Project Report  
on

**HOSPITAL MANAGEMENT SYSTEM**

Submitted to

**Panjab University, Chandigarh**

In the partial fulfillment of the requirement for the degree of

**Bachelor of Computer Applications (B.C.A.)   
(Session – 2023-2024)**

****

**Submitted by:**Nayan Joshi, Jiya Singh  
B.C.A 6th Semester  
College Roll No.: 8003,8043  
University Roll no: 21046707,21046684

**Under the Supervision of:**Dr Harmunish Taneja**,** Dr Mandeep GillAsstt. Prof.  
Deptt. of Computer Sc.

**DAV COLLEGE, SECTOR 10, CHANDIGARH**

**CERTIFICATE**

This is to certify that Mr. **Nayan Joshi** & and Ms. **Jiya Singh**, Class BCA 6th semester Roll No. **8003** & **8043** the bonafide students of **B.C.A 6th Sem** being run by **DAV COLLEGE, CHANDIGARH** of batch **2022-23** has completed the project entitled “HOSPITAL MANAGEMENT SYSTEM” under my Supervision and Guidance. It is further certified that the work done in this project is a result of the candidate’s efforts.  
I wish them all success in their life.

**Date:**

**Dr.Mandeep Gill Dr. Harmunish Taneja**

Asst. Prof. Asst. Prof.

Dept. of Computer Sc. Dept. of Computer Sc.

**ACKNOWLEDGEMENT**

We have made huge efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations, we would like to extend our sincere thanks to all of them.  
  
We are highly indebted to Dr. Harmusnish Taneja and Dr. Mandeep Gill for their guidance and constant supervision as well as for providing necessary information regarding the project and also for their support in completing the project.

We would like to express our gratitude to our HoD Dr. Minakshi Bhardwaj who always supports us in doing something unique and out of the box, which motivates us to enhance our knowledge and move forward to make this project.

We would also be thankful to our principal Prof. Rita Jain for supporting this project and providing all the required facilities for the completion of this project.

Our thanks and appreciation also go to our friends and family in developing the project and people who have willingly helped us out with their abilities.

**(Nayan Joshi) & (Jiya Singh)**

21046707 21046684

**INDEX**

**COMPANY PROFILE**

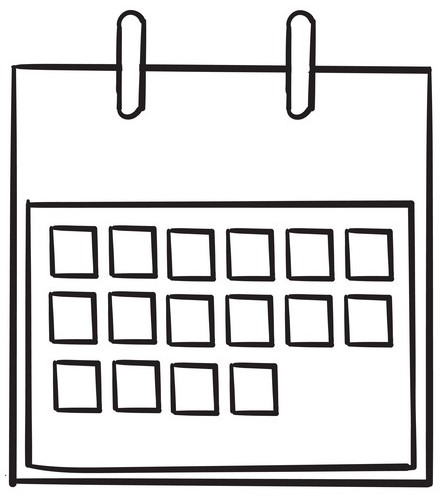


From preventive care and checkups to immunization and exams, our primary care physicians and providers work to keep you and your whole family healthy and strong every day

If not co care provides you with a single solution to all these problems. An important channel for patients to find out about their medical condition, make online bookings, and pay bills. We believe in providing 24/7 availability to our patients so that they can find us anytime and anywhere. Even after business hours, our website will continue to serve you. Offers convenience as you can access the information you require in the comfort of your home and helps in times of emergency as well.

It helps everyone to know all the prominent details such as opening hours, contact information, images of the hospital, and machines. Provides you with the facility to book appointments online

Book an Appointment



Our Service Providers

Have an emergency?

1-800-900

1



**INTRODUCTION**

This PHP-based project on a hospital management system is a web application for booking medical appointments, talking to your doctor online, doorstep delivery of medicine to the patient, and many more facilities to save patients time and effort.

HEALTH CARE TECHNOLOGY

PATIENT EXPERIENCE

PATIENT INSIGHT

DATA INSIGHTS

CO CARE hospital has its very own online platform that allows you to book online appointments with consultation, digitalize prescriptions, and order medicines, and lab tests. Here you will find doctors in top specialties and their guidance.

The digitalization of the healthcare industry has accelerated in the past few years and there’s no indication that this development will pace down shortly either. The benefits of using technology, such as patient appointment systems, in hospitals and outpatient clinics are many.

In this, I'd like to focus on how a patient appointment system, also known as patient appointment software, can help hospitals improve patient flow management and increase patient experience and staff satisfaction.

CO CARE website will provide an effective way to manage your time and be productive. It helps you stay organized, prioritize tasks, and get more done in less time. It is an important part of organizing and managing one’s time, creating a sense of accountability.

**OBJECTIVES**

LESS ADMINISTRIVE WORKLOAD

REDUCED PATIENT CANCELLATION

IMPROVED WORK ENVIRONMENT

TIME MANAGEMENT

* TIME MANAGEMENT: Enabling patients to book their appointments allows them to plan their day accordingly and make changes to their calendar, limiting and make changes to their calendar, limiting the uncertainty of when an appointment time will be given to them by healthcare providers. after you enter the website, you can sign up as a user after that you can book your appointment for free by entering the mentioned fields. Time will be saved by ordering the medicines online through the hospital portal and getting the medicines to your doorstep.
* IMPROVED WORK ENVIRONMENT: A patient appointment system enables hospitals to create a more balanced patient flow and even workload throughout the day, reducing your staff’s stress levels. By spreading out appointments, you eliminate the stress of peak hours, reduce time-consuming administrative work, and result in an improved work environment and happier staff. It reduces the staff's physical work as they can manage the patient's data easily only and can manipulate and view it as per their requirements.
* REDUCED PATIENT CANCELLATION: Within an appointment scheduling system, it's possible to send appointment confirmations and reminders to patients automatically, which increases the likelihood of them showing up for their appointments. This way, you put your resources to better use, and the problem of no-shows is reduced. After a certain number of bookings per day, the site won't allow you to book your appointment which will save a lot of your time in waiting.
* LESS ADMINISTRATIVE WORKLOAD: Instead of spending hours contacting patients, finding an appointment slot, collecting needed patient information to confirm the appointment, and managing staff members’ calendars, your staff can focus on providing excellent patient care. The pen paperwork will be reduced and the data loss will be prevented because all the user’s data will be stored in the backend and can be seen when required, personally contacting each patient can be avoided because through the website the patient will already know his consultation timings.

**REQUIREMENT ANALYSIS**

* **Problem Analysis:**
* Problem: The manual management of appointments involves a list of tasks such as making endless calls, manual information recordings, collecting data, manual sorting, and so forth. Setting up appointments manually though seems to be easier as just a word with the client over the phone and the appointment is fixed. But, the real struggle begins with managing multiple appointments, maintaining a paper appointment book, and staying updated with changed timings or canceled scheduled meetings.
  + Evidence: Let’s take a look at relevant online booking data on how appointment scheduling has been benefiting these businesses.

-43% of patients prefer to book appointments online. (Kyruus, 2020)

-24.1 days – The average waiting time for a physician appointment for the largest metro markets. (patientpop.com, 2020)

-11.4 million appointments from February 1 through May 1, 2020, were canceled by the US Veterans Health Administration due to the COVID-19 pandemic. (US Veterans Affairs, 2020)

-32% of these did not indicate follow-up or tracking. (US Veterans Affairs, 2020)

-68% had evidence of follow-up or another tracking. (US Veterans Affairs, 2020)

-1.1 million of the canceled appointments were converted to phone or video appointments. (US Veterans Affairs, 2020)

-2.8 million virtual appointments were completed during March and April 2020. (US Veterans Affairs, 2020)

* Impacts: the impacts of not having an automated online appointment system like co-care can lead to:

-Increased Expenses

-Inefficient Operations

-Overall Productivity Loss

-Limited Hours of Operations

-Time Consuming and Tedious

-Complex Payment Processing

-Extra Resources for Scheduling Clients

* Causes: If you’ve ever been in a situation where a patient has shown up only to be told that their appointment has mysteriously fallen off the books, you’ve seen just how upsetting it can be for both patient and worker. Fortunately, there’s an easy way to avoid this problem, and it starts with outsourcing over-the-phone[medical appointment scheduling](https://cosmomed.com/medical-communication-services/appointment-scheduling/) and follow-up calls to an automated messaging system. The result is increased efficiency with no mix-ups and no bad Yelp reviews.
* Recommendations: Several methods have been proposed to shorten the patient waiting time resulting in the shortest idle times in healthcare centers. Among existing modeling such as simulation models, mathematical optimization techniques, Markov chain, and artificial intelligence are the most practical approaches to optimizing or improving patient satisfaction in healthcare centers. In this study, various criteria are selected for structuring the recent literature dealing with outpatient scheduling problems at the strategic, tactical, or operational levels.
* **Requirement Specification:**
* Introduction to SRS:

System Requirement Specifications (SRS) is a document that outlines the detailed requirements for a software system, including its functionality, performance, usability, and other attributes.

**Device specifications**

Device name DESKTOP-T7BKRPF

Processor Intel(R) Core(TM) i3-1005G1 CPU @ 1.20GHz 1.19 GHz

Installed RAM 8.00 GB (7.77 GB usable)

Device ID 15D84B3A-0C50-41EF-A679-9B49EC01F672

Product ID 00327-36336-11832-AAOEM

System type 64-bit operating system, x64-based processor

Pen and touch No pen or touch input is available for this display

**Windows specifications**

Edition Windows 11 Home Single Language

Version 21H2

Installed on ‎ 13-‎06-‎2022

OS build 22000.1574

Experience Windows Feature Experience Pack 1000.22000.1574.0

**Functional requirements**

-provides the facility for online bookings

-appointment slip will be downloaded to your device automatically

-better patient experience

-online payment

-prescribed medicines can be home-delivered

-online consultation with your doctor

-24/7 ambulance service

-regular reminders for your checkups

-timings, staff information, and all facilities provided online to everyone

**Non-functional requirements**

-user-friendly, everyone can use the site easily.

-saves a lot of time standing in long queues waiting to get the appointment number.

-cost efficient as it provides discounts on medicines.

-helpful in times of emergency.

-less paper as all the medical records and history are saved online.

-provides the option of cashless payment.

* General description of project:

**Improved patient experience** because online appointment booking systems are relatively self-sufficient, in addition to being easy to use, patients can feel at ease.no patient would like an experience that is not smooth. An online doctor appointment system enhances patient satisfaction.

**Online or mobile payments** make it easier for your clients to pay bills. It saves a massive amount of time as it is just an away. every service needs a secure payment system. An online appointment management system is safe, and the data is kept secure.

**Administrative efficiency** means administrative staff does not need to answer phone calls and spend time finding appointments for patients. it increases staff efficiency, improves patient satisfaction, and reduces scheduling errors. A new technical breakthrough, online scheduling software, has made the booking process in hospitals easier for both patients and administrative employees.

**Buying medicine online** with co-care can help patients save time by visiting chemists physically. It saves a lot of time by providing doorstep delivery of medicines. Also prevents the patients from getting cheated by local vendors and pharmacies who supply medicines from unknown suppliers.

**Appointment reminders** help in managing no-shows and last-minute cancellations. Co-care solves this issue by sending appointment reminders to their patients before an upcoming booking. Patients can have the option to accept, reschedule, or cancel their booking to ensure a significant reduction of no-shows. Dealing with no-shows and last-minute cancellations wastes valuable time and interferes with the entire day’s schedule.

**Patient Portal** is a secure patient portal offered by co-care that Patients can log onto and view their payment and appointment information. They can track their bookings and invoices and can make early payments for upcoming appointments. The patient portal encourages patients to return to their timely checkups in the hospital and ensures that the medical office receives payment promptly.

**High monetary cost**- the implementation cost of such platforms and the cost spent for bug issue handling and support are high. Patient no-shows are something that is hindering the advancement of many clinics, leading to hundreds and thousands of dollars in lost revenue. A challenge faced while implementing online appointment booking is ensuring that the service providers are of the highest quality which leads to high management costs.

**Consistent Internet access**- online platforms are efficient only if the services can be widened across more professionals to provide high-quality treatment. Although technology has caught up rapidly in post post-COVID world, there are still widespread discrepancies when it comes to adoption and availability. There is still a significant portion of the population without access to technology and internet.

**Data theft-** one of the main disadvantages is that data theft is due to insecure databases for patients as well as patient and doctor details. It is one of the key challenges in implementing online appointment booking is to make sure that you store patients' data safely. Medical information is one of the most sensitive data that patients part with after trusting them implicitly. It is only common courtesy that they treat it with extreme caution.

* Certain specific requirements:



-Type of Application: web application

-Front End: HTML, CSS, JavaScript

-Back End: PHP, MySQL

-Operating System: Microsoft Windows 11

-Documentation: Microsoft Office World 2019

**HTML**

****

-HTML stands for Hyper Text Markup Language.

-HTML is the standard markup language for creating web pages.

-HTML describes the structure of a web page.

-HTML consists of a series of elements.

-HTML elements tell the browser how to display the content.

**CSS**



-CSS stands for Cascading Style Sheets.

-CSS describes how HTML elements are to be displayed on screen, paper, or in other media.

-CSS saves a lot of work. It can control the layout of multiple web pages all at once.

-external style sheets are stored in CSS files.

**PHP**



**MySQL**



**MICROSOFT OFFICE WORD**



**MICROSOFT WINDOWS**

