# *DOCSPOT: SEAMLESS APPOINTMENT BOOKING FOR HEALTH*

## INTRODUCTION

### Overview

The proposed system is to make an online web application for easily taking appointment of a patient see the schedule of doctors, so that everyone can get information about doctor's availability, time period, and send request to any doctor for medicine. Doctors and patients can also easily communicate with each other from anywhere. This project is aimed at developing an online application for patient to appointing doctors. Users have to logging in the system to be able to take appointment of a doctor. Doctors have to logging to see his appointments. The proposed system could be accessed from any corner of the world on net.

### Existing System

The existing doctor appointment system can vary widely depending on the specific healthcare provider, location, and the level of technological advancement. However, in a traditional or basic doctor appointment system, the process typically involves the following steps:

1. **Patient Scheduling**: Patients contact the doctor's office through phone, in-person, or by other means to request an appointment. They may need to provide their personal information and a brief description of the reason for the appointment.
2. **Appointment Confirmation**: The doctor's office staff checks the doctor's availability and schedules an appointment date and time. They then inform the patient of the appointment details, either verbally or by sending a confirmation message.
3. **Appointment Reminder**: Often, patients receive a reminder of their appointment a day or two before the scheduled date to reduce no-shows.
4. **In-Person Check-In**: On the day of the appointment, patients arrive at the doctor's office and go through a check-in process, which can involve filling out paperwork and verifying their insurance information.
5. **Consultation**: The patient meets with the doctor for their scheduled appointment. During the consultation, the doctor evaluates the patient's condition, provides medical advice, and prescribes medications or treatment as necessary.
6. **Billing and Payment**: After the consultation, the billing department may handle insurance claims and patient payments, if applicable.



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7. **Follow-Up Appointments**: If the doctor prescribes ongoing treatment, patients may need to schedule follow-up appointments.

While this traditional system works, many healthcare providers are transitioning to more modern and efficient systems. These may include:

1. **Online Appointment Booking**: Patients can schedule appointments through the healthcare provider's website or mobile app. This eliminates the need for phone calls and streamlines the process.
2. **Electronic Health Records (EHR)**: Many providers now use EHR systems to maintain patient records, making it easier to access patient information during appointments.
3. **Telehealth**: The COVID-19 pandemic accelerated the adoption of telehealth services, allowing patients to have remote consultations with their doctors through video calls.
4. **Automated Appointment Reminders**: Providers often use automated systems to send appointment reminders via text, email, or phone, reducing no-shows.
5. **Integrated Billing Systems**: Modern systems can handle insurance claims and billing more efficiently, reducing administrative workload.
6. **Patient Portals**: Patients can access their health records, test results, and other relevant information through online patient portals.
7. **Feedback and Reviews**: Many systems allow patients to leave feedback and reviews, helping others choose the right healthcare provider.

These advancements aim to enhance the patient experience, streamline administrative tasks, reduce errors, and improve overall healthcare quality.



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## Objective

The system aims to help the patients to take appointment online through internet and track their recordsthrough it. KDU has been facing problems due to its paper-based appointment system. The increase inthe number of patients visiting, it has become difficult to manage the appointment system manually. The purpose of this project is to solve these complications by creating custom-built database softwareto manage the appointment system. For the receptionist it makes easy to set date and time for the treatment of the patient to the relevant doctor. Doctor enters medical prescription and receptionist takesthe print. It also helps to maintain doctor's consultation fee, Laboratories and Testing chargesautomatically.

- The main objective is to develop an Online Appointment system.
- To provide a way to make appointment reservations for patients.
- To choose from different doctors with appointments available, at the time and on the day of theusers' choice
- After the booking, patient can have received e-mail and text message reminders. For anexample, after booking patient received doctor arrival massage.
- To automate the report generation module

To computerized the patients' information review and maintenance



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# Ideation Phase
# Define the Problem Statements

| | |
|---|---|
| Date | 26 june 2025 |
| Team ID | LTVIP2025TMID55015 |
| Project Name | DOCSPOT: Seamless Appointment Booking For Health care |
| Maximum Marks | 2 Marks |

**Customer Problem Statement Template:**

Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love.

A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.

| | | |
|---|---|---|
| **I am** | Describe customer with 3-4 key characteristics - *who are they?* | Describe the customer and their attributes here |
| **I'm trying to** | *List their outcome or "job" the care about - what are they trying to achieve?* | List the thing they are trying to achieve here |
| **but** | Describe what problems or barriers stand in the way – *what bothers them most?* | Describe the problems or barriers that get in the way here |
| **because** | Enter the "root cause" of why the problem or barrier exists – *what needs to be solved?* | Describe the reason the problems or barriers exist |
| **which makes me feel** | Describe the emotions from the customer's point of view – *how does it impact them emotionally?* | Describe the emotions the result from experiencing the problems or barriers |

Reference: https://miro.com/templates/customer-problem-statement/

**Example:**

| Problem Statement (PS) | I am (Customer) | I'm trying to | But | Because | Which makes me feel |
|---|---|---|---|---|---|

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| | | | | | |
|---|---|---|---|---|---|
| PS-1 | Buyer | Book laptop on mobile | It takes server problem | The website is not responsive. | Frustrated. |
| PS-2 | | | | | |

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## Problem Statement

The current booking system is manual as all the work is done and kept in files. Because hospital management staff will be facing some problems issuing booking appointment of patients. All the necessary booking is done in hard copy. So, it become much difficult for staff to keep the records updated all the time. As an example, if the patients need to change the appointments in date it becomedifficult for them to find out the patients booking details for updating as there are so many patient booking records. Again, regarding current system patient cannot give feedback online and staff cannotreply to them promptly.The proposed project is a smart appointment booking system that provides patients or any user an easyway of booking a doctor's appointment online. This is a web based application that overcomes the issue of managing and booking appointments according to user's choice. The task sometimes becomesvery tedious for the compounder or doctor himself in manually allocating appointments for the users as per their availability. Hence this project offers an effective solution where users can view doctors available and select the preferred date and time.



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# Ideation Phase
# Empathize & Discover

| | |
|---|---|
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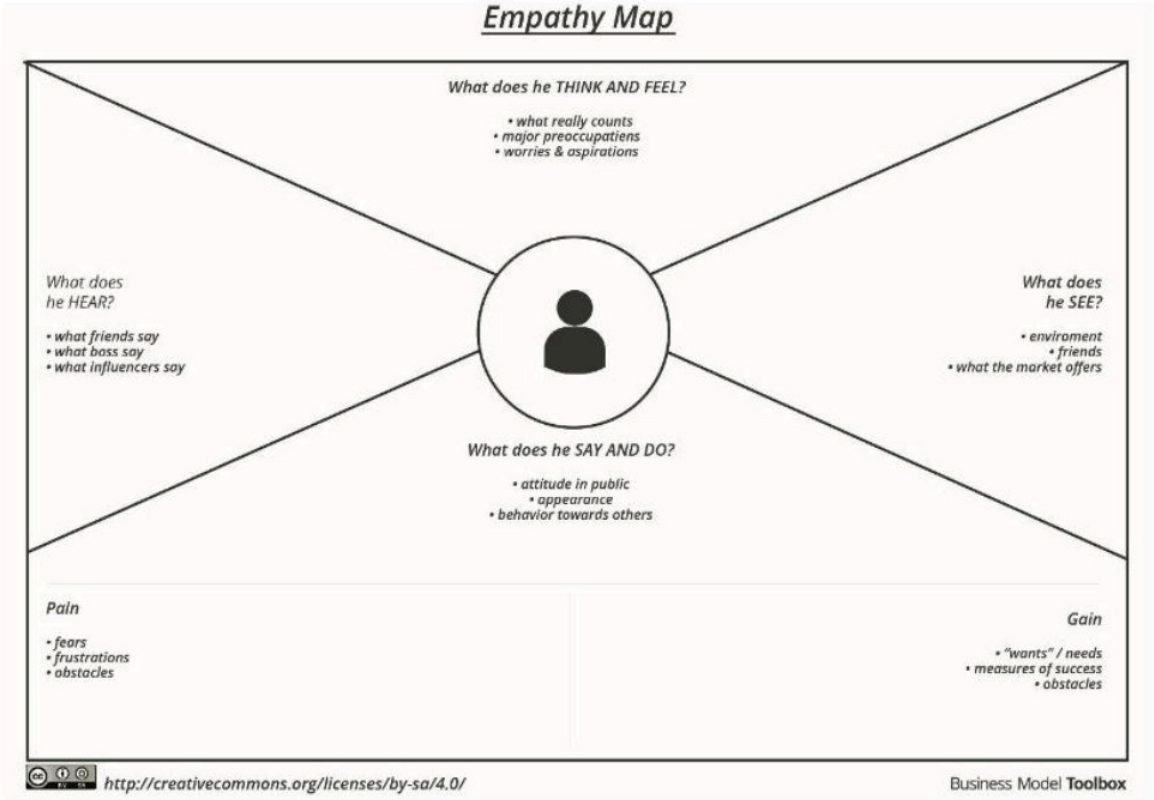
| Project Name | DOCSPOT:Seamless Appointment Booking For Health care |
| Maximum Marks | 4 Marks |

