

Title: E-Emergency

Objectives:

1. Can save times and perfectly recover.
2. To find the solution of some modern problem.
3. Can recover from emergency situation.
4. For students, they can rent devices at low cost.

Solving current problem solution:

At recent time-If we get into some problems as we stuck in a unknown place its really difficult to get help. But through this application we can get help immediately like- If we have any medical, mechanical issue then we can find local ambulance and mechanic in unknown places. It kept updating place to place. In other hand, the students can find the devices with their requirements. They can get the phone, laptop by renting low cost for online classes or for other work. We can fix some household problems also as Garbage collecting, gas refilling or some electrical, water issue. If we witness any kind of crime in front of us. We can communicate with local police immediately through the application.

Benefits:

E-Emergency software provides emergency response the tools to prevent, prepare for, and manage a variety of emergencies or incidents in the workplace, home and outside. Any emergency, personnel or agency can utilize this type of software to simulate possible emergency scenarios in a short time. This software is user-friendly. So anyone can use it easily.

How this solution is better if any previous solution is available?

We can see google map also do some related things about our outdoor emergency category. Google map show the location of hospital, police station, mechanic shops. But in our app we find the user location if they call or request through the application for mechanic, ambulance or police help. Then they will contact and approach soon. But in student category in our application is the first ever solution.

The key Features:

Ambulance service

Fire service

Police service

Mechanical service

Garbage Collecting

Gas refilling

Plumber

Electrician

Rental phone

Rental laptop

Functional Requirements

User Accounts

There are two options – registered user and guest. A user can choose one of these and his choice would be governed by whether he is a guest or a registered user and whether he wants to check the availability of services.

But a registered user can also act as a guest if he only wants to check the short list of service. The system shall present the user with an option to exit from the system at any time during the following processes.

Registration and creation of user profile

The system shall require a user to register, in order to checking the all services. It will ask the user for the following information at the least – a user id, a password, first name, last name, address, phone number, email address, sex, and age.

Checking Availability

After logging in a user (either a registered user or a guest), the system shall request him to enter the following details – Current City or auto location detected process. The Current City would be entered as text. Either the origin or destination cities are not listed in DB-geography, the system shall suggest the nearest city to which service is available

After the current city ascertained, the system shall now access the service database, referred to as 'DB-service' in section 2, and checks if there is a direct operational service from current location. If not, the system shall suggest possible routes and service using a 'route selection algorithm'. The user shall now be presented with a choice of either selecting one of the routes. The system shall now display the price of the service for the trip. The system shall also list any rules regarding the cancellation of service— what percentage of the price will be refunded within what date ranges. This will be displayed as a table.

Making Confirmation

After having taken the user through the step Checking Availability, The system will now ask the user if he wishes to book the service. If yes, and If the user has been a guest, he will have to first register and become a registered user and then log onto the system. If the user is already a registered user, and if he has logged on already, he can book the service, but if he has been acting as a guest, he will have to log on. Having taken the input from the user, the system shall now proceed to update the reservation database DB-reservation. It will decrement the number of available service on the particular sector

Confirm Service

When the user confirm a service, the system shall first log him on and ask for his booking service. Then it accesses DB-reservation and removes the check mark, which so far represented a booked service. The service is now confirmed and reserved for the user.

Reschedule Service

The system shall present the user with an option to re-schedule his service. In order to do this, the system first logs on the user and requests his confirmation number. It will not allow a user to reschedule a service but only a confirmed service. Using this, it queries DB-reservation and presents the details of the booked service to the user. The system shall now ask the user to select new dates from the calendar-menu. In case, there are no available service for the dates entered, it displays a suitable message informing him that rescheduling to that date is not possible. In case there are Service available, the system asks the user to select the service and proceeds to update the database. The system accesses DB-reservation and decrements the number of available service. The system now checks if there is any difference in the prices of the service. If so, it accesses DB-user and charges or credits the credit card as the case may be. The system generates a new confirmation number and displays it to the user.

Cancellation

The system shall also give the user an option to cancel a confirmed service or a blocked service.

Update Profile

The system shall enable the user to update his profile at any time. Changes can be made in fields including but not limited to address, phone number and preferred credit card number.

View Service Status

The system shall allow a user to view all information about his service. After logging him on, it asks for his confirmation number. It accesses DB-reservation and retrieves the details of the service and presents them to the user in a convenient format, including any last minute changes to the service timings etc. Such changes will be highlighted.

Telephone access

The system shall be accessible through a touch-tone telephone. The telephonic interface shall, at the least, provide the customer with the facility to check availability of service and query service details.

