Introduction to Human-Computer Interaction

Project Plan

Hospital app

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7.4.2023

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1. Introduction

The HCI hospital app project is a software development project that aims to create a user-friendly and efficient mobile application for a hospital. The app is designed to enhance the experience of patients, doctors, and hospital staff by providing them with a digital platform to manage their healthcare needs.

1.1. Background and context of the project

The HCI hospital app project is a mobile application development initiative by a leading hospital to provide patients with access to healthcare services and information through their smartphones. The project aims to improve patient care, streamline hospital operations, and leverage digital technologies and HCI principles to create a user-friendly and intuitive app. The app will offer services such as booking appointments, viewing medical records, receiving medical advice, and accessing health education resources. The project involves collaboration between hospital administrators, healthcare providers, software developers, and UX designers, and represents a significant step towards improving the quality of healthcare services through digital transformation.

1.2. Project objectives and goals

The objectives and goals of the HCI hospital app project are to improve the patient experience, streamline hospital operations, enhance healthcare services, leverage digital technologies, and incorporate HCI principles. The project aims to improve the quality of healthcare services and enhance the patient experience through digital transformation.

1.3. Scope of the project

The HCI hospital app project aims to develop a user-friendly mobile application that provides patients with access to healthcare services and information through their smartphones. The app will be designed using HCI principles and the latest digital technologies and will include features such as booking appointments, viewing medical records, receiving medical advice, and accessing health education resources. The project's scope includes user research, design, development, testing, deployment, and integration with the hospital's existing healthcare systems.

2. User research and persona development

The HCI hospital app project involves conducting user research and persona development to identify the needs and pain points of the hospital's target audience. The project team will use the insights gained from user research to develop personas, which will represent typical users of the app. The personas will help guide the design and development of the app and ensure that it meets the needs of the hospital's target audience.

2.1. User research methods used

The HCI hospital app project will use various user research methods such as surveys, interviews, and focus groups to gather insights from the hospital's target audience. The project team will also conduct usability testing to evaluate the app's user interface and overall user experience. The insights gained from user research will inform the design and development of the app and ensure that it meets the needs and expectations of its users.

2.2. Key findings and insights from user research

The key findings and insights from user research for the HCI hospital app project include:

Patients prefer a user-friendly and intuitive interface that is easy to navigate.

Patients want to have easy access to their medical records, appointment schedules, and test results through the app.

Patients value the ability to communicate with their doctors and receive medical advice through the app.

Hospital staff would benefit from automated administrative tasks such as appointment scheduling and medical record management. The app should be designed with accessibility in mind to ensure that it can be used by all patients, including those with disabilities.

These insights will guide the development of the app and ensure that it meets the needs and expectations of its users.

2.3. Description of user personas developed

The HCI hospital app project has developed user personas based on the insights gained from user research. The personas include:

The Busy Professional: A busy professional who values convenience and wants to be able to book appointments and access medical records quickly and easily through the app.

The Senior Citizen: An elderly patient who values simplicity and requires easy-to-understand instructions and clear visuals to navigate the app. The Chronically Ill Patient: A patient with a chronic illness who requires frequent medical attention and values the ability to communicate with their doctor and receive medical advice through the app.

The Hospital Administrator: A hospital staff member who values automated administrative tasks such as appointment scheduling and medical record management.

These personas represent typical users of the app and will guide the design and development of the app to ensure that it meets the needs of its target audience.

3. Requirements gathering and analysis

The HCI hospital app project involves requirements gathering and analysis to identify the necessary features and functionalities of the app. The project team will conduct a thorough analysis of the hospital's existing healthcare systems and workflows to ensure that the app can be seamlessly integrated. The team will also work closely with stakeholders to gather their requirements and feedback, which will be used to create a detailed requirements document. The requirements document will guide the development of the app and ensure that it meets the needs of its users and stakeholders.

3.1. Functional and non-functional requirements identified

1. Appointment scheduling and booking.
2. Access to medical records and test results.
3. Secure messaging between patients and doctors.
4. Prescription renewal and management.
5. Notifications for appointment reminders and test results.

1. App security to protect patient information and data.
2. Scalability to accommodate increasing numbers of users and data.
3. Accessibility for users with disabilities.
4. Usability and user experience design to ensure ease of use and navigation.
5. Performance and reliability to ensure the app operates efficiently and effectively.

3.2. Use cases and scenarios developed

How the app will be used in different scenarios. Use cases describe the different ways in which users will interact with the app and the specific tasks they will perform. Scenarios are detailed narratives that describe how users will use the app in specific situations.

Some examples of use cases and scenarios for the HCI hospital app project include:

Appointment booking: A patient uses the app to schedule an appointment with their doctor, choosing a convenient date and time from available options.

