2026 Volume: 02 Issue: 01 www.ijrpa.com ISSN 2456-9995 Review Article

International Journal Research Publication Analysis

Page: 01-09

HEALTH CARE APPOINTMENT BOOKINIG APP

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Article Received: 14 December 2025
Article Revised: 2 January 2026
Published on: 21 January 2026

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DOI: https://doi-doi.org/101555/ijrpa.4668

ABSTRACT

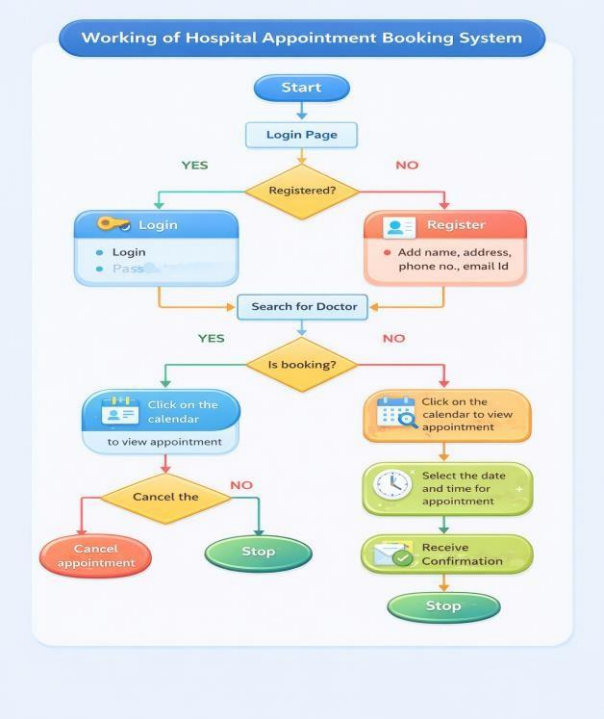
Healthcare is evolving with a fresh focus on putting patients first. Central to this shift is the growing acknowledgement of patients' contributions in healthcare delivery and planning. Medical appointment scheduling serves as the primary gateway for most non-emergency healthcare services, and it is experiencing significant changes to encourage active patient participation. This project introduces a method for creating an intelligent appointment booking system that offers patients and users a simple approach to scheduling doctor visits online. Through internet connectivity, patients gain greater autonomy in making decisions about their appointment preferences, leading to enhanced accessibility. The project presents an approach to designing a smart appointment booking system that provides patients or any user with an easy way of booking a doctor's appointment online. By using the Internet as a medium, more freedom is given to the patients in decision-making about their preferences for appointments, and it has improved access.10-point

KEYWORDS: Online hospital booking portal, Emergency appointment, Healthcare management

INTRODUCTION

This proposed project represents an intelligent appointment booking An application that gives patients and other users a straightforward A method to schedule doctor appointments through

the internet. This web-based platform addresses the challenges of managing and arranging appointments. At times, it becomes extremely burdensome for medical assistants or physicians themselves to Accommodate user appointments based on their availability. Therefore, the practical solution this project provides allows users to browse different available booking slots and choose their preferred dates and times. The system additionally permits them to cancel their reservations whenever needed. The application maintains user information, including usernames, email addresses, contact numbers, and previously recommended medications. Users can engage directly with physicians, who can also provide digital prescriptions; this benefits individuals who are too occupied to visit medical facilities. Beyond this functionality, the application provides convenience by enabling users to cancel or modify their bookings whenever necessary, giving them complete authority over their appointments. This platform links us with skilled physicians possessing extensive experience, earning trust from numerous patients. The application delivers regular notifications through email or text messages, ensuring users never overlook their scheduled appointments.



Implementation

Creating a healthcare appointment application requires looking past the standard.

1. Patient Registration System

The patient needs to register and log in after entering. He can search for the doctor by giving

the location, the reason or the problem. Based on the doctor's availability, the admin will confirm the booking request and will send an email to that email. In this user can choose the doctor and book the appointment by login in and registering according to their choice.

2. Doctor Registration System:

The doctor needs to be registered by providing the necessary details, such as timing and fees. After registering, he needs to log in. He can view the patient request forwarded from admin, and he can accept, and also he can view the Feedback given by the doctor's logins by username and password and adjust their appointments according to their convenience.

3. Clean and User-Friendly Design:

The application adopts a streamlined design featuring straightforward icons and readable text. This approach minimises confusion for users, particularly those who aren't comfortable with technology. Distinct categories such as Quick Scheduling, Expert Physicians, and Round-the-Clock Availability clearly express the app's core functions without creating user confusion.

4. Customised Healthcare Experiences:

Providing capabilities like effortless "Schedule an Appointment" options while guaranteeing constant availability demonstrates the app's focus on user-centred design. This empowers patients to manage their appointments and timing independently. Protected and confidential management of sensitive health Information highlights privacy protection, making users confident that their medical data remains secure.

5. Smooth Connection with Medical Professionals:

Finding qualified physicians through the application process helps patients. Offering physician consultations and medical services around the Clock means healthcare becomes available whenever users need it, which remains essential for medical applications.

6. Always-Available Service:

The capability to schedule medical visits at any time and from any location improves user access, which proves vital in our busy modern lifestyle, where health concerns can emerge unexpectedly. It is taken from

Working of project

Step 1: User Login and Verification

Patients, **doctors**, and **admins use** their **email** and **password** to **log** in.

The **system checks** the **login details using** a **special security method called** JWT.**Once logged** in, **users** are **given access based** on their **role**.

Step 2: How the Patient Module Works

Patients the **system**.They **look** for **doctors** by **department** or **area** of **expertise**.They **choose** a **date** and **time** that **works** for They **book** an **appointment**.

All the **details** of the **appointment** are **saved** in the database**.**

Step 3: How the Doctor Module Works

Doctors log into their **dashboard**. They **set** their **available time slots**.

They can **see** which **appointments** have been **booked**. They can **update** the **status** of an **appointment**, like **marking** it as **completed** or **cancelled**.

Step 4: How the Admin Module Works

Admins manage doctors, **patients**, and the **departments** they **belong** to.

They can **check** all the **appointments** that have been **made**.They can **create reports** and **control** how the **system works**.

The purpose of the Hospital Appointment Booking System is to create a quick, safe, and easy way for people to manage their hospital appointments online. This system replaces the old way of booking appointments by hand, allowing patients to sign up, find doctors, and schedule appointments whenever they want. It helps doctors keep track of their free time and see their appointments, while hospital managers can oversee doctors, patients, and different departments from one place. By making the appointment process automatic, the system cuts down on waiting times, lowers mistakes, boosts hospital efficiency, and makes patients happier overall.

A solution that makes it easier and faster to book medical appointments. This system helps patients get healthcare services by letting them find doctors, check when they are available, and book appointments online, without needing to go to the hospital in person. It also helps doctors keep track of their schedules and see when patients have appointments, which stops conflicts from happening. Hospital managers can use the system to handle doctors, patients, departments, and appointments all in one place. By cutting down on paper work and manual tasks, the system akes hospital operations smoother, keeps patient information safe, and improves the overall quality of care and how satisfied patients are.

Step 5: Backend and Database Handling

The **user interface sends requests** to the **backend** through APIs**.**

The **backend checks** the **request** and **carries** out the necessary actions**.**

Appointment information is **stored** in a **database called** MongoDB.

When an **appointment** is **booked**, the **available time slots are** updated automatically**.**

Step 6: Appointment Confirmation

The **patient gets** a **message confirming** their **appointment**.The **doctor**'s **dashboard shows** their **upcoming appointments**.The **admin** can **look** at **statistics** the **appointments**.

Overall System Flow

Patient → Frontend → Backend → **Database Doctor** → Frontend → Backend → **Database Admin** → Frontend → Backend → **Databas**

Purpose Model

The **purpose** of the **Hospital** Appointment Booking System is to **create** a **quick**, **safe**, and **easy way** for **people** to **manage** their **hospital appointments online**. This **system replaces** the **old way** of **booking appointments** by **hand**, **allowing patients** to **sign** up, **find doctors**, and **schedule appointments** whenever they **want**. It **helps doctors keep track** of their **free time** and **see** their **appointments**, while **hospital managers** can **oversee doctors**, **patients**, and **different departments** from one **place**. By **making** the **appointment process automatic**, the **system cuts** down on **waiting times**, **lowers mistakes**, **boosts hospital efficiency**, and **makes patients happier overall**.

A **solution** that **makes** it **easier** and **faster** to **book medical appointments**. This **system helps patients get healthcare services** by **letting** them **find doctors**, **check** when they are **available**, and **book appointments online**, without **needing** to **go** to the **hospital** in **person**. It **also helps doctors keep track** of their **schedules** and **see** when **patients have appointments**, which **stops conflicts** from **happening**.

Hospital **managers** can **use** the **system** to **handle doctors**, **patients**, **departments**, and **appointments** all in one **place**. By **cutting** down on **paper work** and **manual tasks**, the **system makes hospital operations smoother**, **keeps patient information safe**, and **improves** the **overall quality** of **care** and how **satisfied patients** are.

Figure 1: Flow Chart

FIGURE 1. **START/LOGIN:** THE PROCESS BEGINS WITH A USER EITHER LOGGING INTO AN EXISTING ACCOUNT OR REGISTERING AS A NEW USER BY PROVIDING PERSONAL

INFORMATION (NAME, ADDRESS, PHONE NUMBER, EMAIL ID

SEARCH AND BOOK: AFTER SUCCESSFUL LOGIN OR REGISTRATION, THE USER CAN SEARCH FOR A DOCTOR. THEY THEN FOLLOW A PATH TO EITHER BOOK OR MANAGE AN E X I S T I N G A P P O I N T M E N T . A P P O I N T M E N T

MANAGEMENT: IF THE USER IS BOOKING, THEY SELECT A DATE AND TIME, RECEIVE A CONFIRMATION, AND CAN THEN LOG OUT. IF THEY ARE NOT BOOKING OR IF THEY CHOOSE TO MANAGE AN EXISTING BOOKING, THEY CAN

CLICK THE CALENDAR TO VIEW THEIR CURRENT APPOINTMENTS

FIRST-ORDER HEADINGS

First-order headings should use Times 10-point small- caps, with 12 points of space before and 6 points after. This format is set as "Heading 1" in the Styles menu of this document. Capitalise the first letter of nouns, pronouns, verbs, adjectives, and adverbs; do not capitalise articles, coordinate conjunctions, or prepositions (unless the heading begins with such a word).

Second-order headings

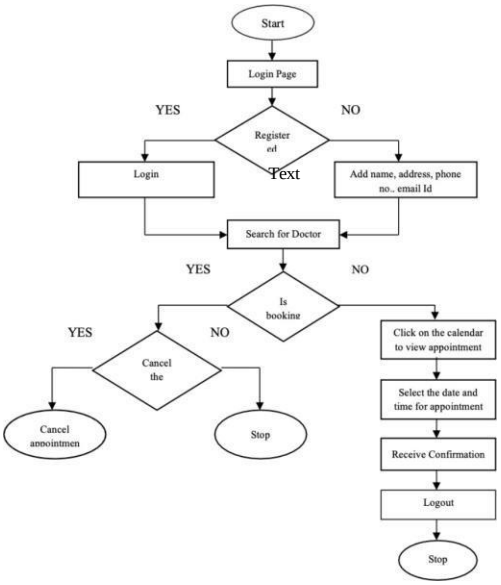
As in this heading, second-order headings should be Times 10-point, initially capitalised and italicised, flush left, with 9 points of space before and 3 points after. This format is set as "Heading 2" in the Styles menu of this document. Sections defined by second-order headings should be numbered with upper-case Roman numerals, as in this document

FUTURE

There is no such use for it in the future, but for now, it is very useful. People can tell their time through it. There are good doctors. There is direct communication with the doctors.

FOOTNOTES

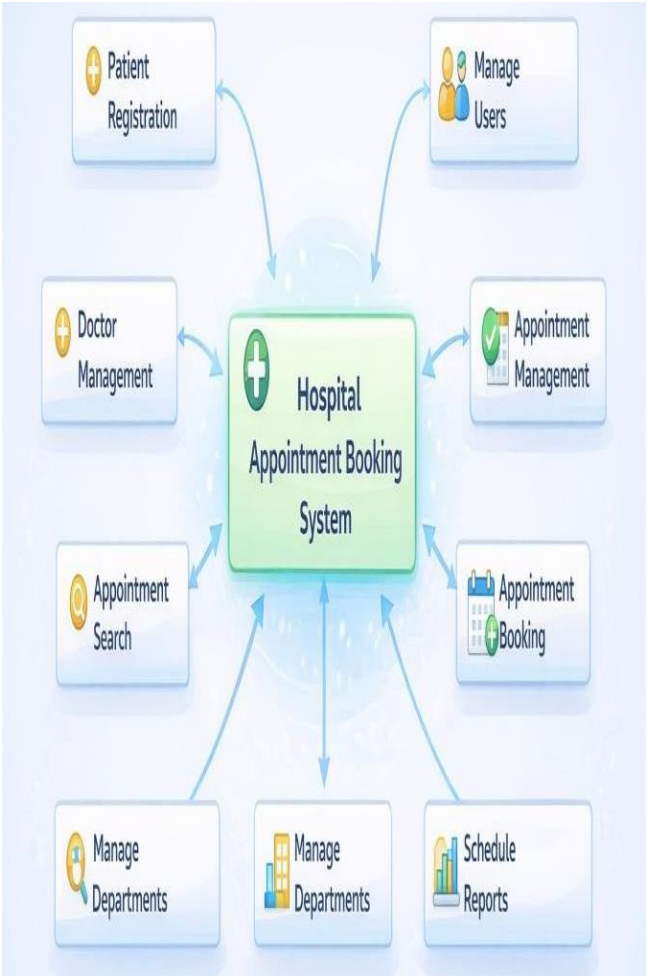
This app is designed for booking and information purposes only; it does not provide medical advice. Please consult a licensed healthcare professional for diagnosis or treatment. Prices, services, and practitioners listed are subject to change without notice.



Working of project

LITRATURE REVIEW

We would like to express our heartfelt gratitude to Galgotias University for providing us With the opportunity to work on this project titled "Health Care Appointment Booking App – Smart Health Management and Appointment System." This project has been a valuable learning experience that helped us apply theoretical knowledge to practical implementation. We extend our sincere thanks to our project guide for their continuous guidance, valuable suggestions, encouragement, and constructive feedback throughout the duration of this project. Their support played a vital role in shaping our understanding and successful completion of work. We are also grateful to all the faculty members of the Department of Computer Science and Engineering for imparting knowledge and skills that greatly contributed to the execution of the project. We would like to thank our classmates and friends for their constant motivation and cooperation. Finally, we express deep appreciation to our families for their unwavering support, patience, and strength, which encouraged us to complete this project with dedication and confidence. This project has been an enriching experience, enabling us to explore practical.



REFERENCES

1. Almulhim, A., & Jhanjhi, N. Z. (2020). Health Care Appointment Booking Appointment Management
2. System: A Review of Current Approaches and Future Trends. International
3. Journal of Advanced Computer Science and Applications,11(5),215–221.
4. Albahri, A. S., Hamidss, R. A., & Zaidan, A. A. (2021). E-health system for
5. Patients' Appointment and Scheduling: A Systematic Review. Journal of Medical Systems,45(3),1–18.
6. Bhuyan, S. S., Kabir, U., Escareno, J. M., Ector, K., Palakodeti, S., & Wyant, D.
7. K. (2017). Telemedicine and Patient Satisfaction: A Systematic Review. Health
8. Services Research and Managerial Epidemiology,4,1–10.
9. Gopi, A. P., & Sekhar, C. C. (2022). Smart Health Monitoring and Doctor
10. Appointment Booking Application Using MERN Stack. International Journal of
11. EngineeringResearch& Technology(IJERT),11(7),1–6.
12. Sarker, I. H. (2022). Machine Learning for Intelligent Health Care Appointment

13. Booking Appointment Scheduling.Healthcare Analytics,2,100016.

14. Reddy, M., & Rathi, A. (2023). Digital Invoice and Payment Automation in

15. Healthcare Management Systems. International Journal of Emerging

16. T e c h n o l o g i e s i n E n g i n e e r i n g R e s e a r c h (IJETER),8(12),93–101.