Card access

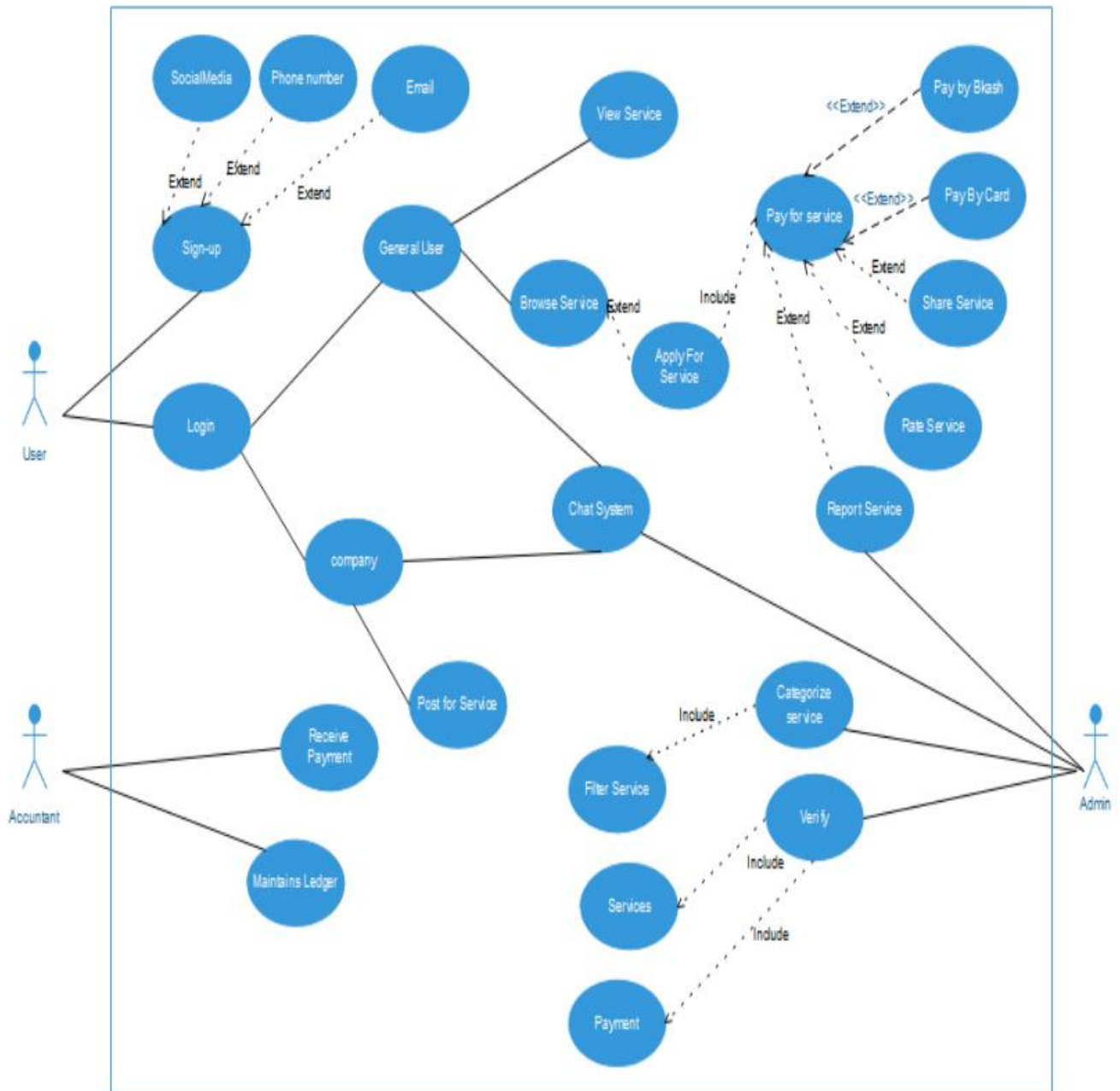
The system also access the card details for payment. Also payment through online payment system or mobile banking like Bkash, Rocket, Nagod.

User History

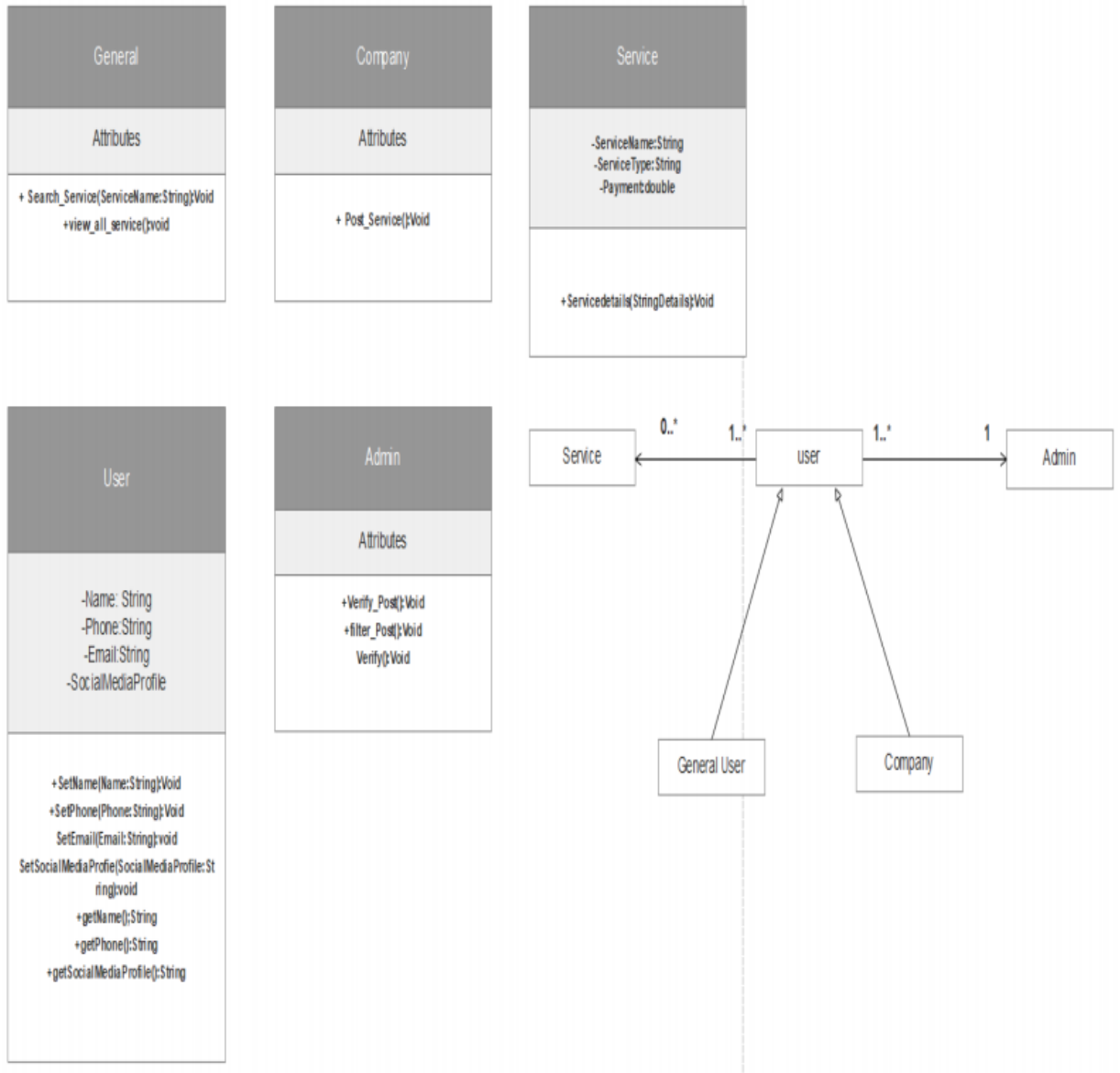
The system provides user history. So the admin panel access user history

