CMPSC 488

Requirements Review

Group Name: Remember5

Members: Hasan A., Anna M., Flamur B.
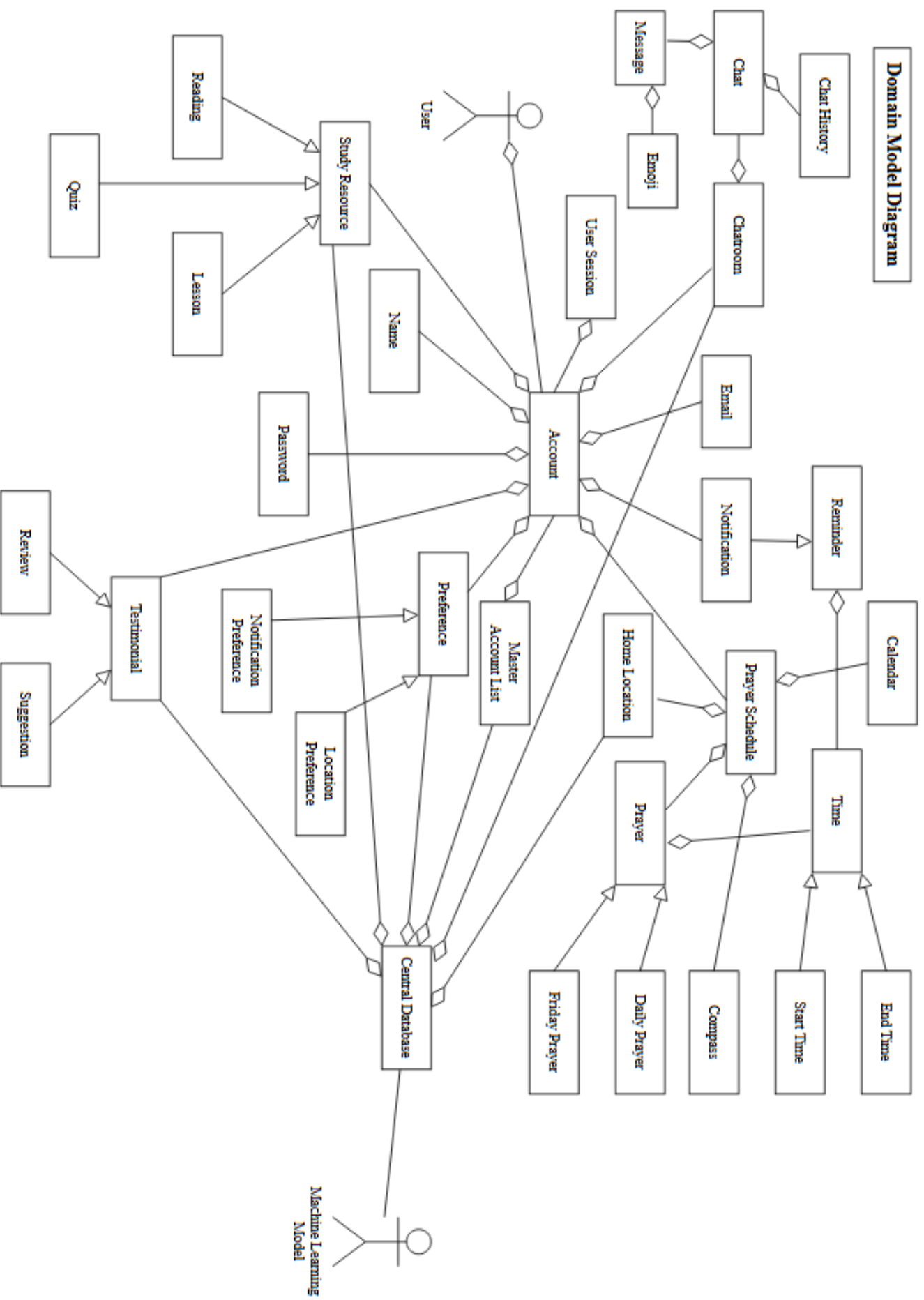
Professor: Dr. Hein Nguyen

