MEDICAL MANAGEMENT WEB DESIGN

A PROJECT REPORT

Submitted by

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in partial fulfillment for the award of the degree

of

MASTER OF COMPUTER APPLICATIONS

Specialization: ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Under the guidance of

Mr. Shivam Sharma (E17388)
Assistant Professor

UNIVERSITY INSTITUTE OF COMPUTING

CHANDIGARH UNIVERSITY

GHARUAN, MOHALI, PUNJAB -140413

April 2025

CERTIFICATE

This is to certify that **Ashish Ved**, a student of **Master of Computer Applications (MCA) – Artificial Intelligence and Machine Learning**, has successfully completed the Project titled, **"Medical Management Web Design"** under the esteemed guidance of **Mr. Shivam Sharma, Assistant Professor, University Institute of Computing (UIC), Chandigarh University.**

This project was undertaken as a part of the academic curriculum and is submitted in **partial fulfilment of the requirements** for the MCA program. The work presented in this project is a result of **independent research, diligent effort, and dedication**, demonstrating the student's ability to apply theoretical knowledge to practical problem-solving.

The project successfully implements **interactive web design principles using Figma**, demonstrating an efficient approach to creating an engaging and user-friendly college website prototype. It reflects the student's understanding of **human-computer interaction concepts, user experience design, and web animation techniques**.

I hereby confirm that this project is an **original work** carried out by the student and has not been submitted elsewhere for the award of any other degree, diploma, or certification.

Project Guide:

Mr. Shivam Sharma

Assistant Professor

University Institute of Computing

Chandigarh University

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to **Chandigarh University** and the **University Institute of Computing (UIC)** for providing me with the opportunity to undertake this project, **"Medical Management Web Design"**

I extend my heartfelt appreciation to my esteemed mentor, **Mr. Shivam Sharma, Assistant Professor,** for their invaluable guidance, continuous support, and insightful feedback throughout the project. Their expertise in **Human-Computer Interaction and Web Design Principles** played a crucial role in the successful completion of this project.

I am also grateful to my friends and peers for their encouragement and discussions, which helped refine my approach. Lastly, I thank my family for their unwavering support and motivation during this endeavour.

This project has been an incredible learning experience, and I hope it serves as a foundation for further exploration in **interactive web design and user experience development**.

Ashish Ved

MCA – Artificial Intelligence and Machine Learning

Chandigarh University

ABSTRACT

The rapid evolution of digital healthcare solutions has highlighted the critical need for intuitive and efficient interfaces that cater to diverse users, including patients, doctors, and administrators. This project, titled **" Medical Management Web Design,"** aims to develop a user-friendly, accessible, and scalable web interface for managing medical workflows through a Software-as-a-Service (SaaS) model. The project focuses on the principles of Human-Computer Interaction (HCI) to ensure seamless interaction, visual clarity, and task efficiency for all users.

Utilizing **Figma** as the primary design tool, this project includes the creation of wireframes, prototypes, and interactive UI components tailored to key functionalities such as appointment booking, prescription handling, patient-doctor communication, and report management. User-centered design methods, including persona development and task flow analysis, were employed to create a coherent and intuitive user experience.

The outcome is a functional prototype of a web-based medical management system that emphasizes usability, responsiveness, and accessibility. This report outlines the design process, challenges faced, HCI principles applied, and future improvements that can enhance the user experience and expand the system's capabilities.

INTRODUCTION

With the increasing reliance on digital technologies, the healthcare industry is undergoing a significant transformation. One of the most crucial areas in this transformation is the management of medical services, where efficiency, accessibility, and user experience are vital. Traditional systems involving paperwork and manual processes are being replaced with modern web-based platforms that offer improved functionality and convenience.

This project, titled **"Medical Management Web Design,"** focuses on designing a user-friendly, responsive, and intuitive web interface for managing essential healthcare operations. The goal is to provide a seamless experience for users including doctors, patients, and administrators by simplifying tasks such as appointment scheduling, medical record management, prescription handling, and communication.