**Empathy Map Canvas:**

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.
Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

**Example:**




Reference: https://www.mural.co/templates/empathy-map-canvas

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# Ideation Phase
# Brainstorm & Idea Prioritization Template

| | |
|---|---|
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| Project Name | DOCSPOT: Seamless Appointment Booking For Health |
| Maximum Marks | 4 Marks |

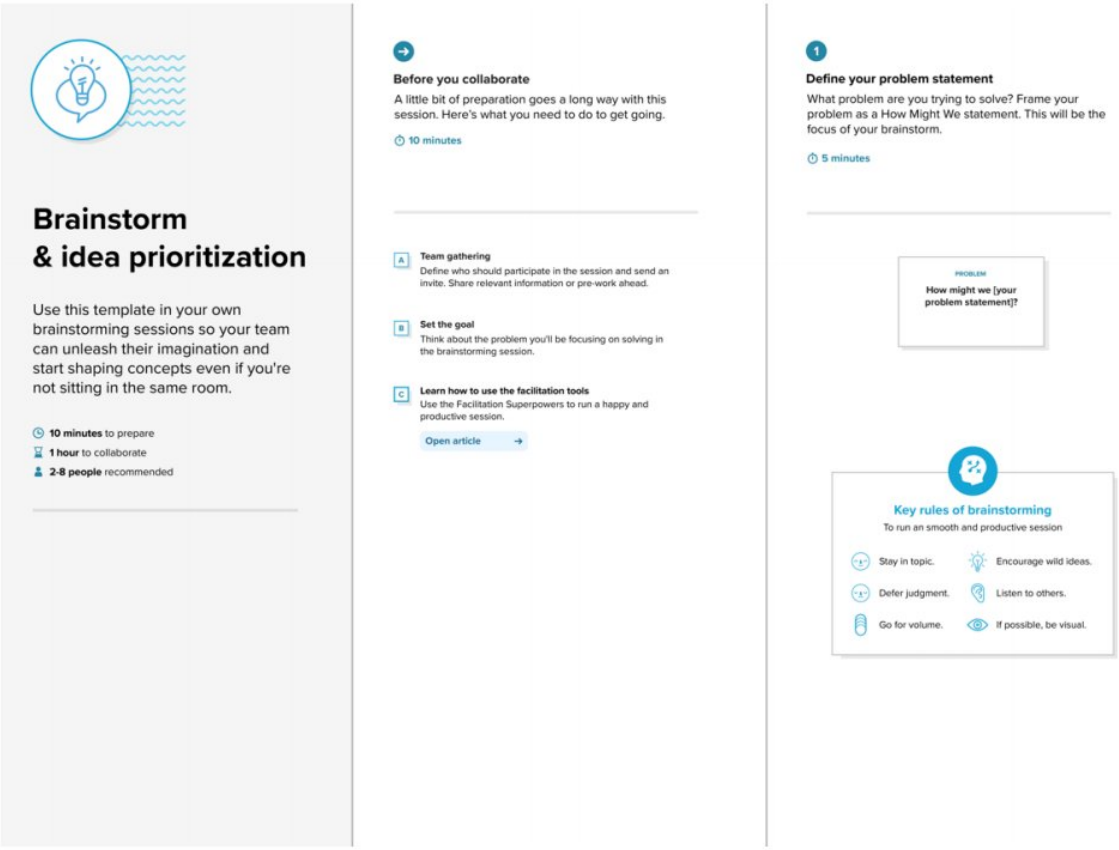
**Brainstorm & Idea Prioritization Template:**

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: https://www.mural.co/templates/brainstorm-and-idea-prioritization

**Step-1: Team Gathering, Collaboration and Select the Problem Statement**

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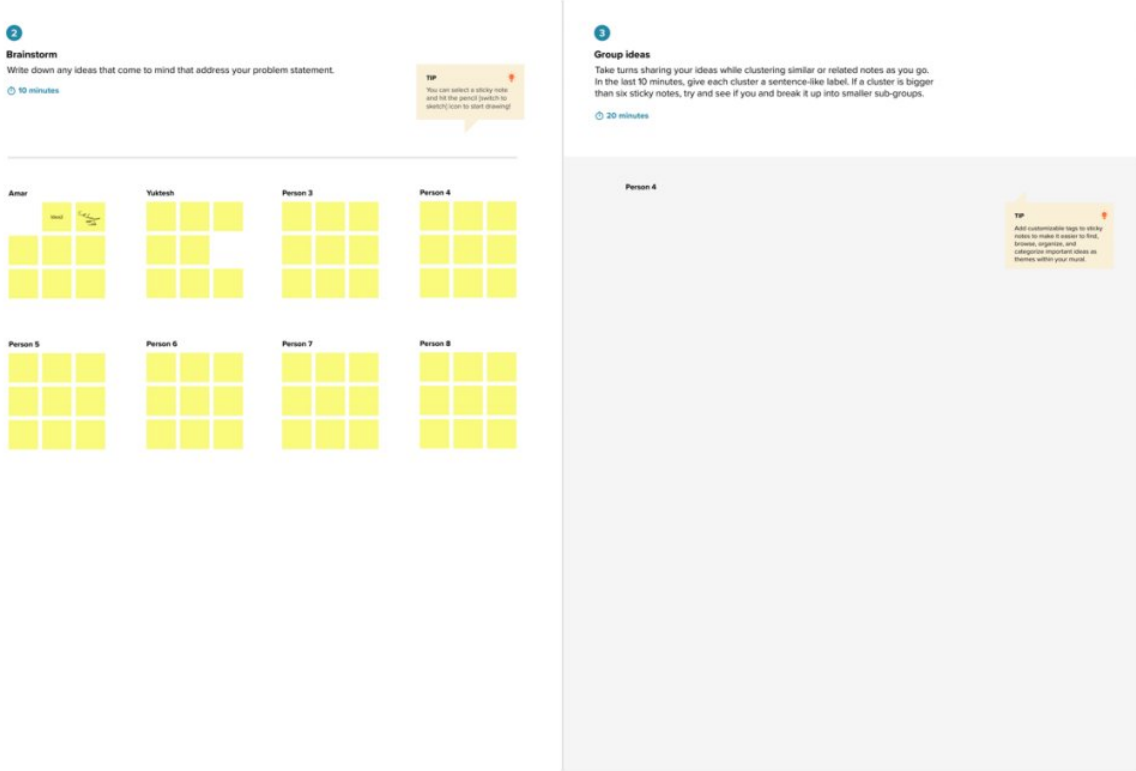
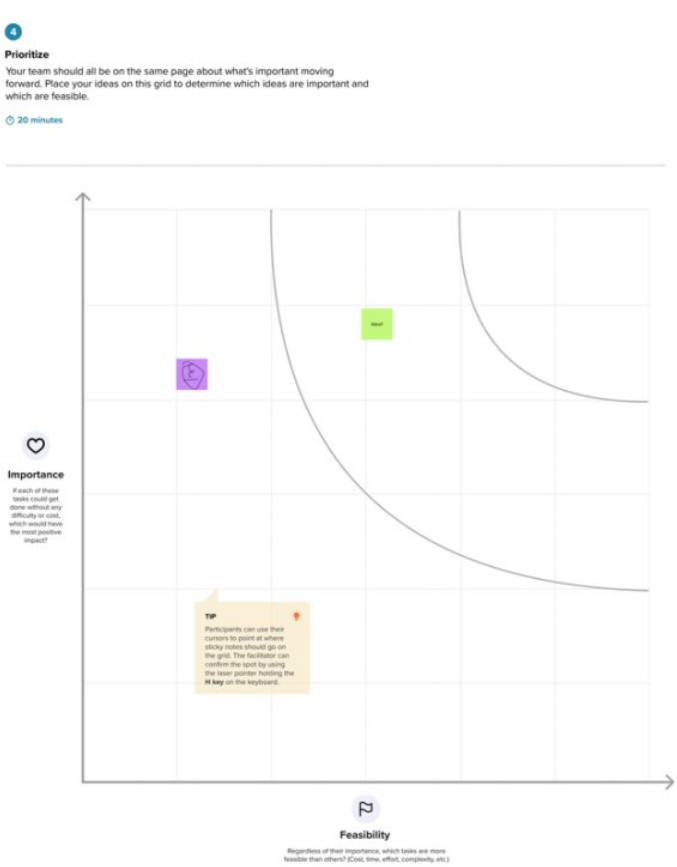
## Step-2: Brainstorm, Idea Listing and Grouping




## Step-3: Idea Prioritization

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# ANALYSIS AND DESIGN

## Functional requirements

- View Doctor Information
- Search Doctor
- View Appointment
- Search Module
- Appointment Booking
- Check-in form Submitting
- Appointment management
- Schedule a timing
- Past appointment Management

## Non-functional requirements

- Responsive and user friendly UI
- Speed
- Less weight
- Reliability

## System Design

Design is the first step in the development stage. Software design involves three technical activities - design, coding, implementation and testing that are required to build and verify the software. The design activities are of main importance in this part, because in this activity, decisions finally affectingthe success of the software implementation and its ease of maintenance. Design is the only way to correctly translate the customer requirements into finished software or a system. Design is the place where quality is bringing up in development.



