SOFTWARE REQUIREMENTS SPECIFICATIONS

For Sillah

Version 1.0 Approved
Prince Sultan University
23/4/26

SE311: Software Requirements Analysis

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Section: 1342

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Name	Date	Reason For Changes	Version
Shoug, Ghala, Gala, Salma	6/4/26	Initial Draft	1.0 draft 1
Shoug, Ghala, Gala, Salma	23/4/26	Approved version	1.0

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1. Introduction

1.1 Purpose

This document provides a detailed description of the requirements for the **Sillah Family Health Management System**, a preventive healthcare application designed to support families in tracking health conditions, recording medical events, and receiving risk-based alerts.

The purpose of this SRS is to:

- Define functional and non-functional requirements
- Provide a shared understanding between stakeholders and developers
- Serve as a reference for system design, implementation, and validation

1.2 Project Scope and Product Features

The Sillah system will permit users to manage family health information and receive preventive health insights through a web-based application. A detailed project description is available in the Sillah Vision and Scope Document. The section in that document titled "Scope of Initial and Subsequent Releases" lists the features that are scheduled for full or partial implementation in this release. The system will provide user account management, family member tracking, health condition and event recording, risk alert generation, and dashboard visualization. The system will not provide direct medical diagnosis, real-time clinical decision-making, or integration with hospital systems in the current release.

Vision and scope document: Vision and Scope document

1.3 Document Conventions

Usage	Typeface	Example
Section Headings	Bold	**1. Introduction**
Sub-Section Headings	Bold	**1.1 Purpose**
Body Text	Times New Roman, 11pt	The Sillah system will permit users to manage family health information and receive preventive health insights through a web-based application.

Table Header	Bold, Green background	**Usage**
Requirement Labeling	Bold	**SE-1:** All network communications *shall* be encrypted using secure protocols (`HTTPS`).
Requirement keyword formatting	Italic	The system *shall* validate all required fields before saving data.
SQL keywords	All caps	**REQ-24:** The system *shall* UPDATE dashboard data in real time or upon refresh.
Database terms	Fixed width	The Sillah system *shall* communicate with the `Supabase Authentication Service` through a programmatic interface.

1.4 Intended Audience and Reading Suggestions

This document is intended for the following readers, each of whom should focus on specific sections as suggested below:

Audience	Role	Suggested Reading Focus
Developers	Responsible for implementing the system based on the requirements	Sections 3 (External Interface Requirements), 4 (System Features), 5 (Nonfunctional Requirements), and Appendix B (Analysis Models)
Testers / QA	Responsible for verifying that the system meets the specified requirements	Sections 4 (System Features), 5 (Nonfunctional Requirements), and the acceptance criteria within each requirement
Project Manager	Responsible for planning, tracking, and delivering the project	Sections 1 (Introduction), 2 (Overall Description), and the priority levels assigned to requirements in Section 4
Stakeholders (Family Users)	Primary users who will interact with the system	Sections 1.4 (Product Scope) and 2.3 (User Classes and Characteristics)
Healthcare Providers	Medical professionals who will validate risk logic and review patient data	Sections 2.3 (User Classes), 4.4 (Risk Alert System), and 5.3 (Security Requirements)

Course Instructor (SE311)	Evaluating the completeness and quality of this SRS	The entire document, with particular attention to adherence to the IEEE template structure

1.5 References

- Institute of Electrical and Electronics Engineers. (1998). *IEEE recommended practice for software requirements specifications (IEEE Std 830-1998)*.
- Shoug Alomran, Ghala Alsaqer, Gala Alalula, & Salma Al Khaldi. (2026). *Sillah: Vision and scope document* (Version 1.2).
- Shoug Alomran, Ghala Alsaqer, Gala Alalula, & Salma Al Khaldi. (2026). *Sillah phase 2: Elicitation and prioritized user requirements (SE311)*.
- A. K. G. Almutairi. (2026). *Software requirements analysis – Survey results document* (Sillah stakeholder validation survey, 32 respondents).
- Shoug Fawaz Alomran, Aljawarah Alsaleh, Aljawhara Alruzuq, & Aljoharah Albawardi. (2025). *Sillah (صلة): Family health management system – Software engineering documentation*. https://sillah.shoug-tech.com/
- Shoug Alomran. (2026). *Sillah preventive health management web application*. https://sillah-app.shoug-tech.com/
- Shoug Alomran, Ghala Alsaqer, Gala Alalula, & Salma Al Khaldi. (2026). *Sillah (صلة): Software requirements engineering lifecycle documentation*. https://software-requirements-analysis.shoug-tech.com/
- Shoug Alomran, Yara Albugami, Rose Rakan, & Raghad Abdulaziz. (2026). *Sillah database application and system design*. https://database.shoug-tech.com/

2. Overall Description

2.1 Product Perspective

Sillah System is a new system which provides an online application for managing the health information of families as well as providing preventive health care advice. This system consists of three main components which include the interface component for user interaction, the backend for handling the

application logic and the database component where all the data will be stored. In addition, the system will have several versions with more features being added in the future.

