

DESIGN SOFTWARE REQUIREMENT SPECIFICATION THE SEHAT.ID APPLICATION SOFTWARE

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ABSTRACT

This article discusses the design and development of the Sehat.ID application software which aims to provide holistic health benefits for users with a variety of features and services. This application allows users to monitor health conditions, carry out online medical consultations, access trusted health information, and get mental health support. Apart from that, this article also discusses the limitations of the Sehat.ID health application, such as medical regulations, data privacy and technical limitations. With the Sehat.ID application, it is hoped that users can easily access health information and get solutions that suit their needs. This article can be a reference for software developers and health application users.

I. INTRODUCTION

Various aspects of human life have been changed by technological advances, including health. In recent years, health apps with health monitoring features have increased in popularity, providing a convenient tool for people to easily monitor and manage their health. The younger generation, born between the mid-1990s and early 2000s, grew up around digital technology. They are well known for their heavy reliance on smartphones and mobile applications.

Because the younger generation represents the future of society, their health and well-being is very important. It is critical to understand how use of mobile health apps and health monitoring features influences healthy lifestyles to guide public health efforts and policies that encourage good health behaviors. This research aims to add to existing knowledge and provide insight for health care providers, policy makers, and technology developers by looking at how these digital tools influence health choices and behavior. [1]

The author chose health services at Sehat.ID, an online application for health services. Digital-based health applications that allow people to interact via media on various devices connected to the internet, such as computers, laptops and cellphones. Health-based application technology can offer online health consultations, home care, easier laboratory tests, easier medication orders, and even reliable health information. Many digital health applications are supported by the government in Indonesia because of their great benefits in helping people with health problems. [2]

It is hoped that the Sehat.ID application will help provide health services. By registering on this website, system users can use the application. One step in providing health services is providing online health consultations, where the system will ask questions to users, who must then provide answers based on what they experience. Next, the system will provide the correct disease solution and the solution that the sufferer must take.

II. LITERATURE REVIEW

2. General Description

2.1 Product perspective

This health application (SEHAT.ID) is designed to provide holistic health benefits for users by offering a variety

of features and services. Starting from health monitoring, this application allows users to actively monitor their health conditions. Additionally, online medical consultations are also provided via live chat with healthcare professionals. In addition, this application also provides easy access to trusted health information and mental health support, such as meditation or online counseling. Lastly, the app seeks to provide health solutions that suit users' individual needs, creating a relevant and beneficial health experience.

2.2 Product Function

2.2.1 Product Purpose

1. General Objective: Explain in detail the Software Requirement Specification (SKPL) or Software Requirement Specification (SRS) of the Health Application (SEHAT.ID).
2. Special purpose:
 - a. Provide clear guidance for SEHAT.ID software developers in understanding application requirements.
 - b. Provides detailed information about the app's purpose, features, and interactions for all parties involved.

III. SPECIFIC REQUIREMENTS

3.1 Specific Requirements

3.1.1 Functional Requirements

Functional requirements for the health application (SEHAT.ID) include various features and functions needed to meet user needs. The following are some of the functional requirements in the Health application (SEHAT.ID):

Table 1. Functional Requirements

Condition	Description
Health Monitoring	<ul style="list-style-type: none"> • The app provides health monitoring features that combine interactive graphs, engaging visualizations, and health progress reports.
Medical Consultation	<ul style="list-style-type: none"> • An online medical consultation platform that allows users to interact directly with health professionals through an interactive chat message feature. • This feature can display visual and interactive guides that better explain treatment plans or medical advice.
Health Education Content	<ul style="list-style-type: none"> • Providing interactive health education content, for example, interacting learning modules, disease simulations, or informative educational games increases users' understanding of health.
Healthy Shop	<ul style="list-style-type: none"> • Users can buy medicines and vitamins for their health. • Users can use the cart to enter the items they want to buy before checking out.
Payment (payment)	<ul style="list-style-type: none"> • Users can choose a payment method after purchasing goods from the healthy shop.

