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SULTAN SALAHUDDIN ABDUL AZIZ SHAH

ZIYARAH

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"KOMITMEN KE ARAH KECEMERLANGAN"

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ABSTRACT : ZIYARAH

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The Muslim community experiences difficulty in finding family members' graves, especially those involving time gaps. For example, grandchildren looking for grandfather's grave, cousins looking for uncle's grave, and so on. The Ziyarah application was developed to help identify graves more easily using a special GPS application. The others objective of this application is to provide heirs with accurate and efficient navigation to the grave sites of their deceased family members. The ADDIE method was used in developing this Ziyarah application. This ADDIE method determines the technology strategy used in each phase of the framework from generating ideas to the final product. In addition, a quantitative research approach with simple random sampling was also carried out. A pilot test was conducted in this study involving a total of 30 samples. Alpha Cronbach is a statistic used to measure the internal consistency, or reliability of a set of items in survey questions. The Alpha Cranbach value for this pilot test exceeded 0.9, which is at a high level of confidence where the questionnaire can be conducted. Data collected from the questionnaire and analyzed using SPSS showed that users were very satisfied with the Ziyarah application. A total of 317 respondents were obtained from Sultan Salahuddin Abdul Aziz Shah Polytechnic students, lecturers and residents of Bukit Cerakah via Google forms. Findings showed that both the items ‘‘app icons and buttons are clear and intuitive, contributing to an efficient user experience’’ and ‘‘app layout ensures intuitive navigation, making it easy for users to find what they need’’ (mean = 4.40, SD = 0.675) had the highest scores, with users expressing satisfaction with the Ziyarah app at all times. Finally, the Ziyarah app aims to bridge the gap between technology and tradition, enabling Muslims to uphold their religious and customary obligations while benefiting from the convenience and accessibility offered by modern technology.

Key words: *ziyarah, graves, muslim*

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CHAPTER 1

INTRODUCTION

1.1 Preamble

The summary of the product proposal to be carried out includes the preamble, background of the study, problem statement, research objectives, research questions, the scope of the study, the importance of the study, the definition of terms and operational definitions, SWOT analysis and chapter summary. The content of this chapter is as follows.

1.2 Background of Study

Cemeteries are valuable historical resources that offer insight into a community's unique population (Hamscher 2003). They also serve as memorials that comfort people as they process the loss of loved ones. Cemetery management can be used to develop an authoritative cemetery and gravesite inventory and share gravesite information with the public. Unfortunately, cemeteries are threatened by overlapping encroaching development, the effect of extreme weather and natural disasters such as floods. The current generation rarely visits their family cemetery largely due to a lack of knowledge passed down from their parents, such as the location of the cemetery and the significance of visiting them. This lack of familiarity has led to indifference or laziness towards this tradition. Unclear pathways create safety hazards and confusion making it difficult for visitors to navigate and find the cemetery which can lead to neglect and fewer visits. Locating a specific grave often requires manual searching, which can frustrate visitors. (Abdul Rasam et al. 2013). The use of Global Positioning System (GPS) technology has increased rapidly in recent years (Schmidt, Yuan, and Jang 2020). Thus, this project is about building an application to navigate the exact point of a cemetery that the user wishes to visit. This will allow family members to search for their relatives' cemeteries. A site visit will be done to identify and pinpoint each location and identity of the graves.

1.3 Problem Statement

Due to population growth, there is no more vacant land in the city centre, imperfect infrastructure, unmanaged landscape and irregular orientation of landgraves in Muslim cemeteries are among the critical problems. Visitors may find it difficult and time-consuming to navigate big cemeteries, particularly when looking for specific cemetery sites. Conventional techniques for finding cemeteries, such as paper maps and information kiosks on-site, are frequently outdated, ineffective, and unable to offer real-time direction. This navigational challenge might cause visitors to become frustrated, waste time, and have a worse experience, especially if they are paying their respects to loved ones. These problems cause the condition of this property to become more critical from time to time. The construction of a multi-store cemetery is a step to overcome the issue of the density of waqf land for Islamic cemeteries. There are a few studies on the cemeteries management which include, e-Cemetery Portal: A Tool for Digitizing the Cemetery Culture in Malaysia (2018) and Islamic Perspectives of Integrating Muslim Cemeteries Planning with Recreational Areas in Urban Settings (Ibrahim, Ahmad Sarkawi, and Mohamed Afla 2022). These studies slightly differ from Ziyarah since Ziyarah focuses more on how to locate the cemetery effectively and efficiently. Additionally, Ziyarah is made for the Muslim community and the sample of this project would be done in Kg Bukit Cerakah Jaya Seksyen U15 Shah Alam, Selangor.

1.4 Research Objectives

1. To develop a Ziyarah application designed for managing the graveyard coordinates.
2. To determine the level of effectiveness of the Ziyarah application for late family members and visitors.

1.5 Research Questions

Two project questions are posed to aid the researcher in achieving the project objectives. The project questions are as follows:

Question 1: How to develop the Ziyarah application for managing graveyard coordinates?

Question 2: What is the level of effectiveness of the Ziyarah application in ensuring ease of use in guiding visitors to the correct cemetery marker?

1.6 Scope of The Research

The scope of the research for the Ziyarah application will cover the area of cemeteries in Pusara Kg Bukit Cerakah Jaya Seksyen U15 Shah Alam, Selangor. The primary focus of the study includes the development of a comprehensive database system within the application that is capable of storing detailed information about cemeteries. This information will include essential data such as the name of the deceased, their date of birth and death, and the exact GPS coordinates of their graves. The digitization of these records will serve as a critical step in preserving them for future generations. In the database, the study will cover the design of a user-friendly interface that makes the app accessible to a wide range of users. Examples of users include family members seeking to locate cemeteries, mosque AJK and cemeteries AJK to manage grave plots efficiently. The app's interface will be developed to provide navigation and search functions which allow users to easily find specific gravesites within a cemetery. The effectiveness of GPS technology in improving cemetery operations and visitor experiences. The study will involve comprehensive system testing and the collection of user feedback from Bukit Cerakah residents. Feedbacks from users are required to ensure its functionality, reliability, and accuracy. User feedback will play a vital role in refining the app and making necessary adjustments and improvements.

1.7 Importance of the reserch

This reserch is significant as it addresses the need for an efficient and accurate management of cemeteries information. Traditional methods of maintaining graveyard records often rely on paper-based systems. This system is inconvenient in the face of modern challenges such as urban expansion and the need for better record preservation. (Sultana et al. 2021). The development of a mobile application to manage graveyard coordinates offers important benefits to improved visitor experience like family members. GPS-based applications can facilitate simple navigation to individual cemeteries for individuals visiting cemeteries to pay respects or conduct genealogical research, hence augmenting the overall visitor. By giving them a dependable tool to rely on and remember their loved ones and helping the community. Additionally, it makes the task of locating and paying respects to cemeteries easier, which can be a significant part of religion. GPS mapping also enhances land use, and cemetery AJK or governments can improve planning for upcoming expansions.

1.8 Definition of Terms/Operational Definitions

Ziyarah: The application is named Ziyarah. Ziyarah comes from the Arabic language which translates to visits. Ziyarah is visiting the graves of family and friends.

Visual Aspect: Visible aspect of a person or a thing.

Durability: The quality of being able to last a long time without becoming damaged.
Effectiveness: The degree to which Ziyarah's application is successful in producing the desired result which is a success in providing location information.

Environment Aspect: An element of an organization’s activities, products or services that can interact with the environment.

Perceived Functional Value: In marketing terminology, perceived value is customers’ evaluation of a product or service’s merits and its ability to meet their needs and expectations, especially compared with its peers.

Purchase Intention: The extent to which customers are willing and inclined to buy a product or service within a certain period.

Addie model: The acronym “ADDIE” stands for Analyze, Design, Develop, Implement, and Evaluate. It is an Instructional Design model that has withstood the test of time and use.

1.9 SWOT Analysis

Strengths	**Weaknesses**
- GPS software may greatly enhance the experience of visitors by making it simple to navigate around cemetery layouts, which are frequently complex and large. - Free for all users to use - Minimizes the amount of manual work and paper that cemetery AJK must process to find and maintain cemeteries.	- The initial expenses associated with putting GPS coordinate technology into use, such as creating the application and mapping the cemetery, might be high. - Challenge to coordinate GPS direction due to lagging because of relying on an internet connection.
Opportunities	**Threats**
- GPS apps and genealogy databases might be used to provide a comprehensive tool for family history research. - Possibilities to include elements that could improve user engagement even more like surah Yasin and prayer time.	-Data security concerns among families decreased due to personal information. - There are potential cybersecurity risks that could compromise sensitive data.

Table 1.1 SWOT Analysis

1.10 Summary

This research focuses on developing a mobile application named Ziyarah to manage cemetery coordinates. The app provides an efficient solution for locating and documenting information. The app will digitize and preserve records which will enhance accessibility for users and improve the management of graves. By leveraging GPS technology, the project aims to address the limitations of traditional paper-based systems and support community needs, ensuring that cemetery information is securely stored and easily accessible.

CHAPTER 2

LITERATURE REVIEW

2.0 Preamble

This chapter explores the foundational literature review to the development of GPS applications, market trends, and ADDIE Modal. First, Ziyarah team review the evolution and current trends in GPS applications, examining advancements in technology and user expectations that shape the competitive landscape. This includes a market overview that highlights the increasing demand for GPS-based solutions across various sectors, underscoring the relevance and growth potential for innovative applications like Ziyarah.

2.1 GPS application

According to National Geographic, a global positioning system (GPS) is a network of satellites and receiving devices used to determine the location of something on Earth. The GPS was designed to give military and civilian users on land, at sea, or in the air (or even space) a continuously available, global, all-weather, three-dimensional precision navigation system (Parkinson, Spilker, and Elkaim 2003). The GPS is being used and become an integral part of our daily life to navigate and locate cars, commercial and private aeroplanes, military vehicles, ships, spacecraft, recreational vehicles, hikers, and wildlife. It is quickly becoming an indispensable part of our everyday lives, much like the Internet. Some GPS receivers are so accurate they can establish their location within 1 centimeter GPS (Nerem and Larson 2001).

