The Development of Pusara Finder: Muslim Grave Finder Mobile Application

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ARTICLE INFO	ABSTRACT
	In Islam, visiting graves reflects and reminds us of death and life in the Barzakh. The cemeteries must be adequately cared for and maintained since they play a significant role in the community as an important location for remembering and lamenting. However, remembering or finding the specific grave can sometimes be challenging. Thus, this project aims to develop a mobile application in which users can track their loved one's grave to help them locate, save, and share the grave's location by utilising the GPS sensors on the mobile phone. It is easier for them to track their loved ones and build a community for the Muslim cemetery community. The objectives of this project are to identify user requirements and to design and develop Pusara Finder – Muslim Grave Finder Mobile Application. This project uses the Android platform, and the mobile application has been developed using Visual Studio or Android Studio. There is a novelty of this project in which Pusara Finder is anl app designed to simplify the process of locating and navigating to Muslim graves in Shah Alam. This apps offers a seamless and intuitive experience, making it easier to pay tribute to the loved ones. The user also can access the complete database of Muslim graves with ease. The target user of this project was Muslim Public Users or people who want to find their specific grave. The methodology used for this project will be the Mobile Application Development Life Cycle (MADLC) Model. This project, however, has been developed up until the testing phase only. The project has been developed, and it's in a prototype. In order to develop the mobile application, Flutter and Firebase has been implemented in this project. There were 11 users who had been involved in testing the usability of the mobile application by using System Usability Scale method with the score of 76.59 which in adjective rating is good.

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1. Introduction

In Islam, visiting graves is to reflect and remind ourselves of death and life in the Barzakh [1]. The cemeteries must be adequately cared for and maintained since they play a significant role in the community as an important location for remembering and lamenting. Based on an article by Afla & Reza [2], the final rite in Muslim funeral customs is visiting the grave. This ritual is a constant method for the guests to remember the deceased. Visitors would sit on the ground at this time to offer the deceased a prayer by reading a chapter of Yasin from the Quran. Typically, this ritual is carried out close to the tomb. The Yasin recitation concludes with applying flower petals and water to the tomb. Families are welcome to bring a mat or newspaper from home to use as a temporary seat. In Islam, graveyards are created to preserve the deceased. Therefore, according to Islamic law, graves must be deep enough to prevent disturbances, particularly from wild animals to deceased people's corpses. Additionally, most Muslim scholars, including those from the Shafi'iy, Hanafiy, Malikiy, and schools of thought, prefer to build a mound of dirt in a cemetery after a person has been buried.

Muslim cemeteries in Malaysia typically follow the same Islamic traditions but may have different cultural variations. These include rows of simple, unadorned graves marked by flat headstones or markers, and arranged in an east-west orientation. The body is buried directly in the ground without a coffin or embalming, and over time, it decomposes and returns to the earth. Cemetery management is often done periodically to maintain the appearance of the cemetery [3]. Nowadays, the usage of smartphones has become extremely popular, and their popularity continues to grow and most people have gadgets to access digital information for various purposes [4]. As a result, many religious individuals, particularly Muslims and Islamic groups, are utilising this chance to use mobile apps for preaching and learning Islam. Apart from that, families who act as the fundamental units of social support in communities, fostering unity and coherence [5] also can get the benefit from this mobile apps. It further strives to offer services and simple access to Islamic knowledge, putting spirituality within reach of the current generation.

2. Literature Review

Many people do not remember how to track their loved ones' graves [3]. Most young people ask the grave keeper where to find their family graves. Not all of them can track the graves. Some do not know the difference between a men's and a woman's grave. It is stated in an article is before knowing where to locate our deceased family grave, we need to know the difference between a man's grave and a woman's. A reporter also stated that commonly asked questions by people to grave diggers," where is my mother and father's grave?" [6]. Apart from that, one of the few factors most people find hard to locate is the cemetery site changes over time. It is stated that it's hard to find our ancestor family grave due to the changing landscape and surrounding of the grave after many new burials [7]. Due to the growing population of death resulting from population expansion, there is an ever-increasing and perhaps unmanageable demand for resting places in metropolitan settings [8]. It is clear now that it is sometimes hard to remember where to locate the deceased ancestor's grave. Information of graves location is usually pass down by generation to generation but sometimes some generation will tend to forget because it relies on memories to remember. Islam has established death as a person's ultimate journey in Malay. It is said to be the point at which worldly existence ends, marking the beginning of the spiritual transition from this life to the next [9]. The Malays explicitly believed that a person's journey through life ends with death. It is a transition from the present world to the future world [10]. The Malays are widely renowned for this notion of assisting, which forms a pillar in the community's life [11]. According to Islamic tradition, the grave itself should

face Mecca in a direction perpendicular to the Qibla [12] without any marker. However, the modern family members nowadays are increasingly placing burial markers [13] and increasingly erect burial monuments [14]. Based on Fakhruroji [15], the mobile device was brought into the technological world to make it easier for people to access and browse every day. On the Google Play Store, hundreds of applications for various religions may be downloaded and used by many people [16]. Therefore, Pusara Finder is one of the mobile applications in which can give some contribution towards the community and will be verified by the expert. This statement is according to Hameed, Ahmed & Bawany [17] that the content of the mobile application needs to be confirmed on the information accuracy, information quality, visual content, and information quantity by the experts.

3. Project Methodology

The research methodology used to develop the Pusara Finder mobile application was the Mobile Application Development Life Cycle, which consists of seven phases as indicates in the diagram below (Figure 1).
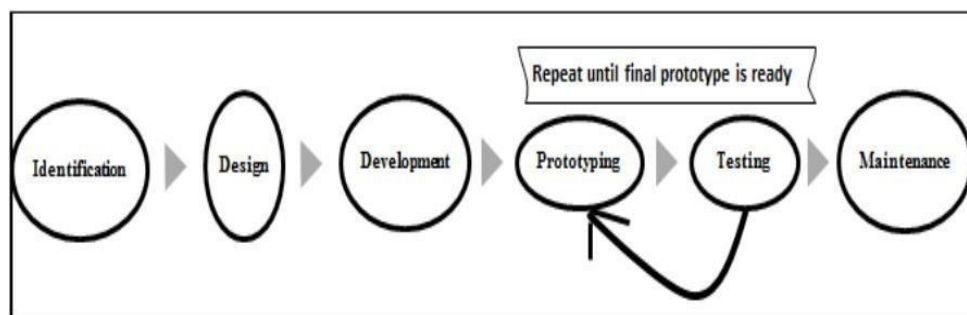

Fig. 1. Mobile application development life cycle (MADLC) phases [8]

3.1 Identification Phase

This phase's primary goal is to generate new ideas or adjust the present application. If the concept originates from the customer, the design might come from the client or the designers. If the idea comes from the consumer, the idea is further developed and reviewed [18]. This identification phase is used for Pusara Finder Mobile Application by identifying the problem statement, objective, scope, and project significance by doing research via literature reviews. Having a project plan estimation is critical because it allows us to stay informed about the project's progress and understand the flow of the process in detail. Geolocation sensors, a global positioning system (GPS), and other project components will be outlined. After analysing several similar current applications, a list of hardware and software to be employed and functional and non-functional requirements are determined. The identification process is described in full in Table 1.

Table 1
Summary of identification phase

Phase	Objective	Activities	Tools and Method	Deliverable
Identification	To Identify the requirements of Pusara finder Muslim Grave Finder mobile application	Literature Review on articles, journals, and thesis	Medeley	Project Background, Problem Statement, Objective, Scope, and Significance
		Review of similar application	Google Play Review application	Comparing features of existing applications
		Plan Project Milestone and Schedule	Microsoft Excel	Gantt Chart

3.2 Design Phase

The development phase follows the design phase, which focuses on the coding aspect of mobile app development. The coding for functional and user interface requirements is included in the development process. The program used to design and build the application was Android Studio. During this phase of MADLC, the user interface for the mobile application is created. The use case diagram and a hierarchical model diagram for this project will be created using Lucid Chart. The user interface design for the Pusara Finder mobile application is one of the deliverables that will be completed after this phase. The actions of the design phase have been outlined in Table 2.

Table 2
Summary of design phase

Phase	Objective	Activities	Tools and Method	Deliverable
Design	To design the Pusara finder Muslim Grave Finder mobile application	Storyboarding	Canvas	Storyboard created
		Design user interface	Figma	Pusara Finder mobile application user interface designed
		Design Hierarchical Model	Lucid Chart	Hierarchical model designed
		Design Flowchart	Draw IO	Flowchart
		Design Sequence Diagram	Draw IO	Sequence Diagram
		Design Use Case	Lucid Chart	Use Case Diagram

3.3 Development Phase

After that comes the prototype phase, during which an application is produced using VS Code or Android Studio and functional requirements are established and verified to ensure user expectations are satisfied. This process was also carefully observed and recorded. According to Vithani & Kumar [18], development phases include two parts of the development for a user, which are interface requirements and functional requirements in this phase. The user interface and function components discussed will be developed using Android Studio to build the user interface and function and

Firebase to build the database. The user interface design for the Pusara Finder mobile application is programmed and built as one of the deliverables after this phase. The actions of the development phase have been outlined in Table 3.

Table 3
Summary of development phase

Phase	Objective	Activities	Tools and Method	Deliverable
Development	To develop Pusara finder Muslim Grave Finder mobile application	Develop Database	Firebase Database	Database
		Develop user interface and system coding	Android Studio/ VScode	Pusara Finder Muslim Grave Finder Mobile Application

3.4 Prototyping Phase

The prototyping, development, and testing phases continue until the final prototype is ready. The user is given a final chance to assess the finished prototype. The work that is completed at this stage of prototyping is documented and sent to the following stage, which is the testing step [18]. The prototyping phase is summarised in Table 4 below.

Table 4
Summary of prototyping phase

Phase	Objective	Activities	Tools and Method	Deliverable
Prototyping	To develop Pusara finder Muslim Grave Finder mobile application	Develop Database	Firebase Database	Database
		Develop user interface and system coding	Android Studio/ VScode	Pusara Finder Muslim Grave Finder Mobile Application

    i.   Low fidelity prototype: Low-fidelity prototype approaches and methods are used for early design just after requirements analysis to help conceptualise and visualise the interface at a high level. These technologies also enable rough interface screen sketching using freehand monitor or tablet drawing.

    ii.   Mid Fidelity prototype: Following early design, mid-fidelity prototyping techniques are utilised for detailed design and usability assessment. They offer in-depth information, albeit in a schematic ('wireframe') or approximate form, followed by a navigation about the functionality, content, and layout.

    iii.   High Fidelity prototype: Before the final version is generated, high-fidelity prototyping technologies enable the creation of a simulation that seems realistic. This is often done for marketing purposes or occasionally for user testing.

3.5 Testing Phase

The SUS questionnaire is the best method for evaluating an application's usability since it involves asking users ten questions about the usability of the program and requesting responses that range from strongly disagree to strongly agree [19]. There will be at least 10 respondents who will

participate in this testing. A SUS score, like most questionnaire data, is hard to interpret without some meaningful comparison, but in this case, it would be helpful to test the usability of certain systems [20]. The summary of the testing phase has been recorded in Table 5.

Table 5
Summary of testing phase

Phase	Objective	Activities	Tools and Method	Deliverable
Testing	To test the usability of Pusara Finder- Muslim Grave Finder mobile application	A testing session for Pusara Finder- Muslim Grave Finder mobile application with 5 general users	Task Activities Checklist System Usability Scale (SUS)	The testing result was obtained.

The testing phase is the fifth and final step for this project. This phase aims to test the functionality of the first version of the mobile application. Five users are given a prototype of the application to try out and provide comments on. The results of the tests are recorded and forwarded to the user for evaluation [8]. The user will then give feedback using the system usability testing scale by Vithani & Kumar [18] as in Table 6.

Table 6
System usability scale (SUS) questionnaire

No	Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1.	I think I would use Pusara Finder-Muslim Grave Finder mobile application frequently					
2.	I find Pusara Finder-Muslim Grave Finder mobile application unnecessarily					
3.	I think that I would need the support of a technical person to be able to use the Pusara Finder-Muslim Grave Finder mobile application					
4.	I think Pusara Finder Muslim Grave Finder mobile application is easy to use					
5.	I found various functions in Pusara Finder-Muslim Grave Finder mobile application was well integrated					
6.	I think there was too much inconsistency in Pusara Finder- Muslim Grave Finder mobile application					
7.	I would image that most people would be able to use Pusara Finder- Muslim Grave Finder mobile application quickly					
8.	I find Pusara Finder-Muslim Grave Finder mobile application very cumbersome (awkward) to use					
9.	I felt very confident using Pusara Finder-Muslim Grave Finder mobile application					

* Source: Usability. gov,2020

4. Result and Discussion

This section will be discussing the results that have been obtained from this project implementation based on the stated objectives which are Identification of Data and Systems Requirements, Designing Pusara Finder Muslim Grave Finder Mobile Application and also Developing Pusara Finder: Muslim Grave Finder Mobile Application.

4.1 Identification of Data and Systems Requirements

The prerequisites for the application that the system requires are highlighted in this section. While the non-functional requirements are a quality constraint that the system will need to satisfy the user, the focus is on ensuring the functional requirements are met. This section also explains the system configuration that enables the program to function smoothly and effectively.

4.1.1 System requirements
4.1.1.1 Functional and non-functional requirements

The system requirements describe the functional and non-functional requirements of the Muslim Grave Finder Mobile Application. Table 7 below lists functional requirements for the Muslim Grave Finder Mobile Application.

