Software Engineering Project

Project name: Online Consulting Doctor

Course Name: Software Engineering

Team Name: Linux

Members:

1) Habib,MD. Tahsinur Rahman Id = 18-37837-2
2) Anjum, Nafisa Id = 18-38091-2
3) Sakib, Md. Sajid Al Id = 18-38085-2

Table Of Contents

1. Problem Analysis ---- 4
2. Requirment Analysis ---- 4
    i) Function requirement ---- 5
    ii) Non-Functional requirement ---- 5
3. Mind Map ---- 6
4. Design Specification ---- 7
    i) Use case diagram ---- 7
    ii) Activity Diagram ---- 8
    iii) Sequence Diagram ---- 9
5. Model Selection ---- 10
6. Software Interfaces ---- 11
7. Project Text Planning ---- 17
8. Test Cases ---- 18
    i) Registration ---- 18
    ii) Login ---- 19
    iii) Online Doctor ---- 20
    iv) Meet a doctor ---- 21
    v) Call in a doctor ---- 22
    vi) ICU ---- 23
    vii) Free doctor ---- 24
    viii) Payment ---- 25

9. NFR Test Cases ---------- 26
i) Availability ---------- 26
ii) Performance ---------- 27
iii) Efficiency ---------- 28
iv) Reuasability ---------- 29
v) Intergrity ---------- 30
vi) Interoperability ---------- 31
vii) Reliability ---------- 32
viii) Testability ---------- 33
ix) Robustness ---------- 34
x) Usability ---------- 35
xi) Maintainability ---------- 36
10. WBS and Effort Estimation ---------- 37
12. References ---------- 38

Online Consulting Doctor

Problem Analysis:

Being hospitalized or getting treatment has always been a huge problem in our country as we have less hospital and less doctor as per we need. Sometimes we don't have the time to check door to door of every hospital to get appointment for a doctor or getting an ICU. In this such a pandemic situation where we need to stay at home for specially this consequence its quite impossible to meet a doctor physically. If somehow we can reduce this problems there will be a huge chance to save a life. Now a days, our country is going through with such a pandemic where getting treatment has become a huge problem. That's why we want to develop a system which can reduce such kind of problem for which we are suffering like getting appointment from a doctor or getting an ICU etc. Though we want to do something better for our patient but it will also be a good opportunity for us to grave the software market with a huge benefit. More than that, our main goal is to think about the patients. For all of these reason we want to do Online Doctor Consulting software project .

Requirement Analysis:

In this situation, many hospitals are closed, that’s why peoples are suffering day by day. We decided to solve this problem through online. People can use this software to contact with doctors immediately. This software also will be easily useable. In this software, doctors can register there profile and set how much fee he/she want. Patient can easily log in and request for the doctors and then the doctor will accept his/her request and send the time for visit.

Function Requirements:

Here are the all function of this software:

1) Simple log in process.

2) Making profile of doctors.

3) 3 categories for visit a doctor.

4) Immediate ICU.

5) Booking an ICU.

6) Free Doctors.

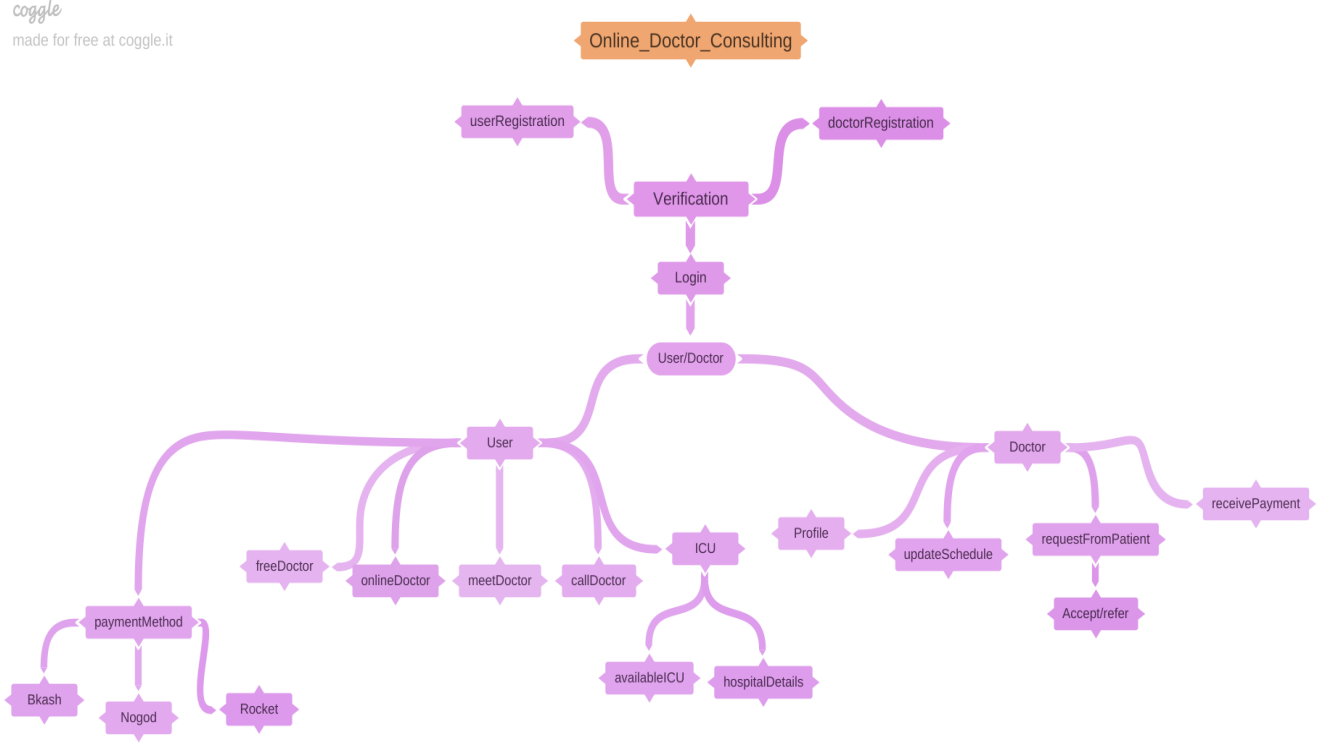
7) Online Payment

Non – Functional Requirements:

1. Availability
2. Performance
3. Efficiency
4. Integrity
5. Interoperability
6. Reliability
7. Robustness
8. Usability

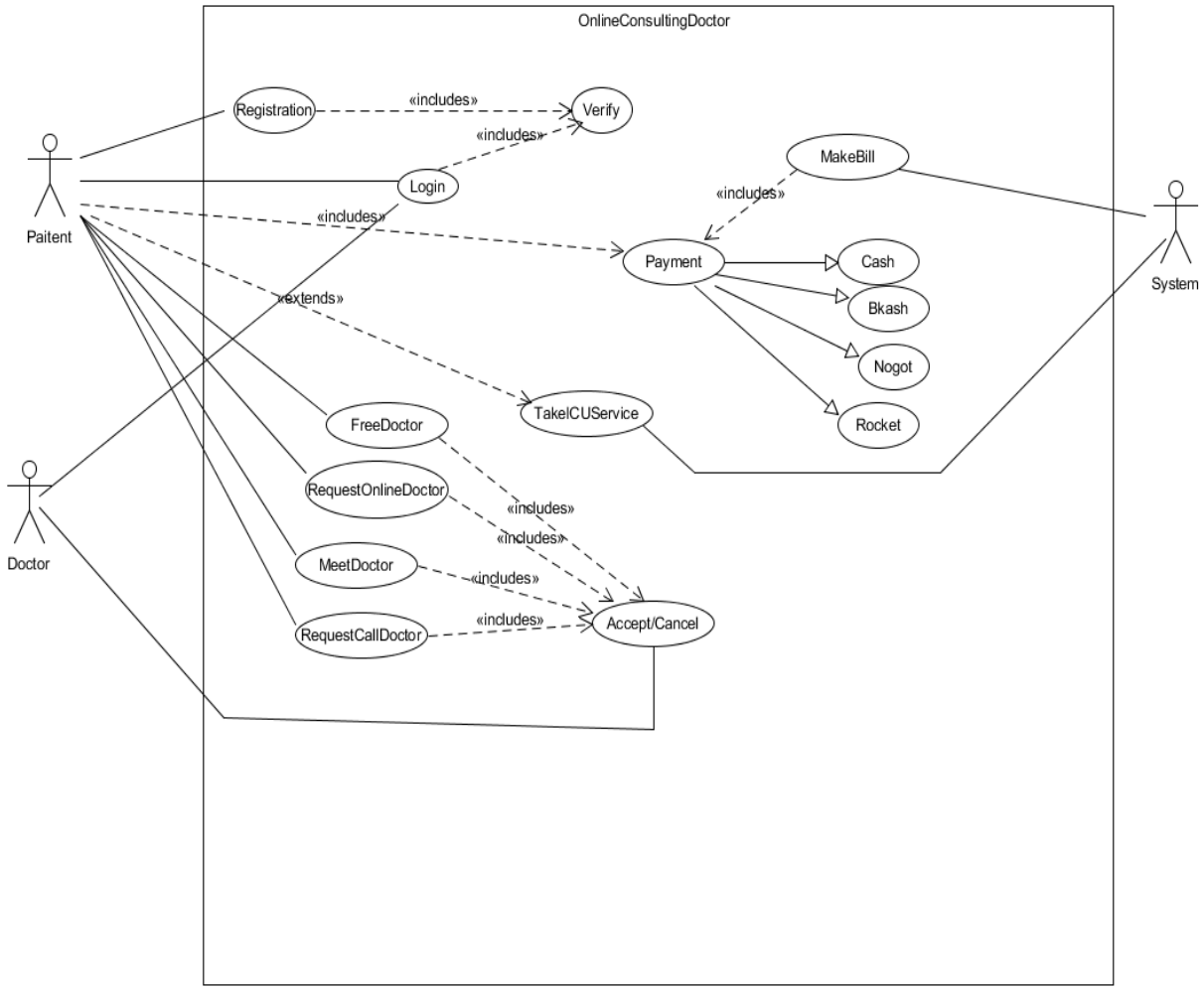
All the functional and non function requirement has leveled with the system. We give prority for all of those requirments. It demonstrate the system development equally.

Mind Map:

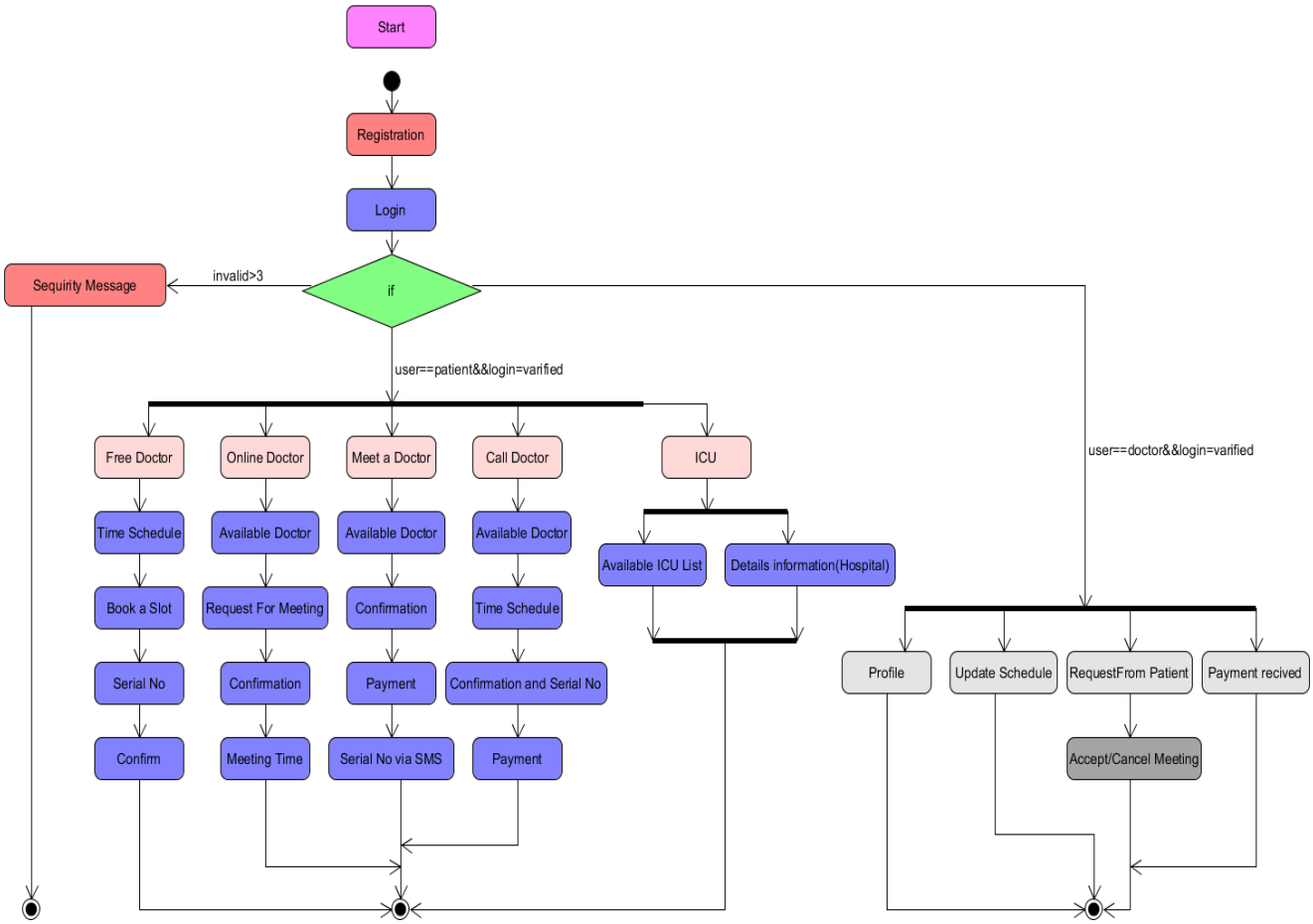

coggle
made for free at coggle.it
Online_Doctor_Consulting
userRegistration
doctorRegistration
Verification
Login
User/Doctor
User
Doctor
freeDoctor
onlineDoctor
meetDoctor
callDoctor
ICU
Profile
updateSchedule
requestFromPatient
receivePayment
Accept/refer
paymentMethod
availableICU
hospitalDetails
Bkash
Nogod
Rocket

Design Specification:

Use case diagram:



Activity Diagram:



Sequence diagram:

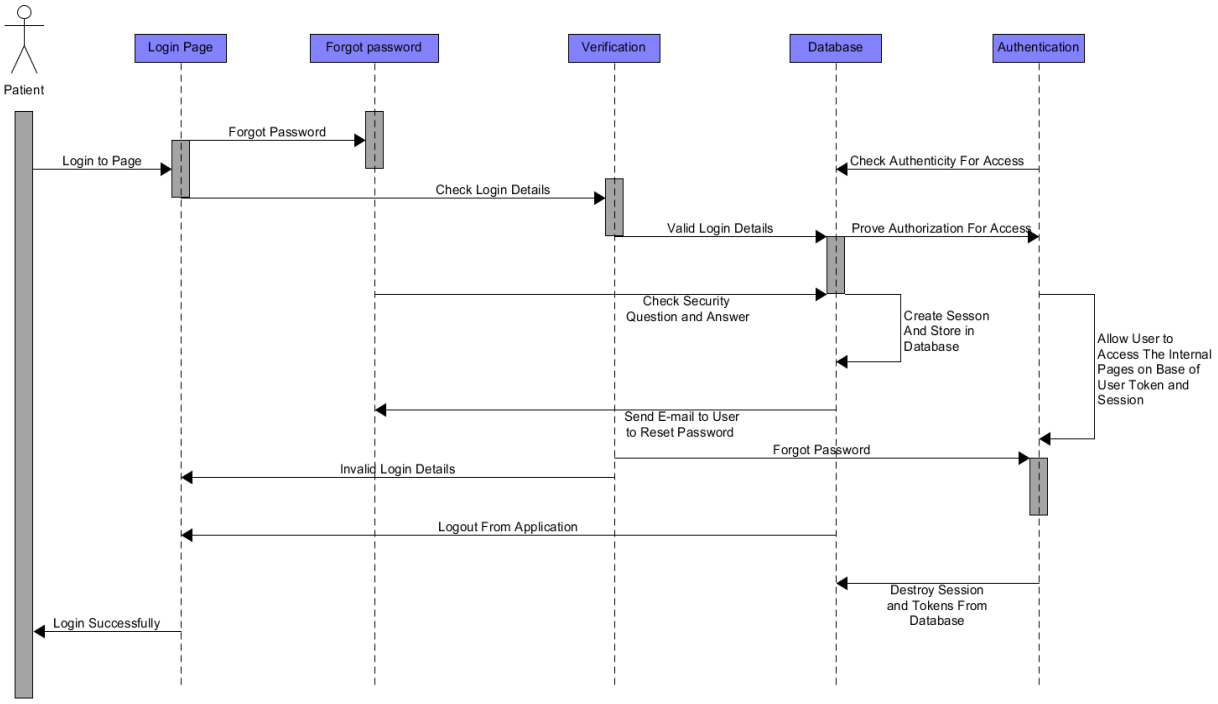


Fig-1

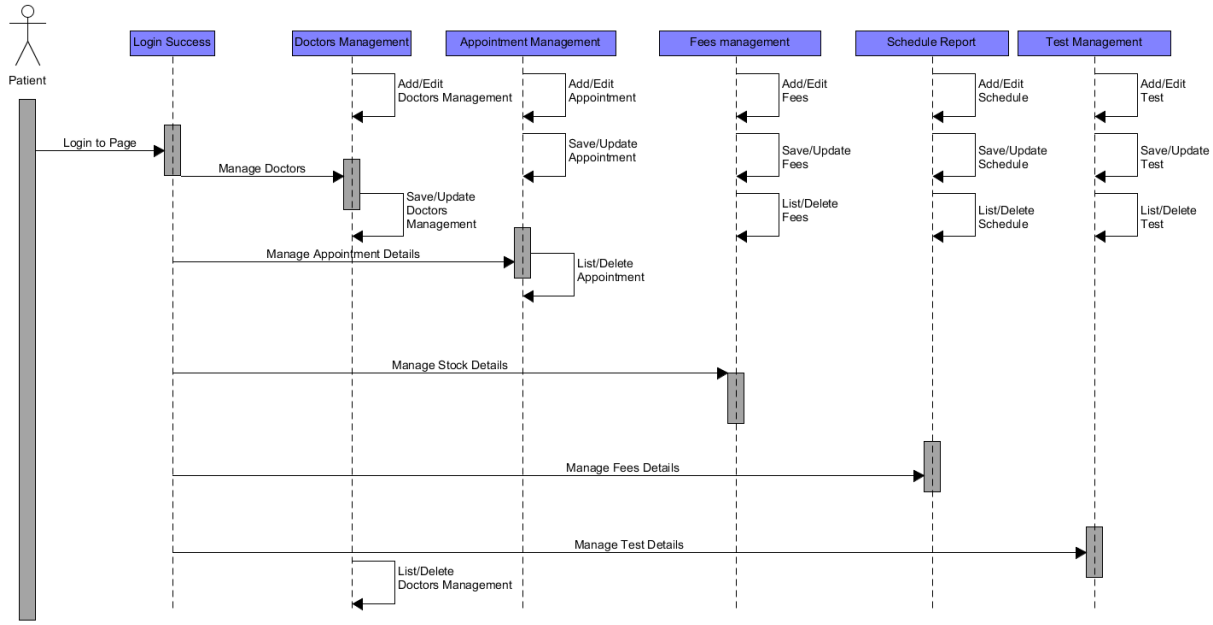


Fig-2

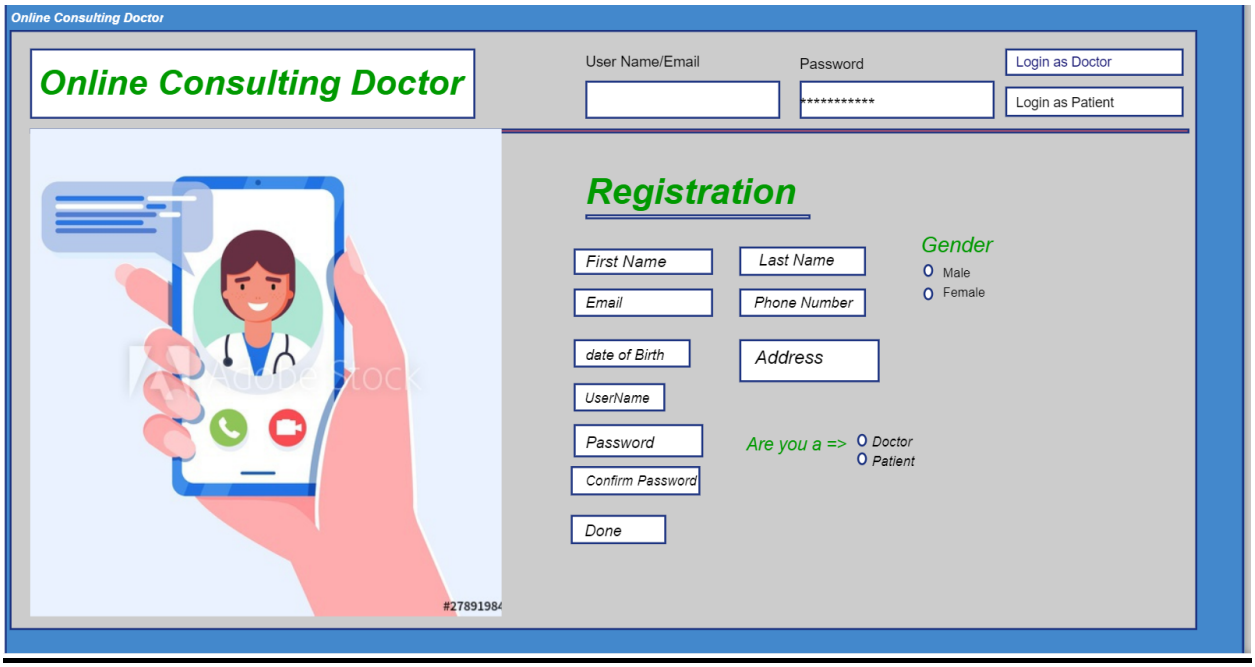
Model Selection:

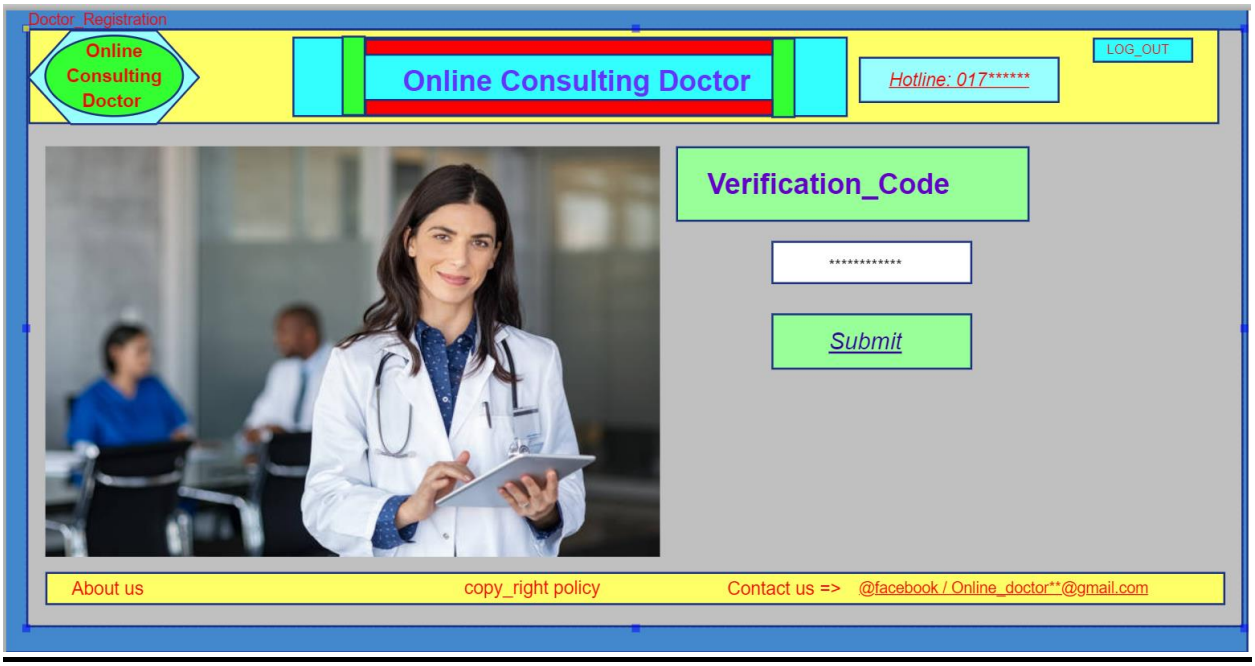
The software development models are the various processes or methodologies that are being selected for the development of the project depending on the project's aims and goals. There are many development life cycle models that have been developed in order to achieve different required objectives. For our project we select the AGILE SOFTWARE DEVELOPMENT MODEL.

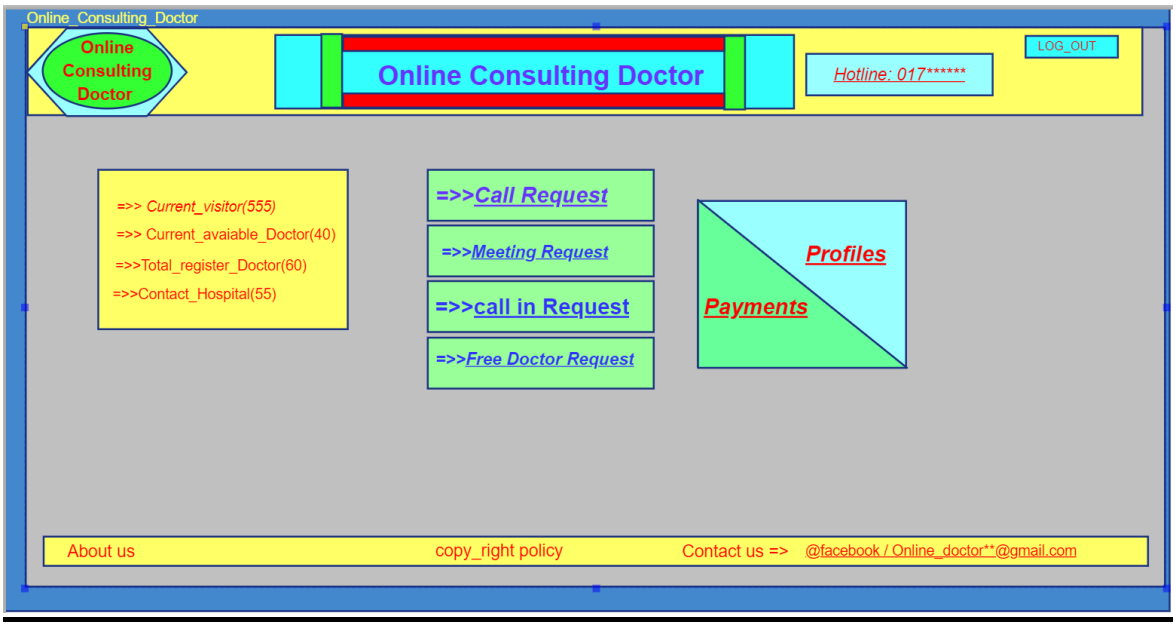
Agile is lightweight iterative model. In this model the time duration per scope is at best one month. In our project, we have some functionality which are characterized into specific parts for which the time duration (<=1month) is best for us. In software development the shorter time period is more useful because in lower time period a software development team develop a lower amount of functionalities than the bigger time period. And if we made any mistake during this time box we can easily solve our errors. One of the best practice in agile model has in every iteration after the work successful testing is necessary. Testing is the one of the best way to find out the errors or system bug. If we find out our bugs soon then it will be helpful to solve this small amount of bug. In future if system need any kind of change it is necessary to build proper documentation of the system which we will keep writing in each iteration. Agile development means automation and efficiency. Each member of the team is focused on the goal, the idea of the project is thin, each member knows the amount of effort it needs to put into the project and meet the demands. In teamwork, there is a need to have a look at the tasks each member performs, how tasks are categorized and what should be working strategy to be followed by each member. Software development requires tools to manage the project efficiently. This would help in understanding the project, categorizing the requirements of the project, prioritizing the tasks, assigning the tasks to the appropriate person in the team, following the project timeline efficiently. Every software is developed for specific design and specific people. So customer satisfaction is the major issues. Agile is the people base model rather than the paper base. So by using agile we can understand the customer feedback early because the “TimeBox” of every scope is at best one month so we can make small amount of functionalities and make a test and we understand either the functionalities are good or bad, if any change is required we can easily do it.

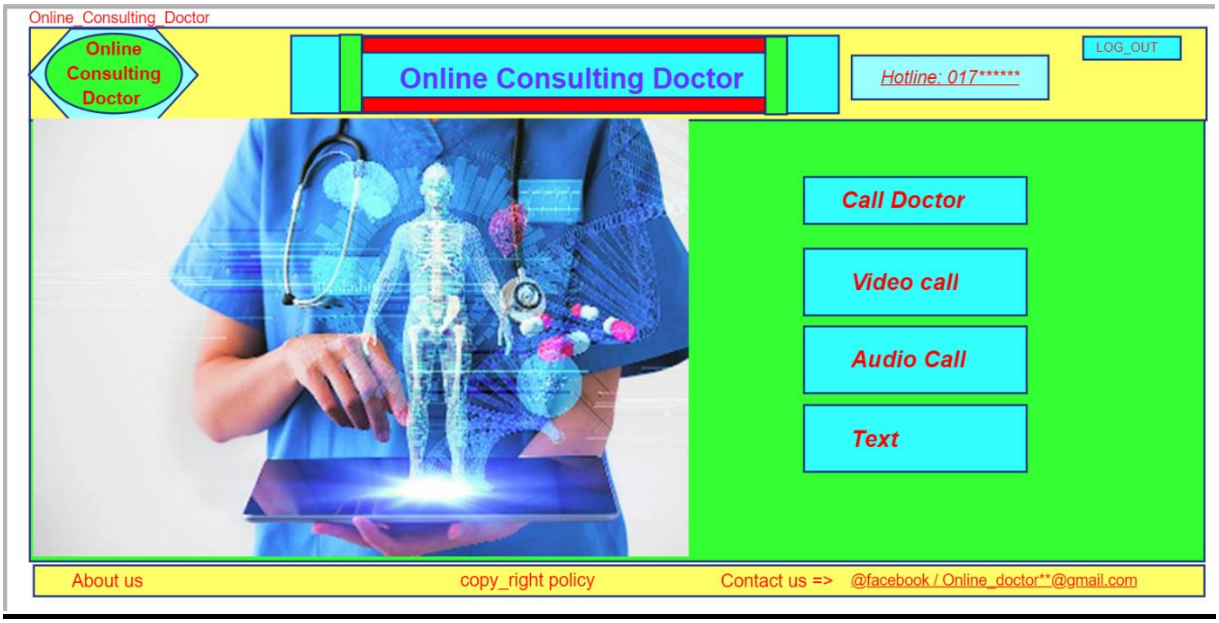
For all of those reason we selected agile is the best and suitable model for our Online Consulting Doctor project.

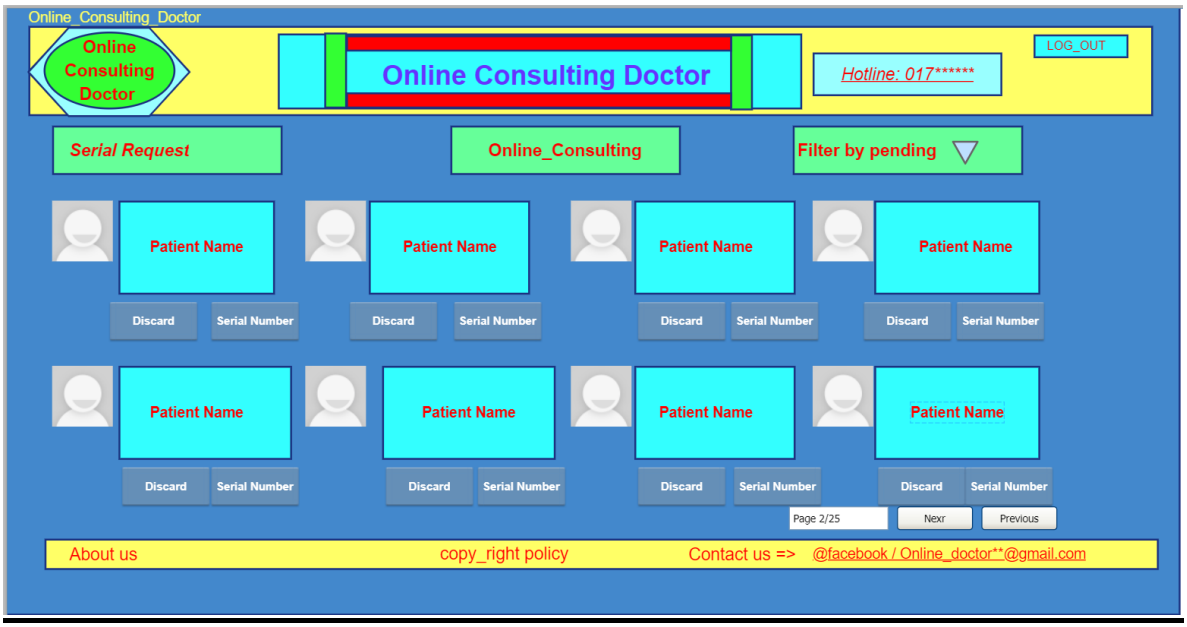
Software Interfaces:

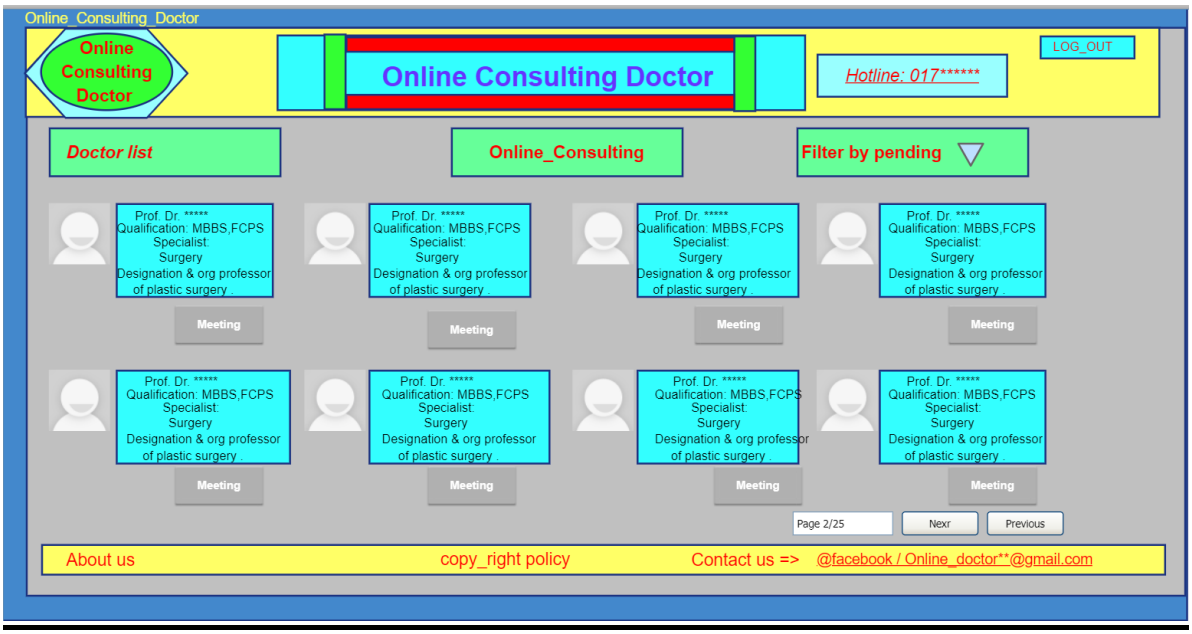


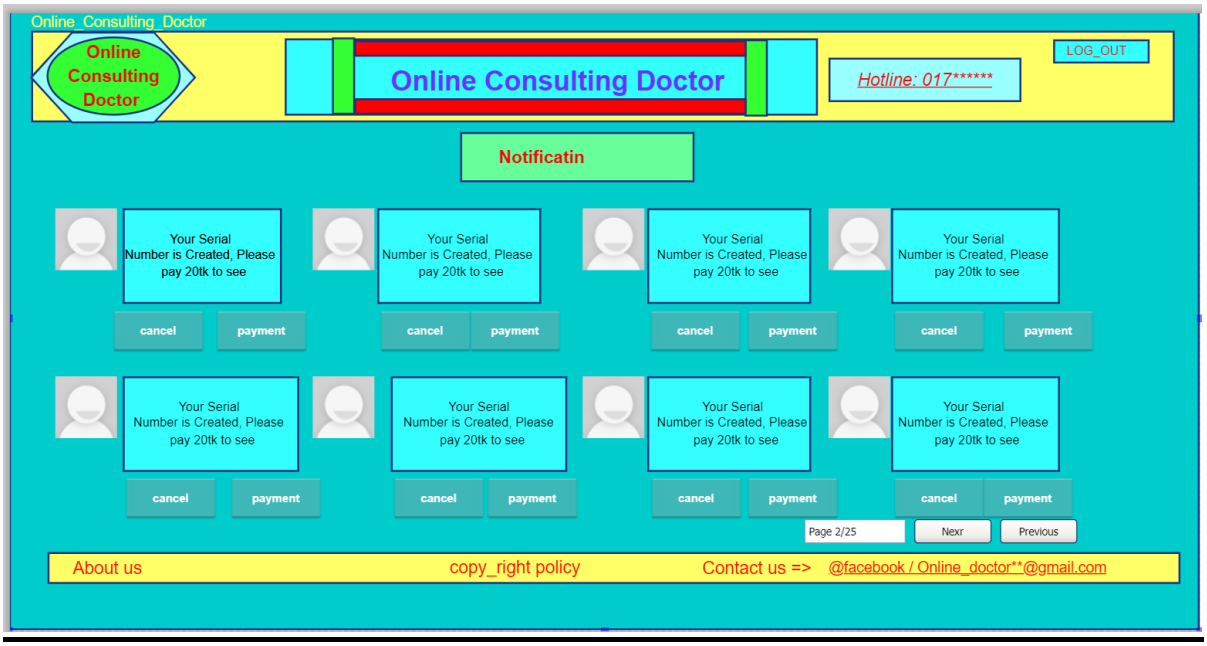


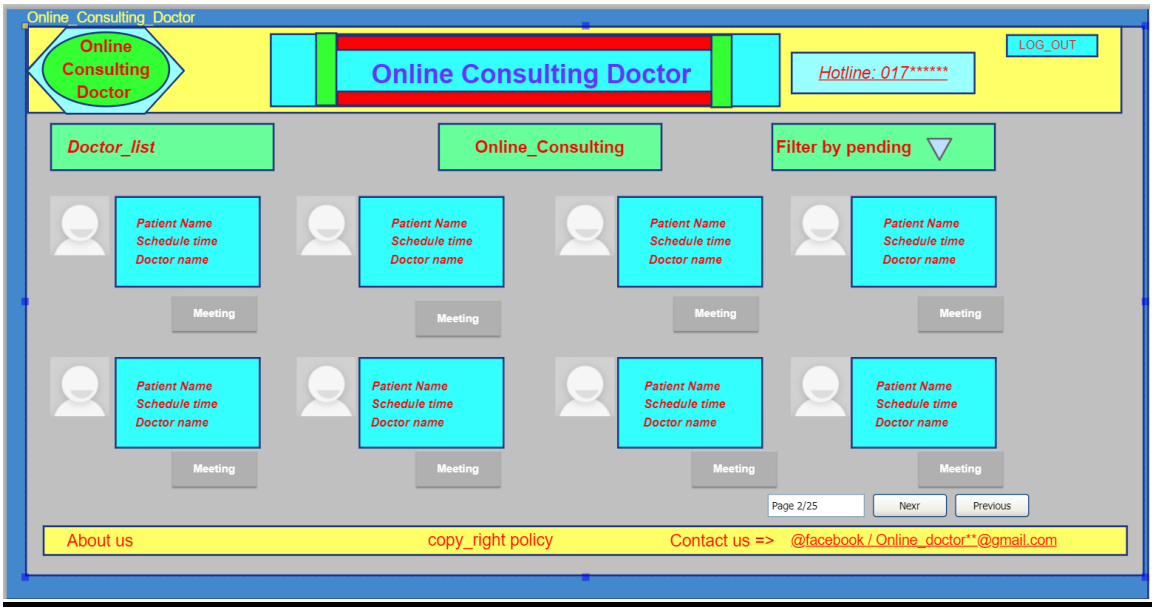

Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
=>> Current_visitor(555)
=>> Current_avaiable_Doctor(40)
=>>Total_register_Doctor(60)
=>>Contact_Hospital(55)
=>>Call Request
=>>Meeting Request
=>>call in Request
=>>Free Doctor Request
Profiles
Payments
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com

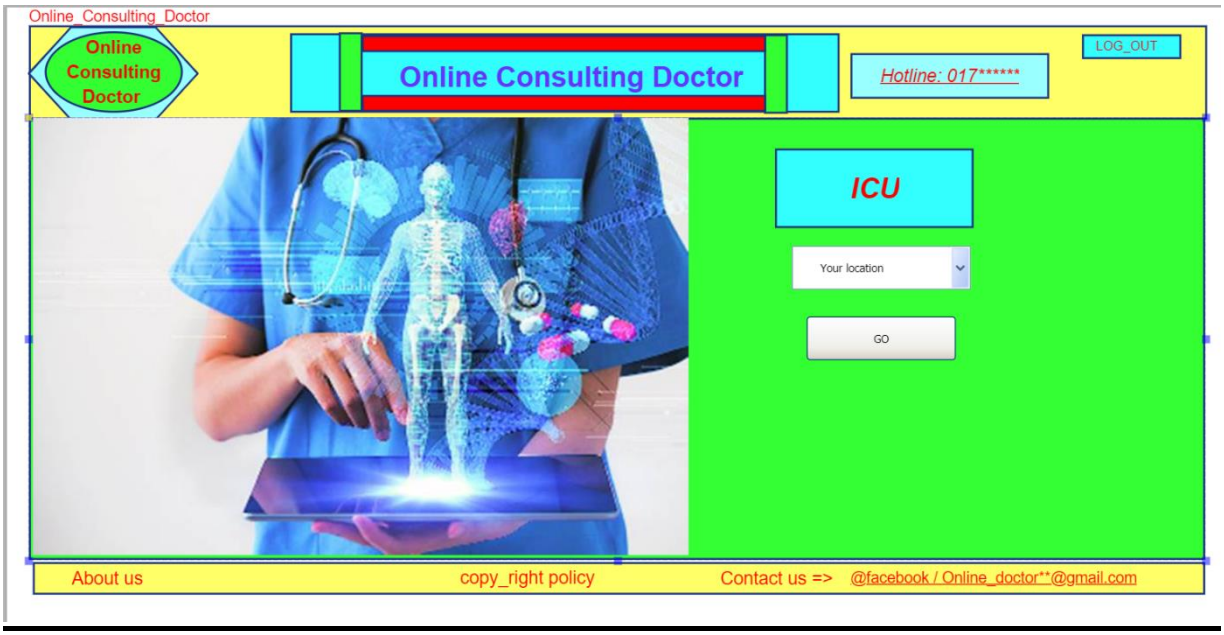

Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Call Doctor
Video call
Audio Call
Text
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com

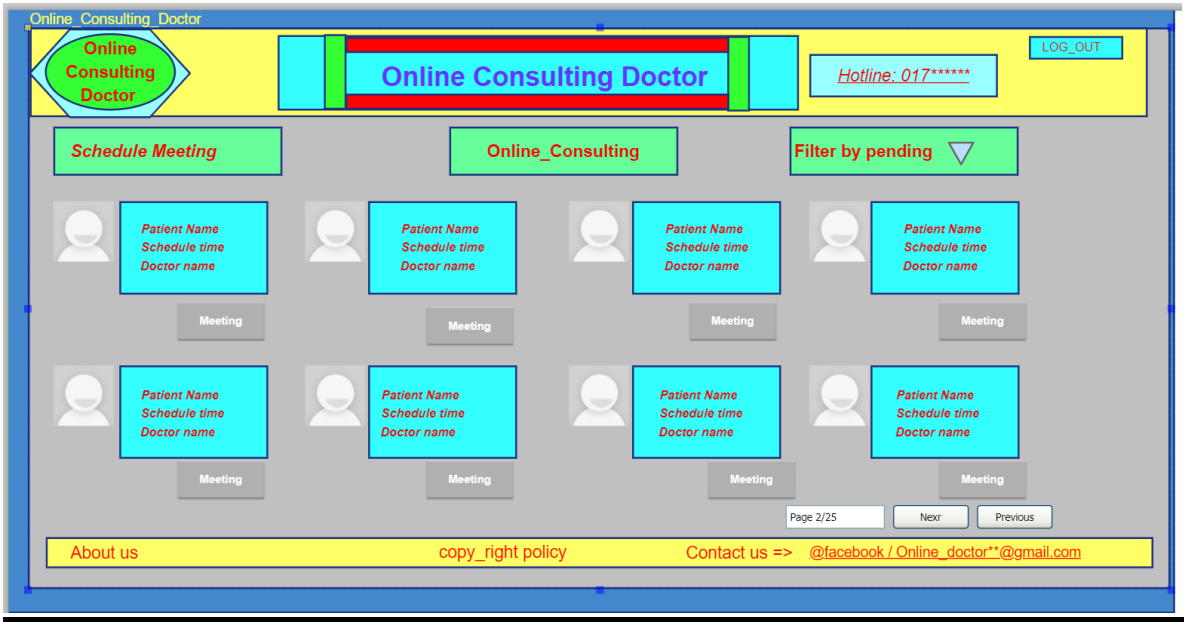

Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Serial Request
Online_Consulting
Filter by pending
Patient Name
Discard
Serial Number
Page 2/25
Nexr
Previous
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com

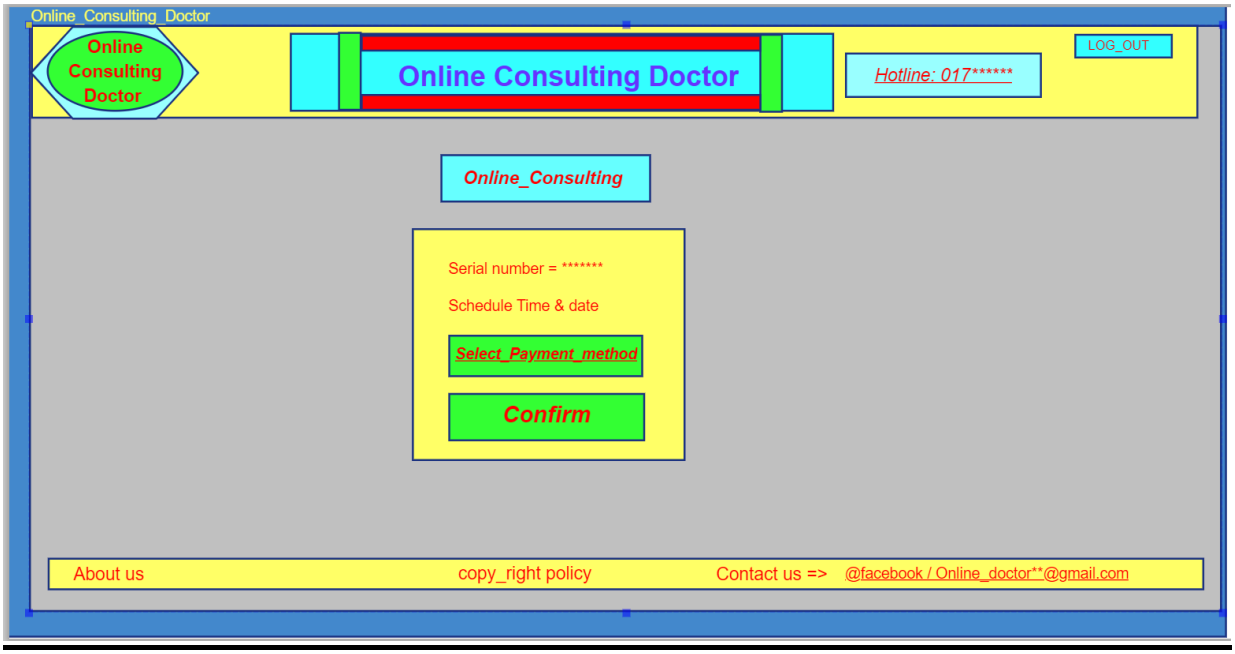

Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Doctor list
Online_Consulting
Filter by pending
Prof. Dr. *****
Qualification: MBBS,FCPS
Specialist:
Surgery
Designation & org professor
of plastic surgery .
Meeting
Page 2/25
Nexr
Previous
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com


Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Notificatin
Your Serial Number is Created, Please pay 20tk to see
cancel
payment
Page 2/25
Nexr
Previous
About us
copy_right policy
Contact us => @facebook / Online_doctor**@gmail.com


Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Doctor_list
Online_Consulting
Filter by pending
Patient Name
Schedule time
Doctor name
Meeting
Page 2/25
Nexr
Previous
About us
copy_right policy
Contact us => @facebook / Online_doctor**@gmail.com


Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
ICU
Your location
GO
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com


Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Schedule Meeting
Online_Consulting
Filter by pending
Patient Name
Schedule time
Doctor name
Meeting
Page 2/25
Nexr
Previous
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com


Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Online_Consulting
Serial number = *******
Schedule Time & date
Select_Payment_method
Confirm
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com


Online_Consulting_Doctor
Online Consulting Doctor
Online Consulting Doctor
Hotline: 017******
LOG_OUT
Online payment
Total payment Amount
Select payment method
Bkash
Card
DBBL
About us
copy_right policy
Contact us =>
@facebook / Online_doctor**@gmail.com

TESTING

PROJECT TEST PLANNING:

Making a test plan has multiple benefits. Prime reason for test planning is it ensures software quality. The question is what is "What is Software Quality?" evokes many different answers. Quality is a complex concept—it means different things to different people, and it is highly context dependent. Software Quality (as IEEE Std 610): The degree to which a component, system or process meets specified requirements and/or user/customer needs and expectations [4]. Other benefits can be:

- Help people outside the test team such as developers, business managers, customers understand the details of testing.
- Test plan guides our thinking. It is like a rule book, which needs to be followed.
- important aspects like test estimation, test scope, Test strategy are documented in test plan. So it can be reviewed by Management Team and re-used for other projects.

As per IEEE 829 test plan can be created by following this rules:

- Analyze the product
- Design the Test Strategy
- Define the Test Objectives
- Define Test Criteria
- Resource Planning
- Plan Test Environment
- Schedule & Estimation
- Determine Test Deliverables

Performing various techniques for testing using the testing tool: unit testing, integration testing, Blackbox testing, Whitebox testing, etc.

Procedure:

1. A particular system was selected. Desktop in this case. (Web/Desktop/Mobile/Device)
2. Various modules of the system were identified so that they can be tested stand alone.
3. Test cases were prepared of testing the selected elements of your identified software.
4. The test was performed according to the generated test case and a bug report was produced which will helpful for the system developer to modify the system for improve system's quality.

Test Cases

Test cases: Registration

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: FR_1			Test Designed date: 18/12/20	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Registration Session			Test Execution date:	
Test Title: Validation of personal information with username and password and registration.				
Description: Registration of Patient contains personal information and username-password combo which is appended in the database after successful validation (Instant Test Procedure). Registration of Doctor contains personal information with attachment and username-password combo which is appended in the database after successful validation (Long Test Procedure).				
Preconditions: N/A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website For Patient: 2. Enter required information and username and password For Doctor: 2. Enter required information, attach file and username and password 3. Click submit	For Patient: Username: alice_143 Password: Security101princess Verification code: 675754 For Doctor: Username: bob_007 Password: master_surgeon Verification code: 132435	For Patient: User should be able to register. For Doctor: User should be able to register if all information seems legit.		
Post condition: User information is validated and appended in the database.				

Test cases: Login

<table>
<tr><td colspan="3">Project Name: Online Consulting Doctor</td><td colspan="2">Test Designed by: Md. Tahsinur Rahman Habib</td></tr>
<tr><td colspan="3">Test Case ID: FR_2</td><td colspan="2">Test Designed date: 18/12/20</td></tr>
<tr><td colspan="3">Test Priority (Low, Medium, High): High</td><td colspan="2">Test Executed by:</td></tr>
<tr><td colspan="3">Module Name: Login Session</td><td colspan="2">Test Execution date:</td></tr>
<tr><td colspan="5">Test Title: Verify login with valid username and password.</td></tr>
<tr><td colspan="5">Description: Successful login will pass login credentials through database.</td></tr>
<tr><td colspan="5">Preconditions: User must have valid username and password.</td></tr>
<tr><td>Test Steps</td><td>Test Data</td><td>Expected Results</td><td>Actual Results</td><td>Status (Pass/Fail)</td></tr>
<tr><td>1. Go to the website

For Patient:
2. Enter username and password

For Doctor:
2. Enter username and password

3. Click submit</td><td>For Patient:

Username: alice_143
Password: Security101princess

For Doctor:
Username: bob_007
Password: master_surgeon</td><td>For Patient:

User should be able to login into the web.

For Doctor:
User should be able to login into the web.</td><td></td><td></td></tr>
<tr><td colspan="5">Post condition: User is validated with database and successfully login to account. The account session details are appended in the database.</td></tr>
</table>

Test cases: Online Doctor

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: FR_3			Test Designed date: 19/12/20	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Online Doctor			Test Execution date:	
Test Title: To check Online doctor module is work perfectly.				
Description: Online doctor module is the platform where a user can meet with a doctor through online and patients can make e request for his/her choose doctor.				
Preconditions: Should be valid users.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. All types of Searching should be work perfectly within 15 sec. For Patient: 2. Payment validation. 3. Notify Patients about appointment information.	1. Dr. Bruce Dr. Robert Location: Dhaka Category : Burn unit 2.Code:832683 Seral no;20	1. Users should be done all types of searching without any major buffering within 10 sec. 2. We have to confirm that there should not be any kind of security problem and validate the payment system. 3. After confirmation system will notify the patients about appointment time and date.		
Post condition: Database should be update properly and insert all data into the database.				

Test cases: Meet a doctor

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: FR_4			Test Designed date: 19/12/20	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Meet a doctor			Test Execution date:	
Test Title: To check the meet a doctor module work perfectly				
Description: Make sure the meet a doctor module is working perfectly by checking serial request and confirmation as well as discard.				
Preconditions: Must have valid users.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. All types of Searching should be work perfectly within 15 sec. For Patient: 2. Payment validation. For doctor: 3. Notify doctor about appointment information.	1. Dr. Clerk Location :Dhaka Category : Burn unit 2.Code:832683 Seral no;20	1. Users should be done all types of searching without any major buffering within 10 sec. 2. We have to confirm that there should not be any kind of security problem and validate the payment system. 3. System should be notify the doctor about the appointment request.		
Post condition: Confirmation should be update in the proper time.				

Test cases: Call in a doctor

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: FR_5			Test Designed date: 18/12/20	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Call in a Doctor			Test Execution date:	
Test Title: Searching doctor and send a request to doctor				
Description: Call in a doctor, For patient: will able to search doctors with different categories and send request to the doctors by doing a successful payment. For doctor: doctors can accept or decline the requests. Both of the user can give feedback after the meeting to the system.				
Preconditions: Log in to the system with valid username and password.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
For Patient: 1. All types of Searching should be work perfectly within 15 sec. 2. User can send request to their preferred doctor. 3. Payment validation 4. Feedback submission For Doctor: 1. Doctor can accept or decline requests. 2. Feedback submission	For Patient: Doctor's Category: Bone specialist Location: Dhaka Payment validity: Transaction code: 157934 Serial number: 37	For Patient: 1. User should be able to send request for a doctor. 2. User should be able to make payment and get a serial number For Doctor: User should be able Accept or decline the request. For Patient and doctor: User should be able to give feedback about their doctor/patient		
Post condition: User information is validated and appended in the database.				

Test cases: ICU

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: FR_6			Test Designed date: 19/12/20	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Immediate ICU			Test Execution date:	
Test Title: Verify searching an ICU				
Description: Successful search for available ICU				
Preconditions: Must have a username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
For Patient: All types of Searching should be work perfectly within 15 sec. For Hospitals: All types of Searching should be work perfectly within 15 sec.	For Patient: Searching: Dhaka medical Hospital. Location: Dhaka Update ICU beds: Available:3 ,used:9	For Patient: User should be able to find the expected Hospital User should be able to update the hospitals ICU bed's information		
Post condition: User is validated with database and successfully login to account.				

Test cases: Free Doctor

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: FR_7			Test Designed date: 19/12/20	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Free Doctor			Test Execution date:	
Test Title: To check free doctor module is work perfectly.				
Description: Free doctor, for patient: will able to search doctors with different categories and send request to the doctors by doing a successful payment. For doctor: doctors will check his/her free schedule and then he/she can accept or decline the requests. Both of the user can give feedback after the meeting to the system.				
Preconditions: Should be valid users.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Updated doctor Schedule with limited addition will provided with their respective free consulting hours For Patient: 2. Payment validation. 3. Notify Patients about appointment information.	1.Dr. Rouf Bone Specialist Consulting hour : 3-5 pm Location: Dhaka 2.Code:832685 Seral no :20	1. Users can choose their respective doctor schedule. 2. We have to confirm that there should not be any kind of security problem and validate the payment system. 3. After confirmation system will notify the patients about appointment time and date.		

Post condition: Database should be update properly and insert all data into the database.

Test cases: Payment

Project Name: Online Consulting Doctor			Test Designed by: Anjum, Nafisa	
Test Case ID: FR_8			Test Designed date: 19/12/20	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name :Successful Payment			Test Execution date:	
Test Title : Verify security purpose to transfer money				
Description: Verification of user identity with authentic source and complete patient's doctor fees.				
Preconditions: Must have valid users.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Necessary available balance for doctor payment. For Patient: 2. Payment confirmation For Patient: 3. Payment validation. For doctor: 4. Notify doctor about appointment information.	1.Mr. Hassan Account no : 7644844 Balance : 856789 $ 2. Mr. Hassan Doctor fees :700tk 3.Code:832683 Seral no;20	1. Users should have available balance to pay doctor fees. 2. Users have to pay doctor fees and confirm payment action. 3. We have to confirm that there should not be any kind of security problem and validate the payment system. 4. System should be notify the doctor about the appointment request.		
Post condition: Confirmation should be update in the proper time.				

NFR Test Cases

Test cases: Availability

Project Name: Online Consulting Doctor			Test Designed by: Anjum, Nafisa	
Test Case ID: NFR_1			Test Designed date: 26/12/20	
Test Priority (Low, Medium, High): N/A			Test Executed by:	
Module Name: Availability			Test Execution date:	
Test Title: Response time of the system.				
Description: At different time system will get different number of hits. According to that an available percentage has been set varying weekdays and weekends. It also includes time shift.				
Preconditions: N/A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
Go the website at different time on different days.	N/A	According to condition, system should response properly.		
Post condition: N/A				

Test cases: Performance

Project Name: Online Consulting Doctor			Test Designed by: Anjum, Nafisa	
Test Case ID: NFR_2			Test Designed date: 20/12/20	
Test Priority (Low, Medium, High): N/A			Test Executed by:	
Module Name: Performance			Test Execution date:	
Test Title: Performance of the system based on some activities of the system.				
Description: At different action, system should response properly according to expected time. This includes the parts like authentication time, download time, searching time, and validation time.				
Preconditions: N/A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
Measuring time on the action of authentication, download, search, validation.	N/A	According to expected time, system should response properly.		
Post condition: N/A				

Test cases: Efficiency

Project Name: Online Consulting Doctor			Test Designed by: Anjum, Nafisa	
Test Case ID: NFR_3			Test Designed date: 20/12/20	
Test Priority (Low, Medium, High): N/A			Test Executed by:	
Module Name: Efficiency			Test Execution date:	
Test Title: Increasing system efficiency and giving user a smooth experience with the help of a methodology.				
Description: According to user's internet speed, system will automatically reduce/increase images quality to give user a smooth experience.				
Preconditions: N/A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
Reduce/Increase the quality of system images.	N/A	According to user internet speed, system should response at its best.		
Post condition: N/A				

Test cases: Reusability

Project Name: Online Consulting Doctor			Test Designed by: Sakib, Md. Sajid Al	
Test Case ID: NFR_4			Test Designed date: 21/12/20	
Test Priority (Low, Medium, High): N/A			Test Executed by:	
Module Name: Reusability			Test Execution date:	
Test Title:				
Description: Many pages of the system contains search function. One search function code can be used in others module too. This reusability analogy can also be implemented in payment module.				
Preconditions: N/A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
Use of one code in many module.	N/A	According to the analogy of reusability, the system should response properly.		
Post condition: N/A				

Test cases: Integrity

Project Name: Online Consulting Doctor			Test Designed by: Sakib, Md. Sajid Al	
Test Case ID: NFR_5			Test Designed date: 21/12/20	
Test Priority (Low, Medium, High): N\A			Test Executed by:	
Module Name**:** Integrity			Test Execution date:	
Test Title: To ensure the security of the system as well as the users.				
Description: For security purpose system have to ensure the all kinds of security of the users,				
Preconditions :N\A.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. System will able to prevent unauthorized access. 2. Only permitted privileges will be able to access user transaction histories. 3. Payment transactions procedure will be handled in special security.		1. Have to ensure system will have to able to prevent all kinds of unauthorized access. 2. We have to confirm that there should be only admin or administrative team will see the transaction histories. 3. System should be give more security about payment and make sure that all kind of payment should be done without		

		any kind of unsecure issues.		
Post condition: N\A				

Test cases: Interoperability

Project Name: Online Consulting Doctor			Test Designed by: Sakib, Md. Sajid Al	
Test Case ID: NFR_6			Test Designed date: 21/12/20	
Test Priority (Low, Medium, High): N\A			Test Executed by:	
Module Name**:** N\A			Test Execution date:	
Test Title: To ensure the all kind of other build in system's use of our system.				
Description: for some purpose we used another system's module to our project.				
Preconditions :N\A.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. ICU information from every hospital will be updated in the system database. 2. Symmetric communication between system and payment methods will be establish when a transaction is occurred.		1. Avaialable ICU information provide from hospital database and make sure it's work perfectly. 2. System use the different payment method that are made by that companies.so we have to ensure		

		the proper work of it.		
Post condition: Database should be update properly and insert all data into the database.				

Test cases: Reliability

Project Name: Online Consulting Doctor			Test Designed by: Sakib, Md. Sajid Al	
Test Case ID: NFR_7			Test Designed date: 26/12/20	
Test Priority (Low, Medium, High): N\A			Test Executed by:	
Module Name**:** N\A			Test Execution date:	
Test Title: To ensure the system availability.				
Description: Make sure how much time system will available with the total amount of time.				
Preconditions : N\A.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. System will response more than or equal 99 times within 100 times.		1. Make sure that system will available more than 99 times within 100 times.		

Post condition: N\A				

Test cases: Testability

Project Name: Online Consulting Doctor			Test Designed by: Md. Tahsinur Rahman Habib	
Test Case ID: NFR_8			Test Designed date: 20/12/20	
Test Priority (Low, Medium, High): N\A			Test Executed by:	
Module Name**:** N\A			Test Execution date:	
Test Title: To ensure test execution Cyclomatic complexity every module does not exceed 15.				
Description: when we test some facture we have to ensure that Cyclomatic complexity every module does not exceed 15.				
Preconditions :N\A.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)

1. Only registration, login, search, payment modules has test data and according to Cyclomatic complexity every module does not exceed 15 which is a good limit to do performance.		1. We have to ensure for test purpose as if Cyclomatic complexity every module does not exceed 15.		
Post condition: N\A				

Test cases: Robustness

Project Name: Online Consulting Doctor	Test Designed by: Md. Tahsinur Rahman Habib
Test Case ID: FR_9	Test Designed date: 25/12/20
Test Priority (Low, Medium, High): N\A	Test Executed by:
Module Name: Robustness	Test Execution date:
Test Title: Auto save data for further use.	

Description: All the information and activities will be auto save to prevent fail tolerance of the system.				
Preconditions: N\A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Saving information for further reuse		1..filling up form or taking appointment for a doctor will be reserved in the database for further reuse		
Post condition: N\A				

Test cases: Usability

Project Name: Online Consulting Doctor	Test Designed by : Habib, Md. Tahsinur Rahman
Test Case ID: FR_10	Test Designed date: 24/12/20
Test Priority (Low, Medium, High): N\A	Test Executed by:
Module Name: Usability	Test Execution date:
Test Title: To check user friendliness of the website	
Description: How friendly users can use our website without having any difficulties	
Preconditions: N\A	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. System contains a simple UI because for this kind of system information and actions are more important. 2. A trained user shall be able to complete a web page within 5-6 minutes. 3. A fresh user may take to complete a web page within 10-15 minutes.		1.Users can easily perform actions which are related to the website 2. Users who used this website before can easily interact with the actions. 3. New user needs a little bit lengthy time to cop up with the website.		
Post condition: N\A.				

Test cases: Maintainability

Project Name: Online Consulting Doctor	Test Designed by: Habib, Md. Tahsinur Rahman
Test Case ID: FR_11	Test Designed date:26/12/20
Test Priority (Low, Medium, High): N\A	Test Executed by:
Module Name: Maintainability	Test Execution date:
Test Title: how easily our website can be modified	

Description: Maintainability depends on how easily website can be understood, changed, tested and correct a defect in our website.				
Preconditions: N\A				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. System contains light-weights UI and functions which gives a maintenance programmer to modify easily.		1.System can easily modified, understood, changed and tested		
Post condition: N\A				

WBS and Effort Estimation

WORK BREAKDOWN STRUCTURE:

Objective: Perform project management activities: effort estimation, WBS, activity planning, resource allocation.

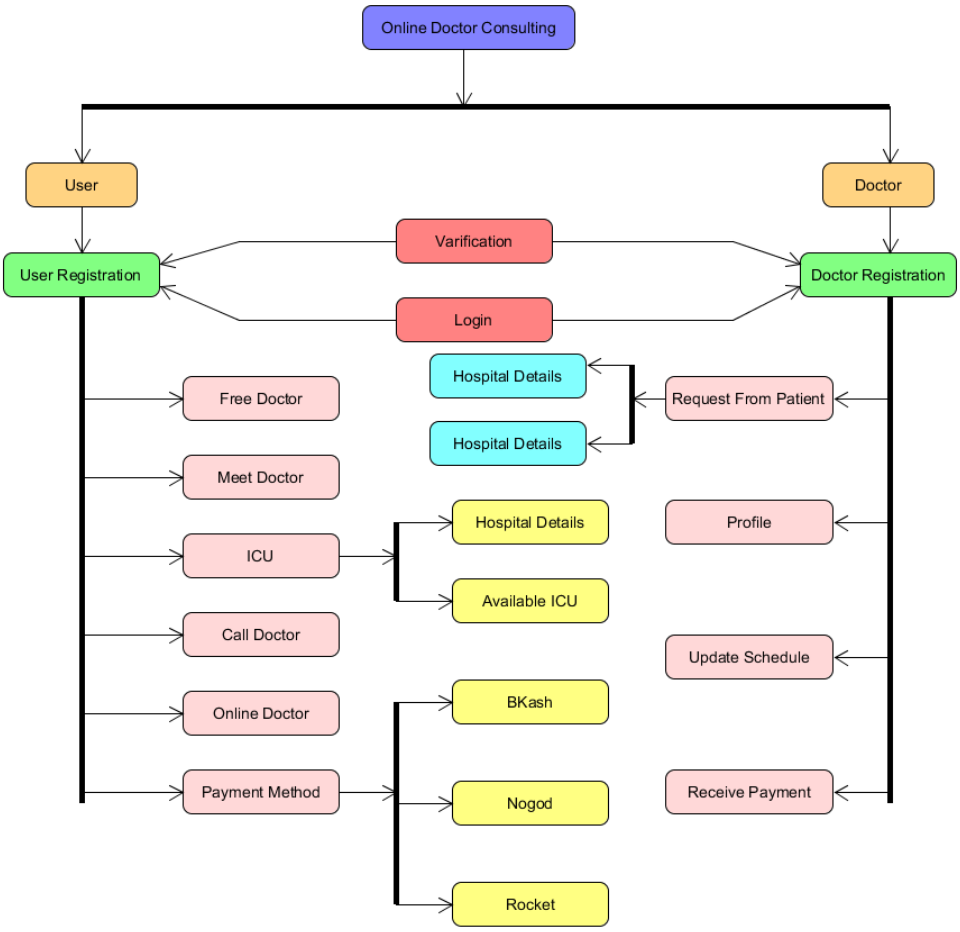
Tools/ Apparatus: Microsoft project.

Procedure:

1. Identify all the micro tasks related to project management and categorize them within the WBS structure

2. Perform detailed effort estimation correspond with the WBS and schedule 3. Draw a network diagram of the identified tasks from WBS based on the precedence of each tasks you've identified.

STRUCTURE:



References

[1] Roger Pressman. 2009. Software Engineering: A Practitioner's Approach (7th. ed.). McGraw-Hill, Inc., USA.
[2] Wong, K. (2015).Software Processes and Agile Practices. University of Alberta.
[3] Pressman, R.S (2005). Software Engineering: A Practitioner's Approach.
[4] Lab Manual