Diagrams

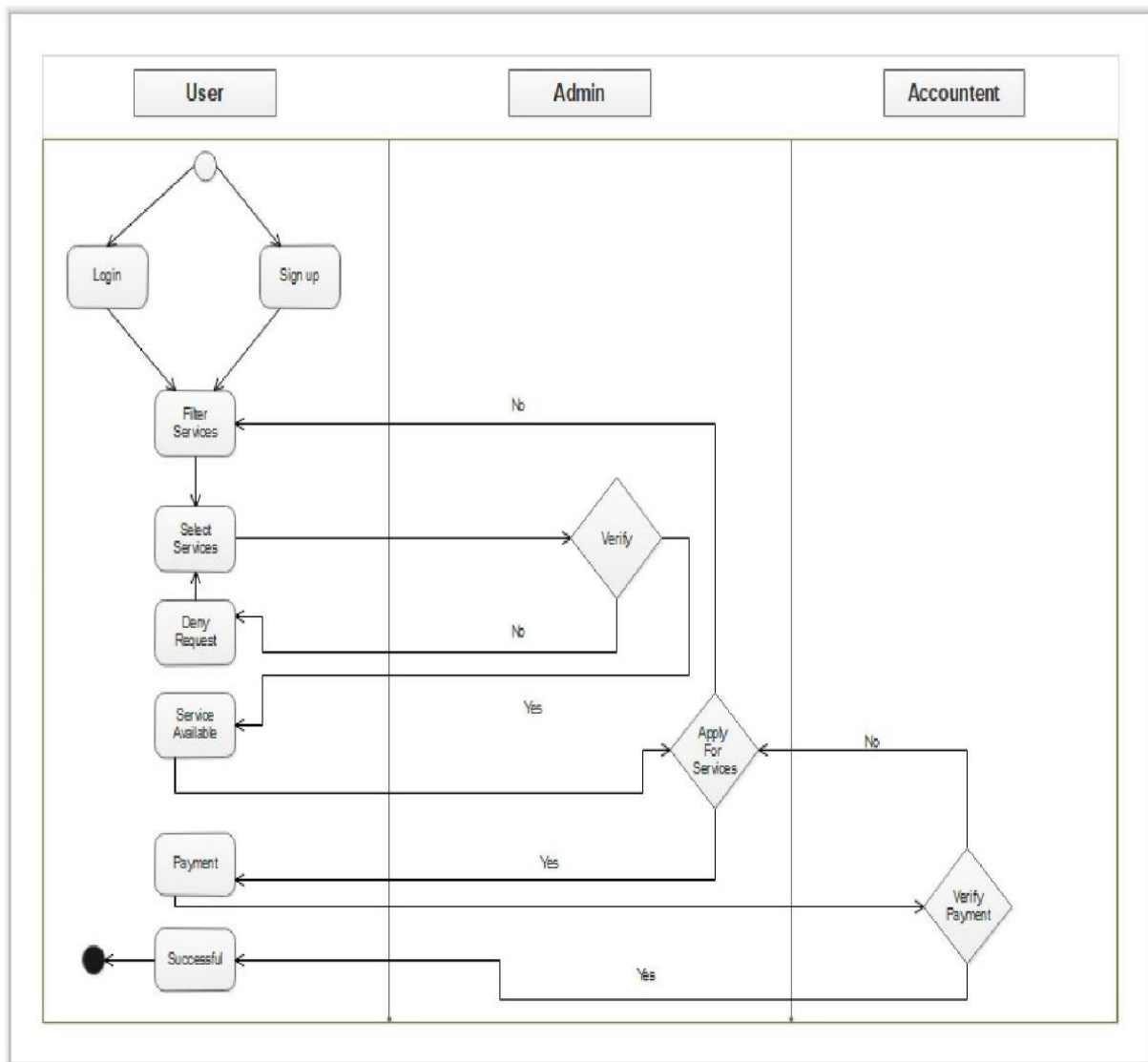
UML Use Case Diagram



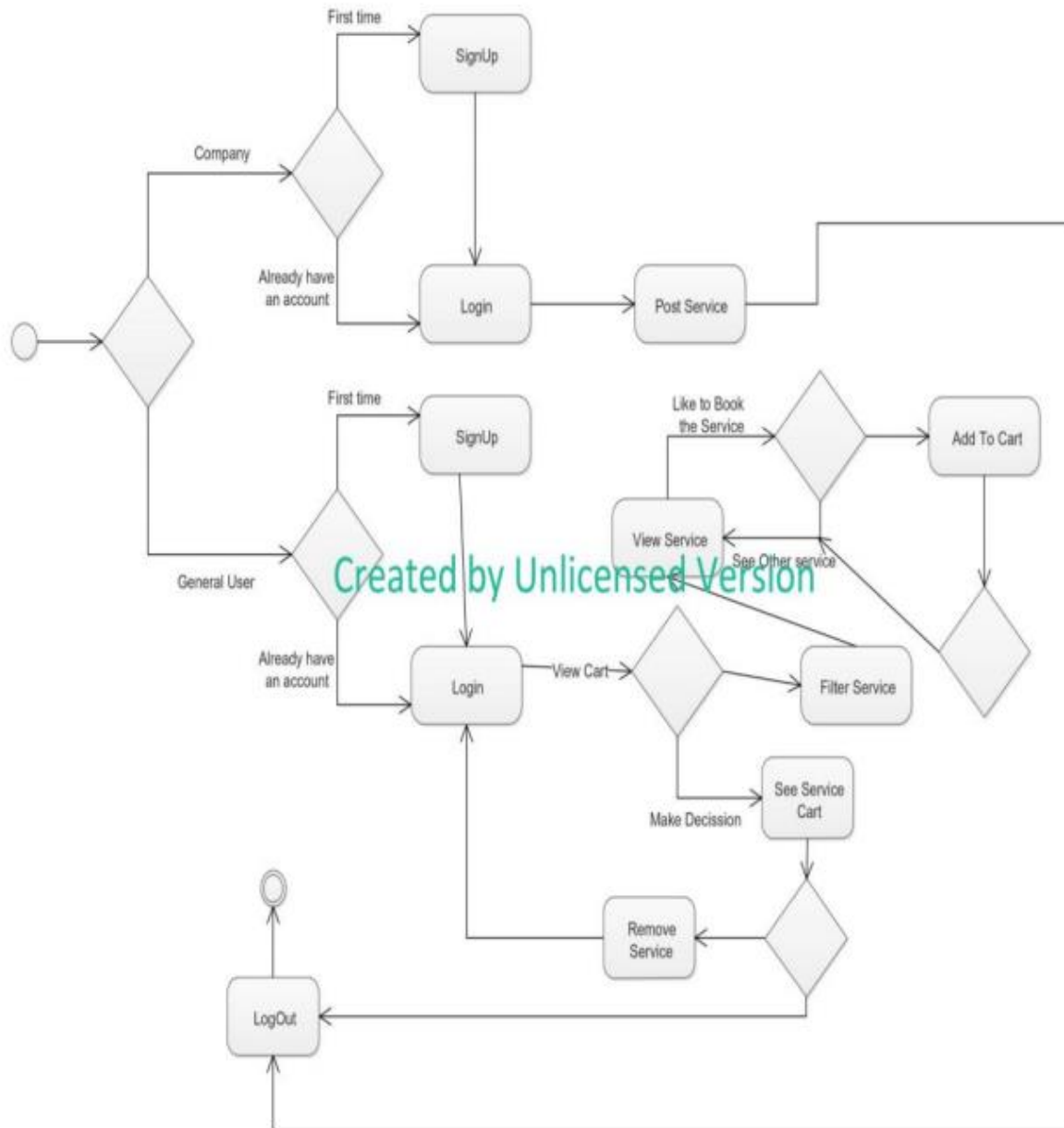
UML Class Diagram



UML Activity Diagram



UML State Chart Diagram



Using waterfall Model to develop our proposed software. The reasons are-

Objectives determination and identify alternative solutions: Requirements are gathered from the customers and the objectives are identified, elaborated, and analyzed at the start of every phase. Then alternative solutions possible for the phase are proposed in this quadrant. It's quite similar to our project for example- customer wants emergency mechanic then it will be identified, elaborated and analyzed.

Identify and resolve Risks: During the second quadrant, all the possible solutions are evaluated to select the best possible solution. Then the risks associated with that solution are identified and the risks are resolved using the best possible strategy. At the end of this quadrant, the Prototype is built for the best possible solution. In this step- our software searched for mechanic with GPS lowest distance from the customer.