Table 7
List of functional requirements for Muslim Grave Finder Mobile Application

Functional Requirement	Description
Adding Grave Details	Users can add new details of a new grave, such as the grave's name, death date, birth date and longitude/ longitude.
Authentication	Login and sign up is the leading security access of the mobile application
Review Graves	Other users can review the graves to comment on the graves such as to clean the graves, damaged parts of the graves , or maintenance of the grave.
Profile	Users can look at their profile and as well as edit their details on the profile page
My family Grave List	Users can add a favourite grave of their other relatives which will display on my family Grave list.
Surah Reading Page	A page where users can read and recite a surah for the deceased.
Track the longitude and latitude of the grave	The longitude and latitude of the grave will be used to track, which will directly use google maps to locate it.

In contrast, Table 8 below shows the non-functional requirements for Muslim Grave Finder Mobile Application.

Table 8
List of non-functional requirements for Muslim Grave Finder mobile application

Functional Requirement	Description
Security	Authentication to protect the data in the system.
Reliability	The mobile application has a live update, which means every time a user or added a new grave, it will instantly update in real-time.
Usability	The friendly interface where users can navigate, they are to the primary function of the application, which is to find the Pusara on the cemetery

4.1.1.1.1 IT infrastructure components of Pusara finder - Muslim grave finder mobile application

This section will describe the IT infrastructure of Pusara Finder, the Muslim Grave Finder Mobile Application. Figure 2 shows the IT infrastructure of the mobile application.
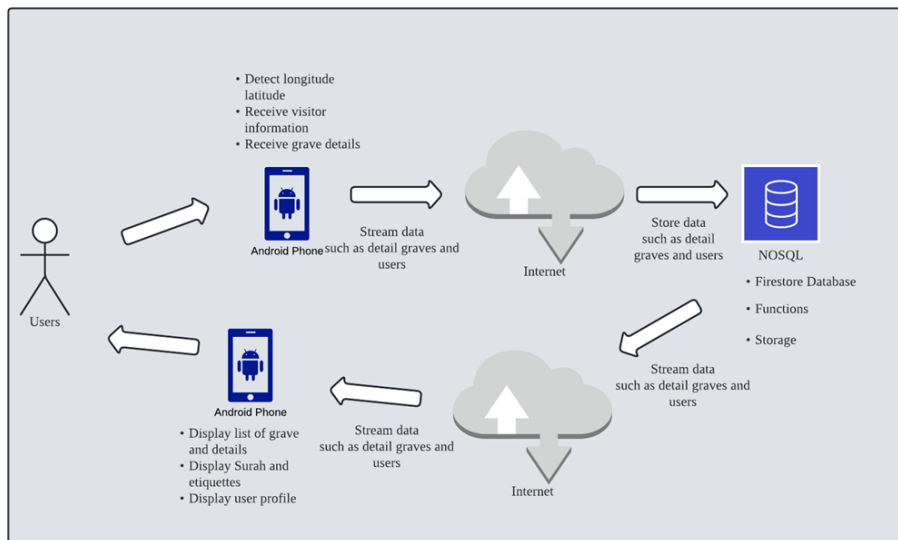
Fig. 2. IT infrastructure diagram for Pusara Finder - Muslim Grave Finder Mobile Application

4.2 Designing Pusara Finder Muslim Grave Finder Mobile Application
4.2.1 Storyboard conception

This section describes the story board of the Pusara Finder, a Muslim Grave Finder Mobile Application.

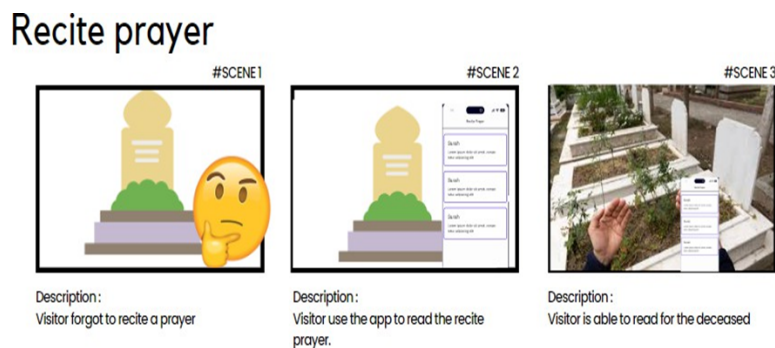**Fig. 3**. Storyboard 1 - how the app will be used when the users want to find the grave

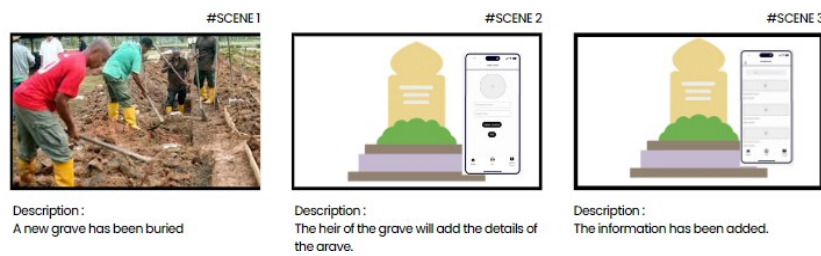**Fig. 4**. Storyboard 2 - how the user will use the app when they want to read a prayer