2.2 Product Functions

The Sillah system provides the following major functions:

- User registration and login
- Management of family member profiles
- Recording of health conditions and events
- Generation of preventive health risk alerts
- Visualization of health data through a dashboard
- Execution of database queries for demonstration purposes

2.3 User Classes and Characteristics

User (Primary User)	A User is an individual who accesses the Sillah system to manage personal and family health information. Users are expected to register accounts, log in to the system, and regularly interact with system features such as managing family member profiles, recording health conditions and events, and viewing health insights. Users are assumed to have basic familiarity with web applications and will access the system through standard web browsers on desktop or mobile devices. This is the primary and most important user class for the system.
Family Member (Managed Entity)	A Family Member represents an individual whose health information is maintained within the system by a User. Users may manage multiple family member profiles, each containing demographic and health-related data. These profiles are essential for generating risk alerts and providing preventive health insights. Family members do not directly interact with the system but are central to its functionality.
Healthcare Provider (Secondary Stakeholder)	Healthcare Providers are domain experts who may contribute to validating the health-related logic and preventive rules used by the system. They are not direct users of the system in the current version but provide guidance to ensure the accuracy and relevance of health insights. Their involvement is limited compared to primary users.
General User (Feedback Contributor)	General Users represent individuals who may participate in surveys or testing activities to provide feedback on system usability and design. They are not regular users of the system and do not interact with its core features beyond evaluation purposes.

2.4 Operating Environment

OE-1:	The Sillah system *shall* operate through standard modern web browsers, including Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari.
OE-2:	The Sillah system *shall* operate on a web-based platform with a frontend developed using `React` and `Vite`, and a backend server implemented using `Node.js` with the `Express` framework.
OE-3:	The system *shall* utilize `Supabase` for authentication services and application data storage, and `MySQL` for executing database operations related to the CS340 Phase 5 demonstration layer.
OE-4:	The system *shall* be hosted on a cloud-based platform such as Vercel, enabling access through the Internet from desktop and mobile devices.

2.5 Design and Implementation Constraints

CO-1:	The Sillah system *shall* be implemented as a web-based application and shall not require installation on user devices.
CO-2:	The system *shall* comply with applicable data privacy regulations and standards, including awareness of the Saudi Personal Data Protection Law (PDPL).
CO-3:	The system *shall* be developed within the scope and limitations of an academic project, including constraints on time, resources, and external system integration.
CO-4:	The system *shall* utilize predefined technologies and tools, including React for the frontend, Node.js with Express for the backend, and `Supabase` and `MySQL` for data management.

2.6 User Documentation

UD-1:	The Sillah system *shall* provide on-screen guidance through form labels, placeholder text, and inline prompts to assist users in entering data correctly.
UD-2:	The system *shall* provide tooltips and informational indicators that display brief explanations of system features, including risk alert criteria and health-related inputs.
UD-3:	The system *shall* support a bilingual user interface, providing all user-facing content in both Arabic (right-to-left) and English (left-to-right), with the ability to switch languages at any time.
UD-4:	The system *shall* display inline validation messages, including clear error notifications and success confirmations, in response to user actions.
UD-5:	The system *shall* not require separate user manuals or standalone documentation, as all necessary guidance shall be integrated within the user interface.

2.7 Assumptions and Dependencies

AS-1:	It is *assumed* that users of the Sillah system will have reliable Internet access to use the web-based application.
AS-2:	It is *assumed* that users have basic familiarity with web applications and are able to navigate and interact with standard user interfaces.
AS-3:	It is *assumed* that the required backend services, including databases and authentication systems, are available and properly configured during system operation.
DE-1:	The operation of the Sillah system depends on the *availability* and proper functioning of external services, including `Supabase` for authentication and data storage.
DE-2:	The system depends on the *availability* of the `MySQL` database for executing queries related to the CS340 Phase 5 demonstration layer.