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## System Architecture

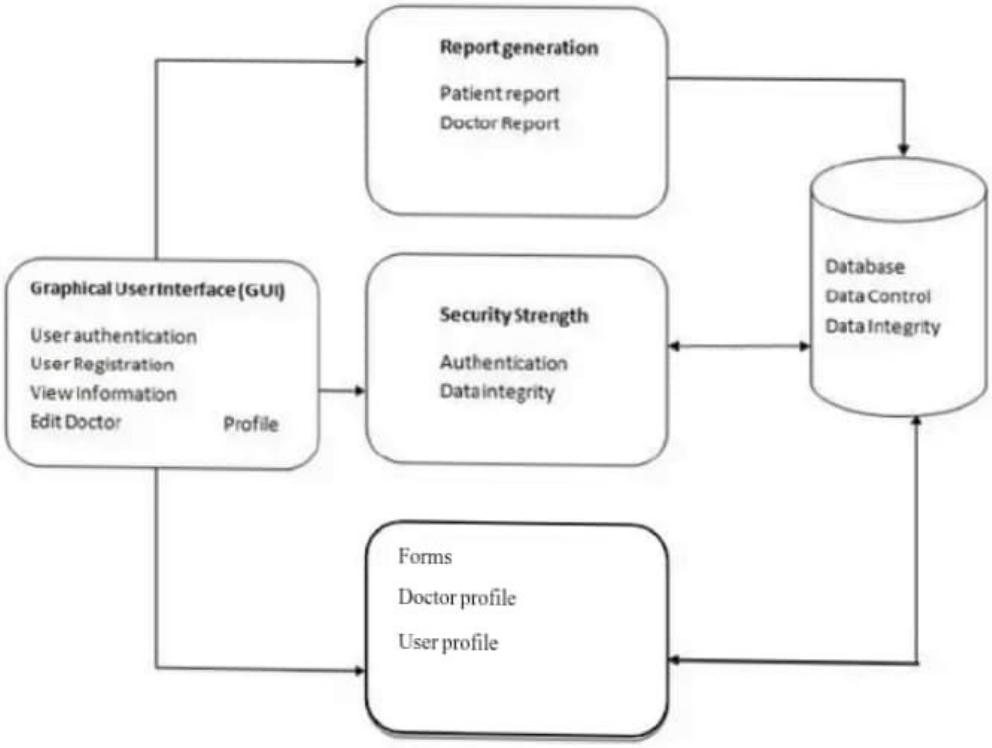


*Figure 4.1.System Architecture*

## Entity Relationship Diagram (ER Diagram)

ER diagram is a graphical representation of entities and their relationship to each other, typically used in computing regarding the organization of data within database or information systems. Entity is a piece of data, object or concept which described which data should store. Relationship is how data is shared between entities.

**Entity**

Which are represented by rectangle. An entity is an object or concept that has its existence in the real world. It includes all those things about which data is collected. A weak entity is an entity that must defined by a foreign key relationship with another entity as it cannot be uniquely identified by its own attributes alone.

**Attributes**

Which are represented by ovals. A key attribute is the unique, distinguishing characteristic of the entity.For example, an employee's social security number might be the employee's key attribute.



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**An Entity Set**

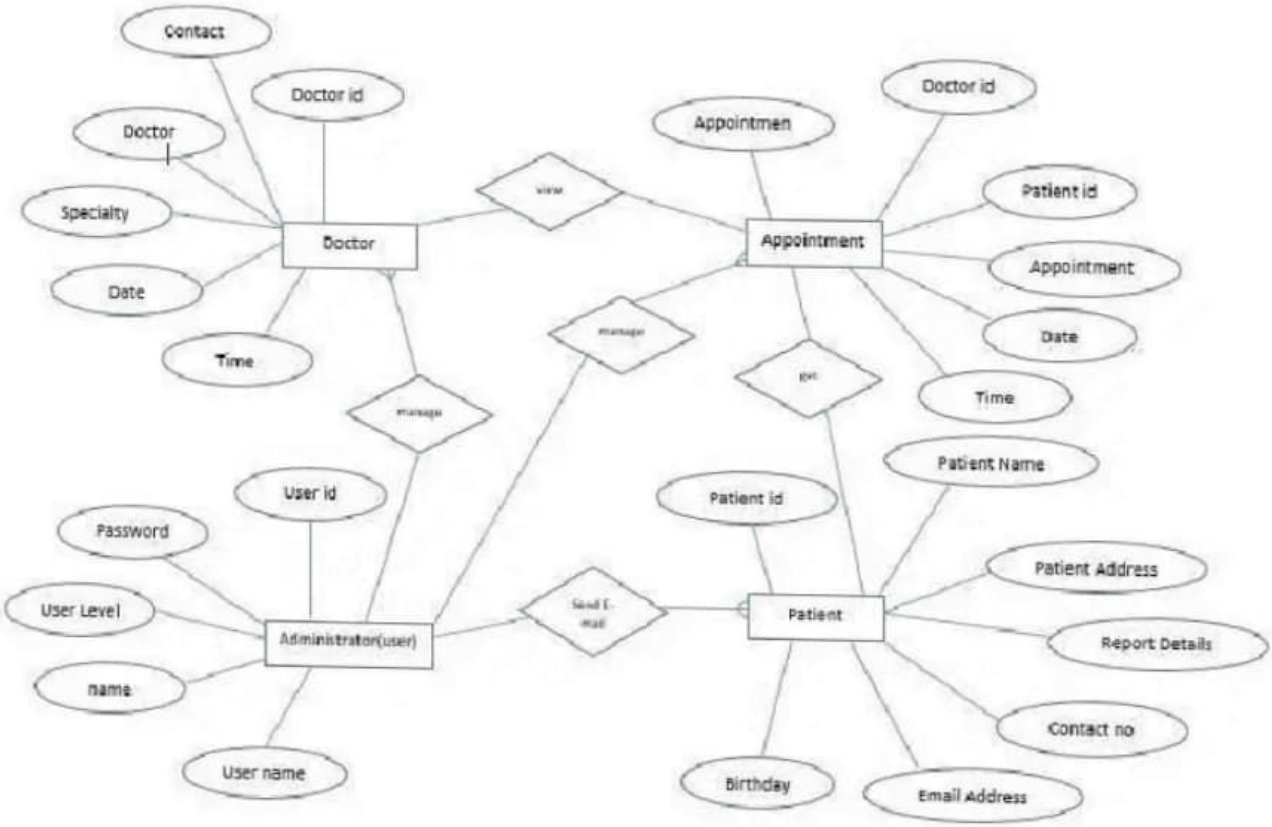
It is a set of entities of the same type that share the same properties, or attributes.

**Process**

A process shows a transformation or manipulation of data flows within the system.

**Actions**

Which are represented by diamond shapes, show how two entities share information in the database.



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**Project Design Phase-II**
**Solution Requirements (Functional & Non-functional)**

| | |
|---|---|
| Date | 26 June 2025 |
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| Project Name | DOCSPOT: Seamless Appointment Booking For Health |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|---|---|---|
| FR-1 | User Registration | Registration through Form<br>Registration through Gmail<br>Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email<br>Confirmation via OTP |
| FR-3 | | |
| FR-4 | | |
| | | |
| | | |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

| FR No. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | **Usability** | |
| NFR-2 | **Security** | |
| NFR-3 | **Reliability** | |
| NFR-4 | **Performance** | |
| NFR-5 | **Availability** | |
| NFR-6 | **Scalability** | |

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**Project Design Phase-II**
**Data Flow Diagram & User Stories**

| | |
|---|---|
| Date | 26 June 2025 |
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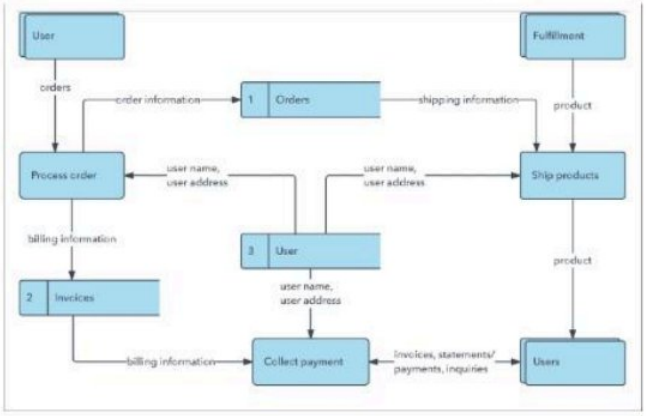
| Project Name | DOCSPOT :Seamless Appointment Booking For Health care |
| Maximum Marks | 4 Marks |

**Data Flow Diagrams:**

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

**Example:** (Simplified)

Example: DFD Level 0 (Industry Standard)




**User Stories**

Use the below template to list all the user stories for the product.