3.1.3 Non-Functional Requirements

Non-functional requirements in health applications (SEHAT.ID) refer to aspects that determine the quality, performance and indirect characteristics of the application that affect the user experience. The following are some non-functional requirements for the Health application (SEHAT.ID):

Table 2. Non-Functional Requirements

Condition	Description
High Security and Advanced Encryption	The application has a high-level security system with end-to-end encrypted data and advanced security technology that ensures sensitive user data is protected.
Custom Privacy Features	Privacy features that allow users to control their level of privacy, determine who can access their health information, and provide control over the data they share.
Availability and Consistency	Applications can be accessed and operate consistently with high availability, without significant lag times or operational disruptions.
Optimal Performance and Responsiveness	The application delivers responsive performance with fast response times,

User Interface Design	ensuring a smooth user experience, even at high user loads.
Medical Regulatory Compliance and Privacy	The interface design is aesthetic, attractive and user-friendly, with the use of attractive graphics and intuitive navigation for a better user experience.
Adaptation to the State of Technological Infrastructure	The application is able to operate in various technological infrastructure conditions, including in areas with limited internet connectivity.

IV. RESULTS AND DISCUSSION

4. System Design

4.1 Use Case Diagram

Use case diagrams can be used to describe the behavior or habits of the system you want to create. This picture shows how one or more actors interact with the various systems you want to create. In other words, this diagram has the ability to help us understand what functions exist in the system.

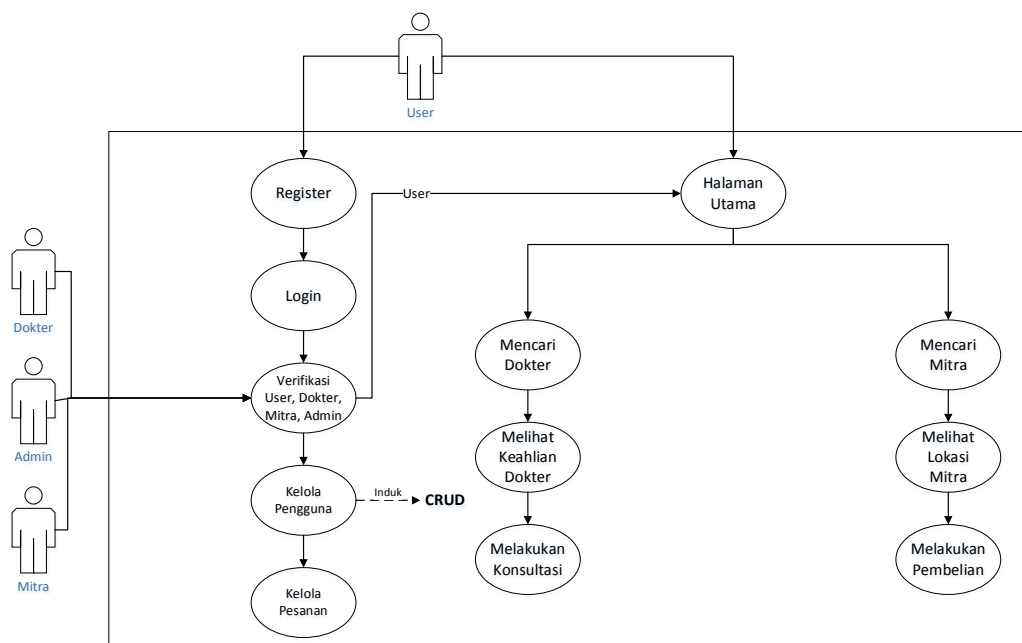


Figure 1. Use Case Diagram

Description: As shown in figure 1. All people who can use the application (actors) and the actions performed by actors are included in the *Use Case*. In terms of developing the Sehat.Id application, there are four actors who will use it. Administration, partners, doctors and community users are the four actors. Verification is carried out by admin for doctors, partners and admin. Then, users can register and log in to use features such as looking for a doctor, looking for partners, seeing doctor's expertise, seeing partner locations, and so on. Users and orders are monitored by the admin section.

4.2 ERD

ERD, also called an entity relationship diagram, is a diagram that shows the relationships and connections between objects or entities and their attributes as a whole when building a database. The database system that is being formed can be described as more structured and looks neat.