The project emphasizes the importance of **Human-Computer Interface (HCI)** principles in developing interactive systems. By prioritizing user needs, ease of navigation, and visual clarity, the design aims to enhance both usability and efficiency. Through tools like **Figma**, a high-fidelity prototype has been created that reflects real-world medical management scenarios and user workflows.

This report outlines the complete design process—from understanding user roles and needs to creating structured layouts, wireframes, and interactive components. It highlights how effective HCI design can lead to improved performance, reduced errors, and a more accessible healthcare experience for all users.

PROJECT OBJECTIVE

The **Medical Management Web Design** project aims to develop a clean, user-friendly, and functional interface for managing essential healthcare operations through a web-based platform. The focus is on applying Human-Computer Interface (HCI) principles to create a seamless experience for all types of users including doctors, patients, and administrators. The key objectives of the project are:

1. **To design an intuitive web interface** that simplifies complex medical tasks such as booking appointments, managing prescriptions, and viewing medical reports.
2. **To apply core HCI principles** such as user-centered design, consistency, feedback, and accessibility—to enhance user experience and reduce interface-related errors.
3. **To build a responsive prototype** using Figma that works across multiple devices including desktop, tablet, and mobile platforms.
4. **To ensure role-based access** for different types of users (patients, doctors, admins) with personalized dashboards and features.
5. **To improve the digital workflow of medical services** by reducing paperwork, delays, and manual intervention through digital interaction design.
6. **To create a visual design system** that maintains clarity, readability, and simplicity while addressing the real-world needs of healthcare professionals and patients.
7. **To demonstrate the impact of good web design** in improving medical data management, communication, and overall service efficiency.

METHODOLOGY

The **Medical Management Web Design** project was developed using a user-centered design methodology to ensure an intuitive, accessible, and efficient web platform. The process was divided into multiple stages, focusing on creating a seamless and user-friendly experience for patients, doctors, and administrators.

1. Requirement Analysis

Goal: Understand the needs of users and define the platform's features.

Process:

- Conducted **surveys** and **interviews** with users.
- Analyzed existing platforms for features like **appointment booking**, **doctor profiles**, and **service listings**.
- Created **user personas** to understand different user needs.

2. Planning & Wireframing

Goal: Plan the layout and structure of the website.

Process:

- Created **wireframes** for all main pages (Homepage, Doctors, Pricing, About Us, Services, Sign-In, and Sign-Up).
- Focused on making the **navigation** simple and intuitive.
- Ensured a **clean layout** with minimal distractions.

3. Design & Prototyping

Goal: Develop high-quality designs and an interactive prototype.

Process:

- Designed the **UI components** (buttons, forms, navigation) in **Figma**.
- Created an **interactive prototype** to show how users interact with the platform (e.g., **sign-up**, **booking appointments**).
- Designed for **responsive layouts** to ensure usability on desktop, tablet, and mobile devices.

4. Development & Implementation

Goal: Build the web platform with a working backend and frontend.

Process:

- Used **HTML**, **CSS**, and **JavaScript** for the frontend.
- Developed **backend functionality** for **user authentication** (Sign-In/Sign-Up).
- Built **dynamic pages** like **Doctors** and **Pricing**, ensuring smooth content delivery.
- Applied **form validation** to ensure correct data entry.

5. Testing & Quality Assurance

Goal: Ensure everything works perfectly across devices and browsers.

Process:

- Conducted **unit tests** for individual components (like forms).
- Tested the overall system with **integration tests**.
- Ran **usability tests** with real users to check ease of use.
- Ensured compatibility across different browsers and devices.

6. Deployment & Launch

Goal: Make the platform live for users.

Process:

- Deployed the website to a **cloud server** (e.g., **AWS** or **Heroku**).
- Ensured that all features worked correctly in the live environment.
- Set up **domain names** and **SSL certificates** for secure access.

7. User Feedback & Iteration

Goal: Improve the platform based on user feedback.

Process:

- Collected **feedback** from users via surveys and testing.
- Made **design improvements** and added features based on the feedback.