2.2.1 Market Overview

The GPS market is booming and plays a huge role in daily life and various industries. GPS helps to track locations. It is used in everything from smartphones and cars to agriculture and emergency services. The GPS market is growing fast with billions of dollars in revenue. It is expanding because more people and businesses are using GPS technology. This growth is expected to continue driven by advancements in technology and increasing demand for navigation and tracking solutions. This study uses a smartphone to geotag each cemetery to solve this issue. By using the created approach, users can take images of the cemetery, annotate it with details such as the name, photo, surname, year of birth, and death of the person who is resting, as well as add a personal remark or poetry. These data points are recorded on the QGIS platform together with latitude and longitude, and they are displayed as points on a Google map (Demir and Yogeswaran 2018).

2.2.2 GPS Cemetery Trend

The integration of GPS technology into cemetery management represents a significant shift towards digital modernization in this sector. This trend is enhancing how cemeteries are navigated, managed, and experienced. GPS technology is improving accessibility by providing precise navigation within large or historic cemeteries. Visitors can easily locate specific gravesites and important areas which is especially helpful for those unfamiliar with the cemetery layout. Digital mapping combined with GPS allows cemeteries to maintain accurate records of burial plots and offer online grave locator services. This digital approach not only helps in managing plots but also preserves historical records for future generations.

2.3 Ziyarah Application

Ziyarah application is developed mainly for Muslim communities to allow family members and friends to be able to visit their loved ones' graveyards. This mobile app provides a comprehensive database and process for locating and navigating Muslim graves. It offers a database and virtual map to help users find Muslim cemetery sites. The Ziyarah app is available on the Android & iOS platform.

2.4 ADDIE Model

According to AIHR (Academy to Innovate HR), ADDIE is a leading learning development model used for instructional design, which is the complete process of designing, developing, and serving learning content.

ADDIE stands for:

- **A**nalyze
- **D**esign
- **D**evelop
- **I**mplement
- **E**valuate

Although developed in the 1970s, the ADDIE training model remains the most used model for instructional design because it is simple yet highly effective.

1. Analysis

The analysis phase requires defining the objectives and needs of the Ziyarah application. Find, read and understand articles and journal studies about cemeteries. Involve with the location, coordinating the apps, getting data information and listing out the app's key features. Look at what technology and budget must see if the project is achievable.

2. Design

During this phase where the apps is built in the detailed plan from findings in the analysis. Plan the structure of the app, including its navigation, layout, and features. Draw basic designs of the app’s screens like the home screen and search screen. Map out how users will use the app from start to finish. List the must-have features like GPS tracking, and search functions and any limits like privacy issues.

3. Development

In the development process where build the app and develop a designated one according to the needs of the project. Create databases to store grave locations and user info Make sure all parts of the app work correctly fix any bugs or issues and test if the app is working for the small group of users.

4. Implementation

The implementation phase is to deliver the launch of the app that was developed previously. Release the app for users to download in Google Play or Play Store. Provide instructions and guides to help people use the app. Lastly, share information about the app to encourage people to download it.

5. Evaluation

In this phase where can determine the level of effectiveness and check how well the Ziyarah app is doing. Gather feedback by collecting opinions from users through surveys and reviews. Make changes and improvements to the app based on the feedback and data to fix any problems and add features.

2.5 Usage Intention

For an app designed to navigate cemeteries, the primary usage intention is to assist users in efficiently locating and reaching specific gravesites (Velarde et al. 2019). This app should provide an interactive map of the cemetery that allows users to easily visualize and explore the layout. It should feature a search function where users can enter names, dates, or other relevant information to find specific cemeteries. Additionally, the app should offer step-by-step directions to help users navigate from their current location to the exact cemeteries. By providing these functionalities, the app aims to make visiting and locating cemeteries more accessible, efficient, and respectful to enhance the overall experience for users.

2.6 Dimensions of Usage Intention

The dimensions of usage intention encompass various factors that influence a user's decision to engage with a platform or service. Understanding these dimensions is essential for optimizing user experience and improving service offerings. The primary dimensions include identifying the issue and purpose of building the application. For instance, the goal of a cemetery navigation app is to make it easier for users to find and visit cemeteries. Determine who is going to use the app and what needs they have in mind. This could be researchers, cemetery AJK, or relatives visiting the cemetery. List the essential features like interactive maps, search functions, directional guidance, and information about cultures and religions that are required to fulfil the purpose of use. GPS solutions have the potential to greatly enhance cemetery management and maintenance procedures from an operational perspective. AJK cemeteries can utilize these technologies to plan and monitor maintenance tasks effectively and oversee the available cemetery. Using GPS as a cemetery management software can result in more efficient operations and lower costs on paper.

2.7 Summary

In conclusion, this chapter focuses on the idea of the Ziyarah application and overall ideas of GPS. ADDIE Model is being used in developing this project as it allows the researcher to do tasks in a correct and efficient step. This chapter also include the usage intention to measure the willingness of users to use Ziyarah application.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Preamble

This chapter includes the ADDIE method that analyzes the project, materials used in developing this project, development process of Ziyarah application, data collection method, data analysis method and summary of the chapter. Provides a detailed overview of the methodology used in developing the Ziyarah application, beginning with an outline of the ADDIE model a structured, five-phase approach comprising Analysis, Design, Development, Implementation, and Evaluation to guide the project's instructional design and development. The chapter describes the materials and resources essential to building the application. It then elaborates on the development process of the Ziyarah application, detailing each ADDIE phase and how it contributed to the project's progress. Following this, the chapter discusses the data collection methods employed to gather feedback and user insights, along with the data analysis methods used to interpret this information and assess the application's effectiveness. Finally, a summary providing a clear foundation for understanding the project's systematic development approach.

3.2 ADDIE Method

This method determine what technological strategies were used within each of the phases of the ADDIE framework when developing content for professional training. (Crompton, H., Jones, M.V., Sendi, Y., Aizaz, M., Nako, K., Randall, R. and Weisel, E. (2024), "Examining technology use within the ADDIE framework to develop professional training", European Journal of Training and Development, Vol. 48 No. 3/4, pp. 422-454). The ADDIE method throughout the process from generating ideas to the final product. It helps in managing each step so that it is clear with the flow throughout the success of the product. In addition, using a quantitative research approach by taking data from the number of respondents who agree or disagree with the existence of the product.

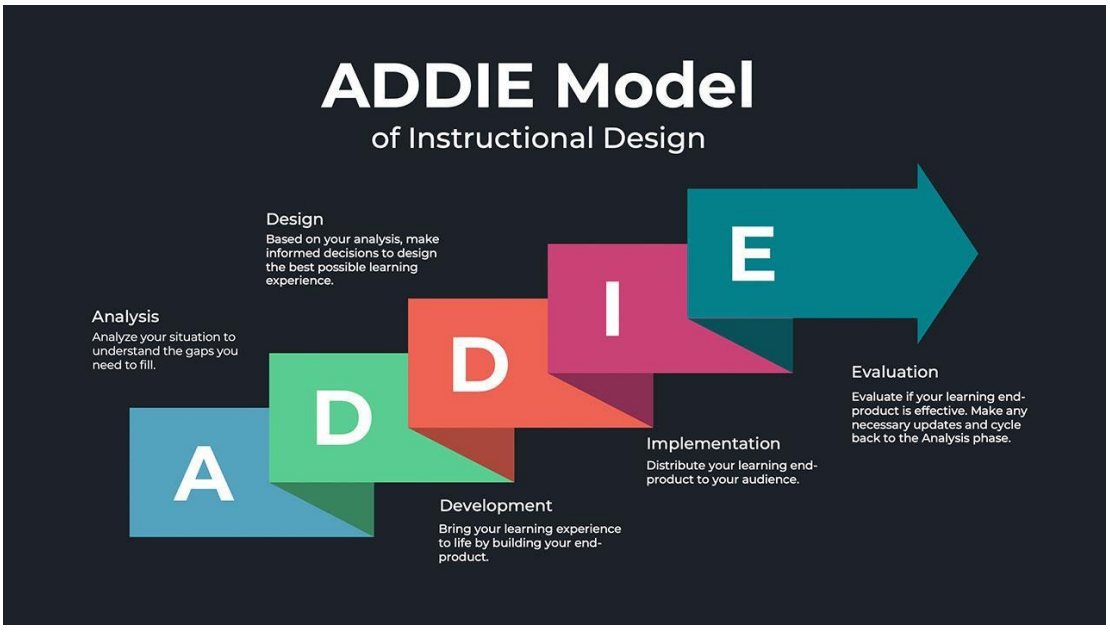


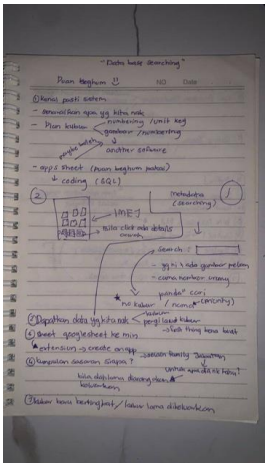
Figure 3.1 ADDIE Method

3.3 Materials

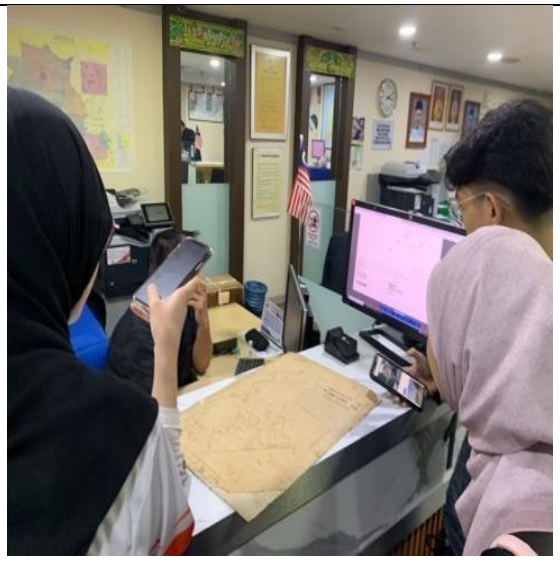
Material and equipment	Unit
Wifi	1
Ipad	1
Laptop	2
Camera	1
Umbrella	1
Grave plan	1
Vehicle: cars	2