Add new grave

Fig. 5. Storyboard 3 - how the user will add a new grave from the app

4.2.2 Pusara finder Muslim grave finder mobile application flowchart

Figure 6 represents the overall flow of the Muslim Grave Finder Mobile Application activities. It starts when the user opens the application. If the user does not have an account, they can sign up; otherwise, they can log in. After login or registration, it will land on the homepage, where it will display the list of the grave. From this homepage, they can view some information about reciting prayers which is some surah for the users to recite for the dead. From the homepage, they can select one of the graves displayed on the list. Once the user presses on it, it will display grave information or profile. The user can directly tap on the navigation button to display grave information to track the grave with google maps directly. The user can also leave feedback on one of the graves. Other than that, users can add new graves.
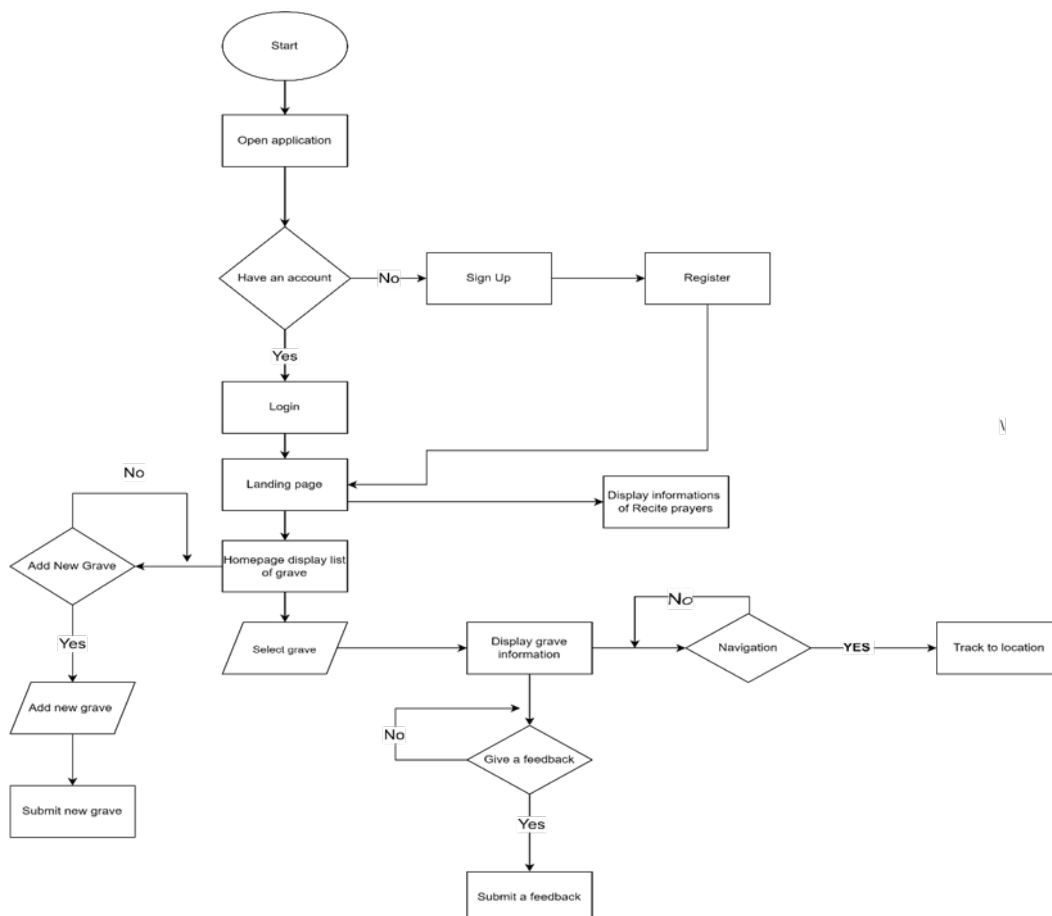

Fig. 6. Pusara finder flowchart

4.2.3 Use case diagram of Pusara finder Muslim grave finder mobile application
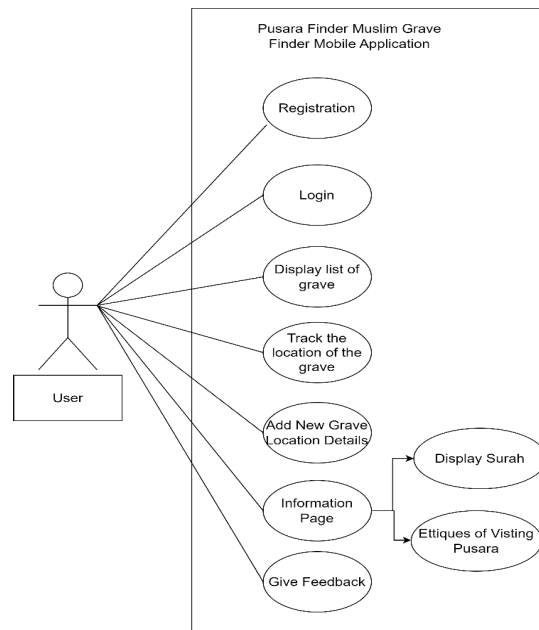

Fig. 7. Pusara finder use case diagram

4.2.4 Data design for Pusara finder Muslim grave finder mobile application
4.2.4.1 Hierarchical model diagram

Figure 8 shows the Pusara Finder: Muslim Grave Finder Mobile Application database structure within the Firebase. The database consists of 2 paths.
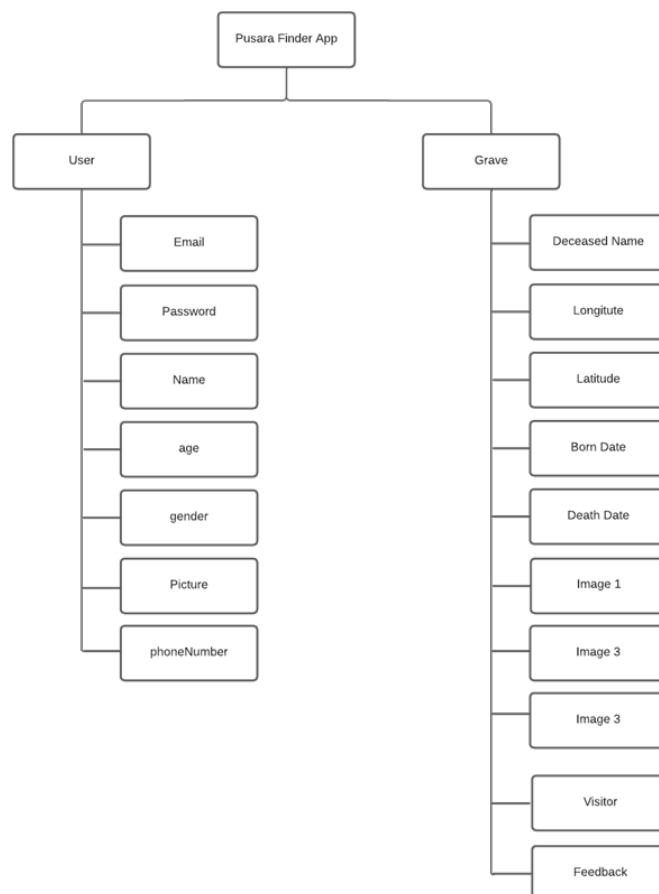
Fig. 8. Hierarchical data model

The Table 9 below shows the details of the database mode.

Table 9
Data Dictionary for Muslim Grave Finder mobile application database structure

Level	Name	Document Field	Data types	Data Format	Requirements	Description
1	User	username	String	-	YES	It contains the user's username that have registered
2	Picture	image	String?	-	NO	Contains the image of the use account
2	Email	email	String	-	YES	It contains the user's email
2	Password	password	String	-	YES	Contains the password of the user credentials
2	Phone Number	phoneNumber	String	-	YES	Contains the user's phone number
2	Name	name	String	-	YES	Contains the name of the users
2	Age	age	Int	-	YES	Contains the age of the users
2	Gender	gender	String	-	YES	Contains the gender of the users
1	Grave	uid	String	-	YES	It contains the grave details
2	Deceased Name	name	String	-	YES	Contains the name of the deceased on the grave
2	Longitude	longitude	Double	-	YES	It contains the coordinates of the grave

2	Latitude	latitude	Double	-	YES	It contains the coordinates of the grave
2	Death Date	died	Datetime	DD/MM/YYYY	YES	It contains the death date
2	Image 1	imageUr11	String?	-	YES	Contain image 1 of grave
2	Image 2	imageUrl2	String?	-	NO	Contain image 2 of grave
2	Image 3	imageUrl3	String?	-	NO	Contain image 3 of grave
2	Born Date	born	DateTime	DD/MM/YYYY	YES	Contains the born date
2	Number of Visitors	visitors	int	-	YES	It contains the number of users who visited grave
2	Feedback	reviews	String	-	NO	A data where users store the comments rating , and image of others' grave