- Events and Contact Us pages

Step 3: Develop High-Fidelity Prototypes

- Use Figma's tools to transform wireframes into high-fidelity prototypes.
- Add interactive elements such as animations, transitions, and navigation links.
- Ensure consistency in typography, color schemes, and layout across all pages.

Step 4: Test the Prototype

- Conduct usability testing to evaluate:
  - Navigation flow between pages.
  - Responsiveness across devices.
  - Effectiveness of animations in enhancing user engagement.

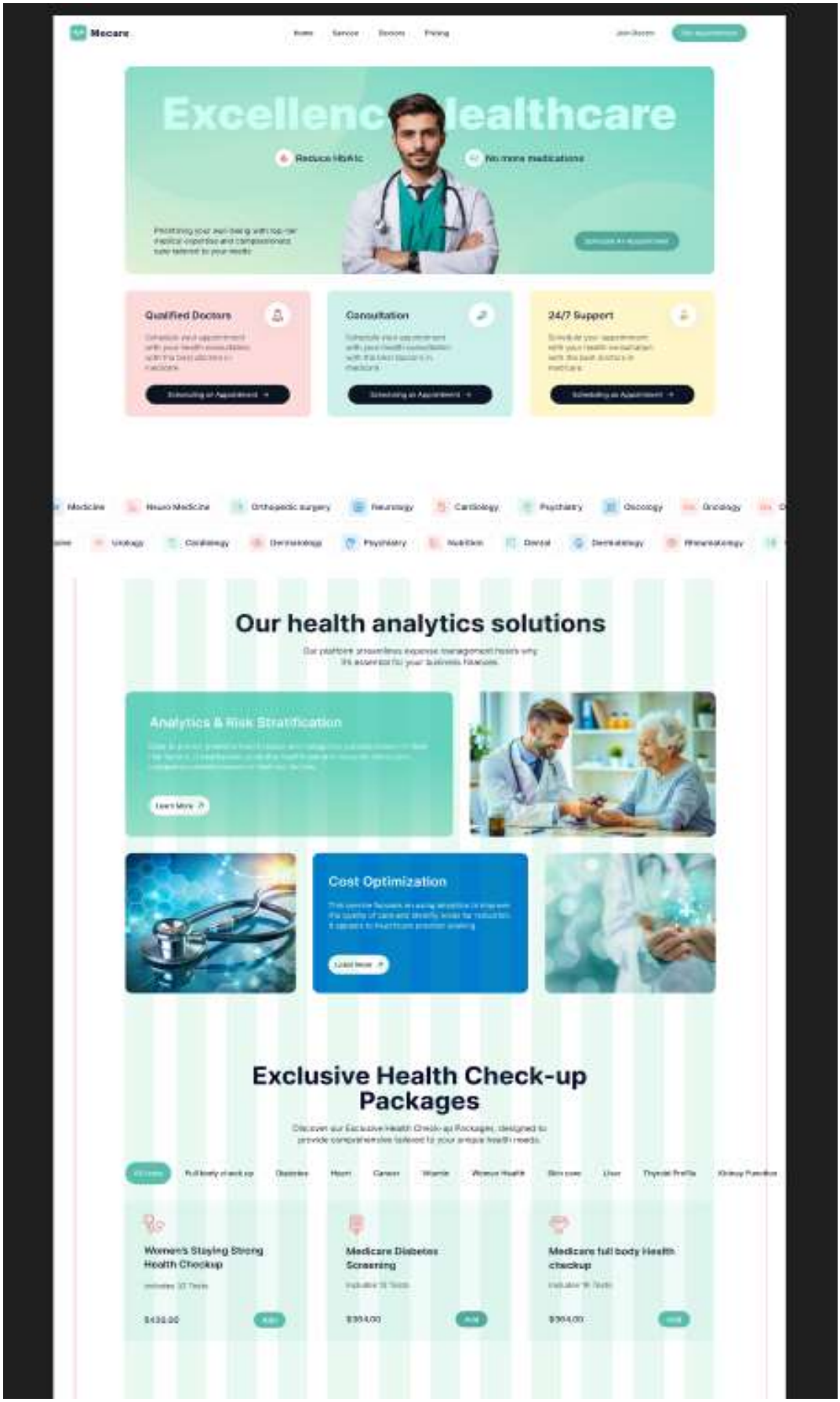
Step 5: Refine Based on Feedback

- Gather feedback from peers and mentors.