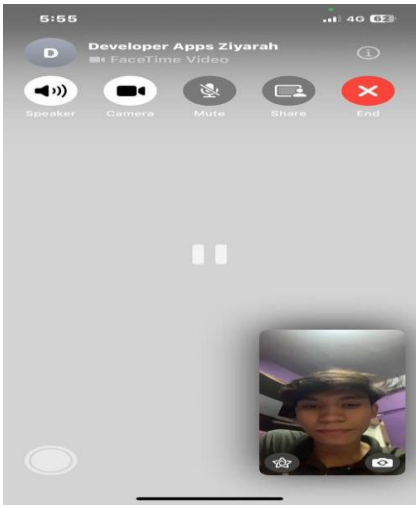
Table 3.1 Material and Equipment

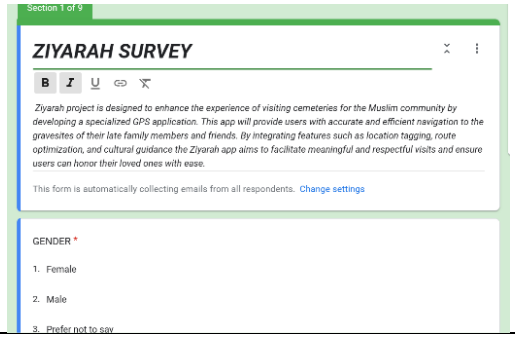
3.4 Development Process of Ziyarah

Steps		Procedure
Step 1		Meeting with SV to discuss on the project idea.
Step 2		Meeting with senior to get more knowledge on the project.
Step 3		Meeting with Puan Beghum and received her ideas on how to develop the app

Step 4		Visit the cemetery and meet with the management mosque
Step 5		Completing report of chapter 1 and chapter 2

Step 6		Visit cemetery and collect data and information of the graves at Bukit Cerakah cemetery.
Step 7		Meeting with SV and get showed work progress from Chapter 1 until Chapter 3 and received feedback from SV.
Step 8		Went to Jabatan Pemetaan to get the cemetery plan.

Step 9		Meeting with the developer of Ziyarah the management mosque
Step 10		Review and test Ziyarah app.
Step 11		First launch the apps at Youth Outreach Programmed & Educational Trips, at Polytechnic Caltex Riau

Step 12		Get a user feedback from Bukit Cerakah resident
Step 13		Fix all the bugs and improve the app security data. The Ziyarah app will be patent.
Step 14		Joining Final Project and Innovation Competition
Step 15		Official launch at Masjid AlBarokah, Kampung Bukit Cerakah with the management mosque

Step 16		Completing all the report, proposal presentation, logbook, SPSS and technical paper.
Step 17		Joining Final Project and Innovation Competition

Table 3.2 Development Process of Ziyarah

3.5 Questionnaire instrument

Visual Aspect

Code	Item	Source
VA1	The Ziyarah app is visually appealing, with a design that enhances user engagement and satisfaction.	Nielsen, J. (1994)
VA2	The app's icons and buttons are clear and intuitive, contributing to an efficient user experience.	Ware, C. (2013)
VA3	The color scheme of the app is aesthetically pleasing and enhances overall usability.	Tractinsky, N., Katz, A., & Ikar, D (2000)
VA4	The overall design of the app is rated highly for its effectiveness and appeal.	Norman, D. A. (2013)
VA5	The app's layout ensures intuitive navigation, making it easy for users to find what they need.	Evans, R. (2012)

Durability

Code	Item	Source
D1	The app is highly likely to remain functional over time.	Parnas, D.L. (1994)
D2	Users experience minimal crashes or bugs, indicating a stable and reliable application.	Boehm, B.W. (1981)
D3	The app performs well across different devices, meeting users' expectations for versatility.	Meyer, B.(1997)
D4	The app is expected to continue meeting user needs effectively in the long term.	Preece, J., Rogers, Y., & Sharp, H. (2015)
D5	Updates are infrequent and well-managed, ensuring smooth operation without constant intervention.	Kwan, H.K., & Seung-Hoon, S. (2006)

Efficiency

Code	Item	Source
E1	The app loads and responds quickly, demonstrating high performance and efficiency.	Kuo, C.L. et al. (2008)
E2	Accurate directions are provided promptly, enhancing the user experience with reliable information.	Shneiderman, B., & Plaisant, C. (2010)
E3	The app is highly effective in locating gravesites, fulfilling its core purpose efficiently.	Nielsen, J. (2000)
E4	There are no significant features that slow down the app, ensuring smooth functionality.	Zaphiris, P., & Kurniawan, S. (2007)
E5	Overall satisfaction with the app's efficiency is high, reflecting its effectiveness in meeting user needs.	Davis, F.D (1989)

Environment Aspect

Code	Item	Source
EA1	The app features are designed with eco-friendliness in mind, supporting sustainable practices.	Aitken, D. (2005)
EA2	The app encourages environmentally conscious behavior among its users.	Schultz,P.W.,& Zelezny,L. (1999)
EA3	The app positively impacts interactions with the environment during visits, promoting respectful practices.	Ulrich,R.S. (1993)
EA4	Information on sustainable practices is included, enhancing the app's environmental awareness.	Williams, A. (2007)
EA5	The environmental aspect of the app is considered highly important by users, reflecting its value.	Gifford, R. (2011)

Perceived Functional Value

Code	Item	Source
PFV1	The app's navigation features are highly useful, providing clear and effective guidance.	Tullis, J., & Albert, W. (2008)
PFV2	The app meets the needs of users visiting cemeteries, delivering on its intended purpose.	Cooper, A, et al. (2007)
PFV3	Additional features, such as cultural guidance, are valuable and enhance the overall experience.	Mace, R. (1985)
PFV4	The app's functionality is rated highly for its overall effectiveness and alignment with its intended use.	Hartson, H.R., & Pyla, P.S (2012)
PFV5	The app effectively fulfills its promise to assist with cemetery visits, demonstrating significant functional value.	Norman, D.A. (2004)]

3.6 Data Collection Method

The data collection methods used in this project are questionnaire where responses from individuals are collected to provide data that can inform decisions, assess satisfaction, evaluate needs, or guide future action. Sampling techniques refer to the methods used to select a subset (sample) from a larger population, in order to gather data or insights without having to study the entire population. Sampling allows generalize about a population based on the sample's characteristics. Knowledge of sampling methods is essential to design quality research. Critical questions are provided to help choose a sampling method. In addition, issues related to sampling methods are described to highlight potential problems. (Berndt AE. Sampling Methods. Journal of Human Lactation. 2020;36(2):224-226.). This method of sampling gave to 317 respondents of the population of Bukit Cerakah, as well as lecturers and PSA students, responses to the questionnaire.

The sources data used in this project where responses from individuals are collected is primary data. Secondary data where existing data from sources like past projects were being used. The information obtained will be recorded in Google Excel. This strategy ensures the data that have been collected will be kept safely without the data getting stole or went missing. For this project sampling method is opted for as it helps in collecting feedback from users who voluntarily interact with the app. A total data of 98 cemeteries have been collected where the names, dates and relative information obtained. The feedback received on the Ziyarah app during its early stages will guide future improvements. To enhance user experience and ensure the app fulfils its objectives, this feedback is used as primary data.

3.7 Data Analysis Method

The data analysis method in this study involves both quantitative and qualitative approaches to provide a comprehensive understanding of the research subject. For the quantitative analysis, the primary focus was on collecting numerical data to establish measurable outcomes. Specifically, the number of cemeteries selected as samples were counted and accurately recorded in Google Sheets to ensure accuracy and ease of access for further analysis. This quantitative data examining patterns, trends, and variations in the cemetery distribution within the study area.

For the qualitative analysis, insights were gathered through an interview conducted with the mosque management secretary, Encik Ibrahim. This interview provided in-depth, contextual information that goes beyond numerical data. Encik Ibrahim's perspective, informed by his role and experience in the community, provided vital insights into the community, its historical significance, and the social factors linked with the cemetery. By combining quantitative data with qualitative insights, this mixed-method approach allows enhancing the overall depth and reliability of the findings.

3.8 Summary

In conclusion, the ADDIE method has helped to analyze the Ziyarah application for better usage. Creating a cemetery direction app involves planning its features such as locating graves and providing historical information by designing the app to be user-friendly with clear maps and simple navigation. The right technology like incorporating GPS for directions and a database for grave locations needs to be used to develop the app. Thoroughly test the app to ensure it works correctly and fix any issues. Once ready, launch it on app stores, adhering to their guidelines. Finally, continuously update the app based on user feedback and technological advancements.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.1 Preamble

In this project the Statistical Package for the Social Science (SPSS) was used to analyze the data collected from respondents. In this analysis SPSS created originally by IBM, used to process and prepare data with a comprehensive suite of tools for data analysis, including statistical testing, data management, and data visualization for clear interpretation. Is a software program widely used for statistical analysis in social science, business, health, and other fields (International Journal of Advanced Research in Computer Science 7 (6), 2016). The software's robust capabilities allow to calculate means, standard deviations, and other essential metrics, while also running various statistical tests to answer research questions and test hypotheses. SPSS's emphasis on data integrity and to maintain high standards of accuracy, rigor, and transparency throughout the research process.

4.2 Respondents Demographic Profiles

A total of 317 responses were obtained from the Polytechnic Sultan Salahuddin Abdul Aziz Shah students, lecturers and resident of Bukit Cerakah through Google form that we have created to conduct the survey.

From the questionnaire answered, we got answers that meet our expectation. The respondents' demographic profile encompasses personal details and behavioral questions. Information such as age, gender, education level, and employment status were also gathered in this study. 4.1 table shows the demographic profiles for this study.

Component		Frequency	Percent	Valid Percent	Cumulative Percent
Gender	Male	156	49.2	49.2	94.0
	Female	125	39.4	39.4	44.8
	Prefer not to say	19	6.0	6.0	100.0
Age	18-24	130	41.0	41.0	46.4
	25-34	27	8.5	8.5	54.9
	34-44	77	24.3	24.3	79.2
	45-55	45	14.2	14.2	93.4
	55 and above	21	6.6	6.6	100.0
Education	Bersara	2	0.6	0.6	6.0
	Government Employee	64	20.2	20.2	26.2
	Housewife	2	0.6	0.6	26.8
	Pesara	1	0.3	0.3	27.1
	Private Employee	93	32	32	27.4
	Student	138	43.5	43.5	56.5

Table 4.1 Demographic Profile

4.3 Reliability and Normality Analysis

Cronbach's Alpha is a statistic used to measure the internal consistency, or reliability, of a set of items in questions of survey. It assesses how closely related a group of items are as a whole and is commonly used in research to determine whether multiple items that aim to measure a single concept or construct.