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|---|---|---|---|---|---|---|
| Customer (Mobile user) | Registration | USN-1 | As a user, I can register for the application by entering my email, password, and confirming my password. | I can access my account / dashboard | High | Sprint-1 |
| | | USN-2 | As a user, I will receive confirmation email once I have registered for the application | I can receive confirmation email & click confirm | High | Sprint-1 |
| | | USN-3 | As a user, I can register for the application through Facebook | I can register & access the dashboard with Facebook Login | Low | Sprint-2 |
| | | USN-4 | As a user, I can register for the application through Gmail | | Medium | Sprint-1 |
| | Login | USN-5 | As a user, I can log into the application by entering email & password | | High | Sprint-1 |
| | Dashboard | | | | | |
| Customer (Web user) | | | | | | |
| Customer Care Executive | | | | | | |
| Administrator | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

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**Project Design Phase-II**
**Technology Stack (Architecture & Stack)**

| | |
|---|---|
| Date | 26 June 2025 |
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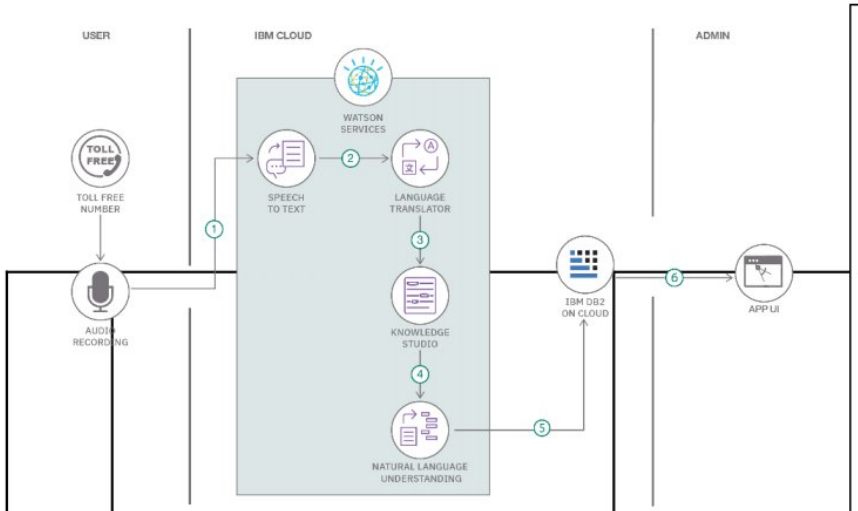
| Project Name | DOCSPOT: Seamless Appointment Booking For Health |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

**Example: Order processing during pandemics for offline mode**

**Reference:** [https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/](https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/)




Guidelines:

Include all the processes (As an application logic / Technology Block)
Provide infrastructural demarcation (Local / Cloud)
Indicate external interfaces (third party API's etc.)
Indicate Data Storage components / services
Indicate interface to machine learning models (if applicable)

| S.No | Component | Description | Technology |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| 1. | User Interface | How user interacts with application e.g. Web UI, Mobile App, Chatbot etc. | HTML, CSS, JavaScript / Angular Js / React Js etc. |
| 2. | Application Logic-1 | Logic for a process in the application | Java / Python |
| 3. | Application Logic-2 | Logic for a process in the application | IBM Watson STT service |
| 4. | Application Logic-3 | Logic for a process in the application | IBM Watson Assistant |
| 5. | Database | Data Type, Configurations etc. | MySQL, NoSQL, etc. |
| 6. | Cloud Database | Database Service on Cloud | IBM DB2, IBM Cloudant etc. |
| 7. | File Storage | File storage requirements | IBM Block Storage or Other Storage Service or Local Filesystem |
| 8. | External API-1 | Purpose of External API used in the application | IBM Weather API, etc. |
| 9. | External API-2 | Purpose of External API used in the application | Aadhar API, etc. |
| 10. | Machine Learning Model | Purpose of Machine Learning Model | Object Recognition Model, etc. |
| 11. | Infrastructure (Server / Cloud) | Application Deployment on Local System / Cloud<br>Local Server Configuration:<br>Cloud Server Configuration : | Local, Cloud Foundry, Kubernetes, etc. |

**Table-2: Application Characteristics:**

| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 1. | Open-Source Frameworks | List the open-source frameworks used | Technology of Opensource framework |
| 2. | Security Implementations | List all the security / access controls implemented, use of firewalls etc. | e.g. SHA-256, Encryptions, IAM Controls, OWASP etc. |
| 3. | Scalable Architecture | Justify the scalability of architecture (3 – tier, Micro-services) | Technology used |
| 4. | Availability | Justify the availability of application (e.g. use of load balancers, distributed servers etc.) | Technology used |

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| S.No | Characteristics | Description | Technology |
|---|---|---|---|
| 5. | Performance | Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc. | Technology used |

**References:**


https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d


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**Project Design Phase**
**Problem – Solution Fit Template**

| | |
|---|---|
| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID55015 |
| Project Name | DOCSPOT: Seamless Appointment Booking For Health care |
| Maximum Marks | 2 Marks |

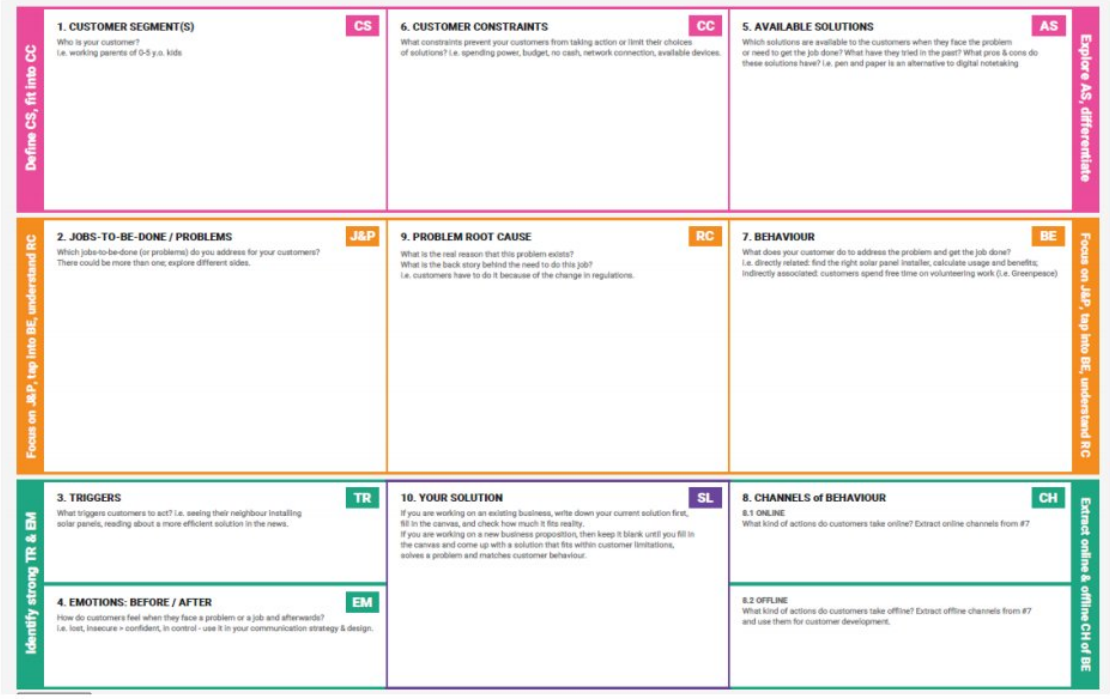
**Problem – Solution Fit Template:**

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

**Purpose:**

- ❑ Solve complex problems in a way that fits the state of your customers.
- ❑ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ❑ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ❑ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ❑ **Understand the existing situation in order to improve it for your target group.**

**Template:**

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References:


1. https://www.ideahackers.network/problem-solution-fit-canvas/
2. https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe


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**Project Design Phase**
**Proposed Solution Template**

| | |
|---|---|
| Date | 26 June 2025 |
| Team ID | LTVIP2025TMID55015 |
| Project Name | DOCSPOT:Seamless Appointment Booking For Health care |
| Maximum Marks | 2 Marks |

**Proposed Solution Template:**

Project team shall fill the following information in the proposed solution template.