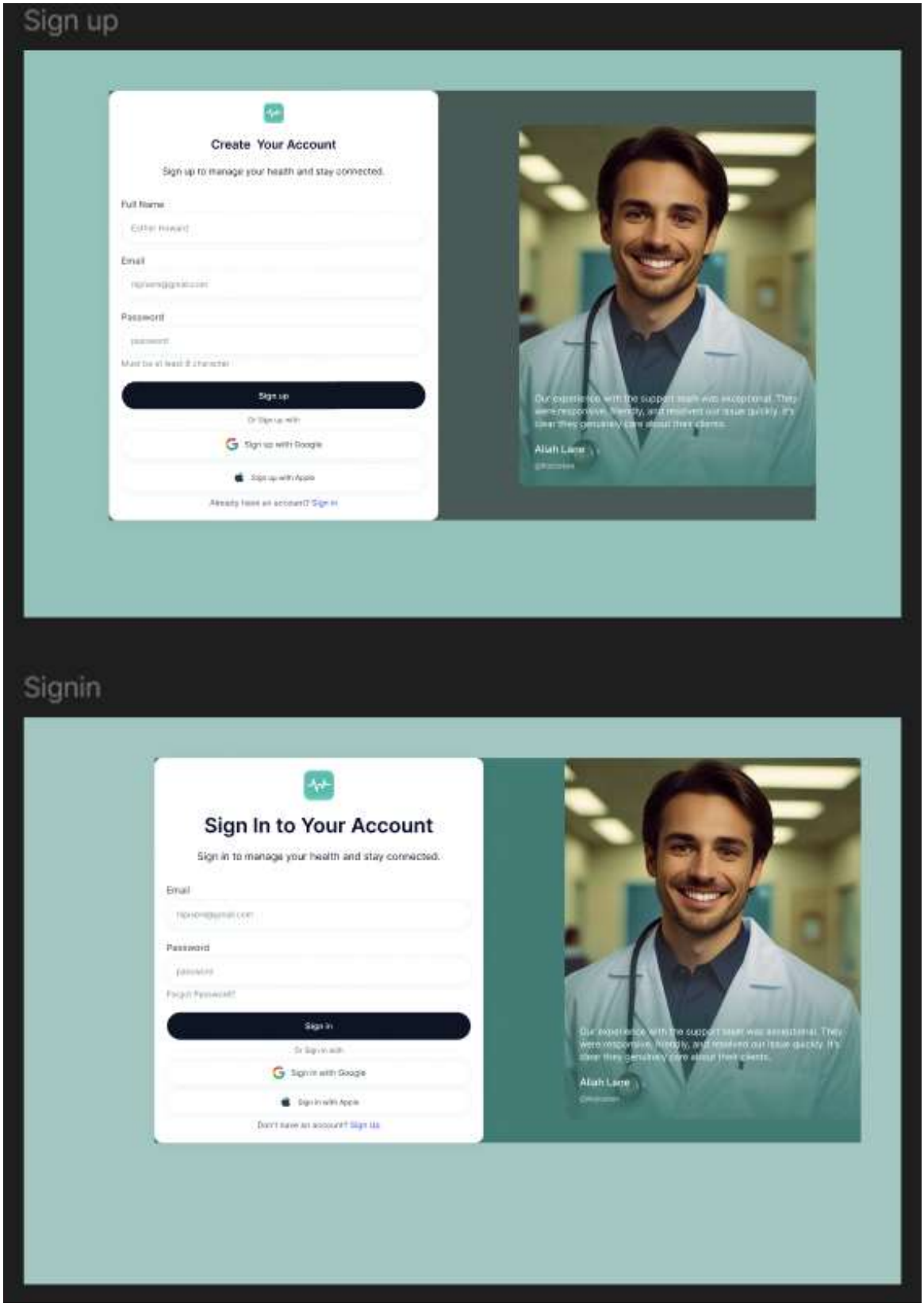
Optimize animations and layout designs for better performance and user experience.

