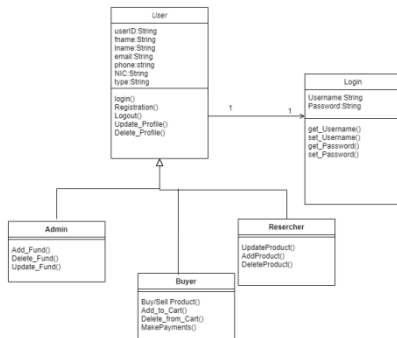
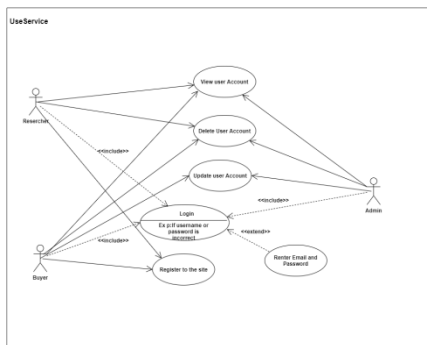


User Management Service

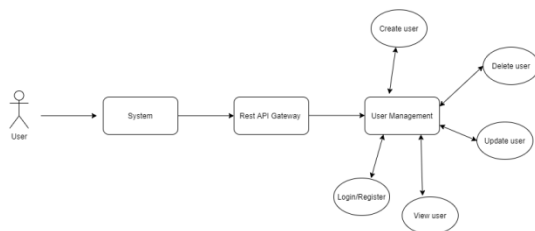
Class Diagram



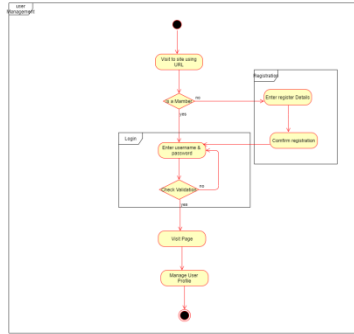
ER Diagram



Usecase Diagram



API-User Service Diagram



Activity Diagram

Student ID: IT19101248

Service: User Service

API Design Rationale:

Individual service	Functional Requirement	Non-Functional Requirement	Technical Requirement
User Service	Add User details Update User details Delete User details View User details	Scalability Availability Reliability Usability Performance	Facilitate for insert user to the system and also facilitate to update details when required to do any changes. And also can delete user details. As well as users can view the user account details.

User Service is an important section for users when register the system. In order to buyers and researchers can register the system and sell their research products and buy the products they wants, details of them needs to be up to date and correctly displayed.

Users can view their profile details.

User can update their profile.

Admins can update details of registered users, can add newly registered users to the system
Admin removes users who deactivated their registration.

Service Development

- Technologies Used: - Java - JAX-RS (Jersey) on Tomcat
Reason: -Familiarity with the language, easy server configuration
- IDE used for development: -Eclipse IDE
Reason: -User friendly IDE
- Database: - MySQL

Reason: - Less complex to implement the DB connection.

API for insert a new user to the database (POST Request)

URL :- localhost:8085/UserService /Users

Request :- {"userID":"001 ", "fname":"Kamal", "lname":" Gamage",
"email":"kamal09@gmail.com", "phone":"0778552456 ", "NIC":"845789524V", "type":" Admin"}

Response :- { result = "Inserted successfully" } { error = "Error while inserting" }

URL :- localhost:8085/UserService /Users

Request :- {"userID":"002 ", "fname":"Nalin", "lname":"Lakmal ", "email":"nalinL@gmail.com",
"phone":"0714585263 ", "NIC":"6894585263V", "type":" Buyer"}

Response :- { result = "Inserted successfully" } { error = "Error while inserting" }

URL :- localhost:8085/UserService /Users

Request :- {"userID":"003 ", "fname":"Kasun", "lname":"Sudaraka ",
"email":"kasunS45@gmail.com", "phone":"0715298789 ", "NIC":"957896321V", "type":"
Researcher"}

Response :- { result = "Inserted successfully" } { error = "Error while inserting" }

API for update a user which is existing in database (PUT Request)