| S.No. | Parameter | Description |
|---|---|---|
| 1. | Problem Statement (Problem to be solved) | "Patients struggle to book timely appointments with doctors, leading to frustration and potential health consequences. Existing appointment booking systems are often cumbersome, inflexible, and prone to errors, resulting in poor patient experience and inefficient use of doctor time." |
| 2. | Idea / Solution description | "DocSpot: A seamless doctor appointment booking app that allows patients to easily schedule appointments with doctors, reducing wait times and improving patient experience. By providing real-time availability, automated reminders, and a user-friendly interface, DocSpot streamlines the appointment booking |
| 3. | Novelty / Uniqueness | "DocSpot revolutionizes doctor appointment booking with AI-powered matchmaking, predicting patient needs and preferences to suggest optimal appointment times and doctors. Its integrated telemedicine feature enables seamless virtual consultations, expanding access to healthcare services." |
| 4. | Social Impact / Customer Satisfaction | "DocSpot improves healthcare accessibility and customer satisfaction by empowering patients to take control of their appointments, reducing wait times, and increasing access to quality care. By streamlining the appointment booking process, DocSpot enhances the overall patient experience, leading to increased loyalty and satisfaction." |
| 5. | Business Model (Revenue Model) | "DocSpot generates revenue through subscription fees from healthcare providers for access to its appointment booking platform, as well as transaction fees for successful bookings. Additional revenue streams come from partnerships with healthcare organizations and targeted advertising." |

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| | | |
|---|---|---|
| 6. | Scalability of the Solution | "DocSpot's cloud-based infrastructure and scalable architecture enable seamless growth, handling increasing user demand and appointment volume without compromising performance. Its flexible design allows for easy integration with existing healthcare systems, facilitating widespread adoption." |

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# PROPOSED SYSTEM

The existing doctor appointment system can vary widely depending on the specific healthcare provider, location, and the level of technological advancement. However, in a traditional or basic doctor appointment system, the process typically involves the following steps:

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While this traditional system works, many healthcare providers are transitioning to more modern and efficient systems. These may include:

1. **Online Appointment Booking**: Patients can schedule appointments through the healthcare provider's website or mobile app. This eliminates the need for phone calls and streamlines the process.
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5. **Integrated Billing Systems**: Modern systems can handle insurance claims and billing more efficiently, reducing administrative workload.



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These advancements aim to enhance the patient experience, streamline administrative tasks, reduce errors, and improve overall healthcare quality.

## Flowchart

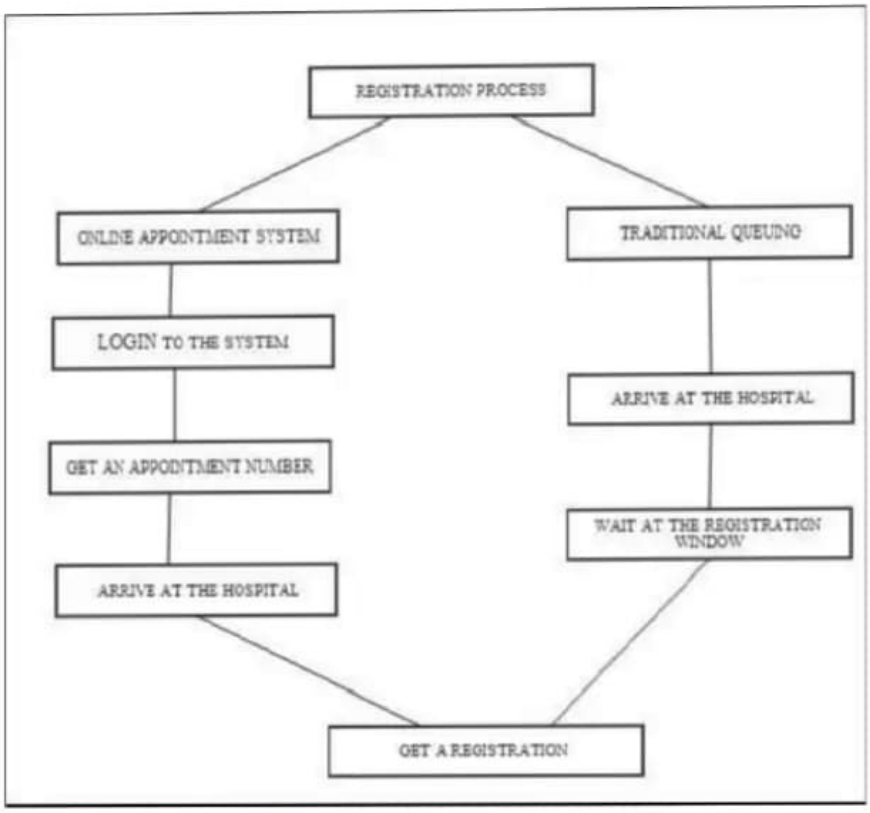


*Figure 3:1 Flowchart for Traditional v/s Online Appointment system*

## System Study

The study was carried out at Patient, Doctors and Hospital the main purpose of the study was to find out how the process of recording patient's data is carried out. The system that is currently being used Patient, Doctor and Hospital is entirety manuals. But we are creating online appointment system, that is very lazy and more hesitation from the real information, doctor availability and proper time maintenance of the doctor appointment system.



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**Project Design Phase**
**Solution Architecture**

| | |
|---|---|
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| Maximum Marks | 4 Marks |

## Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

## Example - Solution Architecture Diagram:

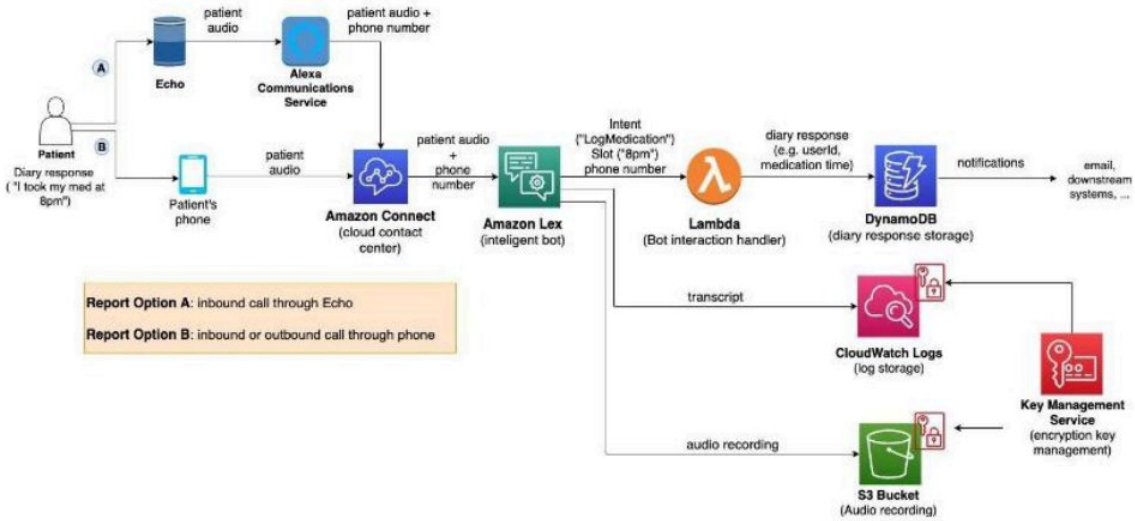


*Figure 1: Architecture and data flow of the voice patient diary sample application*

**Reference:**
https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-research-powered-by-ai-on-aws-part-1-architecture-and-design-considerations/

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# Project Planning Phase

## Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

| | |
|---|---|
| Date | 27 June 2025 |
| Team ID | LTVIP2025TMID55015 |
| Project Name | DOCSPOT:Seamless Appointment Booking For Health care |
| Maximum Marks | 5 Marks |

**Product Backlog, Sprint Schedule, and Estimation (4 Marks)**

Use the below template to create product backlog and sprint schedule

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---|---|---|---|---|---|---|
| Sprint-1 | Registration | USN-1 | As a user, I can register for the application by entering my email, password, and confirming my password. | 2 | High | |
| Sprint-1 | | USN-2 | As a user, I will receive confirmation email once I have registered for the application | 1 | High | |
| Sprint-2 | | USN-3 | As a user, I can register for the application through Facebook | 2 | Low | |
| Sprint-1 | | USN-4 | As a user, I can register for the application through Gmail | 2 | Medium | |
| Sprint-1 | Login | USN-5 | As a user, I can log into the application by entering email & password | 1 | High | |
| | Dashboard | | | | | |
| | | | | | | |
| | | | | | | |

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**Project Tracker, Velocity & Burndown Chart: (4 Marks)**

| Sprint | Total Story Points | Duration | Sprint Start Date | Sprint End Date (Planned) | Story Points Completed (as on Planned End Date) | Sprint Release Date (Actual) |
|---|---|---|---|---|---|---|
| Sprint-1 | 20 | 6 Days | 24 Oct 2022 | 29 Oct 2022 | 20 | 29 Oct 2022 |
| Sprint-2 | 20 | 6 Days | 31 Oct 2022 | 05 Nov 2022 | | |
| Sprint-3 | 20 | 6 Days | 07 Nov 2022 | 12 Nov 2022 | | |
| Sprint-4 | 20 | 6 Days | 14 Nov 2022 | 19 Nov 2022 | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

**Velocity:**
Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

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**Burndown Chart:**

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.

https://www.visual-paradigm.com/scrum/scrum-burndown-chart/
https://www.atlassian.com/agile/tutorials/burndown-charts

**Reference:**

https://www.atlassian.com/agile/project-management
https://www.atlassian.com/agile/tutorials/how-to-do-scrum-with-jira-software
https://www.atlassian.com/agile/tutorials/epics
https://www.atlassian.com/agile/tutorials/sprints
https://www.atlassian.com/agile/project-management/estimation
https://www.atlassian.com/agile/tutorials/burndown-charts

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# Implementation and Testing

## Implementation

This activity includes programming, testing and integration of modules into a progressively more complete system. Implementation is the process of collect all the required parts and assembles them into a major product.