This methodology ensures the project is user-centered and results in a website that is functional, easy to navigate, and meets the needs of its users..

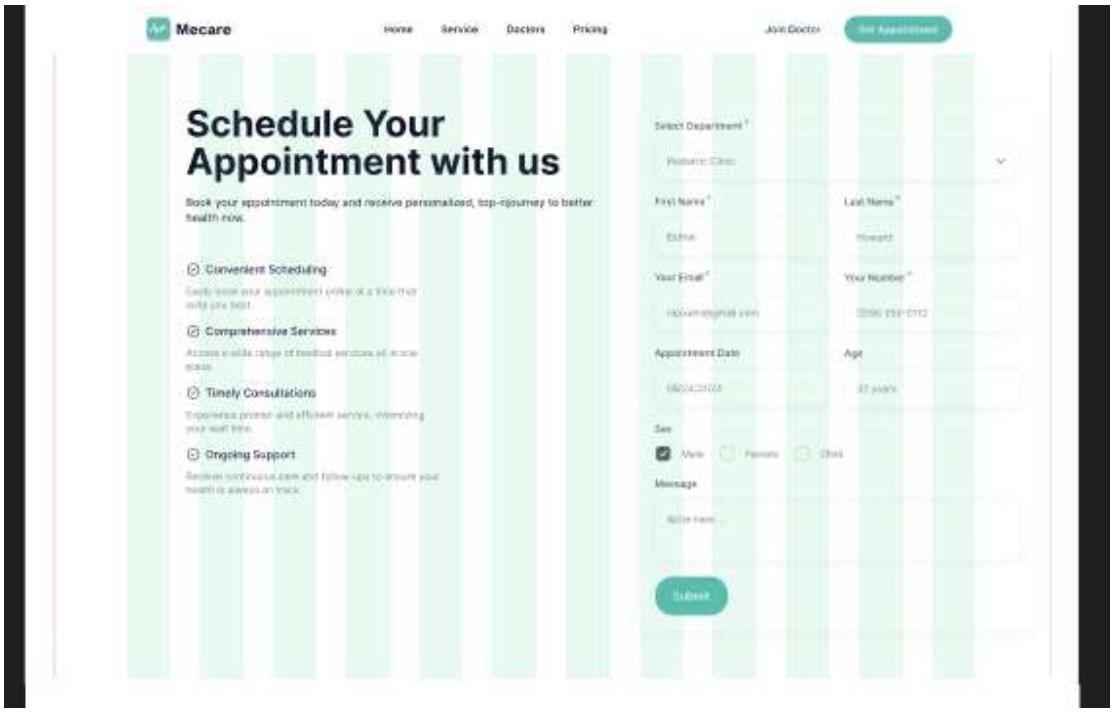
HOME PAGE


Mecare
Qualified Doctors
Consultation
24/7 Support
Our health analytics solutions
Analytics & Risk Stratification
Cost Optimization
Exclusive Health Check-up Packages
Women's Staying Strong Health Checkup
Medicare Diabetes Screening
Medicare full body Health checkup