URL :- localhost:8085/UserService /Users

Request :- {"userID":"001 ", "fname":"Kamal", "lname":" Gamage",
"email":"kamal09@gmail.com", "phone":"075596456 ", "NIC":"845789524V", "type":" Admin"}

Response :- { result = "Updated successfully" } { error = "Error while updating the value." }

URL :- localhost:8085/UserService /Users

Request :- {"userID":"002 ", "fname":"Nalin", "lname":"Lakmal ", "email":"nalinL@gmail.com",
"phone":"078545698 ", "NIC":"6894585263V", "type":" Buyer"}

Response :- { result = "Updated successfully" } { error = "Error while updating the value." }

URL:- localhost: localhost:8085/UserService /Users

Request :- {"userID":"003 ", "fname":"Kasun", "lname":"Sudaraka",
"email":"kasunS@gmail.com", "phone":"0775623010 ", "NIC":"957896321V", "type":"
Researcher"}

Response :- { result = "Updated successfully" } { error = "Error while updating the value." }

API for view a new user to the database (GET Request) URL:-

URL :- localhost:8085/UserService /Users

Request :- { }

Response :- {"userID":"001 ", "fname":"Kamal", "lname":" Gamage",
"email":"kamal09@gmail.com", "phone":"0778552456 ", "NIC":"845789524V", "type":" Admin"}

URL :- localhost:8085/UserService /Users

Request :- { }

Response :- {"userID":"002 ", "fname":"Nalin", "lname":"Lakmal ", "email":"nalinL@gmail.com",
"phone":"0714585263 ", "NIC":"6894585263V", "type":" Buyer"}

URL :- localhost:8085/UserService /Users

Request :- { }

Response:- {"userID":"003 ", "fname":"Kasun", "lname":"Sudaraka",
"email":"kasunS45@gmail.com", "phone":"0715298789 ", "NIC":"957896321V", "type":"
Researcher"}

API for delete a user which is existing in database (DELETE Request)

URL:- localhost:8085/UserService /Users

Request :- {"userID":"001 }

Response :- { { result = "Deleted successfully" } error = "Error while deleting the value." }

URL:- localhost:8085/UserService /Users

Request :- {"userID":"002 }

Response :- { { result = "Deleted successfully" } error = "Error while deleting the value." }

URL:- localhost:8085/UserService /Users

Request :- {"userID":"003 }

Response :- { { result = "Deleted successfully" } error = "Error while deleting the value." }

Please refer appendix for diagrams regarding the internal logic

Testing Methodology and Results

Using POSTMAN

Test ID	Test Description	Test Inputs	Expected Output	Actual Output	Result (pass/fail)
01	Inserting Data	"userID":"001 ", "fname":"Kamal", "lname":" Gamage", "email":"kamal09@gmail.com", "phone":"0778552456 ", "NIC":"845789524V", "type":" Admin"	Inserted successfully	Inserted successfully	Pass
		"userID":"002 ", "fname":"Nalin",	Inserted successfully	Inserted successfully	Pass

		"lname":"Lakmal ", "email":"nalinL@gmail.com", "phone":"0714585263 ", "NIC":"6894585263V", "type":" Buyer" "userID":"003 ", "fname":"Kasun", "lname":"Sudaraka ", "email":"kasunS45@gmail.com", "phone":"0715298789 ", "NIC":"957896321V", "type":" Researcher"	Inserted successfully	Inserted successfully	Pass
02	Updating Data	"userID":"001 ", "fname":"Kamal", "lname":" Gamage", "email":"kamal09@gmail.com", "phone":"075596456 ", "NIC":"845789524V", "type":" Admin" "userID":"002 ", "fname":"Nalin", "lname":"Lakmal ", "email":"nalinL@gmail.com", "phone":"078545698 ", "NIC":"6894585263V", "type":" Buyer" "userID":"003 ", "fname":"Kasun", "lname":"Sudaraka", "email":"kasunS@gmail.com", "phone":"0775623010 ", "NIC":"957896321V", "type":" Researcher"	Updated successfully	Updated successfully	Pass
			Updated successfully	Updated successfully	Pass
			Updated successfully	Updated successfully	Pass
03	Deleting Data	"userID":"001" "userID":"002" "userID":"003"	Deleted successfully	Deleted successfully	Pass