4.2 The Development of Pusara Finder: Muslim Grave Finder Mobile Application
4.3.1 Front-end and backend development
4.3.1.1 Login and register

Figure 9 is the login and registers page of the application. The chosen primary colour for the application will be green as it represents Islamic and the nature of peace from the name of the application. The user must log in from this page and they must register and fill in their profile details if they do not have one. The splash screen activity will check whether there is an authentication session. If there is an authentication session, it means that the previous user has not logged out into the application, and it will direct into the user account without requiring a login.
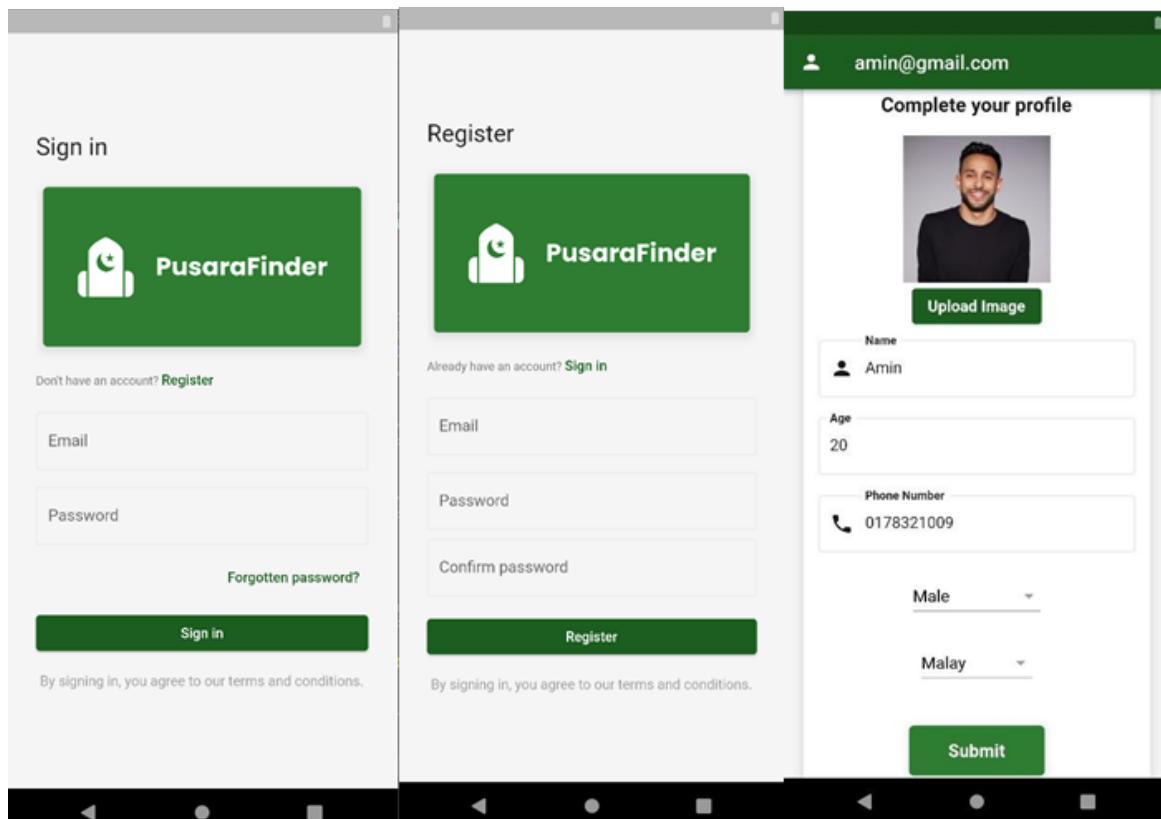

Fig. 9. Login and register page for Pusara finder mobile application

4.3.1.2 Homepage

Figure 10 is the main homepage of the mobile application. It is where the user can find all the names of the deceased that other users have saved. Each row represents the name of the deceased, death date and rating. Users can add favourites by tapping on the love button. The homepage also has a search bar to search for a specific name.
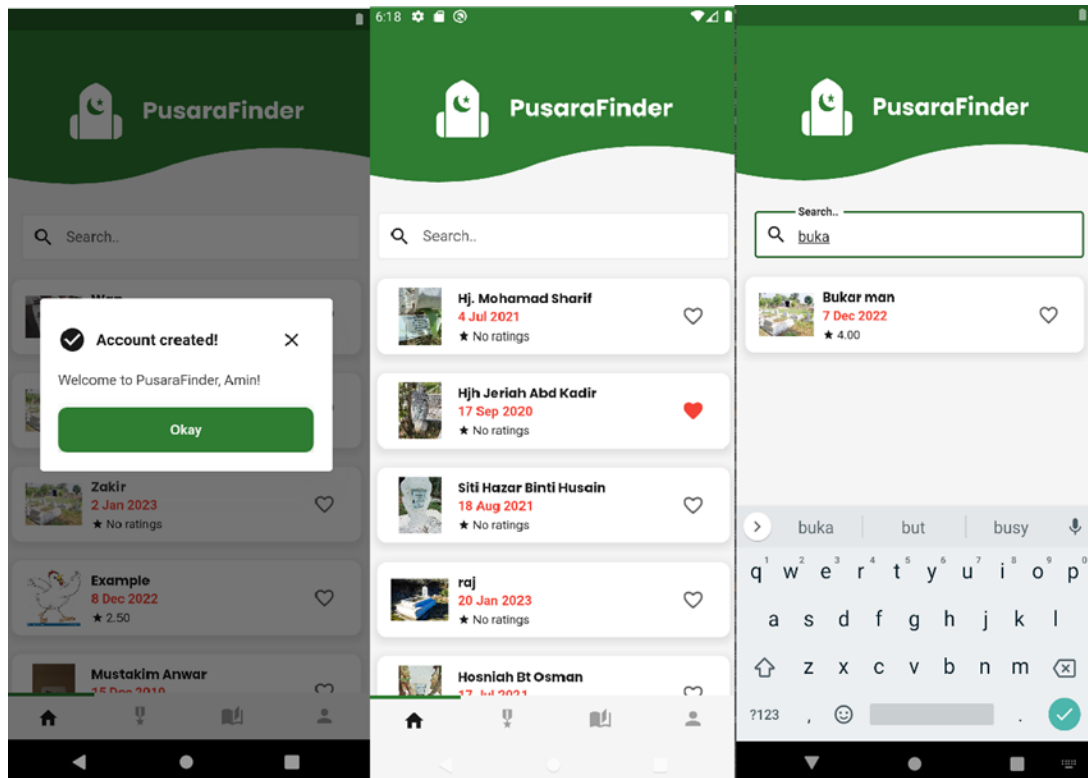