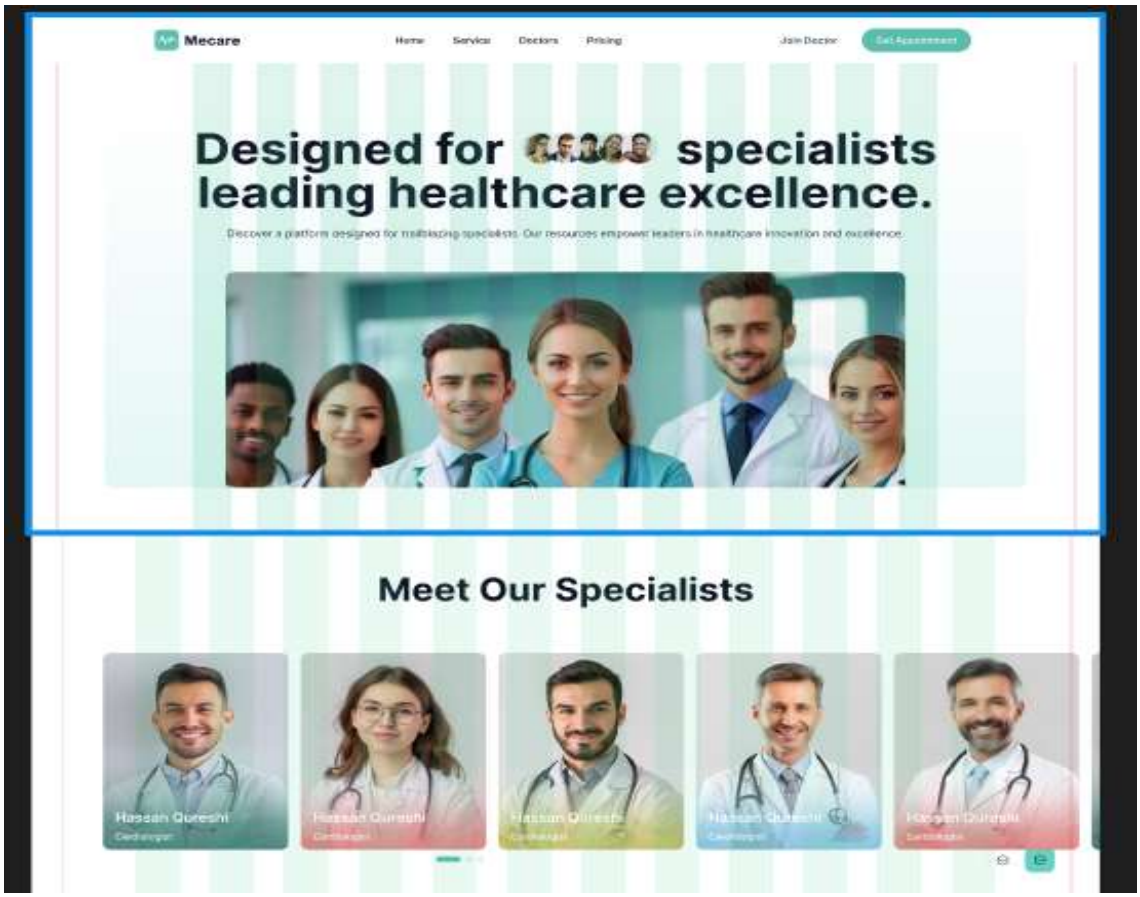
Sign in and SignUp Page



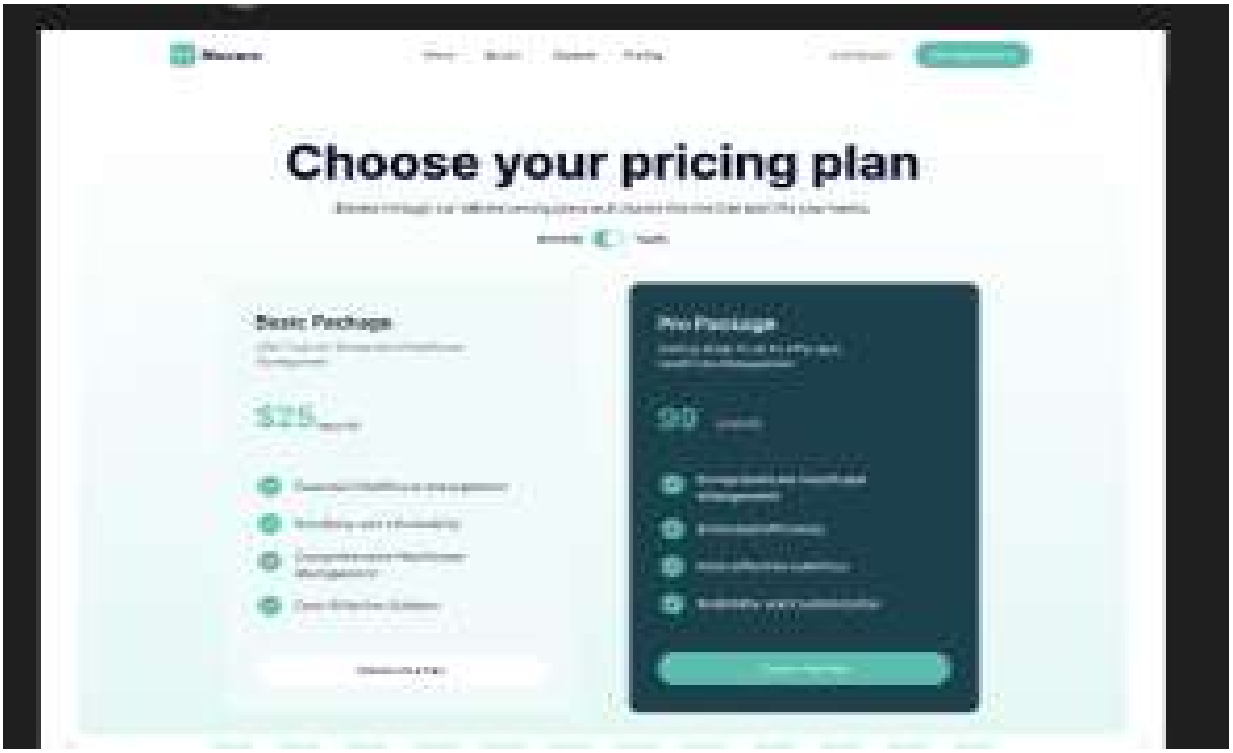
Appointment Page



Doctor Page

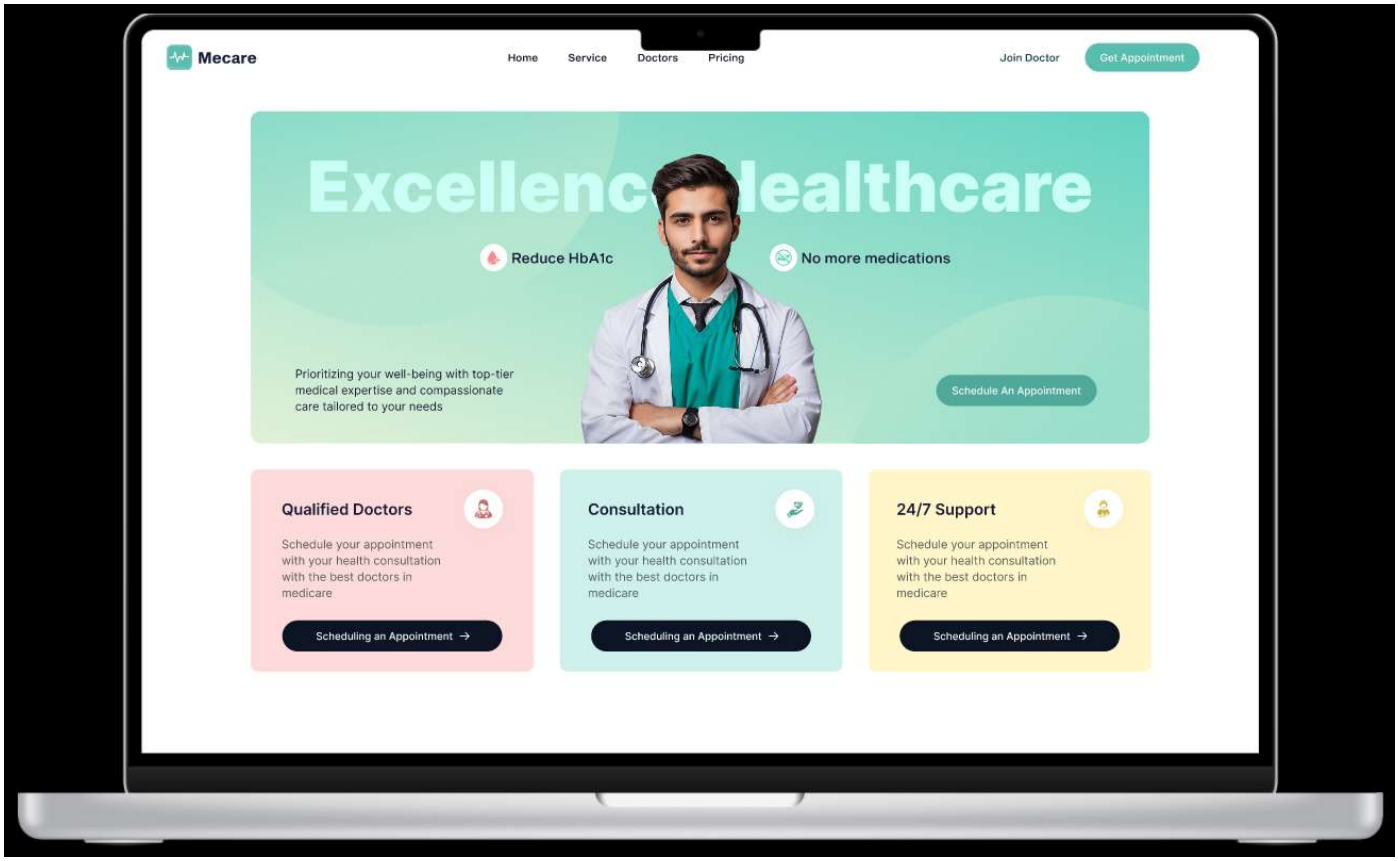


Pricing Page



Services Page

FINAL OUTPUT



Key Observations

- **User-Centered Design**: Focused on user personas and feedback to ensure the platform meets diverse user needs.
- **Responsive Design**: Designed with mobile-first principles to ensure accessibility across devices.
- **Simplified Navigation**: Easy-to-use layout with clear calls to action for quick user guidance.
- **Interactive Prototype**: Prototype in Figma helped identify issues early and improve design.
- **Security and Privacy**: Prioritized secure authentication to protect user data.

- **Testing and Iteration**: Usability tests led to improved forms and interface design.
- **Performance and Compatibility**: Optimized for fast loading and cross-browser compatibility.
- **Real-World Application**: Platform is applicable for real-world medical management.
- **Scalability**: Designed to accommodate future features like patient records and telemedicine.

Significance