## Testing

### Test Generation

This activity generates a set of test data, which can be used to test the new system before accepting it. In the test generation phase, all the parts are come which are to be tested to ensure that system does not produce any error. If there are some errors then we remove them and further it goes for accepting.

### Software Testing

Software testing is a critical element of software quality assurance and moments the ultimate reviews of specification, design and coding. Testing presents an interesting anomaly for the software engineer.

Testing objectives include:

1. Testing is a process of executing a program with the intent of finding an error.
2. A good test case is one that has probability of finding an as yet undiscovered error.
3. A successful test is one that uncovers an undiscovered error.

Testing Principles:

1. All tests should be traceable to end user requirements.
2. Test should be planned long before testing begins.
3. Testing should begin on a small scale and progress towards testing in large.
4. Exhaustive testing is not possible.
5. To be most effective testing should be conducted by an independent third.



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# EVALUATION

**The following items will be considered in testing:**

1. Login
2. Logout
3. Create new user (Administrator)
4. Create Type Appointment (Administrator)
5. Create Doctor Profile (Administrator)
6. Book an Appointment(Patient)
7. Edit Doctor Profile (Administrator)
8. Cancel Doctor's Appointment (Administrator)
9. Cancel Patient's Appointment (Patient)

- **Login**

| Case | Input Data | Expected Results |
|---|---|---|
| Login page | correct user Name correct password and press on login Button | Displays the welcome information to the user Based on the user's role (admin, doctor, or patient), the corresponding menu page (admin menu, doctor menu, and patient menu) will be displayed on the page. |
| | correct User Name incorrect Password and press on login Button | Displays error message |
| | incorrect User Name correct Password and | Displays error. |
| | Press on login Button | |
| | Not enter any username or password Press login button. | Display error message " please input your username and password to retry." |



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**LOG-OUT**

| Case | Input Data | Expected Results |
|---|---|---|
| Logout menu | User click the logout menu | Redirect to the login page<br><br>The menu pages only has "login" and "register " two menu items |

- **Create Patient Profile (Patient)**

On the home page, a new patient can choose 'New Registration' option from the menu.

| Case | Input Data | Expected Results |
|---|---|---|
| Create Patient Profile | Fill in all the fields in the registration form as required<br><br>Press Submit button | Display a data insert successfully |
| | Leave all the fields empty<br><br>Press Submit button | Display an error message that user needs tofill in the required information |
| | Fill in the fields according to anexisting patient<br><br>Press Submit button | Display a message that the record already exists |

- **Create new user (Administrator)**

After logging in, the Administrator can choose 'Create New user (nurse)' option from the menu. TheAdministrator will be able to see a form where he/she will be required to fill in all the relevant information in the given fields



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| Case | Input Data | Expected Results |
|---|---|---|
| | Fill in the fields in New user form as required<br><br>Press Submit button | Display a message confirming that a newuser is created successfully |
| | Fill in the fields according to anexisting user<br><br>Press Submit button | Display a message that the record already exists |
| | Leave all the fields empty Press Submit button | Display an error message that user needs tofill in the required information |

- **Create Type Appointment (Administrator)**

After logging in, the Administrator can choose Create New Appointment Type option from the menu.The Administrator will be able to see a form where he/she will be required to fill in all the relevant information in the given fields

| Case | Input Data | Expected Results |
|---|---|---|
| | Fill in the fields in New Appointment type form as required<br><br>Press Submit button | Display a message confirming that a new Appointment type is created successfully |
| Case | Input Data | Expected Results |
| | Fill all fields with correct values Click on submit button | A new web page is displayed doctor profile was created successfully. |
| | Provide a Doctor Login ID that already exists in the system<br>Fill all other fields in the form correctly.<br>Click on submit button | An error message displayed, duplicate login-ID provided. |
| | Fill in the fields according to an existing Appointment Type<br>Press Submit button | Display a message that the record already exists |



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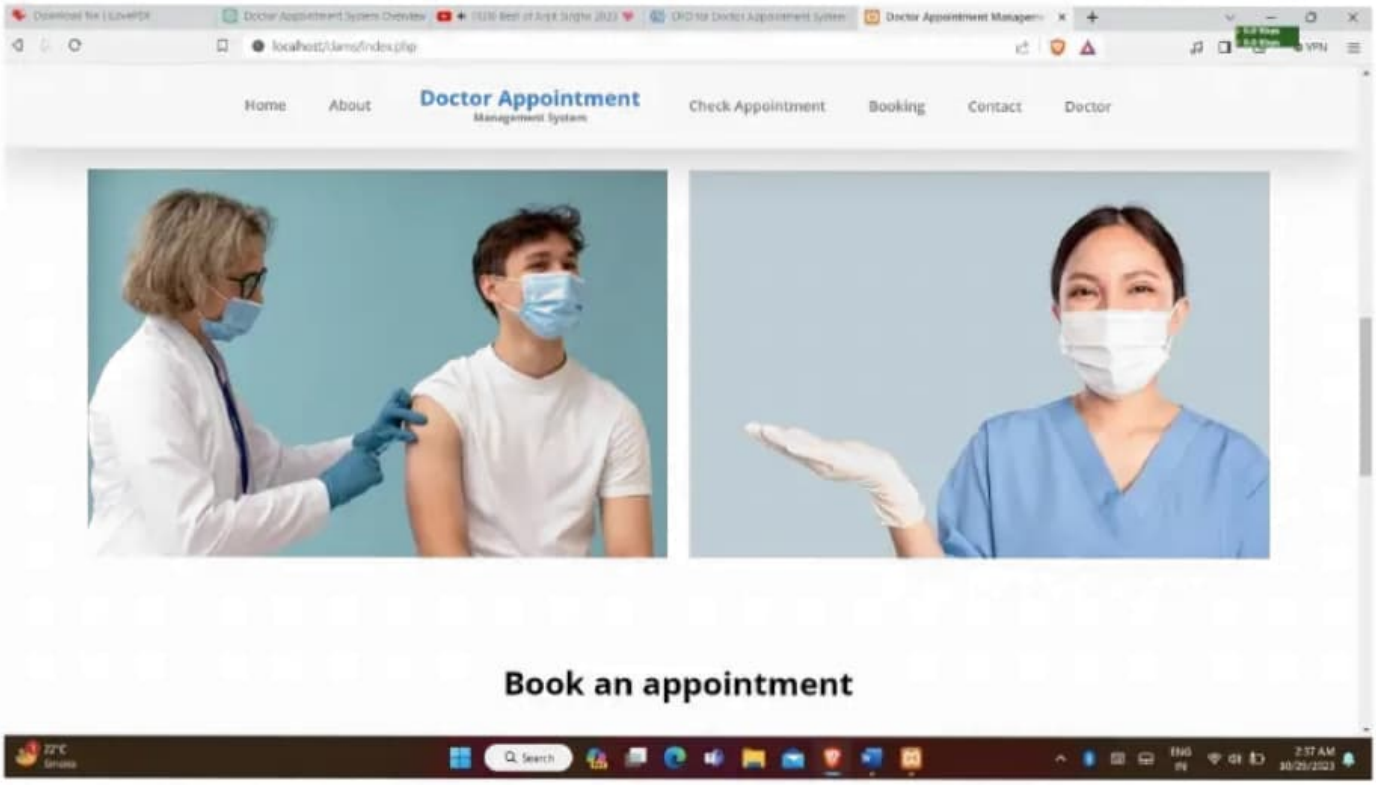
# SNAPSHOT