In this pilot test scale option will be given to see if this application can be accepted by the community or not. This test construct (Visual Aspect, Durability, Efficiency, and Perceived Functional Value). 4.2 table shows high internal consistency with Cronbach's Alpha value ranging from ''The Ziyarah apps is visually appealing with a design that enhances user engagement and satisfaction, the app is highly likely to remain functional over time, the app loads and responds quickly, demonstrating high performance and efficiency, the app features are designed with eco-friendliness in mind, supporting sustainable practices and the app's navigation features are highly useful, providing clear and effective guidance'' high reliability. This indicates that

the items within each construct are closely related are strongly correlated and effectively measure the intended concept.

Variables	Cronbach's Alpha	Items	Mean	Standard Deviation	Number Of Item
Visual Aspect	0.909	The Ziyarah app is visually appealing, with a design that enhances user engagement and satisfaction.	4.27	0.675	5
Durability	0.910	The app is highly likely to remain functional over time.	4.30	0.651	5
Efficiency	0.931	The app loads and responds quickly, demonstrating high performance and efficiency.	4.23	0.770	5
Environment Aspect	0.954	The app features are designed with eco-friendliness in mind, supporting sustainable practices.	4.20	0.847	5
Perceived Functional Value	0.948	The app's navigation features are highly useful, providing clear and effective guidance.	4.23	0.728	5

4.3 Reliability of Correlation

4.4 Descriptive Statistics for Variable

Descriptive statistics provide a summary of key characteristics of variables in a dataset, helping to describe, show, and summarize data. This is the first step in analyzing data and are essential for understanding the basic features of variables before diving into more complex analyses. It also identifies patterns, trends, and offer insights into the central tendency and variability within variables making it easier to interpret and communicate key insights from the data.

Variables	Cronbach's Alpha	Items	Mean	Standard Deviation
Visual Aspect	0.909	The Ziyarah app is visually appealing, with a design that enhances user engagement and satisfaction.	4.27	0.828
		The app's icons and buttons are clear and intuitive, contributing to an efficient user experience.	4.40	0.675
		The color scheme of the app is aesthetically pleasing and enhances overall usability.	4.27	0.740
		The overall design of the app is rated highly for its effectiveness and appeal.	4.13	0.776

		The app's layout ensures intuitive navigation, making it easy for users to find what they need.	4.40	0.675

4.4.1 Table Mean Score for Visual Aspect

The Visual Aspect has a Cronbach's Alpha of 0.909, indicating strong internal consistency, implying that the items (VA1-VA5) accurately measure the app's visual appeal. This dimension has a high average rating, with values ranging from 4.13 to 4.40. Items ''the app's icon and buttons are clear and intuitive, contributing to an efficient user experience'' and ''the app's layout ensure intuitive navigation, making it easy for users to find what they need'' (mean = 4.40, SD = 0.675) had the highest scores, demonstrating that consumers find specific visual aspects consistently appealing, with little variance amongst respondents. The reduced standard deviations, particularly for ''the app's icon and buttons are clear and intuitive, contributing to an efficient user experience'' and ''the app's layout ensure intuitive navigation, making it easy for users to find what they need'', indicate that these visual components satisfy user expectations and are evaluated similarly by most users. The generally positive response on graphics indicates that people believe cemetery app designs meet or surpass their aesthetic expectations.

Variables	**Cronbach's Alpha**	**Items**	**Mean**	**Standard Deviation**
Durability	0.910	The app is highly likely to remain functional over time.	4.30	0.651
		Users experience minimal crashes or bugs, indicating a stable and reliable application.	4.07	0.740
		The app performs well across different devices, meeting users' expectations for versatility.	4.13	0.776
		The app is expected to continue meeting user needs effectively in the long terms	4.13	0.730
		Updates are infrequent and well-managed, ensuring smooth operation without constant intervention.	4.20	0.761

4.4.2 Table Mean Score for Durability

Durability has a Cronbach's Alpha of 0.910, indicating strong consistency. The mean values for items D1–D5 vary from 4.07 to 4.30, indicating that users regard the app as consistent and reliable over time. ‘’ The apps is highly likely to remind functional over time’’ has the highest ranking in this area (mean = 4.30, SD = 0.651), indicating that consumers place a high importance on specific durability aspects, most likely related to stability while in use. The standard deviations for durability items are largely comparable, indicating that users have similar perspectives on the app's longevity; however, ‘’Users experience minimal crashes or bugs, indicating a stable and reliable application’’ has a little larger standard deviation (0.740), implying some diversity in how respondents perceive this durability feature

Variables	Cronbach’s Alpha	Items	Mean	Standard Deviation
Efficiency	0.931	The app loads and responds quickly, demonstrating high performance and efficiency.	4.23	0.774
		Accurate directions are provided promptly, enhancing the user experience with reliable information.	4.20	0.761
		The app is highly effective in locating gravesites, fulfilling its core purpose efficiently.	4.10	0.712
		There are no significant features that slow down the app, ensuring smooth functionality.	4.23	0.817
		Overall satisfaction with the app's efficiency is high, reflecting its effectiveness in meeting user needs.	4.20	0.714

4.4.3 Table Mean Score for Efficiency

The Efficiency category, with a Cronbach's Alpha of 0.931, performs well on all items, with means ranging from 4.10 to 4.23. The item ‘’The app loads and responds quickly, demonstrating high performance and efficiency’’ (mean = 4.23, SD = 0.774) obtained the highest rating, indicating that users usually rate the app as responsive and fast. The standard deviations show substantial variability among items, implying that while efficiency is important, consumers may notice minor discrepancies in how smoothly the program runs. For example, ‘’There are no significant features that slow down the app, ensuring smooth functionally’’ (SD = 0.817) has a somewhat greater standard deviation, indicating that certain users may encounter unpredictability in individual program features or activities, despite the overall positive rating.

Variables	Cronbach's Alpha	Items	Mean	Standard Deviation
Environment Aspect	0.954	The app features are designed with eco-friendliness in mind, supporting sustainable practices.	4.20	0.847
		The app encourages environmentally conscious behavior among its users.	4.13	0.860
		The app positively impacts interactions with the environment during visits, promoting respectful practices.	4.17	0.747
		Information on sustainable practices is included, enhancing the app's environmental awareness.	4.07	0.868
		The environmental aspect of the app is considered highly important by users, reflecting its value.	4.17	0.834

4.4.3 Table Mean Score for Environment Aspect

The Environmental Aspect has the greatest Cronbach's Alpha (0.954), indicating very high internal consistency among items EA1–EA5. The mean values here vary from 4.07 to 4.20, showing positive but slightly lower perception than in other categories. Users appear to evaluate the app's environmental concerns positively, albeit there is slightly more variation in replies as seen by the higher standard deviations, particularly for ''The app encourage environmentally conscious behavior among its users''(SD = 0.860) and ''Information on sustainable practices is included, enhancing the app's environmental awareness'' (SD = 0.868). These findings may indicate different user perceptions of the app's environmental impact or design in terms of encouraging environmental consciousness, indicating that further development in this area is needed to fulfill varying user expectations.

Variables	Cronbach's Alpha	Items	Mean	Standard Deviation
Perceived Functional Value	0.948	The app's navigation features are highly useful, providing clear and effective guidance.	4.23	0.728
		The app meets the needs of users visiting cemeteries, delivering on its intended purpose.	4.17	0.747
		Additional features, such as cultural guidance, are valuable and enhance the overall experience.	4.20	0.761
		The app's functionality is rated highly for its overall effectiveness and alignment with its intended use.	4.13	0.819
		The app effectively fulfills its promise to assist with cemetery visits, demonstrating significant functional value.	4.20	0.761

4.4.4 Table Mean Score for Perceived Functional Value

The Perceived Functional Value dimension is similarly quite consistent, with mean values ranging from 4.13 to 4.23 (Cronbach's Alpha = 0.948). Items ''The app's navigation features are highly useful, providing clear and effective guidance'' and ''Additional features such as cultural guidance, are valuable and enhance the overall experience'' had the highest scores (mean = 4.23, SD = 0.728 and 0.761, respectively), indicating that users believe the app's functionality to be valuable, dependable, and meets their requirements. These elements have lower standard deviations than other categories, indicating that users share a common opinion of the app's functional value. This shows that users generally agree on the app's functionality value, which might be attributed to features that make it easy to use and beneficial for their intended objectives.

4.5 Discussion

The Ziyarah app's design and user experience were assessed based on a of characteristics, including visual aspect, durability, efficiency, environmental aspect, and perceived functional value. Data was collected using a Likert scale. Ziyarah, a free and accessible tool available on the Google Play Store and as an APK file, corresponds with the objective of providing a convenient way for Muslims to navigate the cemetery. Offering the app on platforms offers easy access for consumers, allowing anyone with a smartphone to take advantage of its capabilities without incurring a financial burden.

Survey results demonstrate that users find Ziyarah visually appealing and long-lasting, regularly meeting their expectations. Durability and visual appeal are particularly well-rated, with customers praising the app's efficiency and easy usage. This ease of use is critical for improving the user experience and inspiring downloads, especially given the app's easy availability on the Play Store and via APK download. Furthermore, the app's environmental side indicates user appreciation for sustainable design, which reduces dependency on tangible resources such as paper while encouraging respectful interactions with blessed locations.

By providing a free, publicly accessible, and culturally appropriate tool, Ziyarah enables the community to quickly access cemetery information in a user-friendly format, making it an important addition to cemetery navigation resources.

4.6 Summary

The data collected from the questionnaire and analyzed using SPSS showed that users are highly satisfied with Ziyarah. This cemetery application successfully meets resident of Bukit Cerakah needs and preferences, as reflected in responses to each question. Users expressed satisfaction with the Ziyarah ‘’The app is highly likely to remain functional over time’’ satisfaction. This positive feedback emphasizes Ziyarah's usefulness as tool designed to navigate the cemetery.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Preamble

This chapter provides a comprehensive overview of the study's findings, offering a conclusion based on the analysis and discussion of the preceding chapters. It includes recommendations for improving the Ziyarah Cemetery app, which can enhance user experience and data management. Additionally, the limitations encountered during the development and implementation of the project are discussed, highlighting challenges such as privacy concerns, geographical constraints, and technological integration. Finally, a summary of the key findings and insights gained throughout the project for future development.