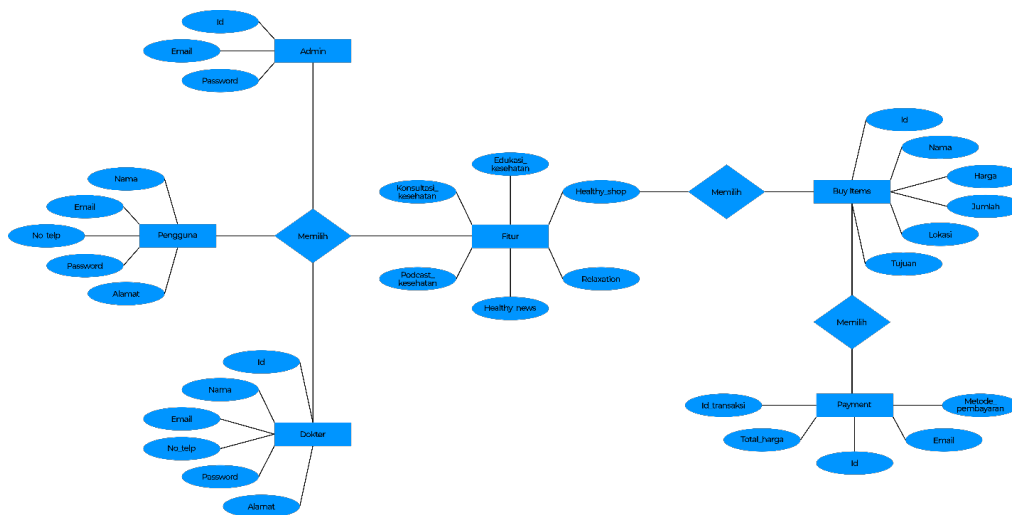


Figure 2. Health application ERD table (SEHAT.ID)

• Detailed Description :

User (User)

- Name → User name
- Email → User email to be used for communication and confirmation information
- Tel_no → The user's telephone number that will be used for information and communication
- Password → Password for user account security
- Address → User address for which information and confirmation will be used

Doctor

- Id → The name of the identity used by the doctor
- Name → Doctor's Name
- Email → Doctor's email to be used for communication and confirmation information
- Tel_no → The doctor's telephone number that will be used for information and communication
- Password → Password for doctor account security
- Address → Address of the doctor who will use the information and confirmation

Admin

- Id → The name of the identity used by the application admin
- Email → Admin email used to monitor the application
- Password → Password for security and privacy of data in the application

Feature

- Health_consultation → Feature to consult about the user's Health by selecting a doctor and sending him a message
- Health_education → Feature for viewing advertisements and health services
- Healthy_shop → This feature provides stock of goods and medicines to users
- Health_podcast → This feature is used when there is a live event about Health
- Healthy_news → This feature is for viewing news or health services in the application
- Relaxation → This feature is for user relaxation

Buy Items

- Id → The identifying name of the item purchased
- Name → Name of the item being sold in the application
- Price → The price of the item you want to buy
- Amount → Number of goods purchased in the application
- Location → User location map

- Destination → Destination location
- Payment
- Transaction_id → Payment code
 - Total_price → Total price according to purchase
 - Id → The name of the identity used by the customer
 - Email → User email to be used for communication and confirmation information
 - Payment_method → Choose a payment method according to the user's wishes

4.3 Flowchart Diagram

A flowchart is a diagram that shows the steps and decisions that must be taken to carry out a program process. Each step is depicted in diagram form and connected with lines or arrows.

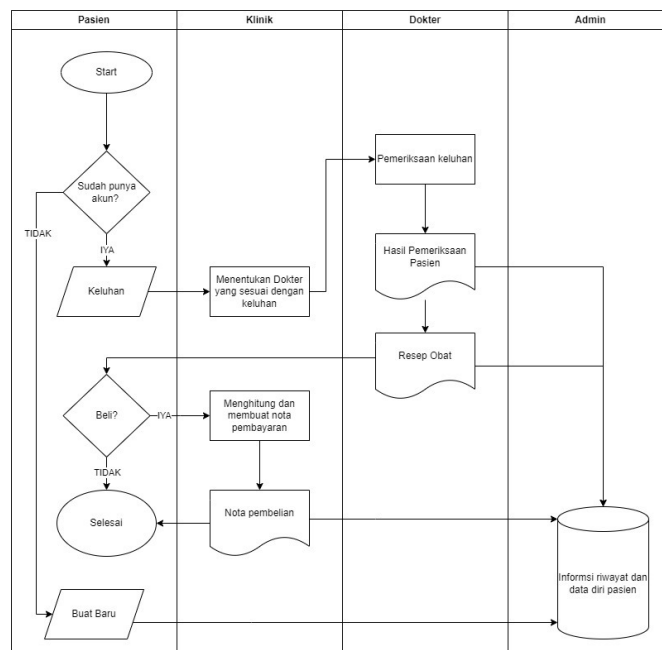


Figure 3. Flowchart diagram

Description: Figure 4.3 depicts a flow section that shows the steps to run a program. In the patient section, create an account, if you don't have an account, if you already have one, continue with the complaint you are experiencing, after that the clinic will determine a doctor who suits the complaint you are experiencing, the doctor will examine the complaint. After being examined, the results of the patient's examination will appear and an explanation of the drug prescription in the section. doctor, then if you want to buy medicine, calculate and make a payment note. After completion, you will be given a purchase note. Historical information and patient personal data will be stored in the admin section.