➢ **HOME PAGE**



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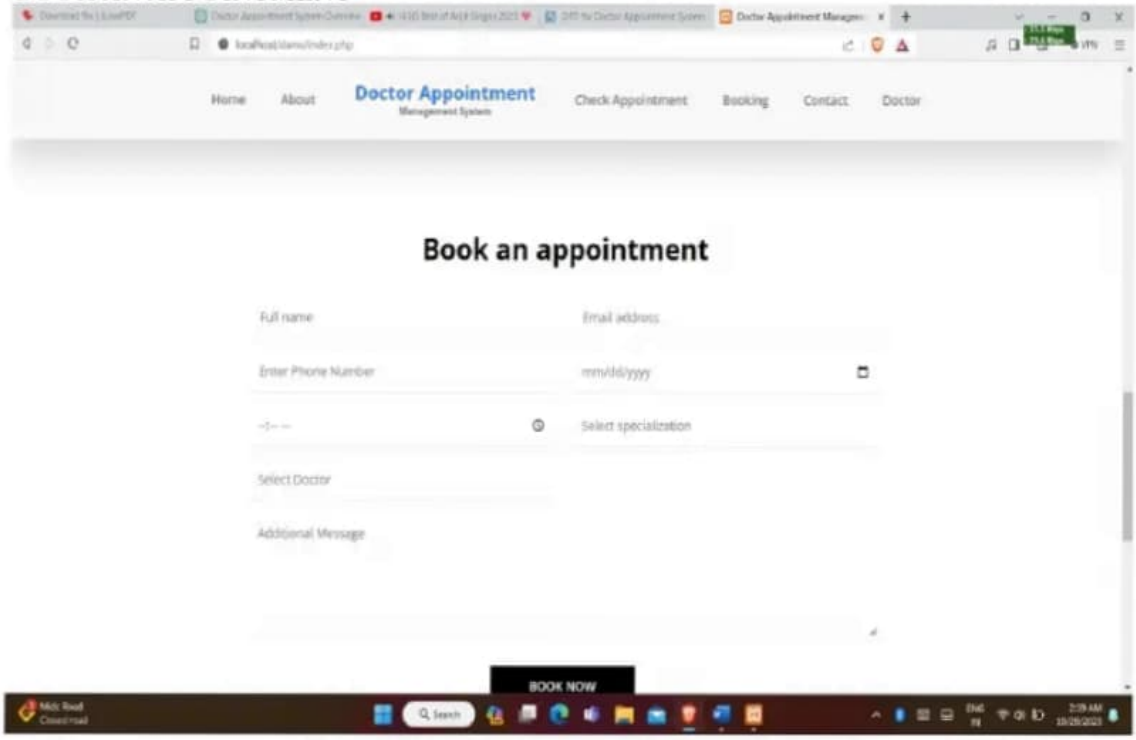
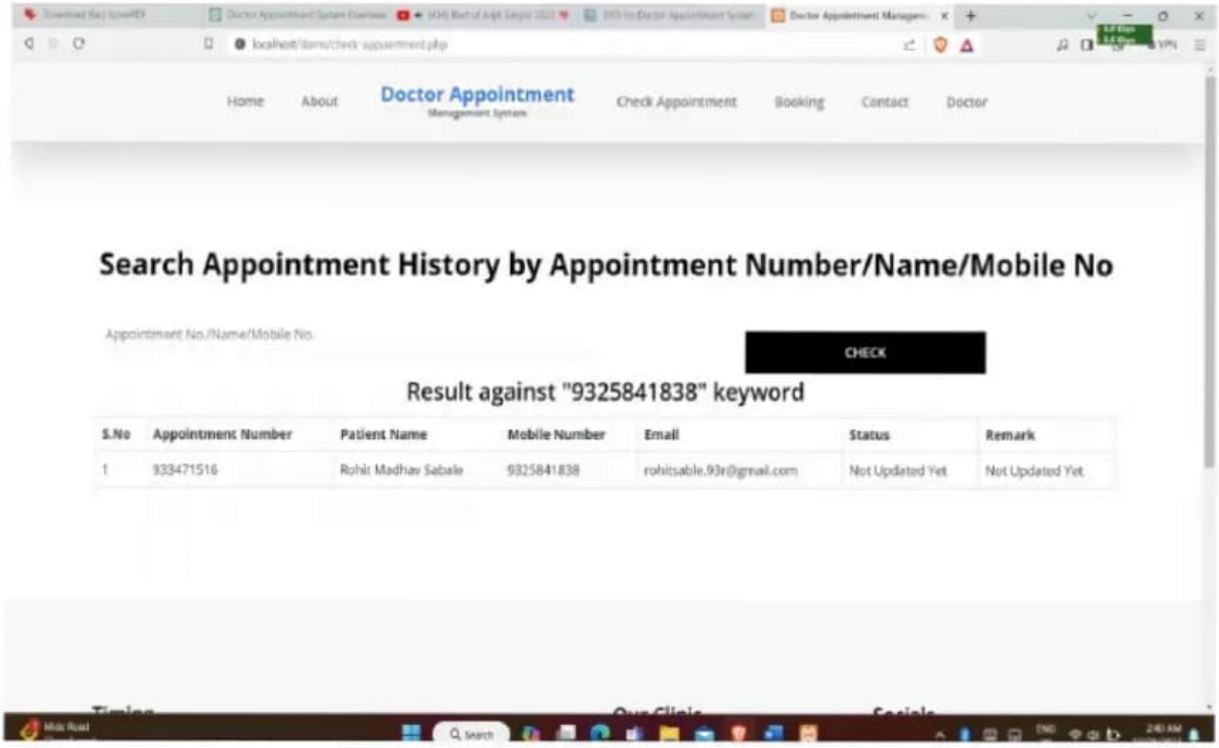
- **BOOK AN APPOINTMENT**




- **CHEAK APPOINTMENT**



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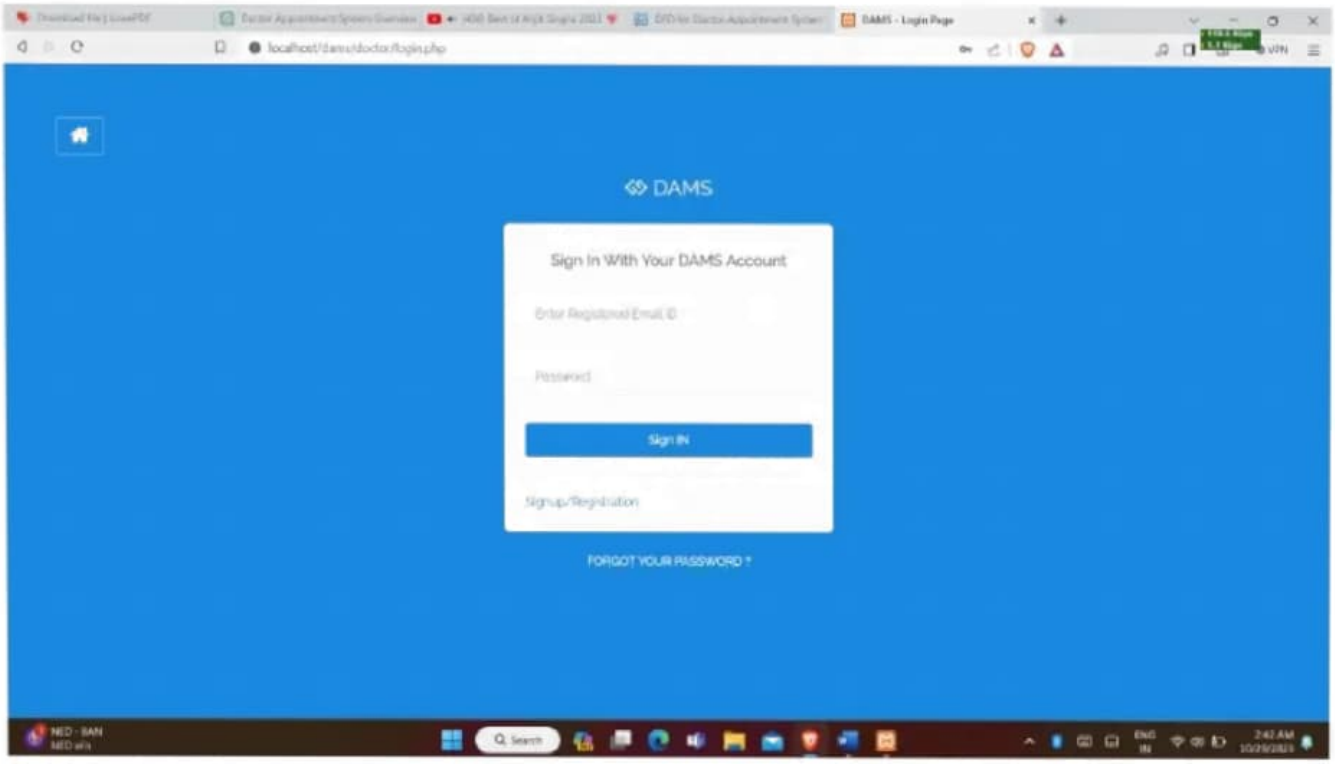
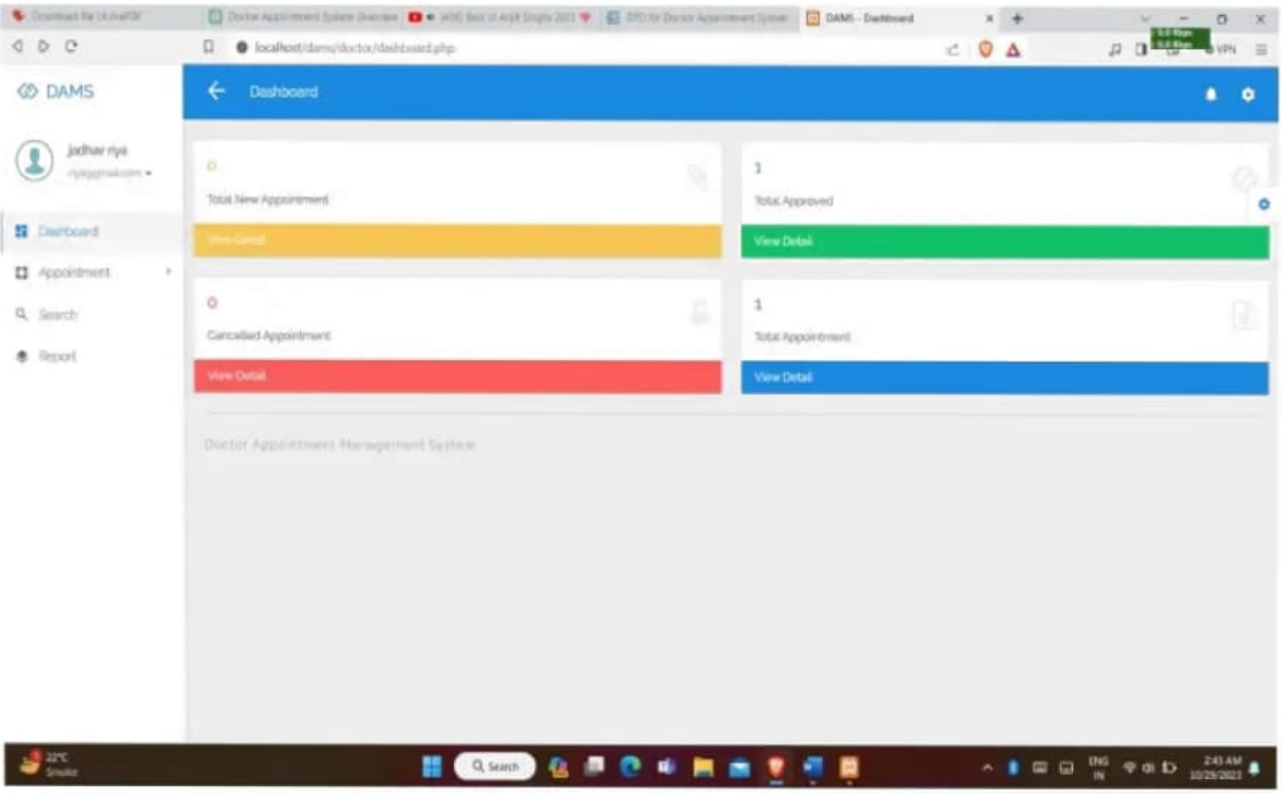
## ➢ DOCTOR LOG-IN PAGE