5.2 Conclusion

In conclusion, the Ziyarah app indeed is a meaningful step forward in bridging the gap between technology and tradition for the Muslim communities. Ziyarah is a simple and user-friendly platform. The app makes it easier for individuals to locate and navigate the cemeteries of their loved ones, ensuring that they can visit with ease and respect. Our goal was to address the common challenges faced when trying to find specific burial sites, especially in large, unfamiliar cemeteries and Ziyarah does this by providing an intuitive map, search features, and relevant information. The app not only facilitates a more efficient visiting experience but also strengthens the connection between individuals and their heritage. Through this project, we hope to contribute to a deeper sense of community and spirituality by ensuring that Muslims can easily access these sacred spaces whenever they wish to honor their deceased family members. We believe Ziyarah has the potential to positively impact the lives of many and help preserve the traditions of remembrance and respect in a modern, digital world.

5.3 Recommendations

Here are some recommendations for future studies and development for further innovation to reach potential areas for improvement. The first recommendation in the future is to upgrade the data security of the Ziyarah app by implementing advanced encryption methods, two-factor authentication, and regular security audits to ensure the protection of users' personal information and enhance trust in the app, particularly as it may handle sensitive data such as user profiles, name of decreased and location history.

Second future recommendation for the Ziyarah app would be to explore the possibility of patenting its cemetery management system, user interface, or innovative data protection methods, with the Intellectual Property Corporation of Malaysia (MyIPO). By securing a patent, Ziyarah can protect its intellectual property, by differentiating its offerings in the market. Additionally, patenting could open up opportunities for future partnerships, licensing agreements, and expansion into other regions with similar needs.

5.4 Project Limitations

In development process of Ziyarah faces a challenge that arises before and after providing valuable insight into consumer perceptions and purchasing intentions regarding Ziyarah.

i. Limitations on financial resources.

The financial resources for developing the Ziyarah app can be financially challenging due to require skilled developers. The expenses of building an app are high, due to software and features like GPS based navigation, map integration and search functionalities in the app are included. Once the app is launched, ongoing expenses are required for regular updates, bug fixes, and improvements to keep the app compatible with new operating systems. Continuous maintenance is essential for ensuring a smooth user experience, security, and data accuracy, which can be costly over time.

ii. Limitations on time management.

Gathering accurate, up-to-date information about cemeteries, line and lot cemetery layouts can be challenging, especially for older cemeteries where records may be incomplete or unavailable. Regular maintenance is needed to keep data accurate. Effective time management will be beneficial for completing the app more efficiently.

iii. Limitation on accurate geolocation.

Mapping individual cemetery accurately requires precise geolocation, which can be difficult in older or rural cemeteries where records may not be digital, or GPS signals may be weak.

iv. Limitations on Data Collection and Digitization

If Ziyarah requires detailed, accurate data on gravesites or cemetery layouts, there may be costs for data acquisition, digitization, or on-site data collection. This process can involve manual entry taking a picture the cemetery or going to Jabatan Pemetaan to get to (geographic information systems), all of which add to the budget.

5.5 Summary

The Ziyarah apps was created to help the Muslim community locate and navigate to specific gravesites using a GPS-enabled application. Its design ensures easy access to cemetery places, providing a user-friendly platform that combines tradition and modern technology. The findings show that the software effectively handles the usual issues visitors encounter when attempting to locate burial locations, particularly in large, complicated cemeteries.

Key recommendations for future improvements include improving data security through encryption, investigating patent prospects to safeguard intellectual property, and resolving issues such as financial limits, time management, and geolocation accuracy for thorough cemetery mapping. The constraints found include issues with geolocation precision, app development funding, and data gathering accuracy. Overall, the initiative demonstrates the Ziyarah app's ability to improve community connectedness and respect for cultural norms while retaining the tradition of honoring lost loved ones.

REFFERENCES

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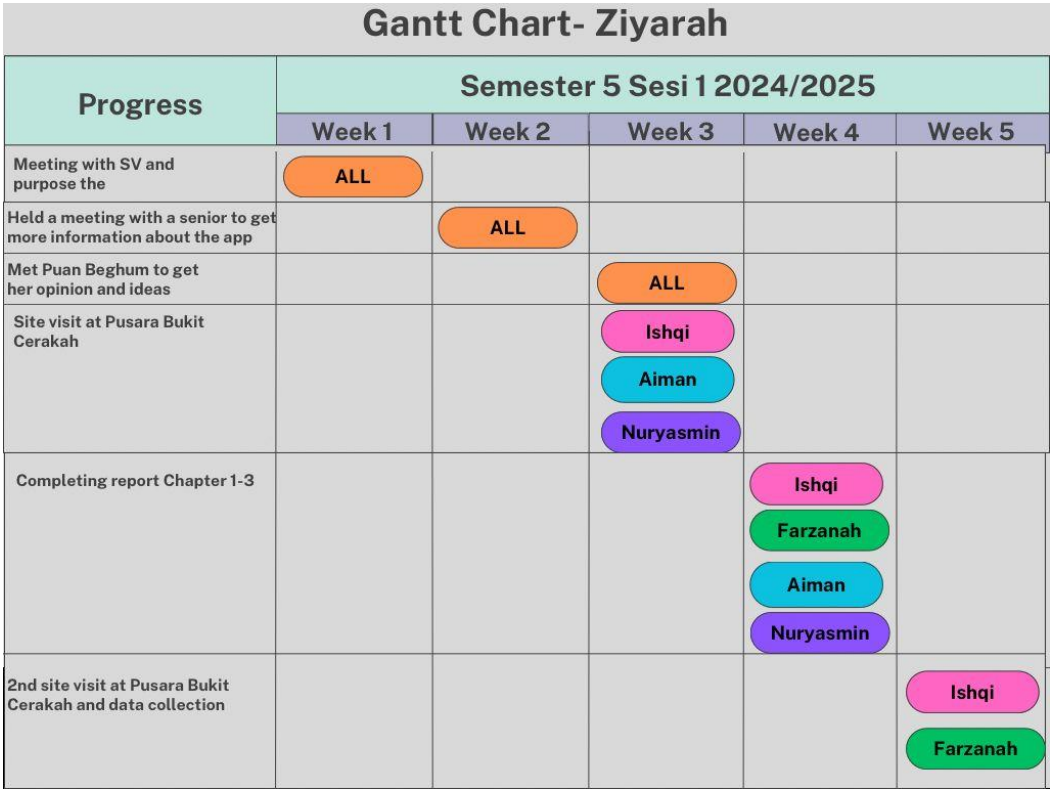
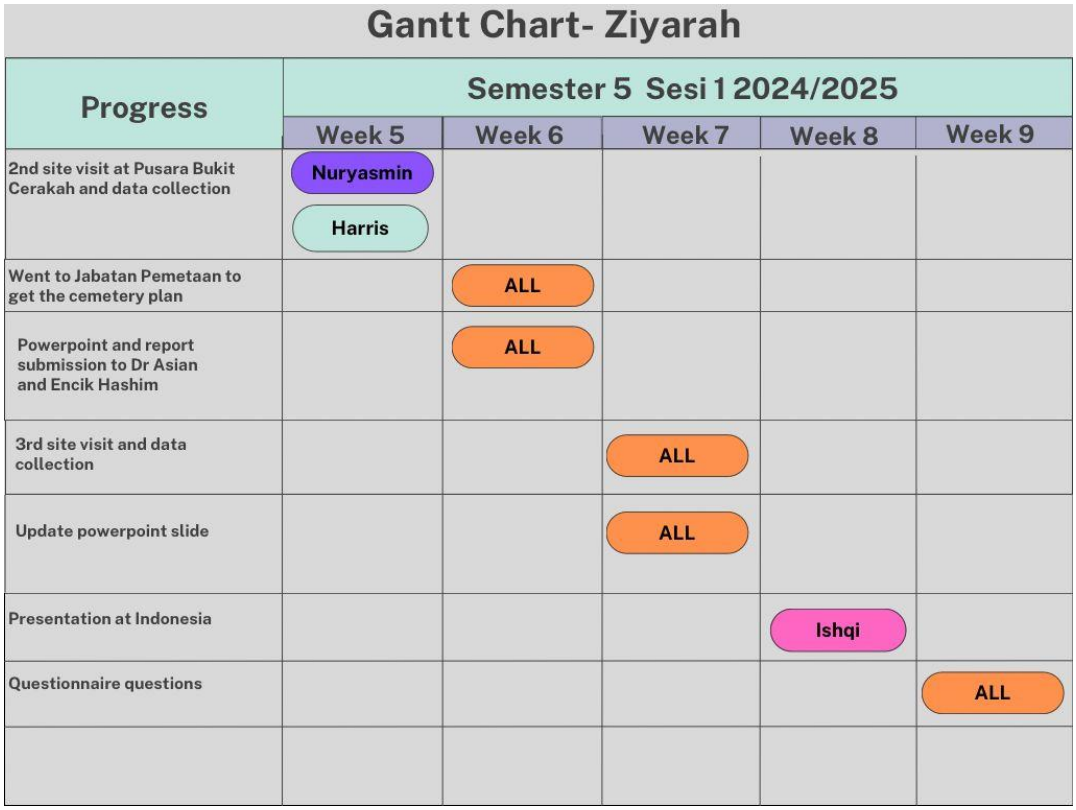
APPENDICES

Appendices A: Gantt Chart





Gantt Chart-Bin Less, Recycle More

Progress	Semester 4 Sesi 2 2023/2024				
	Week 10	Week 11	Week 12	Week 13	Week 14
Download SPSS & Run Pilot Test	Farzanah				
Present Pilot Test result to Dr Aziam		ALL			
Recheck powerpoint slides and report			ALL		
Present FYP Ziyarah at JPG				Ishqi Nuryasmin Aiman Harris	
Present FYP Ziyarah at PITEC					ALL

Appendices B: Project Cost

Cost includes all items used in the project.

ITEMS	PRICE (RM)
Programming Languages	200
Frameworks and SDKs	250
Design and Prototyping Tools	180
Backend and Database	300
APIs and Libraries	150
Testing Tools	100
Project Management Tools	120
Deployment and Distribution Tools	200
Poster	35
Pamphlets	65
TOTAL	1500

Appendices C: Questionnaire

ZIYARAH SURVEY

Ziyarah project is designed to enhance the experience of visiting cemeteries for the Muslim community by developing a specialized GPS application. This app will provide users with accurate and efficient navigation to the gravesites of their late family members and friends. By integrating features such as location tagging, route optimization, and cultural guidance the Ziyarah app aims to facilitate meaningful and respectful visits and ensure users can honor their loved ones with ease.