3. External Interface Requirements

3.1 User Interfaces

3.1.1 Use Case Header Table

Field	Value
Use Case ID	1
Use Case Name	Manage Family Members
Created By	[Shoug Alomran]
Last Updated By	[Ghala Alsaqer]
Date Created	[10/4/2026]
Date Last Updated	[23/4/2026]
Actors	User

3.1.2 Use Case Details Table

Section	Description
Description	A User accesses the Sillah system through a web browser, views existing family member profiles, and is able to add, edit, or delete family member information.
Preconditions	1. User is logged into the system.
Postconditions	1. Family member information is stored or updated in the system. 2. The system reflects the latest family member data.
Normal Flow	**1.0 Manage Family Members** 1. User navigates to the family management section. 2. System displays a list of existing family members.

	3. User selects to add, edit, or delete a family member. **Add Family Member:** 4. System displays a form for entering family member details. 5. User enters required information. 6. System validates input data. 7. System saves the new family member profile. **Edit Family Member:** 8. User selects an existing family member. 9. System displays current details. 10. User modifies the information. 11. System validates updated data. 12. System saves the change. **Delete Family Member:** 13. User selects a family member to delete. 14. System requests confirmation. 15. User confirms deletion. 16. System removes the family member profile.
Alternative Flows	**1.1 Cancel Operation** 1. User cancels the operation at any step. 2. System returns to the family member list without saving changes.
Exceptions	**1.0.E.1 Invalid Input Data** 1. System detects missing or invalid required fields. 2. System displays error messages. 3. User corrects the input data.
Includes	None
Priority	High
Frequency of Use	Frequently used by all users to manage family data
Business Rules	**BR-2:** A user may create, update, or delete multiple family member profiles associated with their account. **BR-3:** Health events and conditions *shall* be recorded only for existing family members. **BR-10:** The system *shall* ensure that all required fields are completed before storing any health-related data.

Special Requirements	**3.2 The system *shall* validate all required fields before saving data.** **3.3 The system *shall* display confirmation messages after successful operations.**
Assumptions	1. Users provide accurate and complete family member information.
Notes and Issues	1. Future versions may include additional health-related attributes for each family member.

3.2 Hardware Interfaces

No hardware interfaces have been identified.

3.3 Software Interfaces

SI-1: Supabase Authentication Service

The Sillah system *shall* communicate with the `Supabase Authentication Service` through a programmatic interface for the following operations:

- **SI-1.1:** To allow a user to register an account.
- **SI-1.2:** To allow a user to log in to the system.
- **SI-1.3:** To manage authenticated user sessions.
- **SI-1.4:** To allow a user to log out of the system.

SI-2: Supabase Database

The Sillah system *shall* communicate with the `Supabase database` through a programmatic interface for the following operations:

- **SI-2.1:** To store and retrieve user profile information.
- **SI-2.2:** To store and retrieve family member data.
- **SI-2.3:** To store and retrieve health conditions and health events.
- **SI-2.4:** To store and retrieve generated risk alerts.
- **SI-2.5:** To store and retrieve appointment-related information, if applicable in the current release.

SI-3: Future External Health Platforms

The Sillah system may communicate with external national health platforms, such as Sehhaty and Mawid, through programmatic interfaces in future releases for data exchange and appointment-related services. These interfaces are not included in the current release.

3.4 Communications Interfaces

- **CI-1:** The Sillah system *shall* support communication between users and the system through standard web browsers using the `HTTPS` protocol.
- **CI-2:** All data transmitted between the client and the system *shall* be encrypted using secure communication protocols.
- **CI-3:** The system *shall* transmit authentication data, including user credentials and session information, using secure `HTTPS` connections with structured data formats such as `JSON`.
- **CI-4:** The system *shall* communicate with backend services and databases through secure API calls over `HTTPS`.

4. System Features

4.1 User Account Management

4.1.1 Description and Priority

This feature allows users to create accounts, log in securely, and manage authentication-related actions within the system.

Priority: High

4.1.2 Stimulus/Response Sequences

1. User selects the registration option.
2. System displays registration form.
3. User enters the required credentials.
4. System validates input data.
5. System creates user accounts and confirms registration.
6. User selects the login option.
7. System displays login form.
8. User enters credentials.
9. System validates credentials.
10. System grants access to the dashboard.

4.1.3 Functional Requirements

- **REQ-1:** The system *shall* allow users to register an account using valid credentials.
- **REQ-2:** The system *shall* allow users to log in using their email and password.
- **REQ-3:** The system *shall* allow users to log out of the system.
- **REQ-4:** The system *shall* validate user credentials before granting access.
- **REQ-5:** The system *shall* prevent unauthorized access to user accounts.

4.2 Family Member Management

4.2.1 Description and Priority

This feature enables users to manage profiles of family members and maintain their associated health information.