Fig. 10. Homepage for Pusara Finder mobile application

4.3.1.3 Grave detail page

Figure 11 shows the grave detail page. It will display the details of the grave as well as the uploader. It also has a map display and directions that will lead to a Google map. Therefore, the user can track the location of the grave. The user can also give comments upon the grave in which they can give feedback on the grave such as the damaged parts of the grave, maintenance as well as the cleanliness of it.
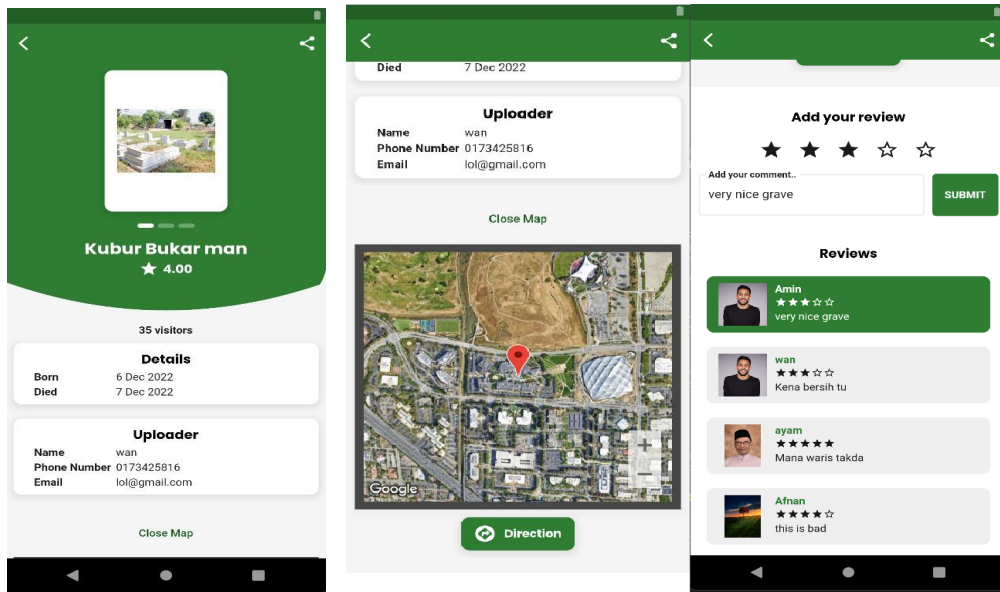
Fig. 11. Grave detail page

4.3.1.4 My Pusara and My Relatives tab

Figure 12 above displays the "My Pusara" and the "Favorites" tab. The "My Pusara" tab displays the list of the grave users added. It is where the user can add or update the details of the graves that they added by themselves. They can also delete it. The "Favorites" tab is where all the graves the user has tap favourite from the homepage.
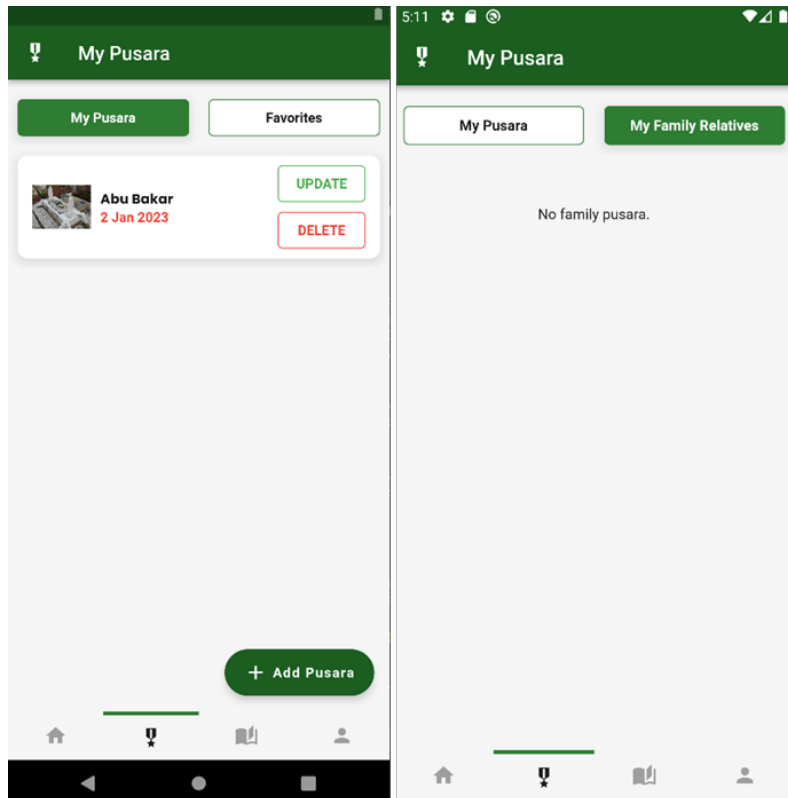

Fig. 12. My pusara and my relatives pusara

4.3.1.5 Add and update page

Figure 13 shows the add pusara page and update pusara. Add Pusara Pages is where users can insert three images of the pusara, names of the deceased, birth death date, and the longitude latitude of the pusara. Sames with the update pusara page where they have to update the details of the grave.
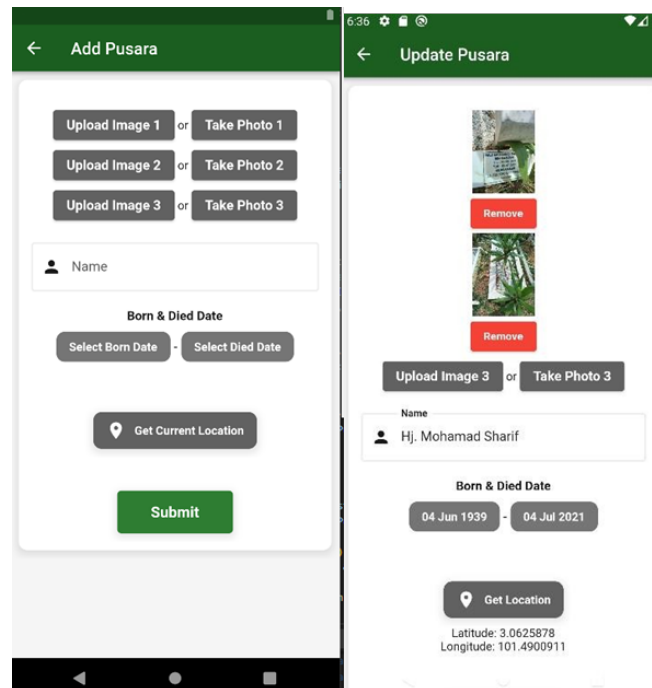