Instruction: The following statements below are related to the first objective of the project. By circling the appropriate number using the following Likert scale, please indicate your level of agreement with each statement using the scale provided, where T means 'Strongly Disagree to '5' means 'Strongly Agree.

Visual Aspect

Code	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
VA1	The Ziyarah app is visually appealing, with a design that enhances user engagement and satisfaction.	1	2	3	4	5
VA2	The app's icons and buttons are clear and intuitive, contributing to an efficient user experience.	1	2	3	4	5
VA3	The color scheme of the app is aesthetically pleasing and enhances overall usability.	1	2	3	4	5
VA4	The overall design of the app is rated highly for its effectiveness and appeal.	1	2	3	4	5
VA5	The app's layout ensures intuitive navigation, making it easy for users to find what they need.	1	2	3	4	5

Durability

Code	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
D1	The app is highly likely to remain functional over time.	1	2	3	4	5
D2	Users experience minimal crashes or bugs, indicating a stable and reliable application.	1	2	3	4	5
D3	The app performs well across different devices, meeting users' expectations for versatility.	1	2	3	4	5
D4	The app is expected to continue meeting user needs effectively in the long term.	1	2	3	4	5
D5	Updates are infrequent and well-managed, ensuring smooth operation without constant intervention.	1	2	3	4	5

Efficiency

Code	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
E1	The app loads and responds quickly, demonstrating high performance and efficiency.	1	2	3	4	5
E2	Accurate directions are provided promptly, enhancing the user experience with reliable information.	1	2	3	4	5
E3	The app is highly effective in locating gravesites, fulfilling its core purpose efficiently.	1	2	3	4	5
E4	There are no significant features that slow down the app, ensuring smooth functionality.	1	2	3	4	5
E5	Overall satisfaction with the app's efficiency is high, reflecting its effectiveness in meeting user needs.	1	2	3	4	5

Environment Aspect

Code	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
EA1	The app features are designed with eco-friendliness in mind, supporting sustainable practices.	1	2	3	4	5
EA2	The app encourages environmentally conscious behavior among its users.	1	2	3	4	5
EA3	The app positively impacts interactions with the environment during visits, promoting respectful practices.	1	2	3	4	5
EA4	Information on sustainable practices is included, enhancing the app's environmental awareness.	1	2	3	4	5
EA5	The environmental aspect of the app is considered highly important by users, reflecting its value.	1	2	3	4	5

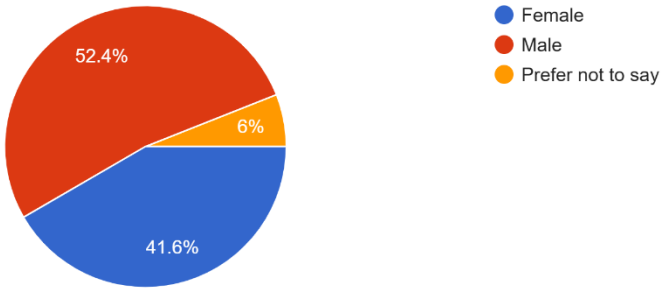
Perceived Functional Value

Code	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PFV1	The app's navigation features are highly useful, providing clear and effective guidance.	1	2	3	4	5
PFV2	The app meets the needs of users visiting cemeteries, delivering on its intended purpose.	1	2	3	4	5
PFV3	Additional features, such as cultural guidance, are valuable and enhance the overall experience.	1	2	3	4	5
PFV4	The app's functionality is rated highly for its overall effectiveness and alignment with its intended use.	1	2	3	4	5
PFV5	The app effectively fulfills its promise to assist with cemetery visits, demonstrating significant functional value.	1	2	3	4	5

Appendices D: Google Form Analysis

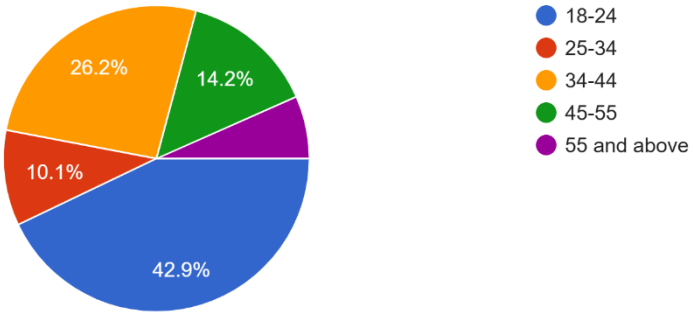
GENDER

317 responses



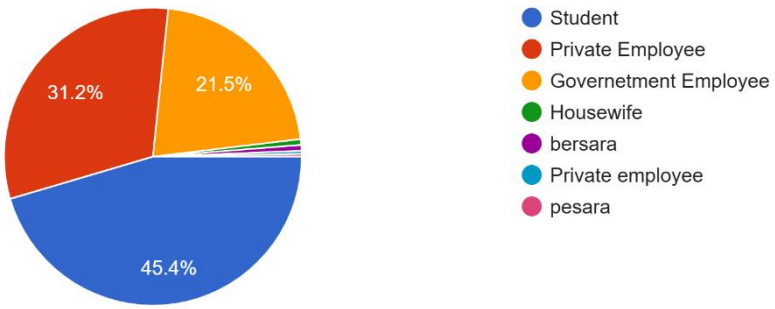
AGE

317 responses



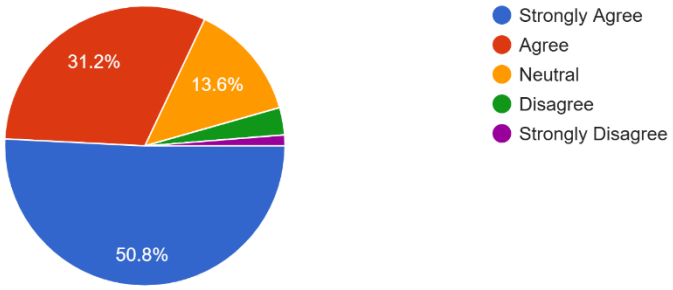
EDUCATION

317 responses



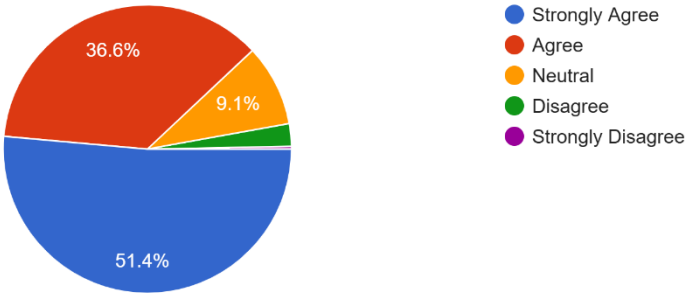
The Ziyarah app is visually appealing, with a design that enhances user engagement and satisfaction.

317 responses



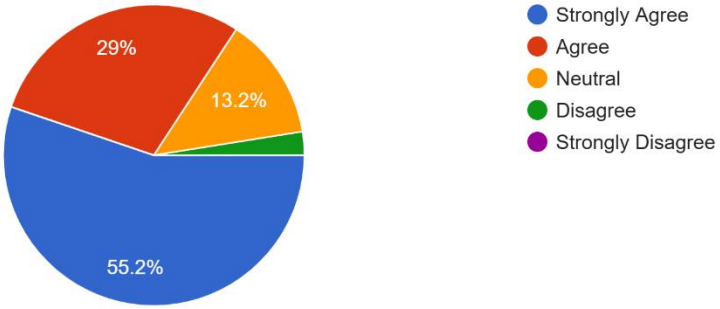
The app's icons and buttons are clear and intuitive, contributing to an efficient user experience.

317 responses



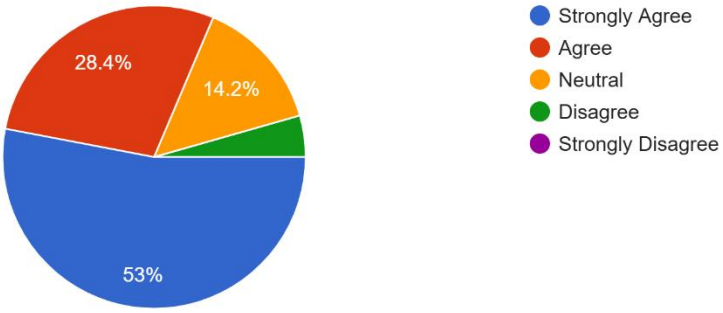
The color scheme of the app is aesthetically pleasing and enhances overall usability.

317 responses



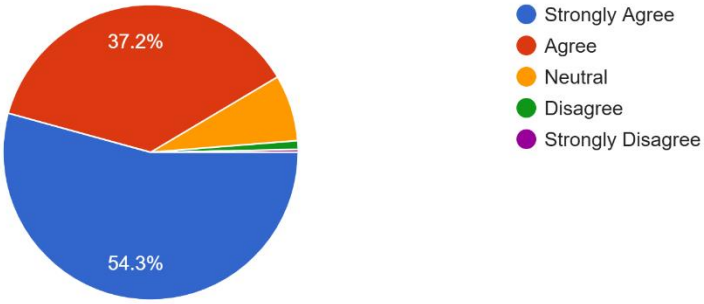
The overall design of the app is rated highly for its effectiveness and appeal.

317 responses



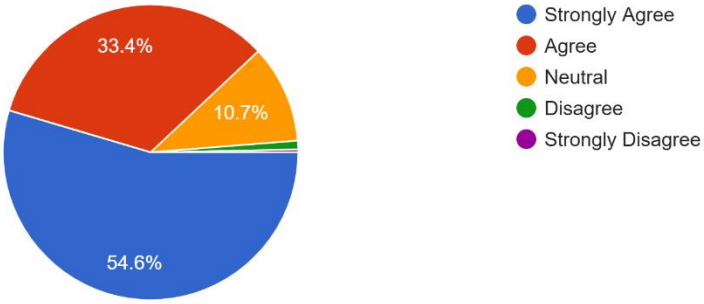
The app's layout ensures intuitive navigation, making it easy for users to find what they need.

317 responses



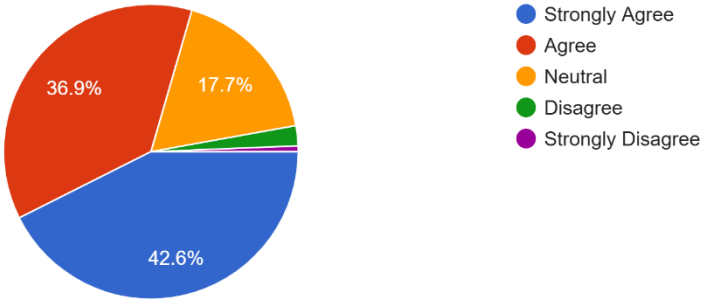
The app is highly likely to remain functional over time.