Priority: High

4.2.2 Stimulus/Response Sequences

1. User navigates to the family management section.
2. System displays a list of existing family members.
3. User selects to add a new family member.
4. System displays a form for entering details.
5. User enters the required information.
6. System validates input data.
7. System saves the new family member profile.
8. User selects an existing family member.
9. System displays current details.
10. User updates information.
11. System validates updated data.
12. System saves change.
13. User selects a family member to delete.
14. System requests confirmation.
15. User confirms deletion.
16. System removes the family member profile.

4.2.3 Functional Requirements

- **REQ-6:** The system *shall* allow users to add new family members.
- **REQ-7:** The system *shall* allow users to update family member information.
- **REQ-8:** The system *shall* allow users to delete family members.
- **REQ-9:** The system *shall* store family member data in the database.
- **REQ-10:** The system *shall* associate family members with a specific user account.

4.3 Health Event Tracking

4.3.1 Description and Priority

This feature allows users to record, store, and manage health-related events and conditions for each family member.

Priority: High

4.3.2 Stimulus/Response Sequences

1. User selects a family member profile.
2. System displays health event history.
3. User selects to add a new health event.
4. System displays input form.
5. User enters event details.
6. System validates input data.
7. System saves the health event.
8. User selects an existing health event.
9. System displays event details.
10. User updates the information.
11. System validates updated data.
12. System saves changes.
13. User selects a health event to delete.
14. System requests confirmation.
15. User confirms deletion.
16. System removes the health event.

4.3.3 Functional Requirements

- **REQ-11:** The system *shall* allow users to record health events.
- **REQ-12:** The system *shall* store health event data in the database.
- **REQ-13:** The system *shall* allow users to view recorded health events.
- **REQ-14:** The system *shall* allow users to update health event records.
- **REQ-15:** The system *shall* allow users to DELETE health event records.

4.4 Risk Alert System

4.4.1 Description and Priority

This feature generates alerts based on predefined health conditions and risk rules to support preventive healthcare.

Priority: High

4.4.2 Stimulus/Response Sequences

1. User records or updates health data.
2. System processes the entered data.
3. System evaluates predefined risk rules.
4. System generates risk alerts if conditions are met.
5. System displays alerts on the dashboard and relevant pages.
6. User reviews generated alerts.
7. System updates alerts dynamically when new data is entered.

4.4.3 Functional Requirements

- **REQ-16:** The system *shall* generate risk alerts based on health conditions.
- **REQ-17:** The system *shall* display alerts to users.
- **REQ-18:** The system *shall* UPDATE alerts dynamically when new data is entered.
- **REQ-19:** The system *shall* associate alerts with specific family members.
- **REQ-20:** The system *shall* store generated alerts in the database.

4.5 Dashboard and Data Visualization

4.5.1 Description and Priority

This feature provides users with a centralized dashboard that summarizes health data and alerts for easy monitoring.

Priority: Medium

4.5.2 Stimulus/Response Sequences

1. User logs into the system.
2. System loads the dashboard interface.
3. System retrieves user and family data.
4. System displays summarized health information.
5. System displays active risk alerts.
6. User refreshes or navigates the dashboard.
7. System updates displayed data accordingly.

4.5.3 Functional Requirements

- **REQ-21:** The system *shall* display a dashboard upon user login.
- **REQ-22:** The dashboard *shall* summarize family health data.
- **REQ-23:** The dashboard *shall* display active risk alerts.

- **REQ-24:** The system *shall* UPDATE dashboard data in real time or upon refresh.
- **REQ-25:** The system *shall* present data in a clear and organized format.

4.6 Database Interaction (CS340 Phase 5 Demo Layer)

4.6.1 Description and Priority

This feature allows users to interact with the database through execution of SQL queries and supports CRUD operations as part of the system demonstration.

Priority: Medium

4.6.2 Stimulus/Response Sequences

1. User accesses the database interaction interface.
2. System displays query input options.
3. User enters or selects a query.
4. System processes the query.
5. System executes the query on the database.
6. System retrieves results.
7. System displays results to the user.

4.6.3 Functional Requirements

- **REQ-26:** The system *shall* allow execution of SQL queries through the application.
- **REQ-27:** The system *shall* support INSERT operations into the database.
- **REQ-28:** The system shall support UPDATE operations on stored data.
- **REQ-29:** The system shall support DELETE operations on stored data.
- **REQ-30:** The system shall retrieve and display query results to the user.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- **PE-1:** The Sillah system *shall* support concurrent access by at least 100 users without significant degradation in performance.
- **PE-2:** The system *shall* load all primary web pages within 3 seconds under normal network conditions.
- **PE-3:** The system *shall* display responses to user actions within 2 seconds after submission.
- **PE-4:** The system *shall* display confirmation messages within 2 seconds after successful user operations.