Date: 1/20/2023
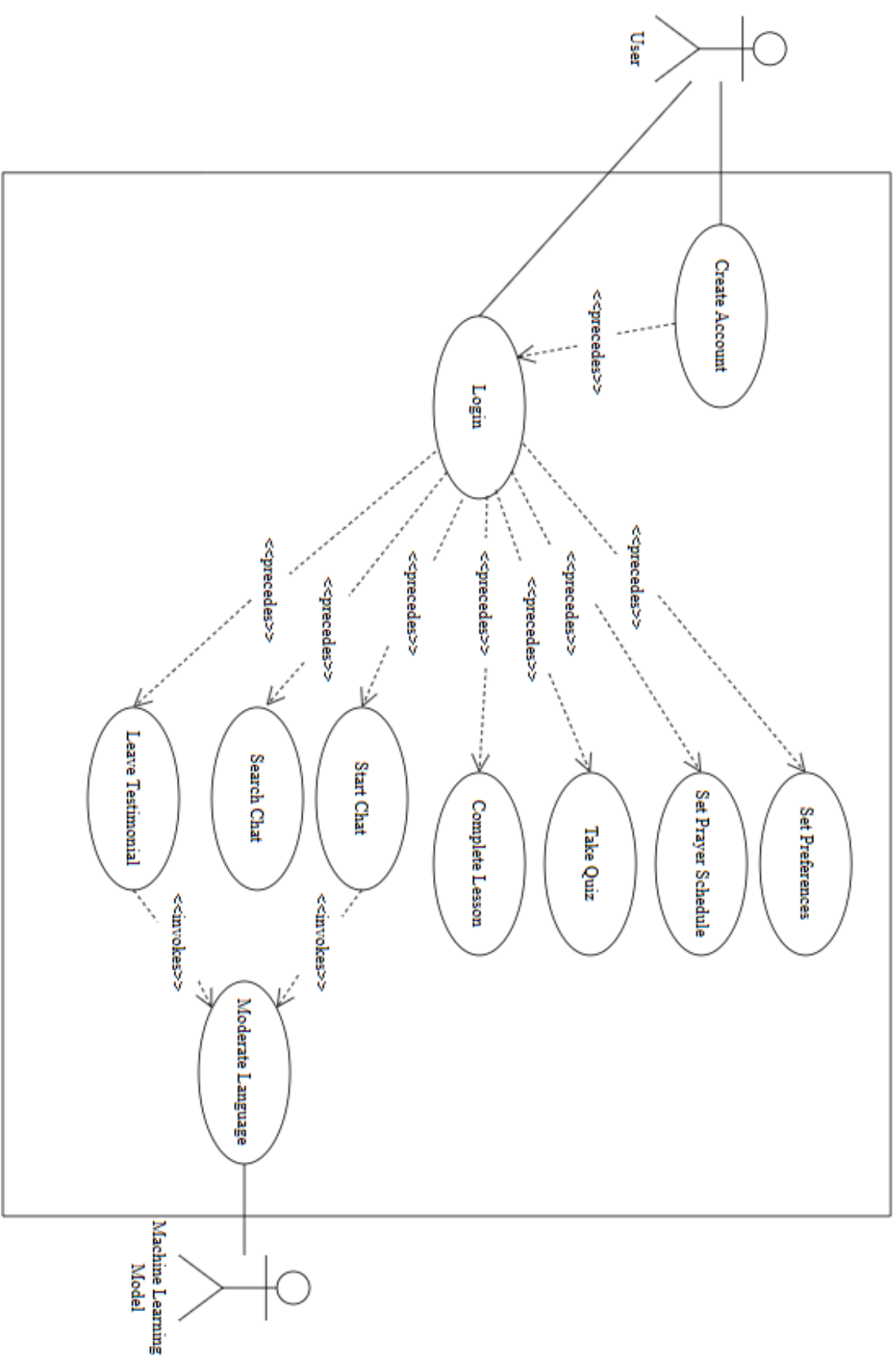
High-level Requirements

1. Remember5 will be a web-based application that will have a sufficiently flexible architecture to provide full functionality in two modes: desktop and mobile.
2. Remember5 must be able to provide reminders for the 5 daily prayers Muslims are obligated to fulfill.
   a. The 5 timings of the daily prayers change every day based on the positioning of the sun in the sky, so these reminders must be adjusted accordingly every day.
   b. The reminders will be sent at the starting time of the prayer as push notifications.
   c. On Fridays, users will receive a separate notification for the special congregational afternoon prayer.
   d. The Islamic calendar will be displayed on the Prayer page. Users will also receive notifications and reminders of Islamic holidays.
3. Remember5 will include on the prayer times page the coordinates pointing towards Mecca on the desktop version, and a compass on the mobile web version.
4. The user must be able to create a customer account, so that the system remembers the user's details (name, email, password) at login:
   a. System shall maintain a list of accounts in its central database.
   b. When the user logs in, his or her password and username must always be matched against the data in the master account list.
   c. The user must be able to update any information that they provided, as well as have the option of deleting their account.
5. Remember5 at the time of a prayer, will send the user a list of people within the 5-mile distance based on the location of the other users. So that all those close by, may all pray together in congregation. All registered users' locations are set as non-discoverable by default, but the user will have the option to turn their location on.
6. Based on the list of people close to the user, the data will be collected and given to a machine learning model that will predict in advance where people might be at future prayer times.
7. The user shall have access to the chatroom by default at any time:
   a. The user, when logged in, can send and receive messages in the chatroom.
   b. The chatroom shall have a list of online and offline users. The chatroom will be moderated by a machine learning model checking for foul language.
   c. The chat history will be saved in the database and will be accessible to the users in the search bar.
   d. The chatroom will support sending and receiving files as well as provide a list of emoji to users.
8. The user shall have access to the religious studies section:
   a. The section provides information about the religion for newly converted members, and for those that just want to learn more about the religion.
   b. The user shall utilize the study resources to learn about the religion, such as: lessons, readings, and quizzes.
9. All account information must be stored in a central database:

a. The central database should collect and store each individual user's preference, such as the history of selected notification and location preference, in order to provide a better service in the future.
10. The customer who uses Remember5 can post their testimonials on the web site:
    a. The user can share their experience and write suggestions for improvements.
    b. The user's testimonials shall be moderated by a machine learning model (like the chatroom) and then saved to the central database. The user's testimonials and suggestions shall also be used in the future for further updates.
11. Remember5 must be scalable with the following specific requirements:
    a. The reminder service must be capable of maintaining user accounts for up to 50 customers in its first six months, and then a further 1,000 after that.
    b. The reminder website must be capable of serving up to 50 simultaneous users.

Domain Model Diagram

Domain Model Diagram showing the relationships between the following entities:

- **User** (actor)
- **Machine Learning Model** (actor)
- **Account** — associated with Name, Password, Email, Notification, User Session, Chatroom, Study Resource, Preference, Master Account List, Home Location
- **Chat** — composed of Message, Emoji, Chat History, Chatroom
- **Notification** → Reminder
- **Reminder** — Calendar
- **Prayer Schedule** — Calendar, Prayer, Time, Home Location
- **Prayer** → Friday Prayer, Daily Prayer; Compass
- **Time** → Start Time, End Time
- **Study Resource** → Reading, Quiz, Lesson
- **Testimonial** → Review, Suggestion
- **Preference** → Notification Preference, Location Preference
- **Central Database** — connected to Study Resource, Testimonial, Preference, Master Account List, Account, Machine Learning Model

Use Case Diagram

User

Create Account

<<precedes>>

Login

<<precedes>>
<<precedes>>
<<precedes>>
<<precedes>>
<<precedes>>
<<precedes>>
<<precedes>>

Leave Testimonial

Search Chat

Start Chat

Complete Lesson

Take Quiz

Set Prayer Schedule

Set Preferences

<<invokes>>
<<invokes>>

Moderate Language

Machine Learning Model

Set Prayer Schedule

BASIC COURSE:
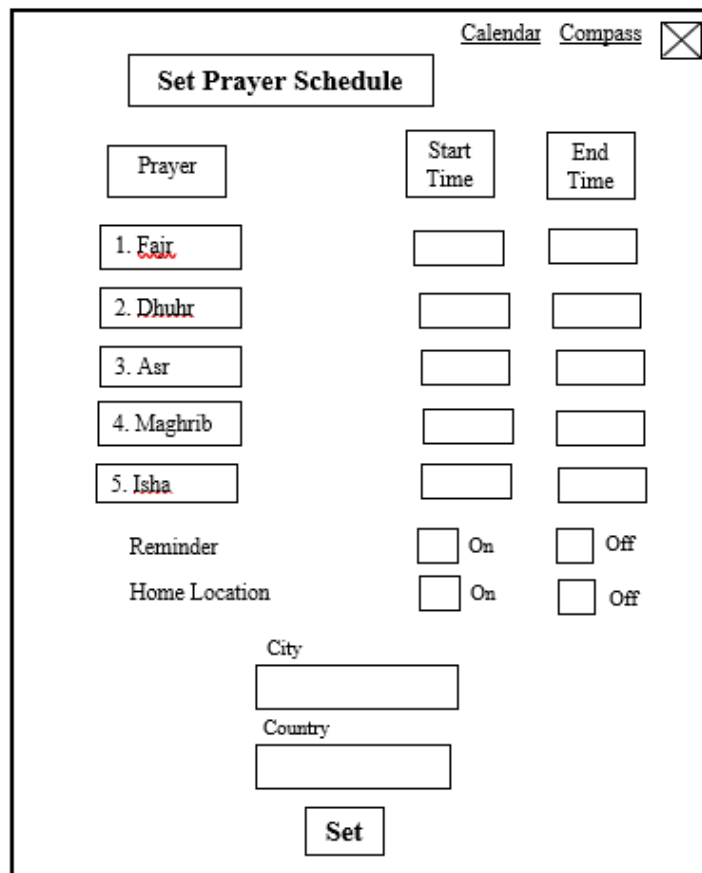
The system displays default <u>Prayer Schedule</u> on <u>Prayer Schedule Page</u>. The <u>User</u> enters <u>Location</u> (city, country) and clicks <u>Set Button</u>. The system retrieves requested <u>Prayer Schedule</u> by synchronizing with the entered <u>Location</u> and displays current <u>Prayer Schedule</u>. The <u>User</u> checks <u>Home Location Box</u>. The system saves the <u>Home Location</u> in <u>Central Database</u>.