Develop next version of the Product: During the third quadrant, the identified features are developed and verified through testing. At the end of the third quadrant, the next version of the software is available. In short time the mechanic approach in front of the customer.

Review and plan for the next Phase: In the fourth quadrant, the Customers evaluate the so far developed version of the software. In the end, planning for the next phase is started. The customer reviewed about service and do report about company/person.

Why we don't selected other model:

V-Model is Poor model for long and ongoing projects. This is also not a good model for complex and object-oriented projects that does not match with our software.

Saw tooth model is actually order delivery method model. But in our project we are not going to deliver the products.

Unified process model- This first phase is meant to be short time to establish a strong enough business case and financial reason to continue on to the next phases and make the product. This does not fulfilled our software requirement.

Roles and Responsibilities:

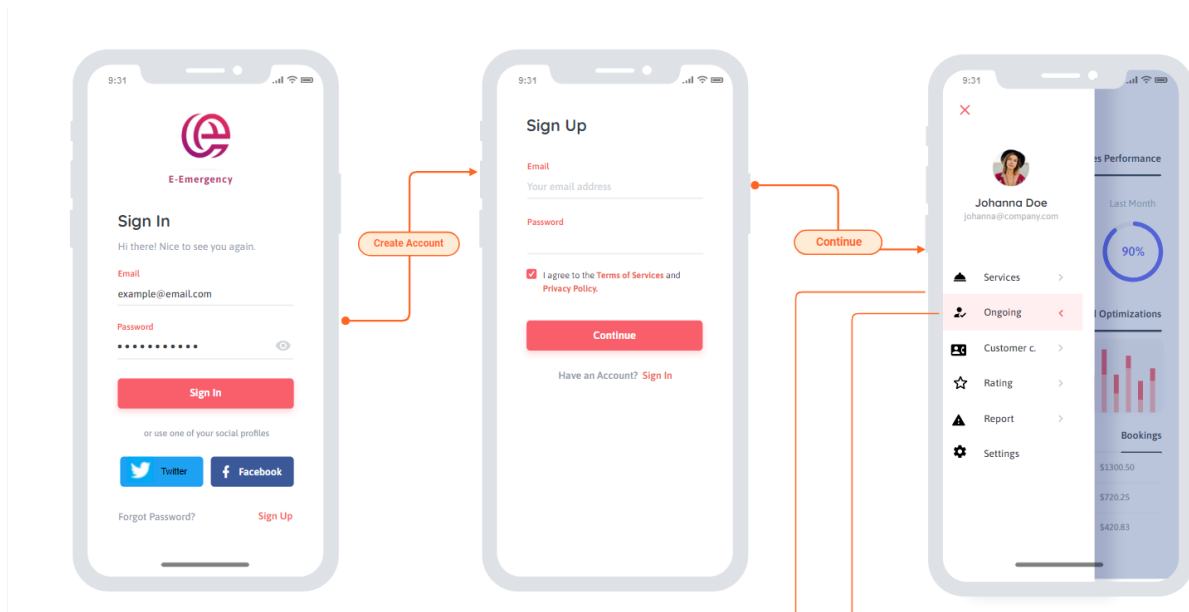
Admin: An admin maintain the software, fixed the bug, and resolved the customer or company report.