5.2 Safety Requirements

- **SA-1:** The system *shall* clearly indicate that it does not provide medical diagnosis or replace professional medical advice.
- **SA-2:** The system *shall* ensure that all health-related alerts and recommendations are presented as informational guidance only and not as definitive medical conclusions.
- **SA-3:** The system *shall* prevent the display of incomplete or inconsistent health data that may lead to incorrect interpretation by users.
- **SA-4:** The system *shall* provide clear and understandable messages for all alerts to avoid user confusion or misinterpretation.
- **SA-5:** The system *shall* ensure that user-entered data is validated to reduce the risk of incorrect health information being stored or processed.

5.3 Security Requirements

- **SE-1:** All network communications *shall* be encrypted using secure protocols (`HTTPS`).
- **SE-2:** The system *shall* require users to authenticate using valid credentials before accessing protected features.
- **SE-3:** The system *shall* ensure that users can only access and modify their own data.
- **SE-4:** The system *shall* securely store user credentials and sensitive data.
- **SE-5:** The system *shall* comply with applicable data privacy considerations, including awareness of the Saudi Personal Data Protection Law (PDPL).

5.4 Software Quality Attributes

- **Availability-1:** The system *shall* be available to users at least 99% of the time, excluding scheduled maintenance.
- **Usability-1:** The system *shall* provide a user-friendly interface that allows users to perform core tasks with minimal training.
- **Reliability-1:** The system *shall* ensure consistent operation and accurate data processing under normal conditions.
- **Robustness-1:** If a system error occurs, the system *shall* handle the error gracefully without loss of user data.

5.5 Business Rules

- **BR-1:** Each user *shall* be permitted to CREATE and manage only their own account and associated data.

- **BR-2:** A user may CREATE, UPDATE, or DELETE multiple family member profiles associated with their account.
- **BR-3:** Health events and conditions *shall* be recorded only for existing family members.
- **BR-4:** Risk alerts *shall* be generated based on predefined rules derived from health conditions and recorded data.
- **BR-5:** Risk alerts *shall* be associated with the specific family member to whom the health data belongs.
- **BR-6:** The system *shall* not provide medical diagnosis or clinical decision-making; all alerts *shall* be considered informational only.
- **BR-7:** Users *shall* be required to authenticate before accessing or modifying any personal or family health data.
- **BR-8:** Users *shall* not be permitted to access or modify data belonging to other users.
- **BR-9:** The system *shall* maintain consistency between stored health data and generated risk alerts.
- **BR-10:** The system *shall* ensure that all required fields are completed before storing any health-related data.

6. Other Requirements

6.1 Internationalization Requirements

- **IR-1:** The Sillah system *shall* support both Arabic and English languages, including right-to-left (RTL) and left-to-right (LTR) layouts.
- **IR-2:** The system *shall* allow users to switch between supported languages at any time during system use.

6.2 Legal and Regulatory Requirements

- **LR-1:** The system *shall* comply with applicable data privacy regulations, including awareness of the Saudi Personal Data Protection Law (PDPL).
- **LR-2:** The system *shall* ensure that personal and health-related data is handled in accordance with privacy and confidentiality principles.

6.3 Database Requirements

- **DR-1:** The system *shall* maintain structured storage of user, family member, health event, and alert data.
- **DR-2:** The system *shall* ensure data consistency and integrity across all stored records.
- **DR-3:** The system *shall* support secure access to database systems through controlled interfaces.

7. Appendix:

7.1 Appendix A: Data Dictionary

Data Element	Description	Type / Format	Constraints / Notes
user	Registered person who uses the system	Entity	Each user has a unique account
user_id	Unique identifier for a user	Integer / UUID	Primary key; unique
first_name	User's first name	String	Required
last_name	User's last name	String	Required
email	User's email address	String	Required; unique; valid email format
password	User authentication credential	String	Stored securely; not displayed in plain text
role	User role in the system	Enum	Examples: family_user, provider, admin
created_at	Date and time account was created	DateTime	Automatically generated

Data Element	Description	Type / Format	Constraints / Notes
family member	Person related to the user whose health data is tracked	Entity	Linked to one user account
family_member_id	Unique identifier for a family member	Integer	Primary key; unique
user_id	Identifier of the owner user	Integer / UUID	Foreign key referencing user
member_name	Full name of family member	String	Required
relationship	Relationship to the user	Enum / String	Examples: father, mother, sibling, child
gender	Gender of family member	Enum / String	Optional if needed by design
date_of_birth	Date of birth of family member	Date	Used for age calculation
age	Age of family member	Integer	May be derived from date_of_birth

nationality	Nationality of family member	String	Optional
medical_notes	General notes related to family member's health	Text	Optional