317 responses



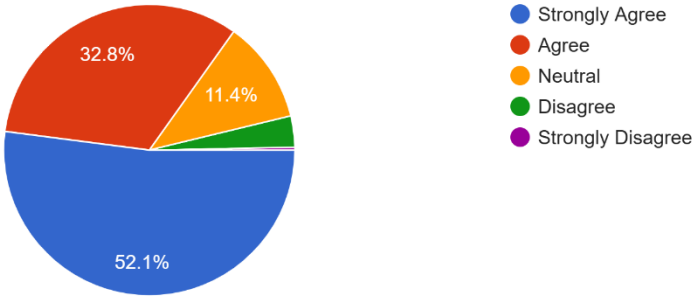
Users experience minimal crashes or bugs, indicating a stable and reliable application.

317 responses



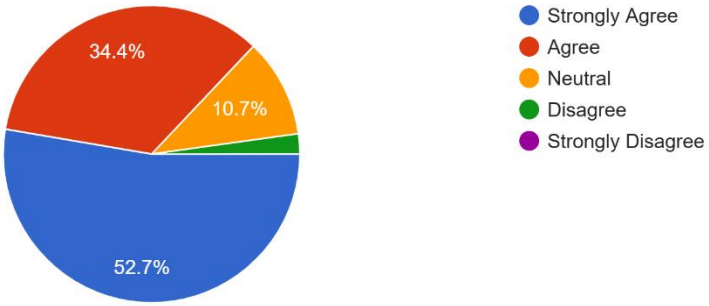
The app performs well across different devices, meeting users' expectations for versatility.

317 responses



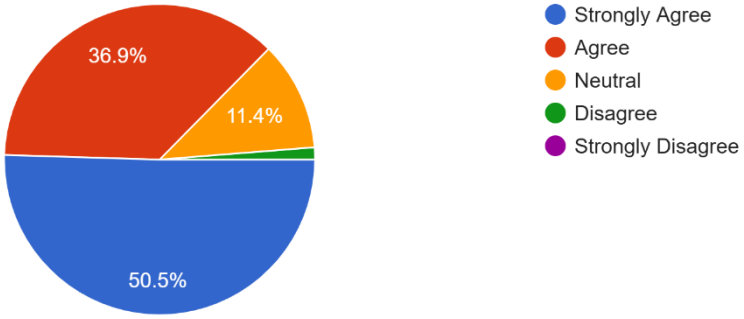
The app is expected to continue meeting user needs effectively in the long terms

317 responses



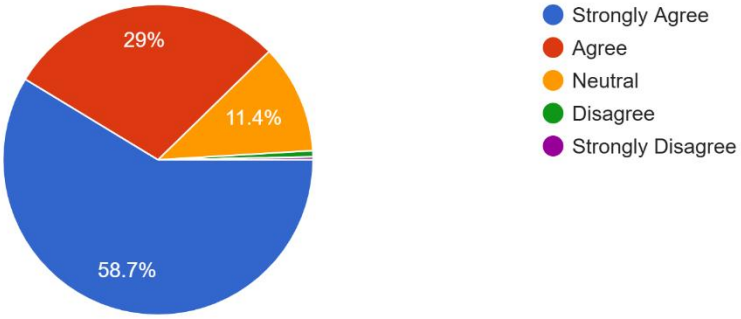
Updates are infrequent and well-managed, ensuring smooth operation without constant intervention.

317 responses



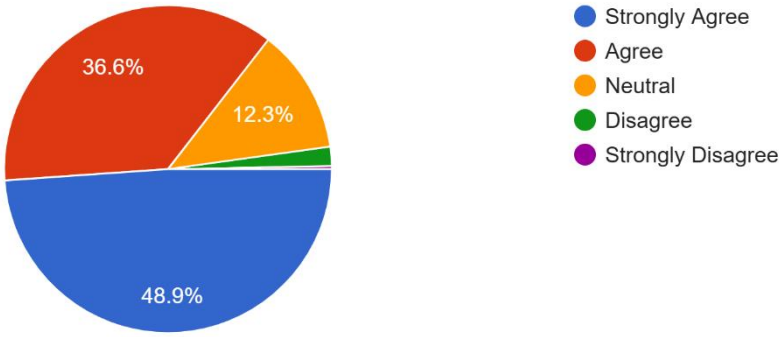
The app loads and responds quickly, demonstrating high performance and efficiency.

317 responses



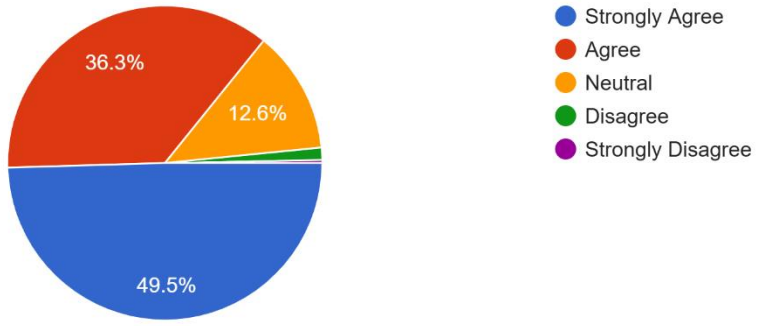
Accurate directions are provided promptly, enhancing the user experience with reliable information.

317 responses



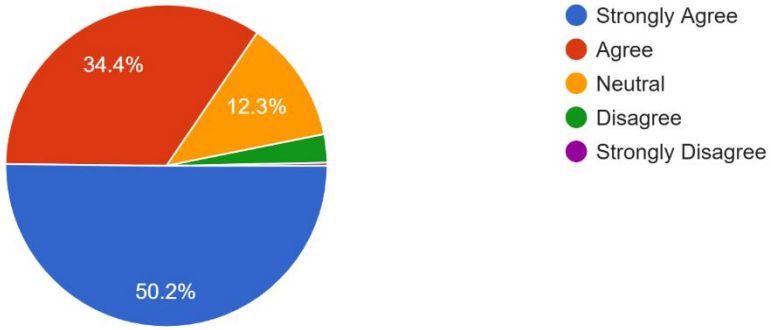
The app is highly effective in locating gravesites, fulfilling its core purpose efficiently.

317 responses



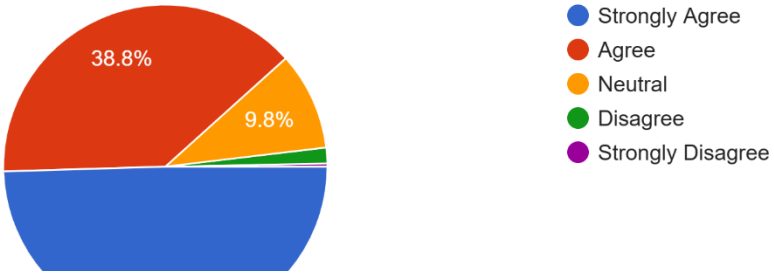
There are no significant features that slow down the app, ensuring smooth functionality.

317 responses



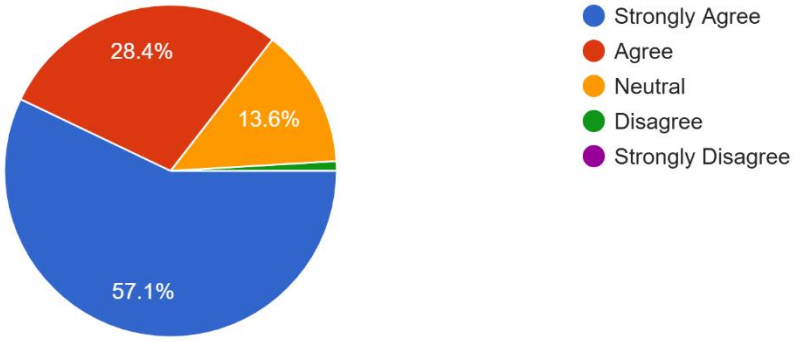
Overall satisfaction with the app's efficiency is high, reflecting its effectiveness in meeting user needs.

317 responses



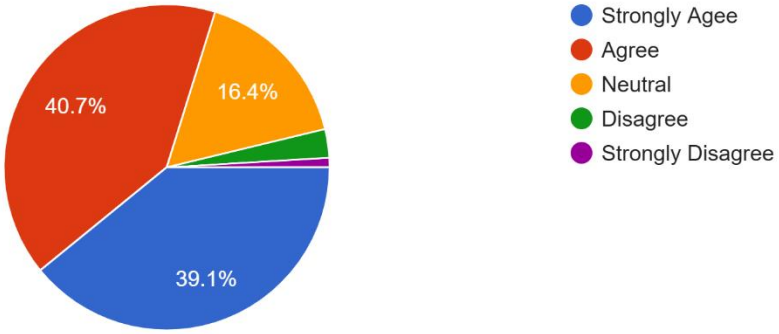
The app features are designed with eco-friendliness in mind, supporting sustainable practices.

317 responses



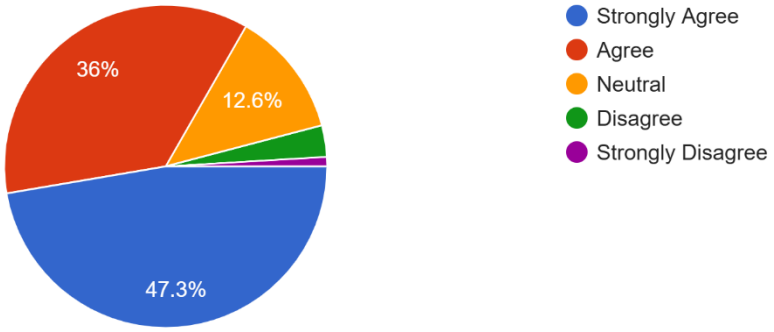
The app encourages environmentally conscious behavior among its users.

