CSCE 5430 SPRINT2 - PROGRESS REPORT

TEAM 3 MEMBERS:

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Github repository: [Healiam Medical web application](#)

Figma Design: [Healiam App Design](#)

Figma Prototype: [Healiam App Prototype](#)

Vision statement:

FOR any customer or patient WHO requires basic medical requirements such as booking and appointment and getting over the counter medicines, THE Healiam is a web based or an application service THAT helps to search medicines, booking an appointment with their nearest doctor and to be able to manage their overall medical history effectively. UNLIKE the contemporary applications such as Walgreens etc OUR service has a wide range of uses enabling a customer to manage everything at one place.

Introduction:

Once a customer logs into Healiam, they will be asked to add in their basic medical information such as their height, weight and any other medical procedures they have undergone. All of this is reflected on their profile and when they book any appointment via the app, the doctors can login from their end and look at all the

patient's info in advance. Apart from this, customers can order, and search commonly used over the counter medicines for cough, cold etc. The app has an analytics chart that showcases the customer reviews, doctor rating and this is updated after every use. With our service we are not only reducing the time to manage customer's medical history but also reducing the long wait time for appointments. All of this with a touch of a button

Software vision and User stories:

1   As a customer to the platform, I would want to be able to sign up or login into the platform using my own credentials where I can keep my personal information and medical history secure and private.

2.   As a customer, I want to be able to look at a dashboard with a lookup option so that I can search for various diseases and medicines.

3.   As a customer, I would want to be able to get the detailed information of medicines for a particular disease, so that I would know if there were any side effects for the same.

4.   As a customer, I would want to add or get a review of the medicine so that other customers can understand it in a better way.

5.   As a user, I would want to have customer service support if I face any difficulty in using the application.

6.   As a customer, I would like to be able to check if my insurance applies to a particular hospital, so that I would have an estimated cost for my treatment.

7.   As a customer, I would want to book a doctor appointment (online / offline) and in-home medical tests through the application.

8.   As a doctor, I would want to login into the application, so that I can look up my upcoming appointments.

9.   As a customer, I would want to book an Ambulance in the case of an emergency.

10. As a customer, I would want to order my medicines and medical appliances through the application.

11. As a customer, I would want to see my medical history and my previous prescriptions

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ACTIVE USER STORIES AND TASKS TO BE IMPLEMENTED IN SPRINT 3:

- As a user, I would want to have customer service support if I face any difficulty in using the application.

- As a doctor, I would want to login into the application, so that I can look up my upcoming appointments.

- As a customer, I would want to book an Ambulance in the case of an emergency.

The above mentioned are the user stories that are to be implemented in the upcoming sprint.

We have assigned the tasks respectively and we will be working on them.

Completed user stories and tasks:

- As a customer I would want to add or get a review of the medicine so that other customers can understand it in a better way

- As a customer, I would want to be able to check the medicines for a disease so that I would know if there were any side effects for the same

- As a customer, I want to be able to look at a dashboard with a lookup option so that I can search for various diseases and medicines.

- As a customer, I would want to add my medical history and my previous prescriptions.

- Uploading the python files admin and URLs to git

- Dashboard Creation

- Updating the git with views.py, forms.py

- Updated the git with Figma design.

- Updated the git with the model Figma prototype along with screenshots

- Implemented the login page and the action function in python views.py.

- Implemented the customer review button.

- Implemented the backend server-side communication using Django.

- Created the login, patient and drug review form.

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View of the Project dashboard:

Title	URL	Assignees	Status	Labels
Uploading the python files admin and urls to git	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/15	akaankshpemmaraju, Sriniketh08, thindiashokreddy	Done Oct 11	user story
searched about DevOps measurement	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/39	vinaykusuma57	Done Oct 11	documentation
As a customer, I would want to add my medical history and my previous prescriptions	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/7	charan371, sathvik1507, Sriniketh08, vinaykusuma57	Done Oct 11	user story
To be able to add links to insurance in the application	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/21	akaankshpemmaraju, nallabirudumahesh, Sriniketh08	Done Oct 14	Task
As a customer, I want to be able to look at a dashboard with a lookup option so that I can search for various diseases and medicines	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/13	akaankshpemmaraju, charan371	Done Oct 14	user story
Changing the layout of the dashboard	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/34	akaankshpemmaraju, charan371	Done Oct 14	Task
Check on how to add API into the application	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/32	akaankshpemmaraju	Done Oct 16	Task