The project demonstrates how Figma can be leveraged to implement **Human-Computer Interaction principles** in web design. The prototype showcases the potential of interactive elements in improving user experience and accessibility for diverse stakeholders such as students, faculty members, researchers, and external visitors.

This work serves as a foundation for future enhancements, such as integrating backend functionality or conducting advanced usability testing with larger user grou

Conclusion

The **Medical Management Web Design** project, developed under the subject of *Human-Computer Interface (HCI)*, represents a practical application of design thinking, usability principles, and digital health solutions. The primary goal of this project was to create a user-friendly, responsive, and accessible web interface that simplifies the interaction between patients, doctors, and the medical system.

Throughout the development process, several essential HCI principles were applied, including user-centered design, consistency, feedback, and visual hierarchy. These principles helped in shaping a platform that not only looks visually appealing but also provides a seamless experience to its users. The pages developed — Home, Doctors, Services, Pricing, About Us, Sign In, and Sign Up — each played a crucial role in delivering a complete and interactive interface.

The project journey began with planning and wireframing, followed by designing in **Figma**, where interactive prototypes were built to simulate the real-time user experience. A consistent layout, clear typography, appropriate color contrast, and responsive components ensured that users could easily navigate the website on any device. Additionally, emphasis was placed on secure login features to build user trust and protect sensitive data.

In conclusion, the project fulfills its purpose of showcasing how well-implemented HCI practices can improve user interaction and overall experience in the healthcare domain. It not only meets the academic objectives but also holds potential for real-world application. This web-based SaaS solution stands as a promising step toward digital transformation in medical management.

Figma Prototype Link:
https://www.figma.com/community/file/1495459381730397008

Github Link: https://github.com/Ashishved786/Medical-Management-Web-Design