## ➢ DOCTOR HOME PAGE



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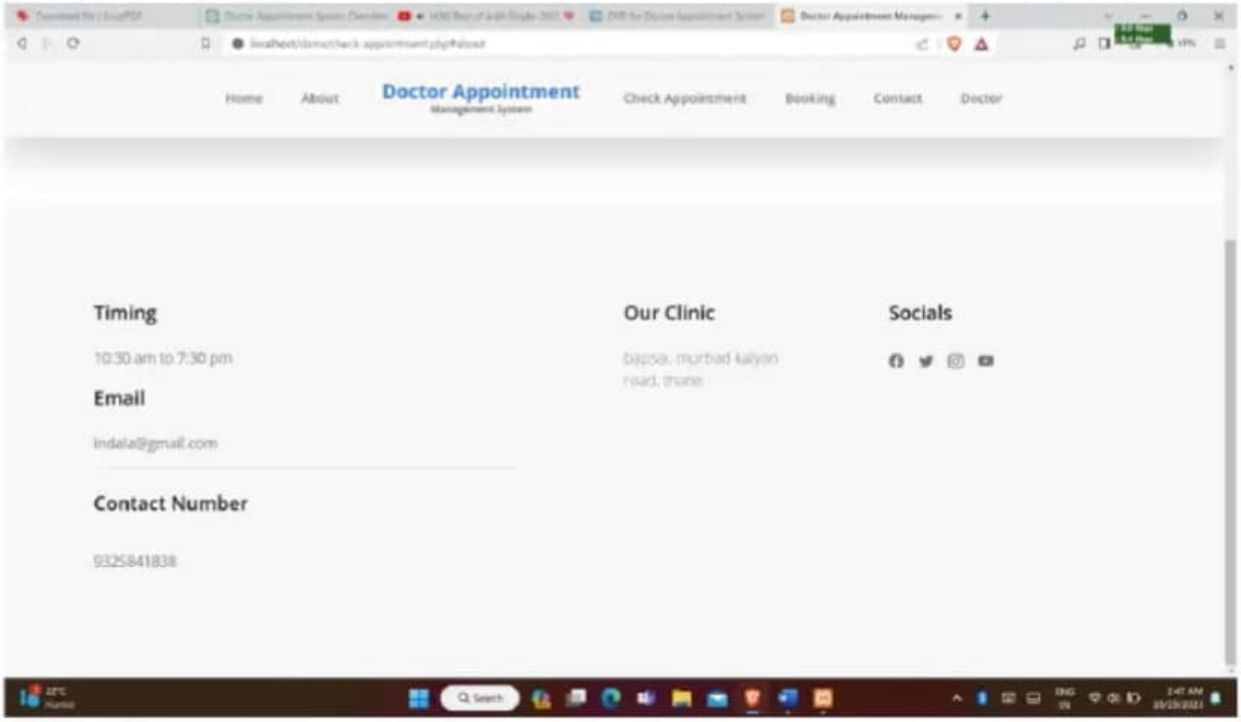
- **ABOUT CLINIC**



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# Advantages and Disadvantages

Here are some potential advantages and disadvantages of DocSpot, a seamless appointment booking system for healthcare:

**Advantages**
1. *Convenience*: Patients can book appointments online, 24/7, without having to call the doctor's office or wait in line.
2. *Time-saving*: DocSpot can save patients time and effort in finding available appointment slots and scheduling appointments.
3. *Increased accessibility*: Patients can access DocSpot from anywhere, making it easier for people with mobility issues or those living in remote areas.
4. *Improved patient experience*: DocSpot can provide a more streamlined and efficient appointment booking process, leading to higher patient satisfaction.
5. *Reduced no-shows*: Automated reminders and notifications can help reduce the number of no-shows and last-minute cancellations.
6. *Better resource allocation*: DocSpot can help healthcare providers optimize their schedules and allocate resources more efficiently.

**Disadvantages**
1. *Technical issues*: Technical problems, such as server downtime or connectivity issues, can prevent patients from booking appointments.
2. *Security concerns*: DocSpot may be vulnerable to cyber threats, compromising patient data and confidentiality.
3. *Dependence on technology*: Patients who are not tech-savvy or have limited access to technology may struggle to use DocSpot.
4. *Limited personal touch*: DocSpot may lack the personal touch and human interaction that patients value in a traditional appointment booking process.
5. *Integration challenges*: Integrating DocSpot with existing electronic health records (EHRs) and practice management systems (PMS) can be complex and time-consuming.
6. *Cost*: Implementing and maintaining DocSpot may require significant upfront investment and ongoing costs.

Potential Mitigations
1. *Regular maintenance and updates*: Regularly update and maintain DocSpot to prevent technical issues and ensure smooth operation.
2. *Robust security measures*: Implement robust security measures, such as encryption and secure authentication, to protect patient data.
3. *User-friendly interface*: Design a user-friendly interface that is easy to navigate, even for patients who are not tech-savvy.
4. *Hybrid approach*: Offer a hybrid approach that combines online booking with traditional phone or in-person booking options.
5. *Training and support*: Provide training and support for patients and healthcare providers to ensure they are comfortable using DocSpot.

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# Conclusion

## Future Scope

The project entitled **Doctor Appointment system** was completed successfully. The system has been developed with much care and free of errors and at the same time it is efficient and less time consuming. The purpose of this project was to develop a web application and an android application for purchasing items from a shop.

This project helped us in gaining valuable information and practical knowledge on several topics like designing web pages using html & css, usage of responsive templates, designing of android applications, and management of database

The entire system is secured. Also the project helped us understanding about the development phases of a project and software development life cycle. We learned how to test different features of a project.

This project has given us great satisfaction in having designed an application which can be implemented to any nearby shops or branded shops selling various kinds of products by simple modifications. There is a scope for further development in our project to a great extent.A number of features can be added to this system in future like providing moderator more control over products so that each moderator can maintain their own products. Another feature we wished to implement was providing classes for customers so that different offers can be given to each class. System may keep track of history of purchases of each customer and provide suggestions based on their history. These features could have implemented unless the time did not limited us.



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