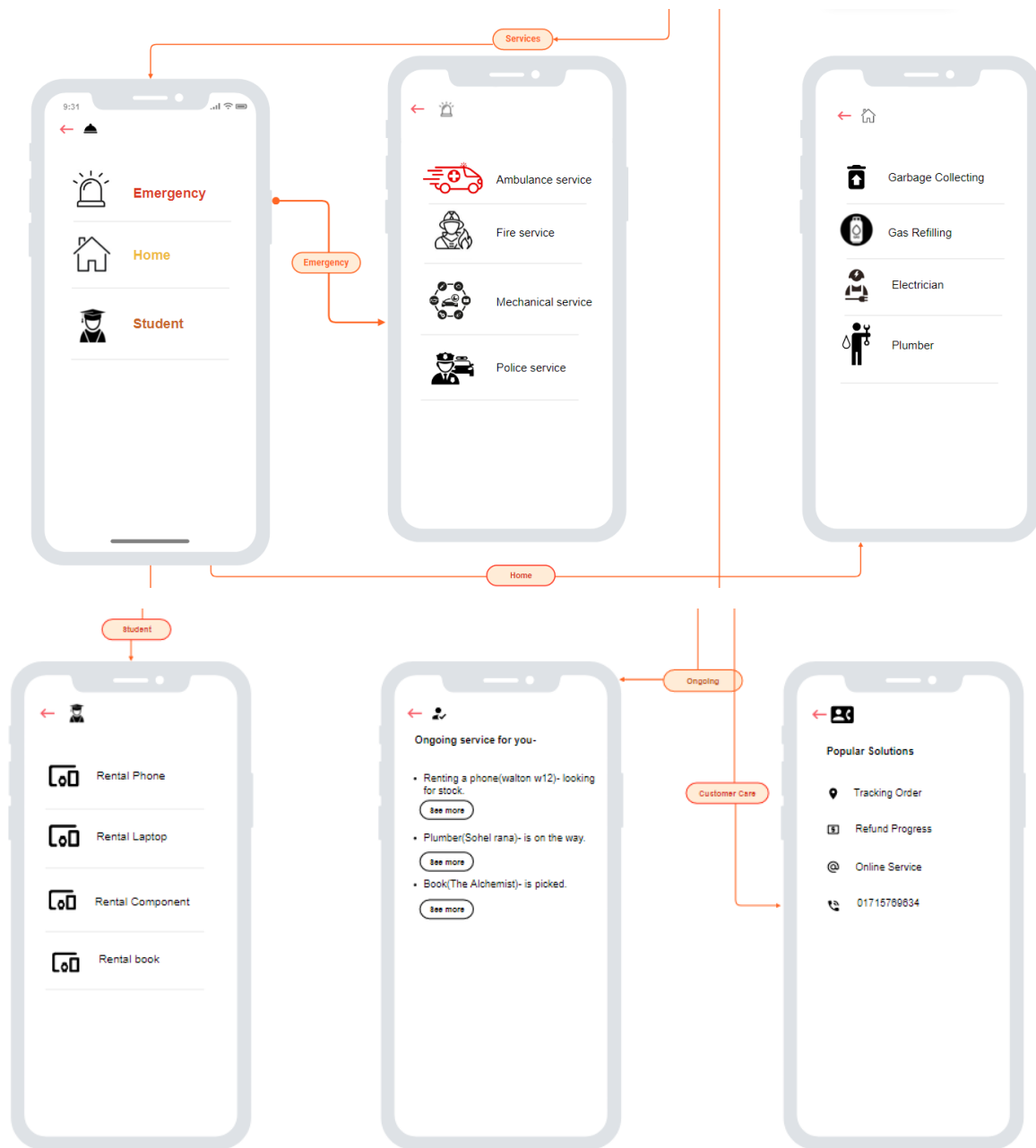
General user: Users will take the service if any problem occurred then they will report the issue and of course review the software would be positive or negative.

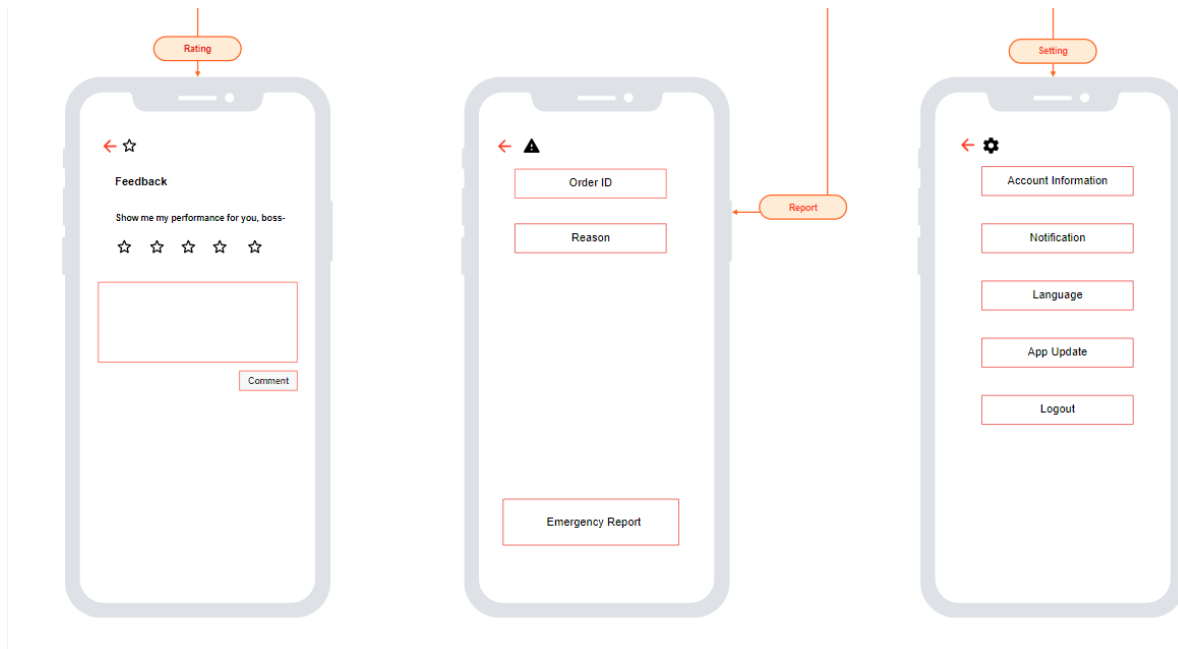
Company: The Company gives their best service to the customer in short time. If they faces any kind of problem they communicate with admin.