4.4 Persona Diagram

Documentation called a "persona" includes a description of the user's characteristics along with the goals, needs, and interests of the target user. This goal is based on the results of research conducted on target users.

DIAGRAM PERSONA SEHAT.ID





	Apps Test	Service Users	User Consult	Payment
 User	User Sings Up			
 Admin		user accepted by admin		
 Dokter			user consult by doctor	
 Healthy Shop				user makes payment

Figure 4. Persona Diagram

USER

Age: 17 years and over

Objective: Users are looking for a fast way to increase insight and overcome health problems

Consideration aspects:

- Each user will have different tastes in explanations

Need :

- consultation about health

DOCTOR

Objective :

- Overcoming health problems for clients

Consideration aspects:

- The doctor will provide an explanation regarding health as clearly as possible

HEALTHY SHOP

Purpose: Provision of medicine

Consideration aspects:

- Completeness of medicines and medical equipment

Needs: Store space

V. TEST DESIGN

5. Test Plan

5.1 Testing Strategy

Table 3. Testing Strategy

Testing	Strategy	Description
Functional Testing	Health Monitoring	Test various scenarios, including heart rate measurements at various activity levels and physical conditions.
	Online Medical Consultation	Test the platform with simulated scenarios, such as simultaneous conversations and emergency cases that require rapid response.
Performance Testing	Application Responsiveness	Test on a variety of devices and network conditions to ensure the app remains responsive.
	User Capacity and Load	Test with high concurrent usage simulations to measure application performance under maximum load situations.
Security Testing	Penetration & Security Testing	Perform penetration tests to identify security gaps and ensure strong data encryption.
	Device Interoperability	Test integration with various health devices to ensure consistent and well-integrated data.
Usability Testing	User Search	Test with test users to identify navigation issues or information that is difficult to understand.
	Test with High Loads	Test in high load situations to ensure consistent application availability and response speed.
Medical Regulatory Testing & Privacy	Compliance Audits	Test compliance with applicable data privacy regulations and rules in the healthcare industry.

5.2 Test Cases

- Test case for Health monitoring feature
- Test case: Physical Activity Monitoring

Table 4. Physical Activity Monitoring

Description	Steps
Test the application's ability to monitor and record physical activity.	<ul style="list-style-type: none"> ➤ The user initiates the physical activity mode in the application (measurement activation). ➤ The app accurately records steps, distance and calories burned (expectations). ➤ Compare recorded data with manual results from other physical activity tracking devices (verify).

- Test cases for medical & online consultation features
- Test case: Online consultation with a doctor

Table 5. Online consultation with a doctor

Description	Steps
Test the function of medical consultation with a doctor or health expert.	<ul style="list-style-type: none"> ➤ The user initiates a video consultation session with a doctor via the application (consultation session). ➤ The doctor provides advice or recommendations that are appropriate to the medical condition being discussed (verification).

- Test case for the consultation schedule reminder feature
- Test case: Reminder of scheduled consultations

Table 6. Reminder of scheduled consultations

Description	Steps
Testing the effectiveness of in-app consultation reminders.	<ul style="list-style-type: none"> ➤ Users create a consultation schedule in the application (schedule setting). ➤ The application provides consultation notifications according to the set schedule (active reminder). ➤ Users provide feedback on whether consultation notifications are appropriate and timely (verification).

- Test case for the item purchasing management feature
- Test case: Recording purchase history

Table 7. Recording purchase history

Description	Steps
Test the application's ability to record detailed purchase history.	<ul style="list-style-type: none"> ➤ Users enter their purchase history of goods such as medicine or health vitamins (data input). ➤ The application stores goods purchase history data properly (data storage). ➤ Users can easily access and update their purchases in cart(verify).

VI. CONCLUSION

In this article, we have discussed the design and development of the Sehat.ID application software which has features to search for doctors, search for partners and health shops. This application aims to help users find solutions and information related to health. This article also discusses the limitations of the Sehat.ID health application, such as medical regulations and data privacy that apply in the jurisdiction where the application is used. Acceptance testing is carried out to ensure that the features in the application work well and meet user needs. With the Sehat.ID application, it is hoped that users can easily access health information and get solutions that suit their needs. This article can be a reference for software developers and health application users.

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