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Removing unnecssary components to simplify the dashboard	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/37	charan371	Done Oct 16	Task
Changing the button in the web application	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/33	akaankshpemmaraju	Done Oct 18	Task
To be able to update the profile of the customer	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/20	nallabirudumahesh, thindiashokreddy, vinaykusuma57	Done Oct 21	Task
To add sentiment analysis into the analytics	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/19	anilreddygokha09, charan371, sathvik1507	Done Oct 21	Task
Dashboard Creation	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/14	akaankshpemmaraju, Sriniketh08	Done Oct 23	user story
updating the git with views.py ,forms.py	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/16	anilreddygokha09, vinaykusuma57	Done Oct 23	enhancement
Updated the git with figma design	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/23	akaankshpemmaraju	Done Oct 25	documentation
Updated the git with the model figma prototype along with screenshots	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/28	sathvik1507, Sriniketh08, vinaykusuma57	Done Oct 25	Task
Implemented the login page and the action function in python views.py	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/27	akaankshpemmaraju, Sriniketh08, thindiashokreddy	Done Oct 28	Task

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Implemented the function for drug search and lookup	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/26	akaankshpemmaraju, charan371	Done Oct 21	Task
Implemented the customer review button	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/25	anilreddygokha09, vinaykusuma57	Done Oct 23	Task
Implemented the backend server side communication using Django	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/24	Sriniketh08	Done Oct 25	Task
Created the login, patient and drug review form	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/29	Sriniketh08	Done Oct 25	Task
As a customer I would want to add or get a review of the medicine so that other customers can understand it in a better way	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/4	Sriniketh08	Done Oct 28	user story
As a customer, I would want to be able to check the medicines for a disease so that I would know if there are any side effects for the same	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/3	sathvik1507	Done Oct 28	user story

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Adding drug review and patient model in python	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/31	sathvik1507	Done Oct 30	spike
As a doctor, I would want to login into the application, so that I can look up my upcoming appointments	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/9	akaankshpemmaraju, anilreddygokha09, vinaykusuma57	Todo	user story
As a customer, I would want to book an Ambulance in the case of emergency	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/12	akaankshpemmaraju, sathvik1507	Todo	user story
As a user, I would want to have a customer service support if I face any difficulty in using the application.	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/11	Sriniketh08, vinaykusuma57	Todo	user story
As a customer, I would want to order my medicines and medical appliances through the application.	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/2	thindiashokreddy, vinaykusuma57	Todo	user story
As a customer, I would want to book an appointment with the	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/5	anilreddygokha09, thindiashokreddy	Todo	user story

doctor, (online / offline) and in-home medical tests through the application				
As a customer to the platform, I would want to be able to sign up or login into the platform using my own credentials where I can keep my personal information and medical history secure and private.	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/1	sathvik1507	Todo	user story
As a customer, I would want to be able to check if my insurance applies so that I would have an estimate cost for any treatment	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/8	anilreddygokha09	Todo	user story
Check if the functionality of sentiment analyzer is up to the mark	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/36	charan371	Done Oct 30	Task
creating software architecture for health web application	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/40	vinaykusuma57	Done Oct 30	documentation

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Updated sentimentanalyzer.py and views.py	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/35	charan371	Done Oct30	Task
learning post and get methods for further enhancements of the methods	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/17	vinaykusuma57	Done Oct 30	documentation
To add analytics into the customer review	https://github.com/akaankshpemmaraju/Healiam-Medical-web-application/issues/18	akaankshpemmaraju, charan371, nallabirudumahesh	Done Oct 30	Task

SUMMARY OF THE SCRUM MEETINGS:

October 11: Meeting 1: Scheduled a meeting discussing the project backlogs from sprint 1 and made a list based on the priority of tasks to be done.