Accountant: Communicate with customer and company about the payment issues or financial aspects.

Software Design







Testing

Procedure:

1. Particular System: Mobile
2. **Black-Box Testing:** In functional testing, one does not have access to the internal details of program and the program is treated as a black box. A test engineer is concerned only with the part that is accessible outside the program, that is, just the input and the externally visible outcome. A test engineer applies input to a program, observes the externally visible outcome of the program, and determines whether or not the program outcome is the expected outcome. Inputs are selected from the program's requirements specification and properties of the program's input and output domains. A test engineer is concerned only with the functionality and the features found in the program's specification. For this black-box testing is appropriate for our project

3. **System testing:** focus is on system integration (e.g. hardware integration, OS compatibility)

Alpha/Beta testing: **Alpha testing** is simulated or actual operational **testing** by potential users or an independent **test** team at the developers' site. **Alpha testing** is often employed for off-the-shelf software as a form of internal acceptance **testing**, before the software goes to **beta testing** by users

Recovery testing: forces the software to fail in a variety of ways and verifies that recovery is properly performed

Security testing: verifies that protection mechanisms built into a system will, in fact, protect it from improper penetration

Stress testing: executes a system in a manner that demands resources in abnormal quantity, frequency, or volume

Performance Testing: test the run-time performance of software within the context of an integrated system (e.g. time required to response a request, compliance with operational constraints)

Testing Table

Project Name: E-emergency			Test Designed by: Mohaimenur Rahman	
Test Case ID: FR_1			Test Designed date:	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Login Session			Test Execution date:	
Test Title: Verification of System Security with forget password and ID				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail and phone number.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click forgotten. 3. Enter valid E-mail or phone number. 4. Use the link that send to the E-mail or the phone number. 5. The link will help the user to change the password.	e-mail: mohaimenur888@gmail.com Password: 8888	User will get the opportunity to change the old password and will give a new password.	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to get the link for changing password.				

Project Name: E-emergency			Test Designed by: Mohaimenur Rahman	
Test Case ID: FR_2			Test Designed date:	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Location Tracking			Test Execution date:	
Test Title: Verification of System Security Location				
Description: Location feature is a GPS system in map that Android or Apple displays top the icon of app's UI. System provides the user a button so that user can press the button for help. When the user will press the button, the system will automatically match the location of the victim with the location of the nearest service				
Precondition (If any): If user seriously want to get a notification from app to ask them to update (so that everyone gets the notification)				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Search the place 2. show the nearest place 3. Track the location distance 4. Provide the last selected location in online 5. Tittle 6. text	Location tracking Required: GPS and Map	The tracker should track and match the location of the Customer and show it in the system.	As expected,	Pass
Post Condition: User must contain a device that has GPS and Map features and locations have to be on while using the tracking system and if the user use VPN he/she have to turn it off.				

Project Name: E-emergency		Test Designed by: Mohaimenur Rahman		
Test Case ID: FR_3		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Feedback		Test Execution date:		
Test Title: User will give feedback or comment or give his/her experience for the system				
Description: Feedback feature will help the administrator to learn more about system’s drawbacks and problem from the user itself. If the user faces any problem the system will suggest the solution of that problem.				
Precondition (If any): User should contain a valid ID so that it helps the administrator to know which user having problem in which terms specifically.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the User account. 2. Select the feedback option. 3. Write the issue. 4. Click the confirm button 5. Will receive a message of regarding the issue.	Notification Required: Reply or Archive	After Submitting the feedback regarding the issue that a user is facing, they will receive text with solution from the application.	As expected,	Pass
Post Condition: User have to provide the specific information so that his/her problem can be solved.				

Project Name: E-emergency		Test Designed by: Mohaimenur Rahman		
Test Case ID: FR_4		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Response Session		Test Execution date:		
Test Title: verify response session				
Description: In response session when the user (General people) press the button, a notification message will be received by the server and the server will send a message to the nearest associate members. Then the associate member will send a confirmation message to the system.				
Precondition (If any): User must have a valid account. User should have internet connectivity.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Press the button. 2. Receive notification by the server. 3. Send confirmation message by the associate members.	button Notification Reply	System will inform the user that notification delivered by pop-up notification in the device with sound.	As expected,	Pass
Post Condition: : User must contain a device that has internet connection				

Project Name: E-emergency		Test Designed by: Isfaq Anam		
Test Case ID: FR_5		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Facebook Button		Test Execution date:		
Test Title: Verification of System Security with Facebook email/phone number and password				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click Facebook. 3. Enter valid E-mail or phone number. 4. Enter valid password	e-mail: mohaimenur888@gmail.com Password: 8888	User will get the opportunity to login with Facebook account	As expected,	Pass
Post Condition: User given E-mail or phone number have to valid to login				

Project Name: E-emergency		Test Designed by: Isfaq Anam		
Test Case ID: FR_6		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Twitter Button		Test Execution date:		
Test Title: Verification of System Security with Twitter email/phone number and password				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click Twitter. 3. Enter valid E-mail or phone number. 4. Enter valid password	e-mail: mohaimenur888@gmail.com Password: 8888	User will get the opportunity to login with Twitter account	As expected,	Pass
Post Condition: User given E-mail or phone number have to valid to login				

Project Name: E-emergency			Test Designed by: Isfaq Anam	
Test Case ID: FR_7			Test Designed date:	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: emergency Services			Test Execution date:	
Test Title: check services				
Description: Analyzing App System.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click services 3. Select categories 4. select emergency services	Emergency Service categories Required: Location tracking Required: GPS and Map	Customer selects the emergency Service categories and The tracker should track and match the location of the Customer and show it in the system.	As expected,	Pass
Post Condition: User must contain a device that has GPS and Map features and locations have to be on while using the tracking system and if the user use VPN he/she have to turn it off.				

Project Name: E-emergency			Test Designed by: Isfaq Anam	
Test Case ID: FR_8			Test Designed date:	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Services			Test Execution date:	
Test Title: check services				
Description: Analyzing App System.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click services 3. Select categories 4. select services	Service categories Required: Location tracking Required: GPS and Map	Customer selects the Service categories and The tracker should track and match the location of the Customer and show it in the system.	As expected,	Pass
Post Condition: User must contain a device that has GPS and Map features and locations have to be on while using the tracking system and if the user use VPN he/she have to turn it off.				

Project Name: E-emergency		Test Designed by: Jannatun nur shifa		
Test Case ID: FR_9		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Home Services		Test Execution date:		
Test Title: check services				
Description: Analyzing App System.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click services 3. Select categories 4. select home services	Home Service categories Required: Location tracking Required: GPS and Map	Customer selects the home Service categories and The tracker should track and match the location of the Customer and show it in the system.	As expected,	Pass
Post Condition: User must contain a device that has GPS and Map features and locations have to be on while using the tracking system and if the user use VPN he/she have to turn it off.				

Project Name: E-emergency		Test Designed by: Jannatun nur shifa		
Test Case ID: FR_10		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Outgoing Services		Test Execution date:		
Test Title: check Outgoing services				
Description: Analyzing App System.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Press the outgoing button. 3. see which service is outgoing 4. if confirmed Receive notification by the server. 5. Send confirmation message by the associate members. 6. or cancel	Location tracking Required: GPS and Map	The tracker should track and match the location of the Customer and show it in the system.	As expected,	Pass
Post Condition: User must contain a device that has GPS and Map features and locations have to be on while using the tracking system and if the user use VPN he/she have to turn it off.				

Project Name: E-emergency		Test Designed by: Jannatun nur shifa		
Test Case ID: FR_11		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Notification page		Test Execution date:		
Test Title: check notification list				
Description: Analyzing App System.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password and have to in notification page				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Press the notification tab	Outgoing service Or system update	The user will get notification for outgoing services or apps update	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to get notification				

Project Name: E-emergency		Test Designed by: Jannatun nur shifa		
Test Case ID: FR_12		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Refund		Test Execution date:		
Test Title: check payment is clear or not				
Description: Analyzing App System.				
Precondition (If any): Account Holder must have valid account with valid E-mail/Phone number and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Press the refund tab 3. see which service is cancelled 4. if cancelled Receive notification by the server. 5. Send confirmation message by the associate members.	Refund system Required	Confirm the refund system by server	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to get refund				

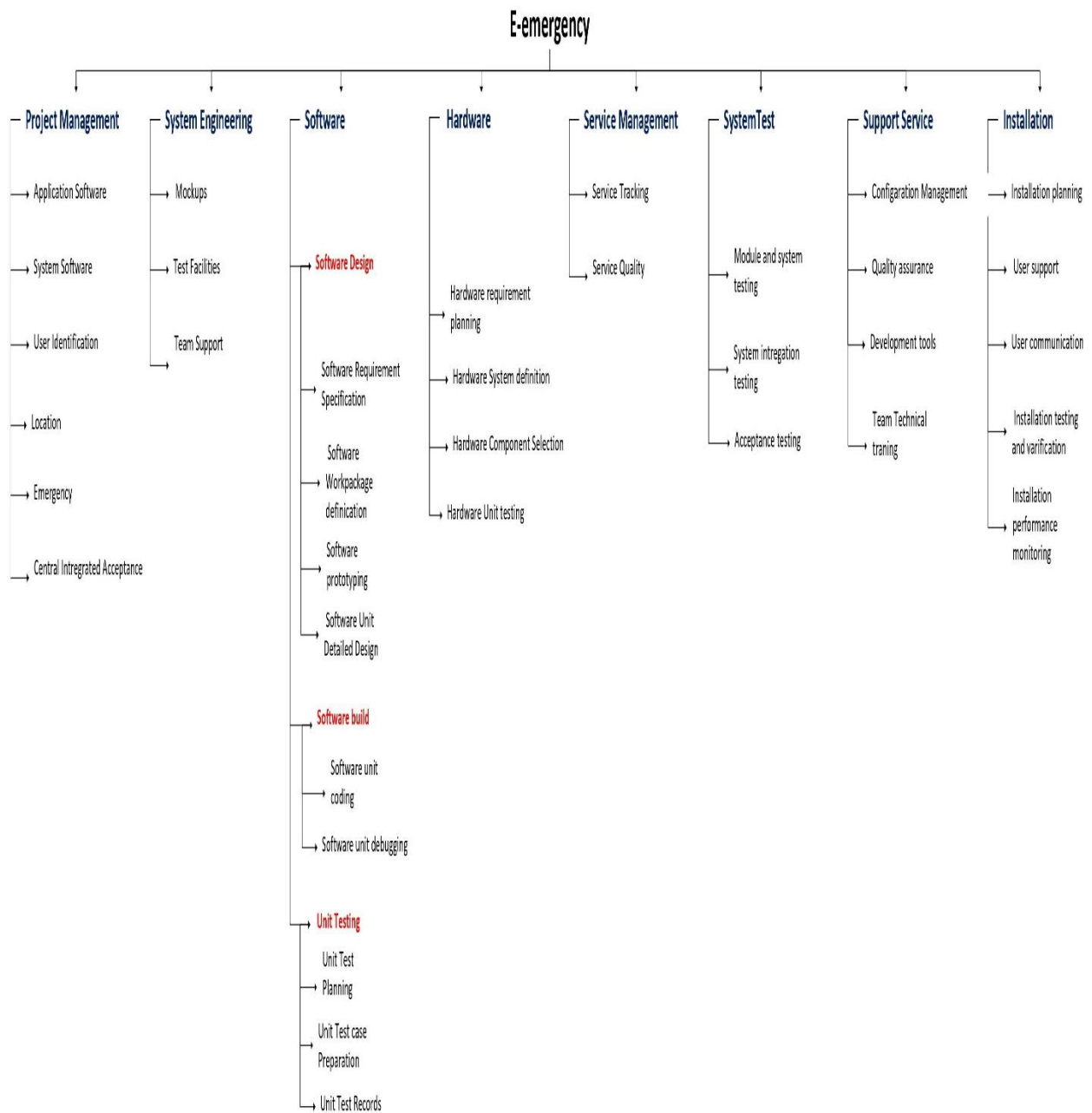
Project Name: E-emergency			Test Designed by: Sumaya Sarowar	
Test Case ID: FR_13			Test Designed date:	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Account information			Test Execution date:	
Test Title: change Account information				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail and phone number.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click Account information 3. change information and save	e-mail: mohaimenur888@gmail.com Password: 8888	User will get the opportunity to change the information and will give a new information	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to get the link for changing information				