Medical record access: A patient logs into the app to access their medical records, including test results and treatment plans.

Secure messaging: A patient sends a message to their doctor through the app to ask a question about their treatment plan.

Prescription renewal: A patient requests a prescription renewal through the app and receives confirmation from their doctor.

These use cases and scenarios help to clarify how the app will be used and ensure that it meets the needs of its users.

4. System architecture and design specifications

4.1. Design and prototyping

Design and prototyping involves creating visual representations of the app's interface and functionality.

4.2. Initial design concepts and wireframes

Initial design concepts and wireframes are created to give an overview of the app's structure and layout.

4.3. Low-fidelity prototypes and testing results

Low-fidelity prototypes are then created to test basic functionality and gather feedback from users. Testing results from low-fidelity prototypes inform the development of high-fidelity prototypes, which are more detailed representations of the app's interface.

4.4. High-fidelity prototypes and testing results

High-fidelity prototypes are thoroughly tested to ensure the app meets the functional and non-functional requirements. These prototypes serve as the basis for the final design and development of the app.

5. Development and implementation

The development and implementation phase of the HCI hospital app project involves the actual coding and creation of the app based on the design and specifications developed in previous stages.

5.1.   Overview of development process and methodology

The development process and methodology will be carefully planned and executed to ensure the app meets the functional and non-functional requirements identified earlier in the project.

5.2.   Technologies and tools used

Technologies and tools used in the development process will be chosen based on their suitability for the project's requirements and compatibility with the chosen development methodology.

5.3.   Detailed system architecture and implementation details

A detailed system architecture will be developed, outlining the app's various components and how they will interact with each other. Implementation details will also be documented, including coding standards and best practices, to ensure a high-quality final product. Throughout the development and implementation phase, rigorous testing and quality assurance measures will be taken to ensure the app is stable, secure, and meets the needs of its users and stakeholders.

6. Testing and validation

The testing and validation phase of the HCI hospital app project involves various strategies and methodologies to ensure that the app functions as intended and meets the project requirements.

The testing process will be carefully planned and executed to cover all aspects of the app, including functional and non-functional requirements, user experience, security, and performance.

6.1. Testing strategies and methodologies used

Various testing tools and techniques will be used to validate the app's functionality, including manual testing, automated testing, and user acceptance testing.

6.2. Results of testing and validation process

The results of the testing and validation process will be thoroughly documented and analyzed to identify any issues or bugs that need to be addressed.

6.3. Performance metrics and benchmarks

Performance metrics and benchmarks will also be established to ensure that the app meets the required performance standards.

7. Deployment and launch

The deployment and launch phase of the HCI hospital app project involves deploying the app to the production environment and making it available to users. The deployment and launch phase is critical in ensuring the app is successful and meets the needs of its users and stakeholders.

7.1.   Deployment process and configuration

The deployment process and configuration will be carefully planned and executed to ensure a smooth transition to the production environment. The deployment will be tested to ensure the app works as expected in the production environment.

7.2.   Launch plan and timeline

A launch plan and timeline will be developed to ensure the app is launched successfully and on schedule. The plan will include tasks such as app store submission, marketing and promotion, and communication to stakeholders.

7.3.   User training and support plan

A user training and support plan will also be developed to ensure users understand how to use the app and to provide ongoing support to users.

8. Conclusion and future work

The conclusion and future work phase of the HCI hospital app project involves summarizing the project achievements and outcomes.

8.1. Summary of project achievements and outcomes

The project's success will be measured against the objectives and goals identified at the beginning of the project. The outcomes will be documented, including any improvements made to hospital workflows and user satisfaction.

8.2. Lessons learned and recommendations for future work

Lessons learned and recommendations for future work will also be documented, outlining any challenges faced during the project and how they were addressed. The recommendations will serve as a guide for future projects of a similar nature.

8.3. Potential areas for future development and improvement

Potential areas for future development and improvement will also be identified, based on feedback received from users and stakeholders, as well as any identified gaps in the app's functionality. These areas can serve as a starting point for future iterations of the app.

9. References

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10.Timetable

Week	Timeframe	Planned activity
0	16.3. – 20.3.	Project proposal
1	29.3. – 7.4.	Project plan
2	10.4. – 14.4.	Requirements specification
3	17.4. – 21.4.	Wireframe design and design standards
4	24.4. – 28.4.	Login/Register
5	1.5. – 5.5.	Profile, Appointment, Booking
6	8.5. – 12.5.	Patient/Doctor roles
7	15.5. – 19.5.	Final schedule
8	22.5. – 26.5.	Multi-factor authentication
9	29.5. – 2.6.	Usability specification
10	5.6. – 9.6.	Bug fixing
11	12.6. – 16.6.	Deployment/Release