October 14: Meeting 2: Started working on the top two user stories to be able to build a customer layout to update the medical history and also to add customer review for each of their service.

October 16: Meeting 3: Completed a user story and updated the story board, also added the related spikes to be able to review the user story and to finally close the issue. Also, added a new user story i.e. to add ambulance services to the application.

October 18: Meeting 4: In this meeting, we had a user story that needed an add on feature to change the radio button to a drop down list, we were trying to make the type of disease in the form of a list to be able to select easily.

October 21: Meeting 5: The feature was worked in the team of two, while the rest of the team was working on implementing the dashboard for the pharmacist login and to be able to use admin login to test the login page.

October 23: Meeting 6: The drop down list has been implemented and the user story has been pushed to review, once that is done we have added a new user story to be able to give access to the doctor to login and manage their appointments.

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October 25: Meeting 7: As we were coming to the end of the sprint we scheduled a call to discuss our strengths and weaknesses from Sprint 1 to 2 and what are the improvements based on which we have implemented the devops metrics.

October 28: Meeting 8: In this meeting, TA has joined our call in discussing our improvements to the github and also the commits made to git. Also, she has added what our improvements have been in the past weeks.

October 30: Meeting 9: We prepared on the presentation and the devops metrics to be able to showcase them at the sprint 2 review meeting. Also, we have made sure to check the components to be shown in the demo.

November 1: Meeting 10: Final run on the components and started working on the project report, made sure to update the github project board to be able to push the tasks in review to close the user stories. After this, we have made a final run on the demo components.

STRENGTHS:
➔ This sprint as a team we were able to focus on the task at hand.
➔ Prioritized tasks and made an order of what was to be implemented first.
➔ Did solid research on what to learn to ensure successful completion of the project.
➔ We as a team were able to hold successful meetings to discuss on time.
➔ The framework was split into three parts and as a team of 2 or 3 worked on its implementation.
➔ JS and Django were implemented in a very discreet manner and were able to define the paths very well for each function.

WEAKNESSES:
➔ We as a team had little time to learn and research new concepts.
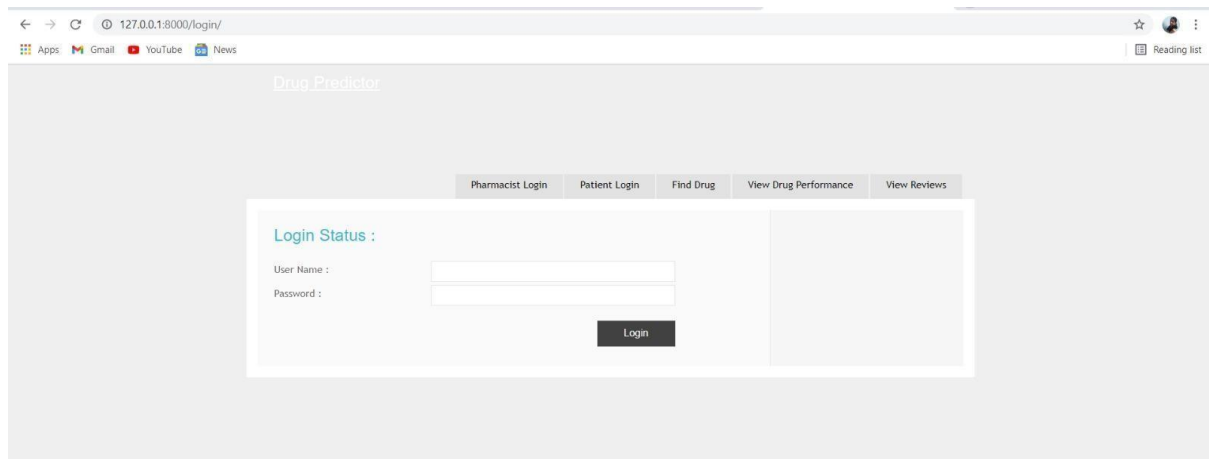➔ Had some difficulty with the Sentiment Analysis engine, so it had to be revamped.

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SUMMARY OF THE SCRUM REVIEW MEETING:

Nov 2, 2023: Today in the scrum review meeting, we presented the demo components that we have worked on during the spring 2. In which, we have the customer review, and its type based on the words used in the review. We have implemented the sentiment analysis to give us an analytical graph stating if the review is a positive, negative or a neutral one. Apart from that, we have also shown the other components such as the drop down list of diseases we have added for each patient to be able to select based on their medical profile. All of this was implemented and we have discussed the user stories to be implemented in the next sprint.
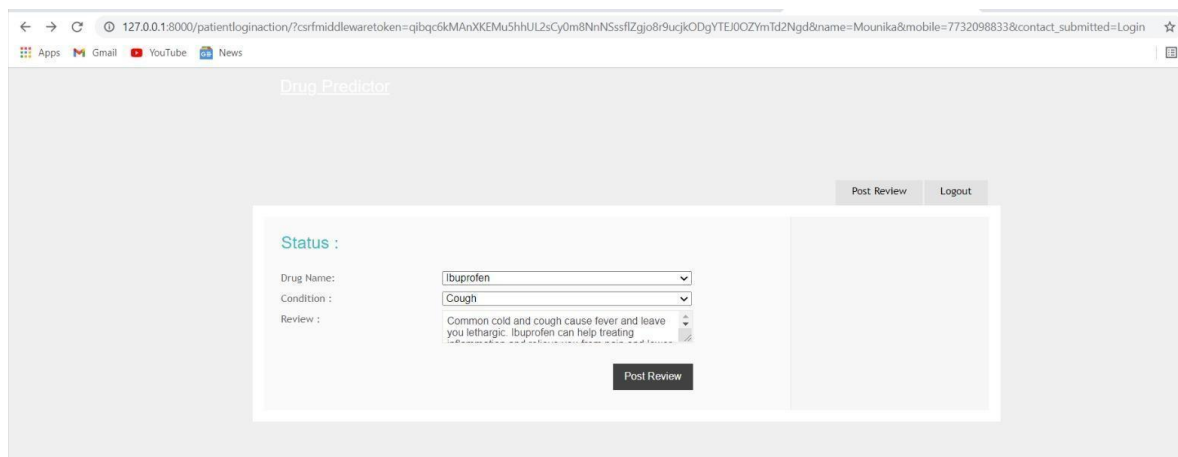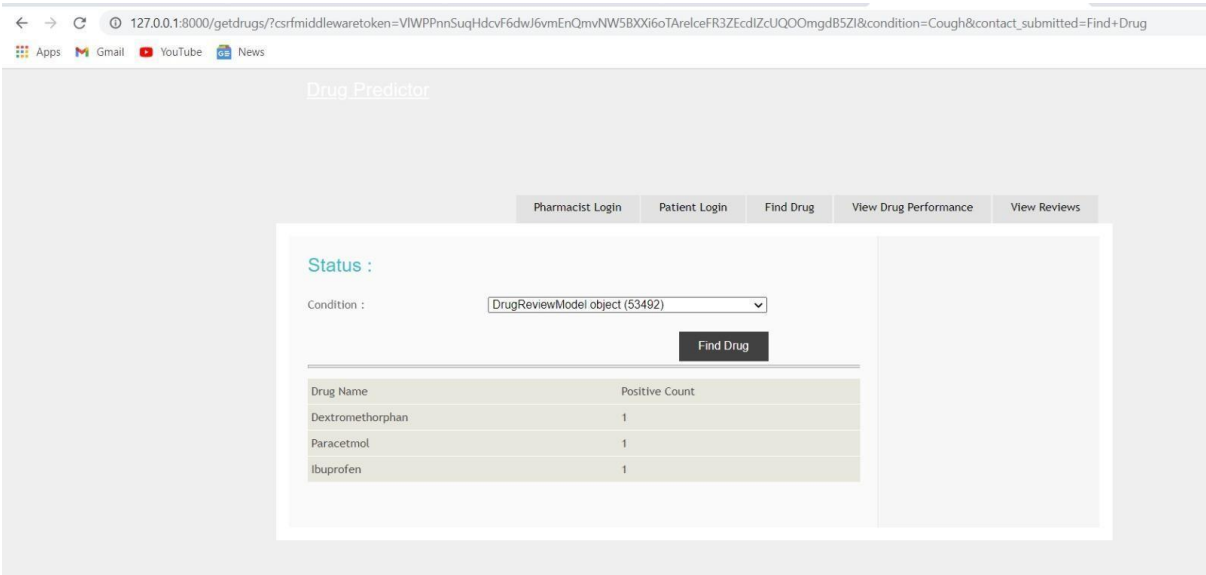
Screenshots from the demo:

Login action:

Searching the medicine and customer review:

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Pharmacist login:
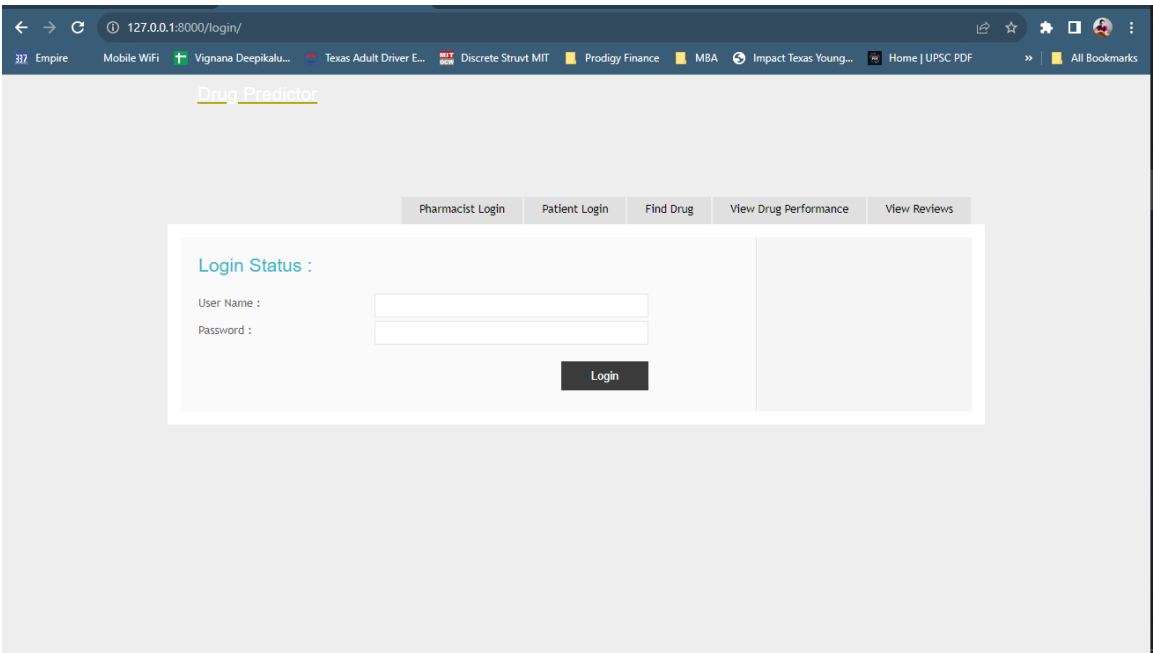
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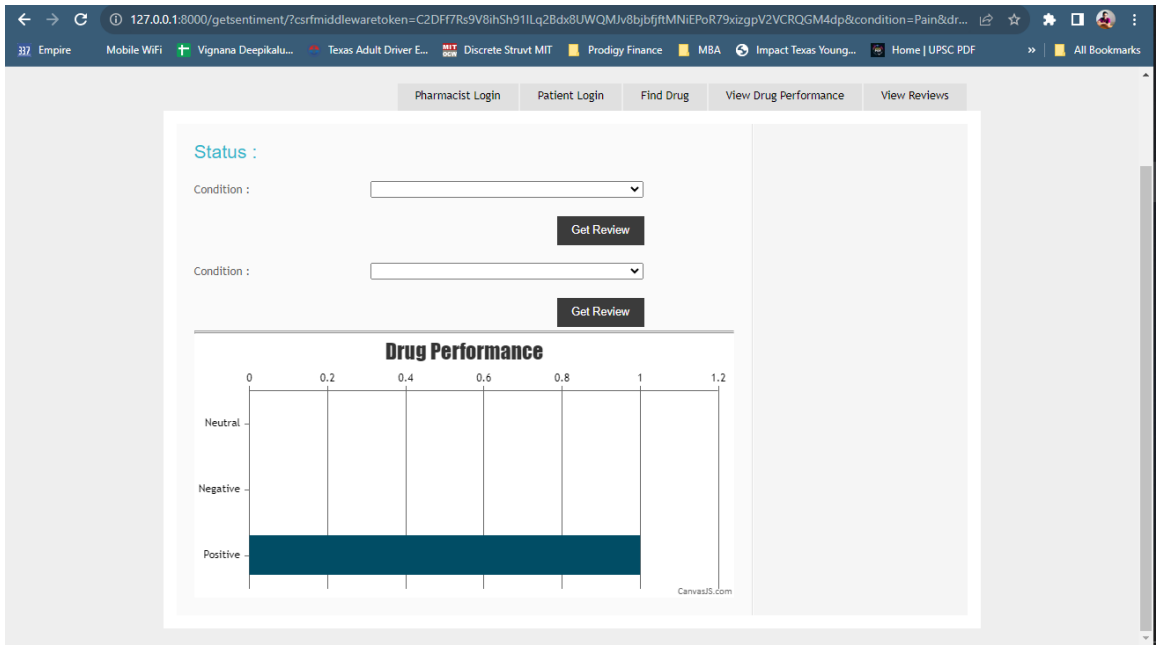
Drug Performance:

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Sprint 3 Meeting timings:
Meeting link: https://meet.google.com/cwe-wznr-hfn

Monday   3:30pm
Wednesday 3:30pm
Saturday   3:30pm meeting with TA for review

6. DevOps Measurements:

The below metrics are chosen according to the doctor- patient application.
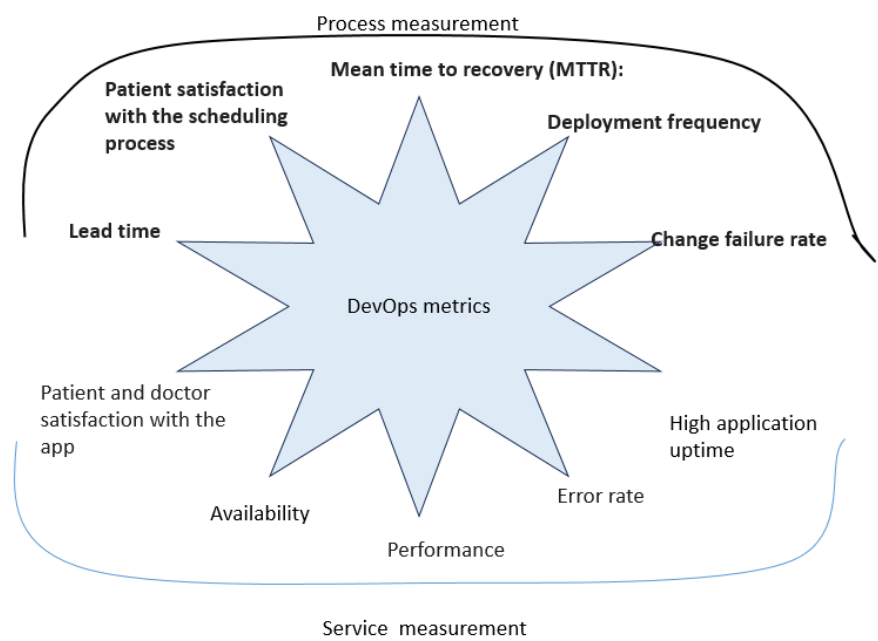
Process measurements:

- **Lead time:** (1 - 2 weeks) The time it takes to complete a change from start to finish.