Data Element	Description	Type / Format	Constraints / Notes
health event	Recorded medical event or condition for a family member	Entity	Linked to one family member
event_id	Unique identifier for health event	Integer	Primary key; unique
family_member_id	Identifier of related family member	Integer	Foreign key referencing family_member
condition_name	Name of health condition or event	String	Required
condition_type	Category of condition	Enum / String	Examples: chronic, hereditary, temporary
diagnosis_date	Date condition was diagnosed or recorded	Date	Optional
severity	Severity level of condition	Enum / String	Examples: low, medium, high
status	Current status of condition	Enum / String	Examples: active, resolved, monitored
notes	Additional notes about the event	Text	Optional

Data Element	Description	Type / Format	Constraints / Notes
health condition	Standardized condition entry used by the system	Entity	May be used for classification
condition_id	Unique identifier for condition	Integer	Primary key; unique
condition_name	Name of condition	String	Required; unique if standardized
description	Short explanation of condition	Text	Optional
risk_category	Risk class associated with condition	Enum / String	Examples: cardiac, diabetic, hereditary

Data Element	Description	Type / Format	Constraints / Notes
risk alert	Notification generated based on health data and risk rules	Entity	Linked to one or more family members
alert_id	Unique identifier for alert	Integer	Primary key; unique
family_member_id	Identifier of related family member	Integer	Foreign key referencing family_member
alert_title	Short title of alert	String	Required
alert_message	Alert details shown to user	Text	Required
risk_level	Priority or seriousness of alert	Enum / String	Examples: low, medium, high
recommendation	Suggested preventive action	Text	Optional but recommended
created_at	Date and time alert was generated	DateTime	Automatically generated
is_read	Indicates whether user viewed the alert	Boolean	Default = false

Data Element	Description	Type / Format	Constraints / Notes
appointment	Booking or simulated clinic appointment	Entity	Linked to user or family member
appointment_id	Unique identifier for appointment	Integer	Primary key; unique
family_member_id	Identifier of family member for appointment	Integer	Foreign key referencing family_member
clinic_name	Name of selected clinic	String	Required
doctor_name	Name of provider or doctor	String	Optional
appointment_date	Scheduled appointment date	Date	Required
appointment_time	Scheduled appointment time	Time	Required
status	Appointment state	Enum / String	Examples: scheduled, canceled, completed
notes	Additional appointment notes	Text	Optional

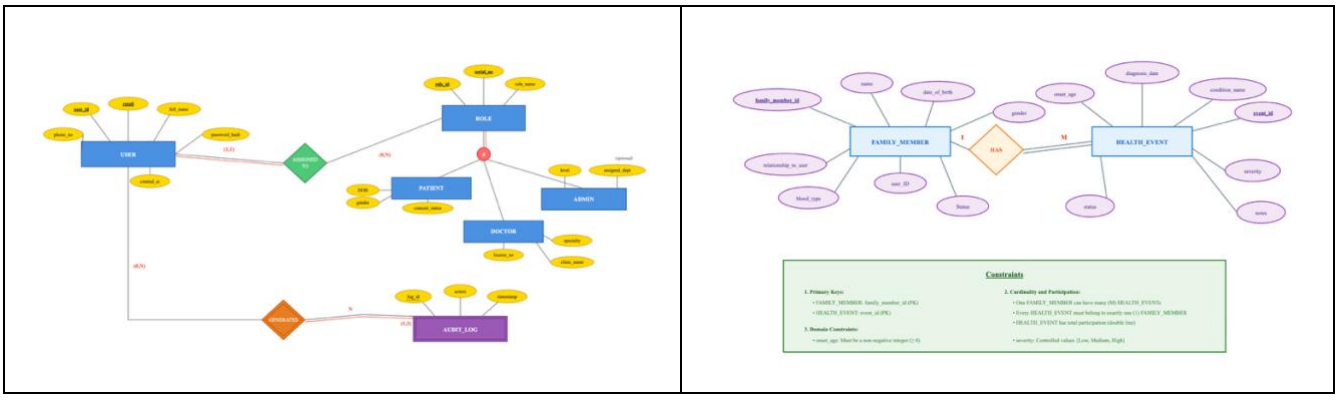
Data Element	Description	Type / Format	Constraints / Notes
dashboard summary	Aggregated information shown on dashboard	Derived Data	Generated from stored records
total_family_members	Number of family members linked to user	Integer	Calculated
total_health_events	Number of recorded health events	Integer	Calculated
active_alerts_count	Number of current active alerts	Integer	Calculated
upcoming_appointments	Number of upcoming appointments	Integer	Calculated