ALTERNATE COURSES:

No matching location: The system displays "No location found" message and displays <u>Prayer Schedule Page</u> again.

Blank(s) in location query: The system displays "Location query is incomplete" message and displays <u>Prayer Schedule Page</u> again.

Home location is off: The system displays "Save changes?" message when the <u>User</u> leaves <u>Prayer Schedule Page</u> and returns to the default <u>Prayer Schedule</u> if <u>No Box</u> selected.

Figure 1-1. *GUI Prototype for Set Prayer Schedule*

Complete Lesson

BASIC COURSE:

The system displays <u>Religious Studies Page</u>. The <u>User</u> clicks <u>Lessons Button</u>. The system displays <u>Lesson Topics</u> on <u>Lesson page</u>. The <u>User</u> clicks a <u>Lesson</u>. The system retrieves the <u>Lesson</u> from <u>Central Database</u> and displays <u>Lesson Material</u>. The <u>User</u> completes <u>Lesson</u>, then clicks <u>Completed Button</u>. The system updates <u>Lesson</u> as completed in <u>Central Database</u>.

ALTERNATE COURSES:

Lesson Competed Button not clicked: The system displays "Complete the lesson" message and displays <u>Lesson Page</u> again.
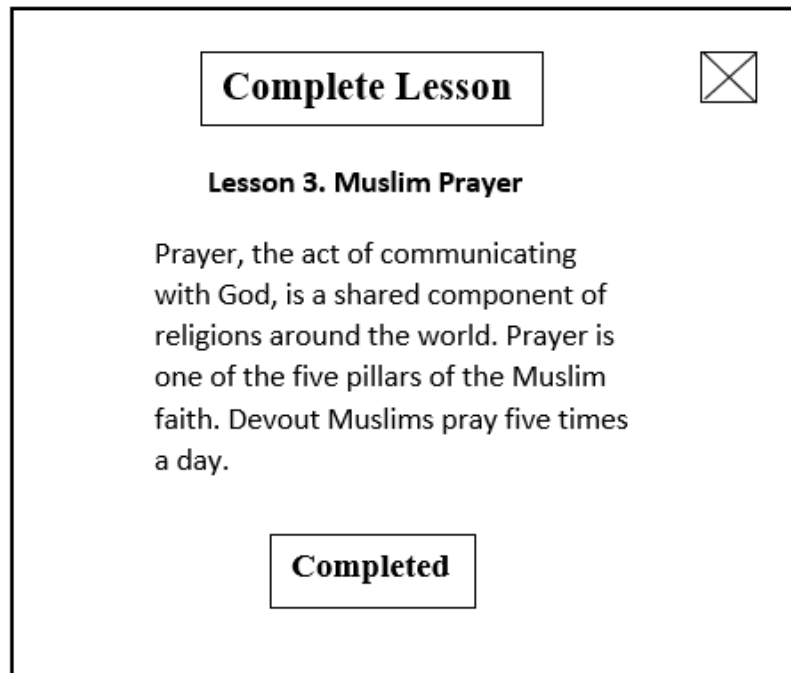

Figure 1-2. *GUI Prototype for Complete Lesson*

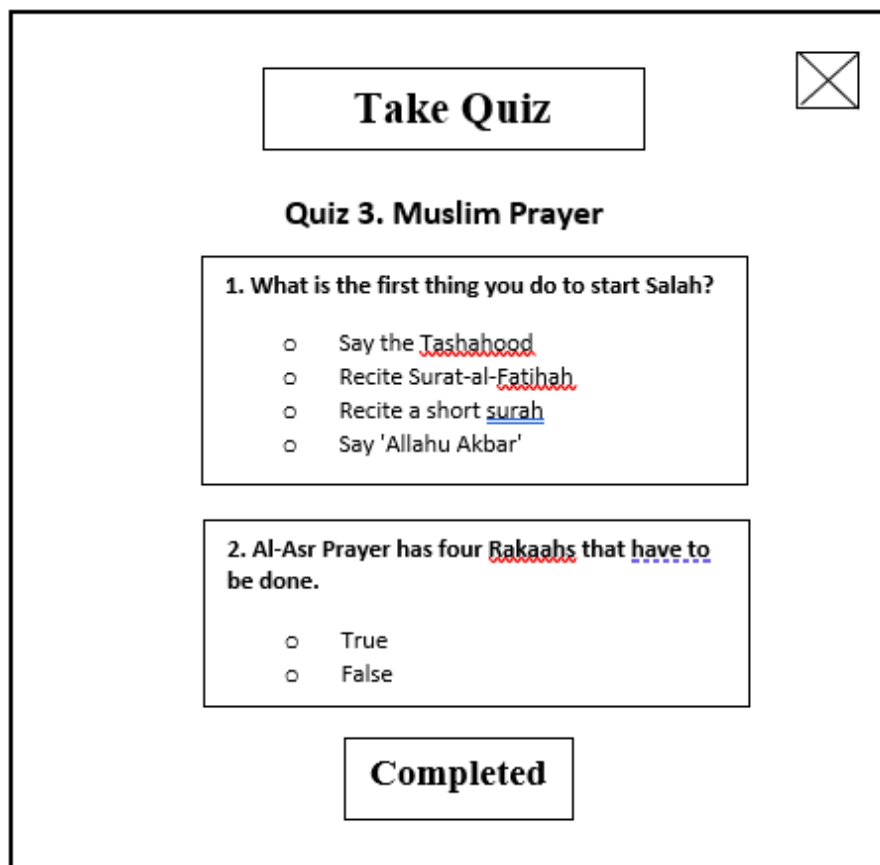**Take Quiz**

BASIC COURSE:

The system displays <u>Religious Studies Page</u>. The <u>User</u> clicks <u>Take Quiz Button</u>. The system displays <u>Quiz Topics</u> on <u>Quiz page</u>. The <u>User</u> clicks a <u>Quiz</u>. The system retrieves the <u>Quiz</u> from <u>Central Database</u> and displays <u>Quiz Questions</u>. The <u>User</u> clicks <u>Submit Button</u>. The system updates <u>Quiz</u> as completed in <u>Central Database</u>.

ALTERNATE COURSES:

Incomplete quiz: The system displays "Answer all questions" message and displays the <u>Quiz</u> again.

The user clicks Cancel Button: The system displays <u>Quiz Topics</u> on <u>Quiz Page</u> again.

Figure 1-3. *GUI Prototype for Take Quiz*

Start Chat

BASIC COURSE:

The system displays <u>Chatroom Page</u>. The <u>User</u> clicks <u>Chat Button</u>. The system retrieves <u>Chat History</u> from <u>Central Database</u> and displays active <u>Chat</u> on <u>Chatroom Page</u>. The <u>User</u> clicks <u>Message Button</u> and enters a <u>Message</u>. The User clicks <u>Emoji Button</u>, enters an <u>Emoji</u>, and clicks <u>Send Button</u>. The system adds <u>Message</u> to <u>Pending Message Queue</u> for moderation. The system invokes <u>Moderate Language</u> use case. The system stores <u>Message</u> in <u>Central Database</u>.

ALTERNATE COURSES:

No message entered: The system shows "Empty message can't be sent" message and displays <u>Chatroom Page</u> again.

Foul language found: The system shows "Bad words found" message and displays <u>Chatroom Page</u> again.
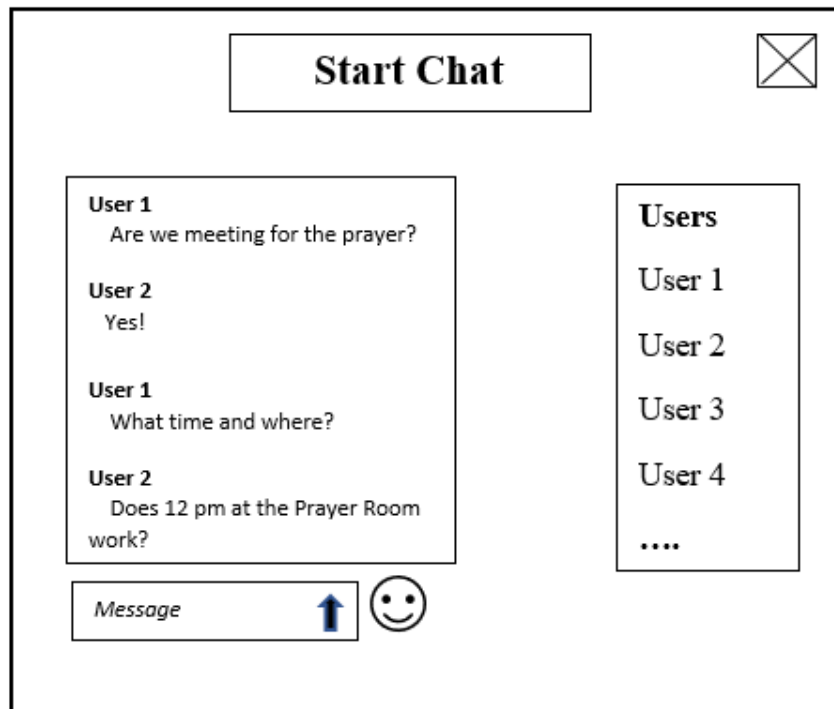

Figure 1-4. *GUI Prototype for Start Chat*

Search Chat

BASIC COURSE:

The system displays <u>Chatroom Page</u>. The <u>User</u> enters <u>Search Text</u> (a keyword or a contact) in the <u>Search Chat Bar</u>. The system retrieves <u>Message(s)</u> by accessing <u>Message History</u> in <u>Central Database</u> and determines a list of <u>Messages</u> that matches with <u>Search Text</u>. The system displays the list of matching <u>Messages</u>. The <u>User</u> clicks <u>Message</u>. The system displays selected <u>Message History</u>.

ALTERNATE COURSES:

Typos in search text: The system shows "No matches found" message and displays <u>Chatroom Page</u> again.

No search text entered: The system shows "No text entered" message and displays <u>Chatroom Page</u> again.
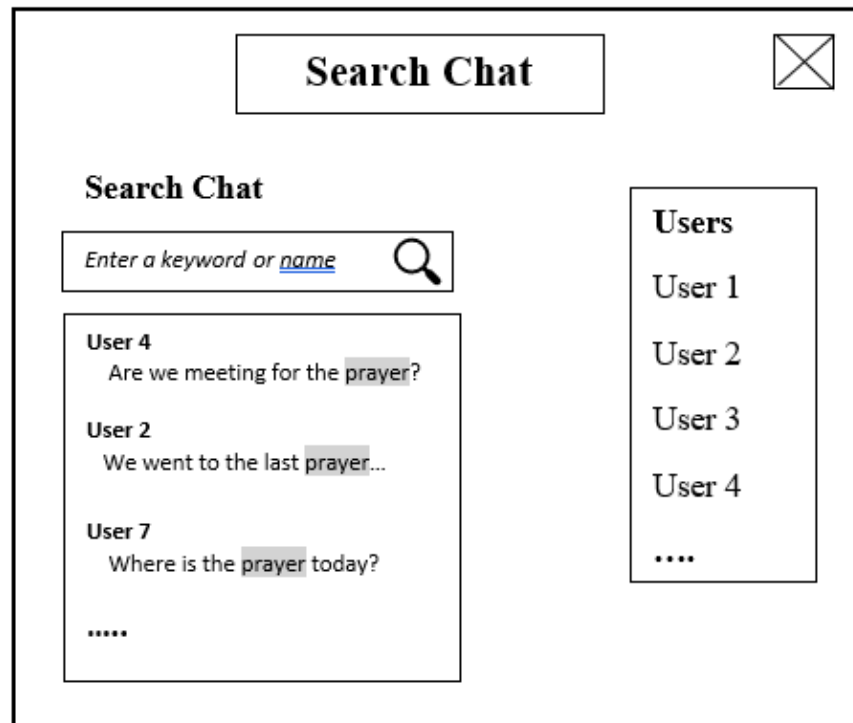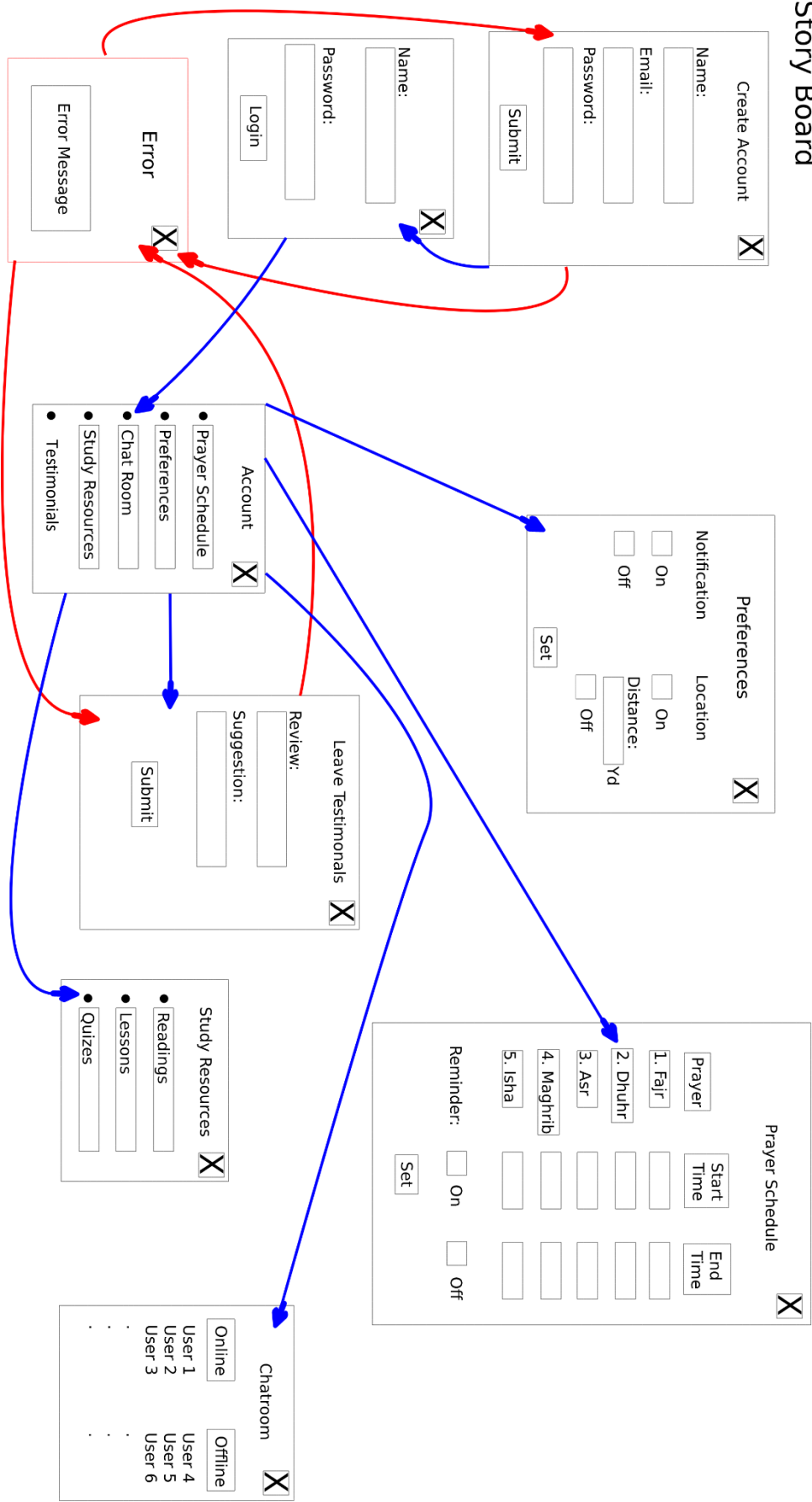

Figure 1-5. *GUI Prototype for Search Chat*

Story Board 1

Story Board

Create Account
Name:
Email:
Password:
Submit
X

Login
Name:
Password:
Login
X

Error
Error Message
X

Account
- Prayer Schedule
- Preferences
- Chat Room
- Study Resources
- Testimonials
X

Preferences
Notification   Location
On   On
Off   Off
Distance:
Yd
Set
X

Leave Testimonals
Review:
Suggestion:
Submit
X

Prayer Schedule
Prayer   Start Time   End Time
1. Fajr
2. Dhuhr
3. Asr
4. Maghrib
5. Isha
Reminder: On   Off
Set
X

Study Resources
- Readings
- Lessons
- Quizes
X

Chatroom
Online   Offline
User 1   User 4
User 2   User 5
User 3   User 6
.   .
.   .
.   .
X

Story Board 2

Story Board

Create your account

Name
Email
Password

Create your account

1) Create an account by entering in your information and clicking the blue button. If the password and name are not unique, you will be directed to our Error page.

2) Once an account is created, you will be directed to our login page

Login

Username
& Type your username

Password
& Type your password

Forgot password?

LOGIN

Feature 1: Chat with all other users of Remember5 to form prayer groups

Welcome To The Chatroom! (-:

Chatroom

Message

ONLINE — J: User 1, User 2, User 3, User 4, User 5

Remember5 > Preferences

Notification:
Location:
On / Off
Distance ∨
Set

Feature 2: Customize you web app exactly how you like. Control notificatoins and if you would like to share your location.