Fig. 13. Add and update grave page

4.3.1.6 Surah tab

Figure 14 displays the "Surah", and the "Surah" tab displays all list of surahs from the Al-Quran. It will have all the surah's names and the reading for the users liking to recite for the dead. The list of surah is extracted from a package. This is a full list from the Quran. A person may read any portion of the Quran in a low tone. There is an "Etiquette" tab that will display the etiquette of visiting pusara, where users can read it as knowledge.
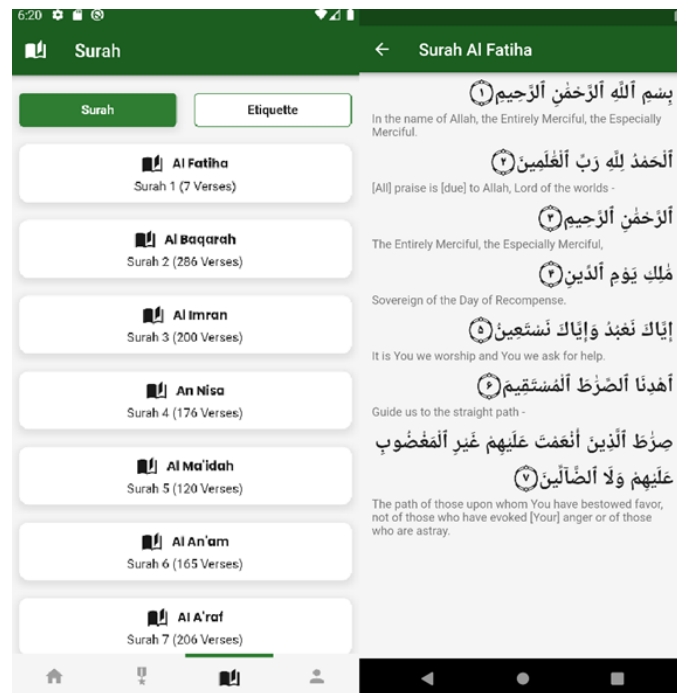
Fig. 14. Surah tab

4.3.1.7 Etiquette tab

The Figure 15 etiquette tab displays the etiquette of visiting pusara for the user's knowledge and information to follow.
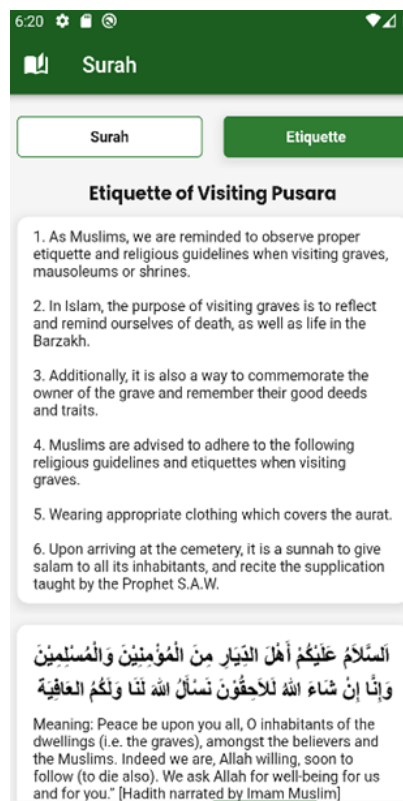

Fig. 15. Etiquette tab

4.3.1.8 Setting tab

Figure 16 is the Profile Setting page. It is where users can view their profile and edit if any changes need to be made to their profile details.
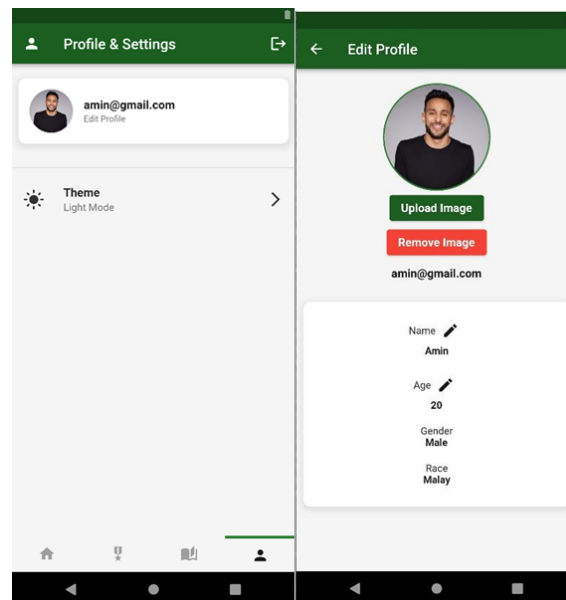

Fig. 16. Setting tab

4.3.2 System integration

The system's interconnected elements are shown in a sequence diagram in this section for the Pusara Finder Muslim Grave Finder Mobile Application. Diagrams depicting interactions between different process steps are called sequence diagrams. They keep track of how things perform together inside a partnership's framework. Sequence diagrams, which are time-focused, employ the vertical axis of the diagram to show time, what messages are given at what times, and how the interaction is to be represented graphically. Figure 17 displays the sequence diagram for the Pusara Finder Muslim Grave Finder mobile application.
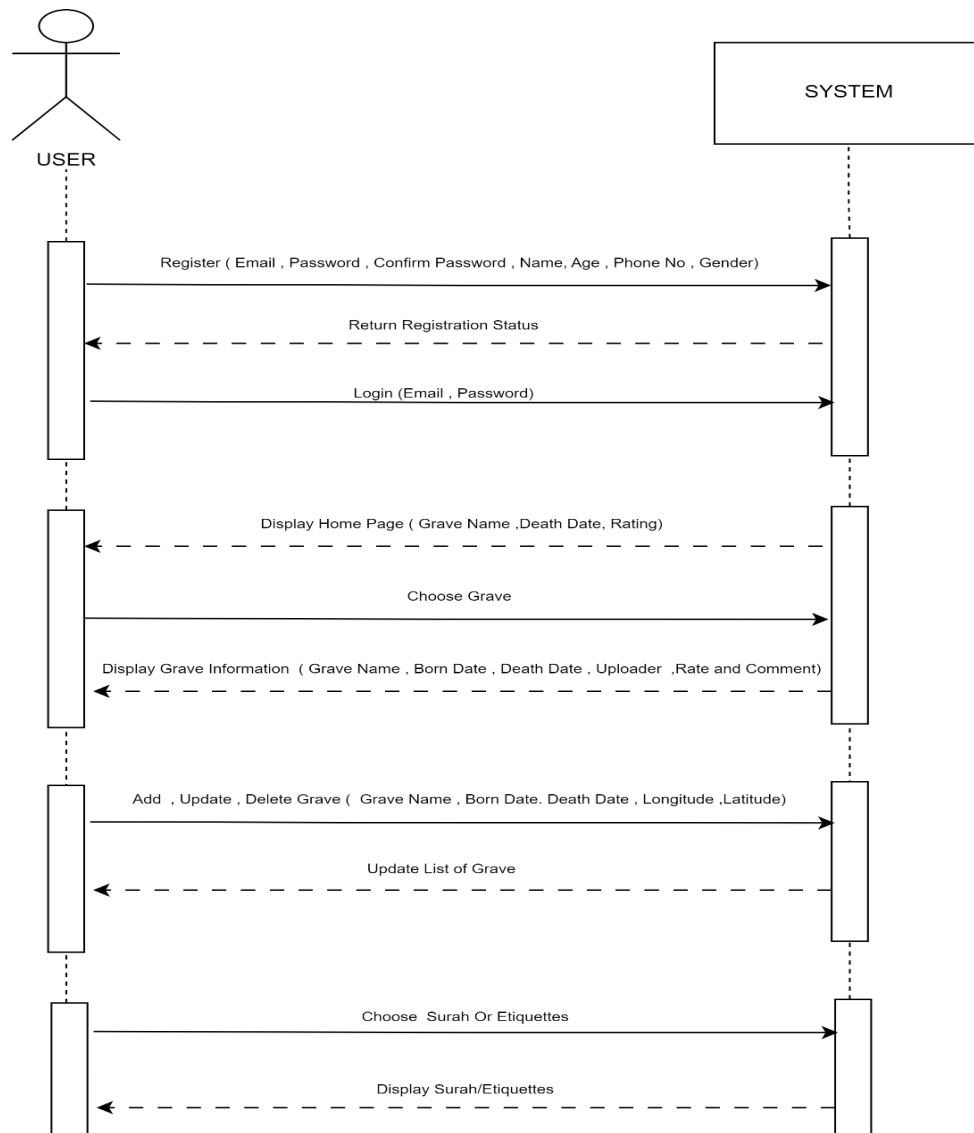
Fig. 17. Sequence diagram for Pusara Finder – Muslim Grave Finder mobile application

4.3.3 System testing
4.3.3.1 Testing activity

In this section, the testing activity that is done to measure the usability of the mobile application is discussed. The method used was the System Usability Scale (SUS), a tool to measure the usability of the Pusara Finder Muslim Grave Finder Mobile Application. The testing phase involved interviewing users by scheduling an appointment with the participants via WhatsApp. The participants will be provided with a Google Meet link or interview, a google form and the Pusara Finder Muslim Grave Finder Mobile application. There will be 11 participants for this interview. The participants will be given time to do the tasks given. After the tasks have been done, the participants will fill up the SUS questions within the Google form, which concludes the testing phase.

The results will then be concluded based on the participant's feedback via the Google form. Testing Result The first activity in this phase is to assign a user task to accomplish as follows:

    i.   Register and Login mobile application.
    ii.   View Grave details.
    iii.   View grave location.
    iv.   Track Grave location.
    v.   Rate and Comment Grave.
    vi.   Add New Grave details.
    vii.   Update Grave details.
    viii. Delete Grave details.
    ix.   View Surah and Etiquette.

The next phase is testing based on the System Usability Scale (SUS) tool to measure the usability rating, which consists of the following questions. The answer to the question is using a scale of 1 to 5 points. (1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree. The test scores are as seen below: Table 10: Sus Score Table.

Table 10
SUS Score Table

Task \ Users	1	2	3	4	5	6	7	8	9	10	11
1	5	4	4	4	5	4	4	5	4	4	4
2	1	1	1	3	1	2	2	1	2	3	4
3	5	4	5	5	5	4	4	5	4	4	4
4	3	1	3	2	1	2	2	3	2	4	3
5	4	4	4	4	5	4	4	5	4	5	4
6	1	1	3	4	1	2	4	3	2	2	4
7	5	4	5	5	5	4	4	5	4	5	4
8	2	1	2	3	1	4	2	2	2	4	2
9	5	4	5	4	5	4	4	5	4	4	5
10	2	1	2	4	1	2	2	3	2	5	2
X = (Sum of Odd) – 5	19	15	18	17	20	15	15	20	15	17	16
Y = 25 – (Sum of even)	16	20	14	9	20	13	13	13	15	7	10
Users SUS Score	87.5	87.5	80	65	100	70	70	82.5	75	60	65
Overall, SUS Score	87.5 + 87.5 + 80 + 65 + 100 + 70 + 70 + 82.5 + 75 + 60 + 65 = 842.5 842.5 / 11 total no.of users = 76.59										

The calculation formula for SUS:
X = (Sum of points for all the odd-numbered questions) - 5
Y = 25 – (Sum of all points for even numbered question)
Users SUS Score = (X+Y) * 2.5
Overall User SUS Score =User 1 score + user 2 score + user 3 + etc. / totals users
= SUS Score General Guideline SUS Interpretation

Table 11 shows the General Guideline SUS Interpretation.

Table 11
General Guideline for SUS Interpretation

SUS Score	Grade	Adjective Rating
>80.3	A	Excellent
68-80.3	B	Good
68	C	OK
51-68	D	Poor
<51	F	Awful

Based on the testing result from the SUS score of all the testers, most of them rate it excellent, and a quarter of them rate it poor. It shows that the project can be developed and enhanced to make it better for users. Hence, they are more room for improvement. In conclusion the overall sus score for the mobile application is 76.59 which in adjective rating is good.

5. Conclusions

This project is performed to see how Pusara Finder Muslim Grave Finder Mobile Application can help people to find their deceased relatives' grave. The project focuses on creating one platform for people to find their deceased relatives' graves and give feedback on each grave. The application also has a feature where users can recite a surah for the dead. Throughout this project, identifying user requirements for Pusara Finder Muslim Grave Finder Mobile Application, designing for Pusara Finder Muslim Grave Finder Mobile Application, and developing Pusara Finder Muslim Grave Finder Mobile Application are necessary for the development of this project. Three objectives have been stated in which the first objective is identifying user requirements for Pusara Finder Muslim Grave Finder Mobile Application. The requirements for this are obtained and collected throughout an interview session and literature reviews from relevant resources. The Pusara Finder Muslim Grave Finder Mobile Application meets the requirements from the interview session. Furthermore, the literature information such as the thesis, online journals, research papers and others are reviewed and analysed from trusted resources to collect data on what to apply to the project. The application is then correctly designed using the obtained requirements as a guide. After that, the Pusara Finder Muslim Grave Finder Mobile Application has been designed, a review of related apps also been done to help with the designing step by giving some suggestions for the application's design. The second purpose is accomplished by creating the Pusara Finder Muslim Grave Finder Mobile Application based on the requirements that have been gathered. Both users and developers should be able to grasp the use case's explanation of how the application works. The storyboard provides a model of the design flow, which the users can use as a guide and a crucial source of information to ensure a solid design flow. The hierarchical model represents the parent-child relationship, which is essential for helping people grasp the parent-child relationship and how to express data. The last objective has been achieved by developing the mobile application based on the requirements gathered and the solid design flow. For future research project, it would be recommended that the features such as declaration and regulation by admin will be inserted in which the user must certify all information in the application is accurate and it will only be used for grave-finding activities. The declaration is crucial to ensuring that users use the mobile application safely and ethically and aware of all applicable rules and regulations.

Acknowledgement

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