Project Name: E-emergency		Test Designed by: Sumaya Sarowar		
Test Case ID: FR_14		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Logout		Test Execution date:		
Test Title: Logout from account				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail and phone number.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. settings 2. Click logout	e-mail: mohaimenur888@gmail.com Password: 8888	User will get the opportunity to logout	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to get the link for Logout				

Project Name: E-emergency		Test Designed by: Sumaya Sarowar		
Test Case ID: FR_15		Test Designed date:		
Test Priority (Low, Medium, High): Medium		Test Executed by:		
Module Name: Language		Test Execution date:		
Test Title: Language change				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail and phone number.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click settings 3. Language	e-mail: mohaimenur888@gmail.com Password: 8888	User will get the opportunity to change language	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to change language				

Project Name: E-emergency			Test Designed by: Sumaya Sarowar	
Test Case ID: FR_16			Test Designed date:	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Report			Test Execution date:	
Test Title: Report against order				
Description: Analyzing App System Security.				
Precondition (If any): Account Holder must have valid account with valid E-mail and phone number.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Application. 2. Click settings 3. Language	Order id: 11111 Reason: Missing.	User will get the opportunity to report against order	As expected,	Pass
Post Condition: User given E-mail or phone number have to match with the System Database to report against order				

WBS

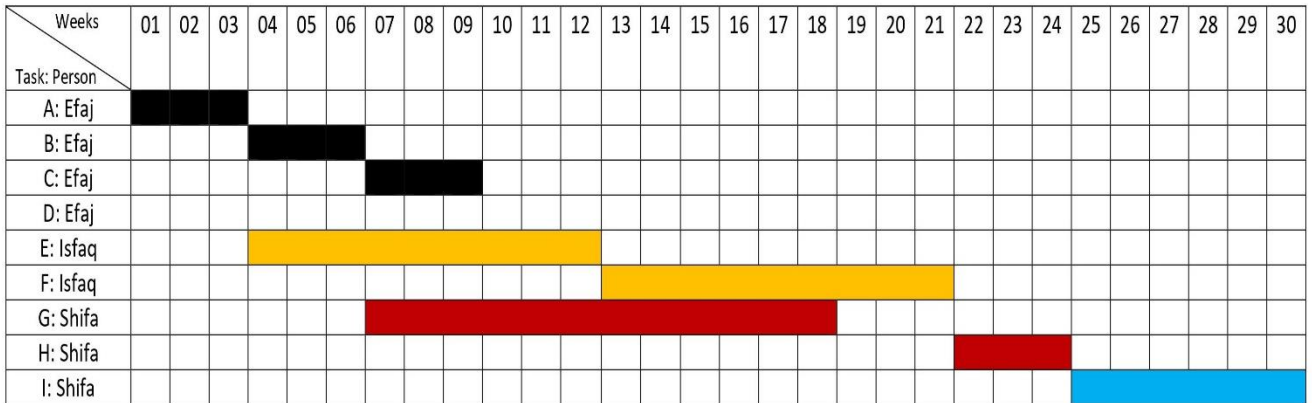


Timeline Charts

- Effort= PM = Coefficient*(SLOC/1000)^P
$$= 2.4 * (5000/1000)^{1.5}$$
$$= 26.83$$
- Development time= DM = 2.50* (PM)^T
$$= 2.50 * (26.83)^{0.38}$$
$$= 8.72$$
- Required number of people = ST= PM/DM
$$= 26.83/8.72$$
$$= 3.07$$

Total Weeks = 8.72*4=34.44

TimeLine Charts



Activity Key:

A: Overall Design

F: Code module 3

B: Specify module 1

G: Code module 2

C: Specify module 2

H: Integration testing

D: Specify module 3

I: System testing

E: Code module 1

EVA Calculation

- **Planned work task: 56**
- **Task Completed: 15**
- **Total task: 60**
- **Effort estimated = 582 person day**

Task	Planned Effort	Actual Effort
1	12.0	12.5
2	15.0	13
3	9.5	8
4	5.0	9
5	17	15
6	13	15
7	18	12
8	12.5	17
9	6	13
10	8.5	9
11	15	12
12	3.5	7
13	6	--
14	7.5	--
15	16	--
16	9.5	--
17	16	--
18	10.5	--
19	8	--
20	7.5	--

BCWP = 135

BCWS = 216

ACWP = 142.5

- $BAC = 582.00$
- $SPI = BCWP / BCWS = 135 / 216 = 0.625$
- $SV = BCWP - BCWS = 135 - 216 = -81$ person-day
- $CPI = BCWP / ACWP = 0.95$
- $CV = BCWP - ACWP = -7.5$ person-day
- $\% \text{ SCHEDULE FOR COMPLETION} = BCWS / BAC = 216 / 582.00 = 37.11\%$
- $\% \text{ COMPLETE} = BCWP / BAC = 135 / 582.00 = 23.19\%$

BUILDING RISK

BUILDING RISK TABLE

Risk	Category	Probability	impact
Inaccurate Estimations	DE	40%	1
Scope Variations	BU	20%	2
End-user Engagement	BU	30%	3
Stakeholder Expectations	BU	70%	3
Poor Quality Code	DU	40%	1
Poor Delivery	PS	50%	2
Inadequate Risk Management	TE	60%	1
Inadequate Human Resources	BU	40%	1
Lack of Ownership	PR	30%	4
Staff inexperienced	ST	50%	1
Lack of Users	BU	50%	2
Staff left the job	ST	40%	2
Real-time performance problem	PR	30%	2
Wrong information stored	DU	70%	3

Impact Values:

- 1) Catastrophic
- 2) Critical
- 3) Marginal
- 4) Negligible

Conclusion:

- Before Starting The Development Part, Some UML Diagrams, Mock Design, Class Diagrams, Project Scheduling, Budgeting and testing has Been Done
- By Using Umlet, Diagrams Has Been Developed, Using mockups.com Developed The Mock Design