1-1)After displaying an error for password or name, you will be redirected back to the create account page.

Error
Error Message

3) Once in Account page, the user will have access to all our 5 features

Account Page

Study Resources
Prayer Schedule
Testimonials
Preferences
Chatroom

Feature 3-1)After displaying an error of a issue, you will be redirected back to the feedback page.

Feature 4: Study resources(quizzes, readings, lessons) to learn more about the religion.

Leave Testominial

Review
Suggestion

Send

Feature 3: Leave your review, and suggestoin for further improvement. If all the fileds are left empty, or are invalid entries, you will be directed to an error page.

Feature 5: Prayer time schedule

Prayer | Time | End Time
Fajr | 4:10 | 5:38
Sunrise | 5:38 | 5:38
Duhr | 12:20 | 3:38
Asr | 3:38 | 7:02
Maghrib | 7:02 | 8:32
Isha | 8:32 | 11:59

5 hr 39 min to Fajr prayer

Reminder:
Set

Remeber5: Study Resources

Home
Readings
Lessons
Quizzes
Grades

2230-2023/23EA

Welcome to our Study Resources!

Story Board 3

Remember5
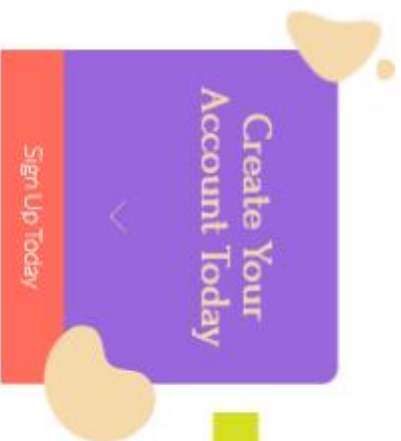S T O R Y B O A R D

Create Your Account Today

Sign Up Today

Page 0
Remember5 :

- Stay ahead of time and focus on what is important.

- Receive daily reminders and notifications to never miss the prayer time

Page 1

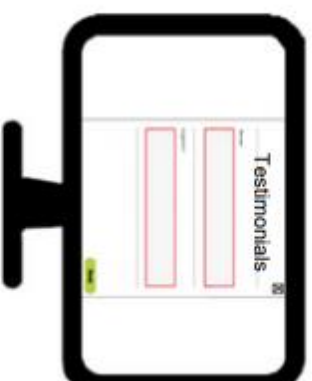**Easy sign up** : Enter your name, email and password and click Create Account Button

Create your account

Page 2

Login in seconds with your username and password. Or use our Forget Password feature

Login

Page 3

While enjoying our website, write a **review** and **suggestions**

Testimonials

Page 4

Oops! **Errors** happen filling in fields. No worries! Just type it in again.

Error
Error Message
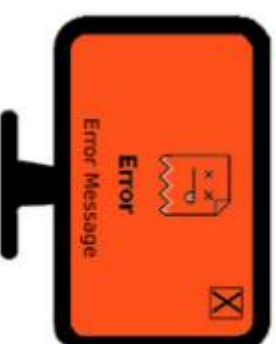
Remember5
STORYBOARD

READY TO EXPLORE ALL FUNCTIONALITY?

Chatroom

Preferences

Feedback

Account Page

Study Resources

Preferences

Prayer Schedule

Chatroom

Testimonials

Remember5 > Preferences

Notification:

Location:

Set

On

Off

Distance

Page 5
A breeze to navigate **Account Page**

Page 6
Go with default **Preferences** or personalize Remember5 with offered options

Remember5: Study Resources

Welcome to our Study Resources!

Lessons
Readings
Quizzes
Grades

Welcome To The Chatroom!

User 1
User 2
User 3
User 4

Prayer | Time | Ex. Time
Fajr | 4:10 | 5:38
Sunrise | 5:38 | 5:38
Duhr | 12:20 | 3:38
Asr | 3:38 | 7:02
Maghrib | 7:02 | 8:32
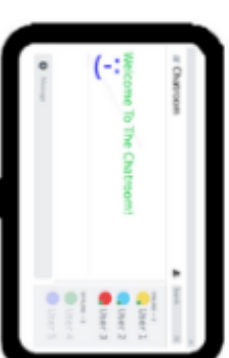Isha | 8:32 | 11:59

5 hr 39 min to Fajr prayer

Set

Page 7
No need to memorize prayer times any more. **Prayer Schedule** keeps track of time for you and sends regular reminders

Page 8
Talk to your friends and set up prayer groups in our **Chatroom**

Page 9
Brush up on your knowledge of Islamic religion and learn more with our **Study Resources** Page with lessons, readings and quizzes of your choice