- **Deployment frequency**: No.of deployments per unit of time.   {2 deployments per week}

- **Change failure rate/Percentage of failed deployments**: The percentage of changes that fail to deploy to production. (2-5%)

- **Mean time to recovery (MTTR):** The average time it takes to recover from a production failure. {25 min}

- **Patient satisfaction with the scheduling process**:The level of satisfaction of patient with the overall process of scheduling (8/10)

Service measurements:

- **Availability:** The percentage of time that the service is available to users.(100%)

- **Performance:** The response time and throughput of the service. (1-4 sec)

- **Error rate:** The percentage of requests that fail. (2-5%)

- **Patient and doctor satisfaction with the app:** The level of satisfaction of users /doctor with the service (80%)

- **High application uptime:** The proportion of time an application remains accessible and operational within a specific (100%)

Diagram

Process measurement

Mean time to recovery (MTTR):

Patient satisfaction with the scheduling process

Deployment frequency

Lead time

Change failure rate

DevOps metrics

Patient and doctor satisfaction with the app

High application uptime

Availability

Error rate

Performance

Service measurement

7. DevOps Metrics Trends Chart:

AVAILABALITY

DEPLOYMENT FREQUENCY

Change failure rate

Error rate

1   2   3   4   5   6
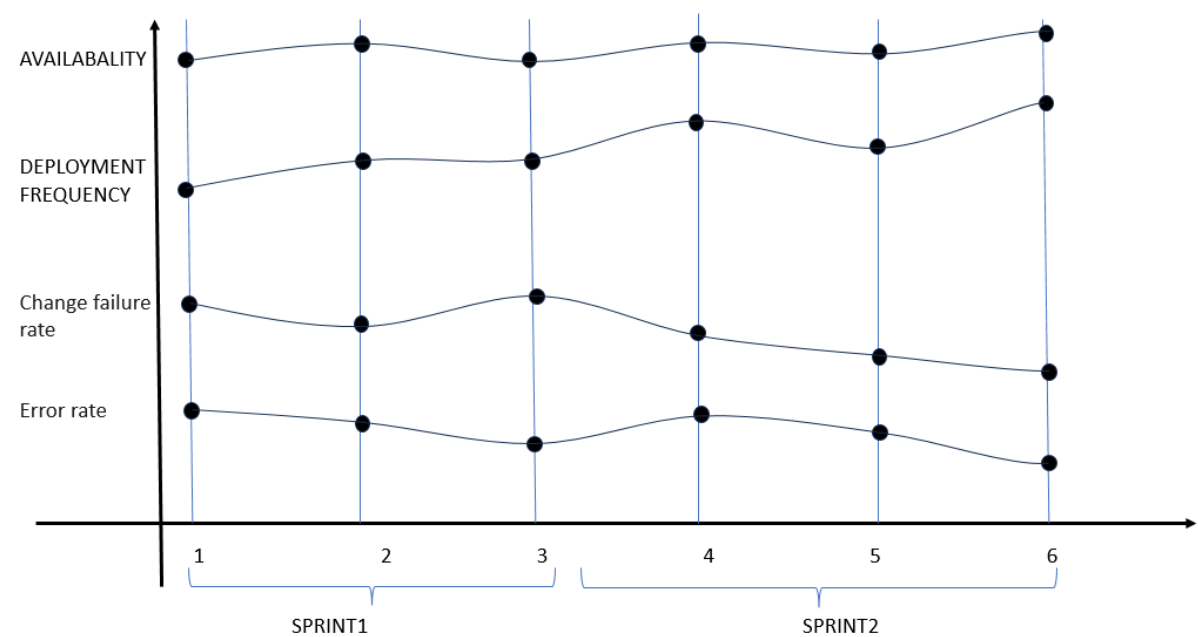
SPRINT1   SPRINT2

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8. Software Architecture:

The main aim of the software application is to identify requirements that affect the structure of the application.
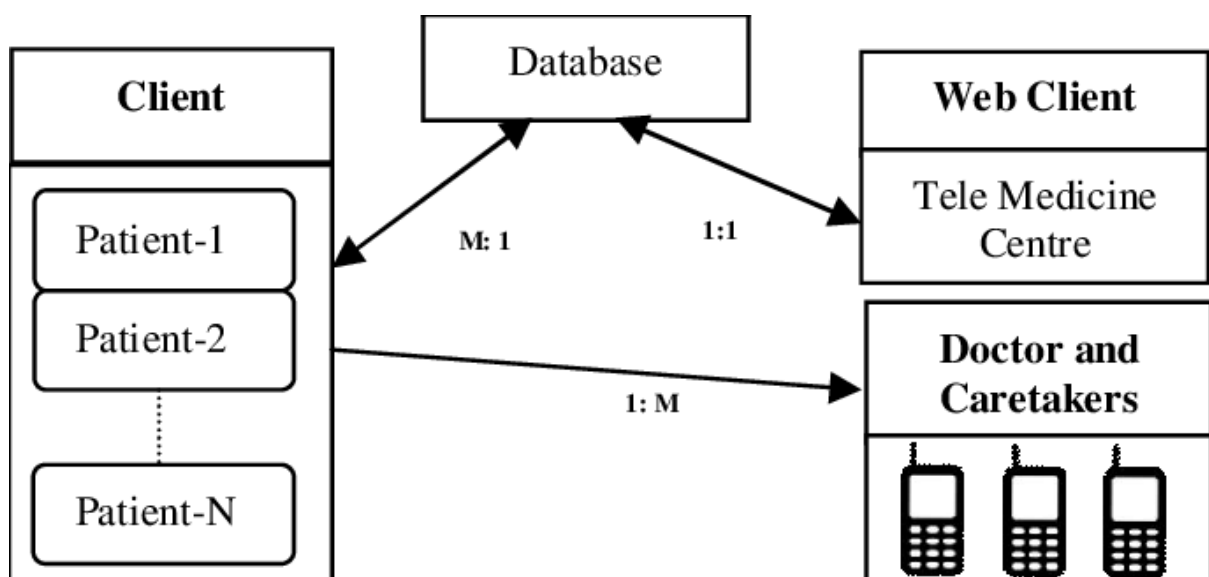
- It builds the bridge between business & technical requirements.

So, we have started with a basic idea of a software architecture which has three layers which is presentation layer, application layer and data access layer.

Our architecture layer is based on the **Client Server Architecture**
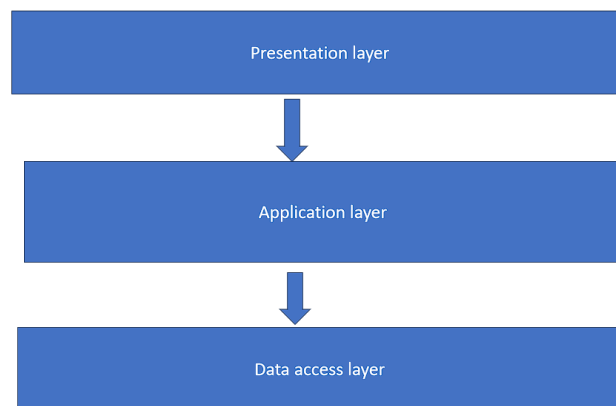
This was the base for our architecture then accordingly we built our software architecture. Many medical apps use a client-server architecture, where the client (the app running on a user's device) communicates with a server to exchange data and perform various functions. This architecture is often used to store and manage patient data securely on remote servers.

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API GATEWAY

USER INTERFACE

AUTHENTICATON

Application layer

FUNCTIONALITY

PAITENT SERVICE

DOCTOR SERVICE

APPPOINTMENT SERVICE

REVIEWS SERVICE

DATA ACCESS LAYER

REGISTER

LOGIN

BOOK APPOINTMENT

ADD MEDICAL HISTORY

VIEW APPOINTMENTS

SEARCH MEDICINE

ORDER MEDICINE

BOOK AMBULANCE

WRITE REVEIW

VEIW REVIEW

RESHUDULE APPOINTMENT