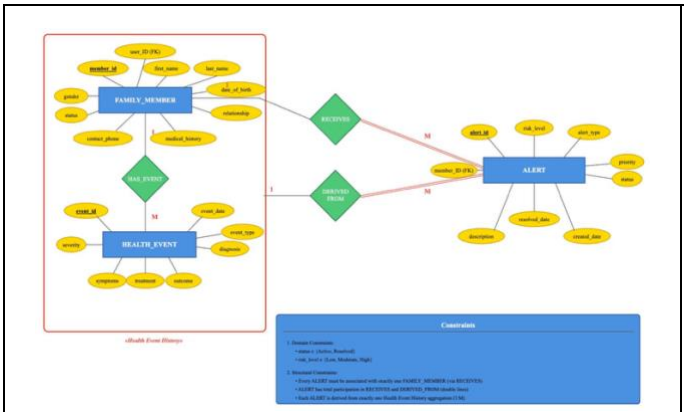
Data Element	Description	Type / Format	Constraints / Notes
query result	Output returned from SQL query execution in CS340 demo layer	Derived Data	Displayed in demo interface
query_id	Unique identifier for query execution session	Integer	Optional
query_text	SQL statement entered by user	Text	Must follow allowed query scope
execution_time	Time required to execute query	Float / Decimal	Optional
result_set	Returned rows from executed query	Table / Structured Data	Displayed to user
query_status	Result of query execution	Enum / String	Examples: success, failed

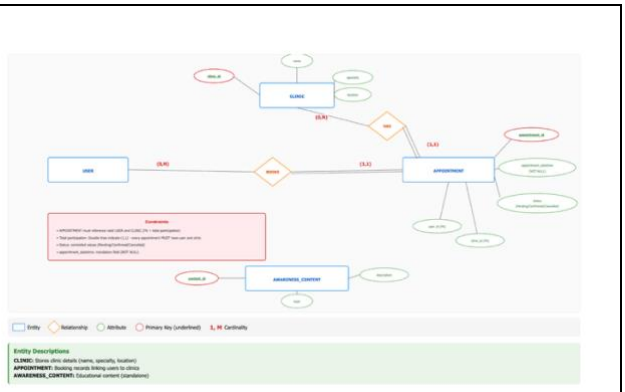
7.2 Appendix B: Analysis Models

The following analysis models are used to represent the structure and behavior of the Sillah system:

- Entity-Relationship Diagram (ERD) representing system data structure







7.3 Appendix C: To Be Determined List

No outstanding “To Be Determined” (TBD) items have been identified at this stage of the project.

7.4 Appendix D: Glossary

Term	Definition
SRS	Software Requirements Specification
UI	User Interface
DB	Database
API	Application Programming Interface
Risk Alert	Notification generated based on predefined health rules

7.5 Appendix E: Stakeholder Validation and Approval

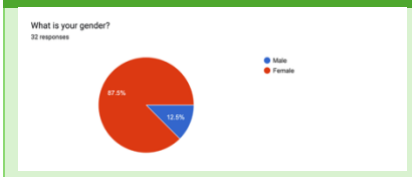
7.5.1 E.1 Validation Method

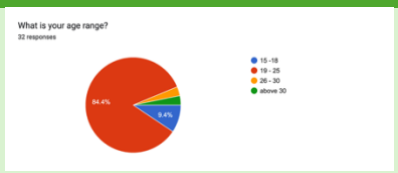
Stakeholder feedback was collected using a structured survey targeting multiple stakeholder groups.

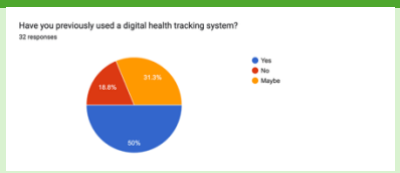
7.5.2 E.2 Survey Summary

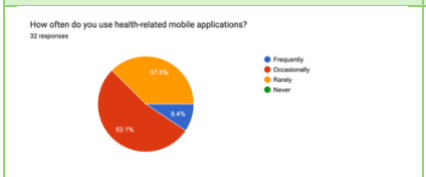
Metric	Result
Total Responses	32
Majority Age Group	19–25
Gender Distribution	87.5% Female
Prior System Usage	Mixed