317 responses



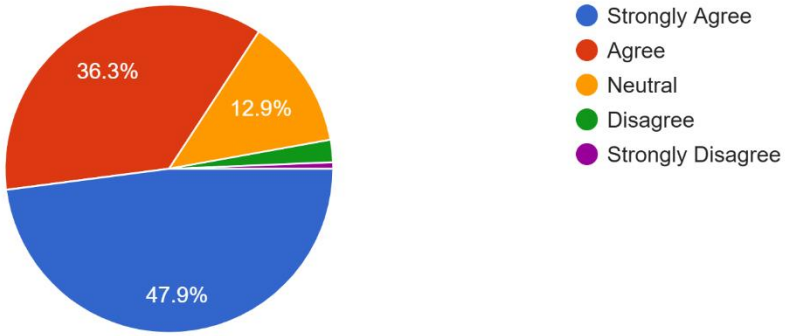
The app positively impacts interactions with the environment during visits, promoting respectful practices.

317 responses



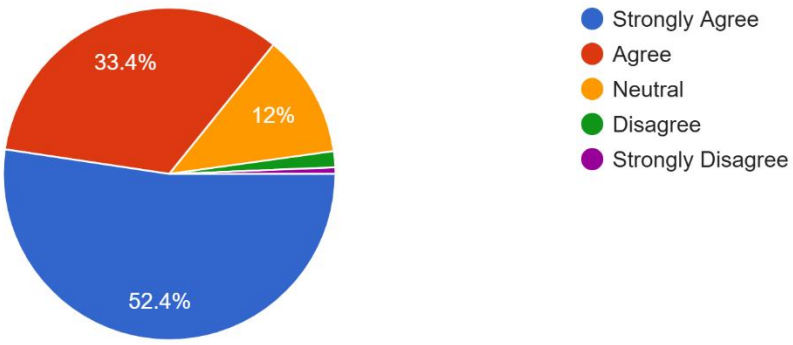
Information on sustainable practices is included, enhancing the app's environmental awareness.

317 responses



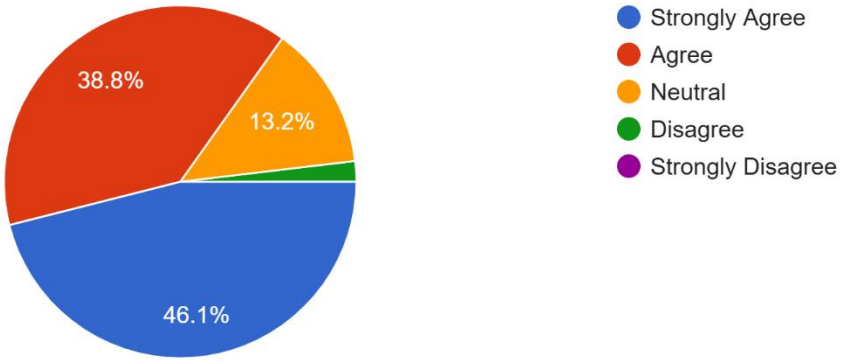
The environmental aspect of the app is considered highly important by users, reflecting its value.

317 responses



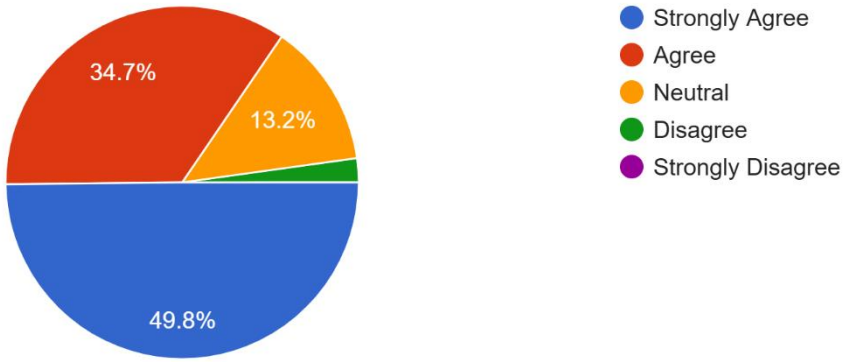
The app meets the needs of users visiting cemeteries, delivering on its intended purpose.

317 responses



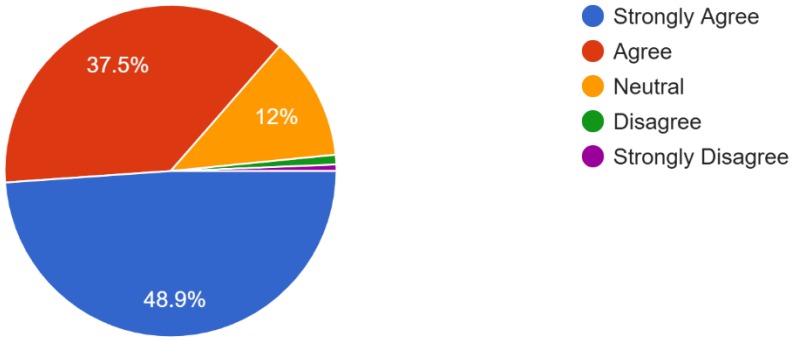
Additional features, such as cultural guidance, are valuable and enhance the overall experience.

317 responses



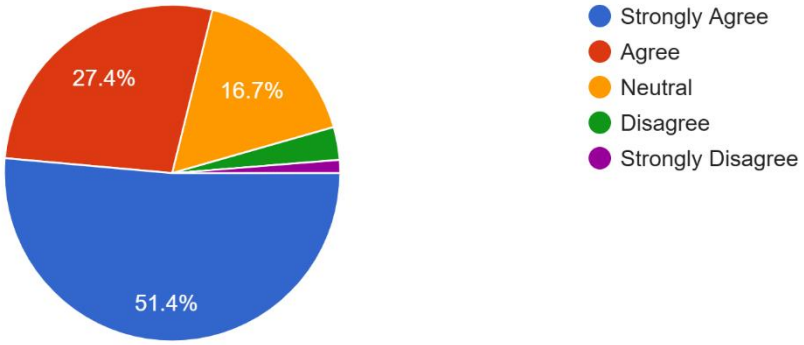
The app effectively fulfills its promise to assist with cemetery visits, demonstrating significant functional value.

317 responses



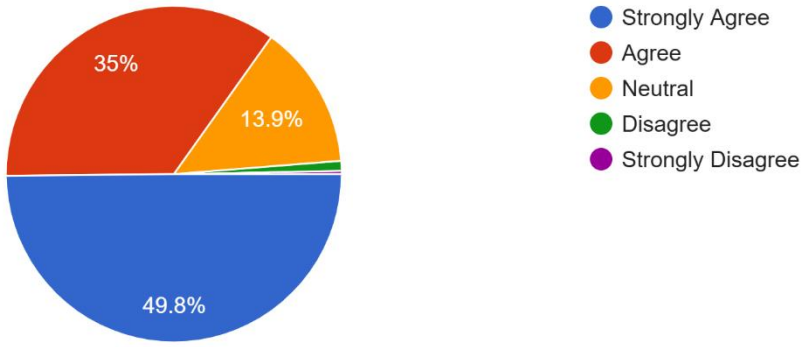
Users are highly likely to purchase the Ziyarah app if it were offered as a paid service.

317 responses



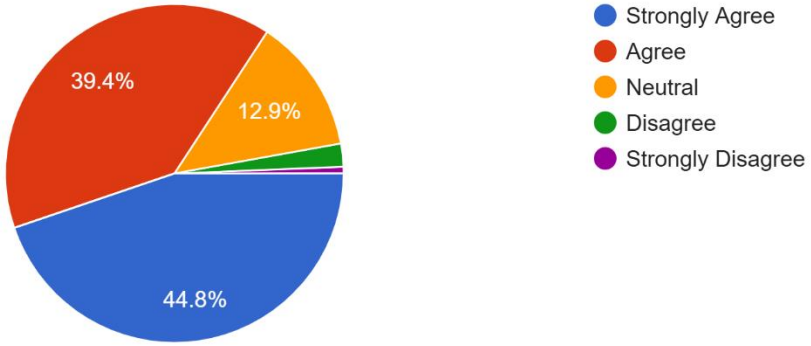
The app is recommended to others based on its comprehensive features and functionality.

317 responses



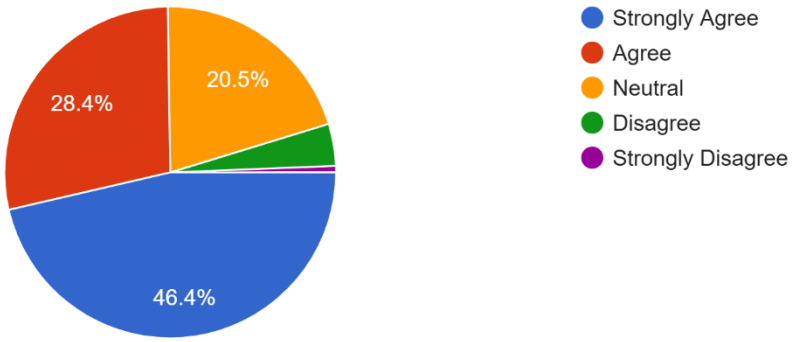
Pricing is a key factor in the decision to use the app, reflecting its importance in user choices.

317 responses



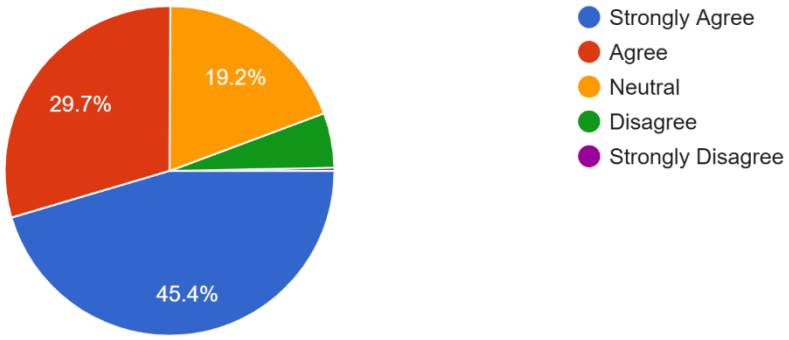
There is a willingness to pay for additional features or premium versions, indicating strong interest in enhanced functionalities.

317 responses



Users are likely to continue using the app even if a subscription model is introduced, showing long-term commitment.

317 responses



Appendices E: Specification

SPSS - Statistical Package for the Social Sciences

IBM - International Business Machines

SV – Supervisor

GPS - Global Positioning System

AJK – Ahli Jawatankuasa

IOS – Iphone Operating System

SD – Standard Deviation

APK - Android Application Package