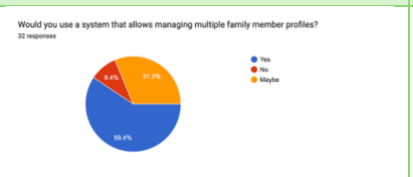
Survey Graphs

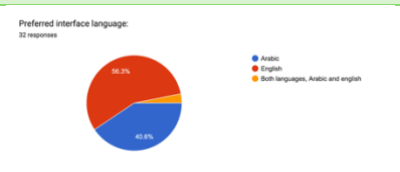


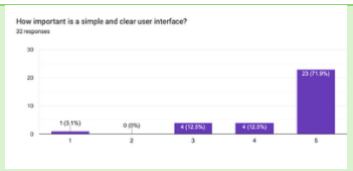


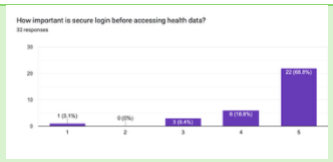


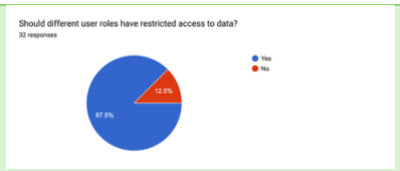


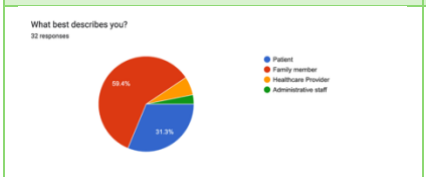


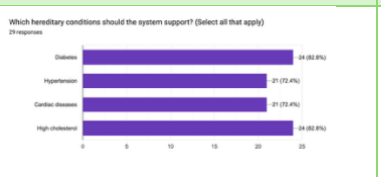


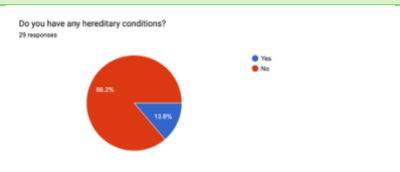


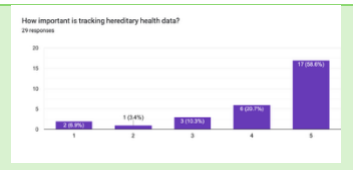


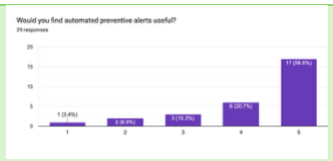


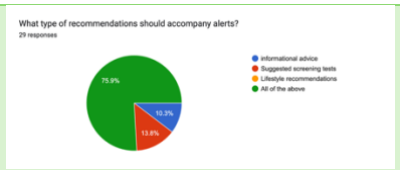


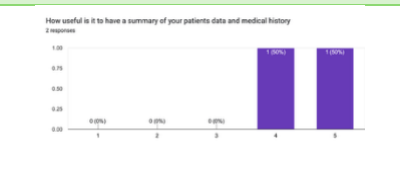


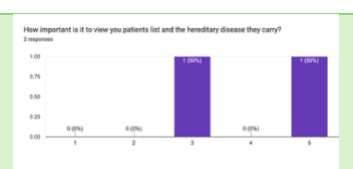


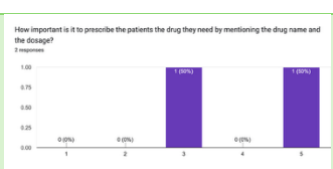


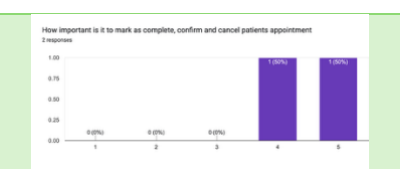


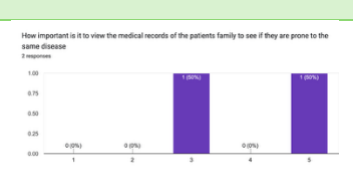


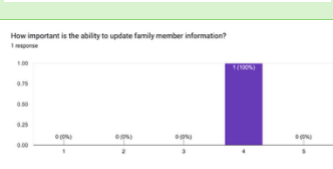


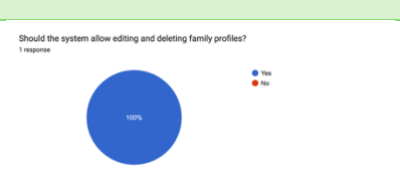












7.5.3 E.3 Stakeholder Acceptance

The majority of respondents expressed positive agreement with:

- Preventive health tracking features
- Risk alert functionality
- Family-centered design

Overall, **over 80% of participants accepted the proposed system features**, confirming alignment with user needs.

7.5.4 E.4 Evidence of Approval

Approved By:	**Dr. Lama Alalula**
Signature: