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DESIGN AND CONSTRUCTION OF A MOBILE-BASED PLANT SEARCH APPLICATION IN THE QURAN WITH FUSE.JS IMPLEMENTATION

Rancang Bangun Aplikasi Penelusuran Tumbuh-Tumbuhan dalam Alquran Berbasis Mobile dengan Implementasi Fuse.JS

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ABSTRACT
The availability of applications that specifically integrate plant data in the Quran, related verses, and scientific information is still limited, as indicated by the absence of similar applications on platforms such as the Google Play Store and the App Store. Therefore, this study developed a mobile application supported by a web system for admin data management to provide information on plants in the Quran in a structured and easily accessible manner. The Rapid Application Development (RAD) method was applied for quick iteration and user testing. Data collection found 28 plants mentioned specifically and 11 generally in the Quran. The app displays plant information with related verses and scientific details. A search feature using Fuse.js was added for easier access. Usability testing with UMUX scored 91.53% (“best imaginable”), while black box testing shows the test scenario runs according to the expected results on both platforms.

Keywords: *Digital Learning, Fuse.js, Islam, Plants Quran*

ABSTRAK
Ketersediaan aplikasi yang secara khusus mengintegrasikan data tumbuhan dalam Al-Qur’an, ayat terkait, dan informasi ilmiah masih terbatas, yang ditunjukkan oleh tidak ditemukannya aplikasi sejenis pada platform seperti Google Play Store dan App Store. Oleh karena itu, penelitian ini mengembangkan aplikasi seluler yang didukung sistem web untuk pengelolaan data admin guna menyediakan informasi tumbuhan dalam Al-Qur’an secara terstruktur dan mudah diakses. Metode Rapid Application Development (RAD) diterapkan untuk iterasi cepat dan pengujian pengguna. Pengumpulan data menemukan 28 tanaman yang disebutkan secara khusus dan 11 secara umum dalam Al-Qur'an. Aplikasi ini menampilkan informasi tanaman dengan ayat-ayat terkait dan detail ilmiah. Fitur pencarian menggunakan Fuse.js ditambahkan untuk akses yang lebih mudah. Pengujian kegunaan dengan UMUX memperoleh skor 91,53% ("best imaginable”), sementara black box testing menunjukkan skenario pengujian berjalan sesuai hasil yang diharapkan pada kedua platform.

Kata kunci: *Alquran, Fuse.js, Islam, Pembelajaran Digital, Tumbuhan*

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INTRODUCTION

The COVID-19 pandemic that occurred in 2019 has led to changes in people's lifestyles worldwide and contributed to the broader adoption of information and communication technology across multiple sectors, including education (Nugraha et al. 2021). One example of the use of technology in education is Islamic education, where mobile applications have become increasingly relevant as a medium for delivering digital learning content. In Indonesia, this trend is supported by high digital connectivity; according to data from We Are Social and Meltwater (2025) there were 356 million active mobile phone connections and 212 million internet users, representing 74.6% of the population. This situation indicates strong potential for mobile-based platforms to support the dissemination of structured Islamic educational content, including information about plants mentioned in the Quran.

Based on research by Hartawan et al. (2022), the level of Islamic app usage among Generation Z (born 1997-2012) is relatively high, at 85% of a total of 85 respondents. This finding indicates that Islamic apps have great potential as a practical and effective educational tool in improving religious literacy. A similar finding was also demonstrated in research by Abdurrochim et al. (2022) regarding an Android-based Islamic Religious Education (PAI) learning application. This application was able to improve student learning outcomes from an average score of 53.99 to 73.78. Furthermore, research by Ariyanto (2023) also showed that the application of digital learning media with animation, sound, image, and text features can help children better understand Islamic teachings. These three studies demonstrate that technology plays a crucial role in supporting interactive, relevant, and modern Islamic education. However, these studies still focus on the use of Islamic applications and digital learning media in general, and have not specifically addressed the development of applications that integrate information on plants mentioned in the Quran, related verses, and scientific explanations into a single, structured platform. This gap highlights the need to develop specialized digital applications that can facilitate access to such information in a more systematic and accessible manner.

In Islamic education, understanding of learning concepts must be based on the Quran, which contains a wealth of knowledge about all aspects of human life (Nasir and Arif 2021). One aspect contained within the Quran is the diverse types of plants found in this world and the hereafter. Some plants are mentioned once, while others are mentioned more than once in several surahs. The plants mentioned in the Quran can be classified into specifically named plants and generally referenced plants, both of which reflect spiritual values, life lessons, and knowledge relevant to human life; for example, specifically mentioned plants such as dates, grapes, olives, and pomegranates illustrate these meanings (Sedighi-Khavidak et al. 2022; Zakaria and Ibrahim 2022) . The naming of plants also has scientific and health value, so that by understanding their contents, humans can use them wisely (Hibban 2022). The research of Rifaanudin and Hibban (2022) describes plants that have health benefits, including cucumber for healthy skin, garlic and olives for heart disease, and ginger for warming the body and treating constipation.

Through knowledge of the plants mentioned in the Quran, Muslims can better appreciate the diversity of God's creation as described in the Quran. However, information on this topic is scattered across various sources, making it unstructured and difficult to access. A preliminary observation of digital platforms such as the Google Play Store and App Store indicates that no application specifically combines data on plants mentioned in the Quran, along with related verses and scientific information. The absence of digital media focused on this topic suggests an opportunity to develop an educational application that can help the public explore the various plants mentioned in the Quran.

Based on the above background, a mobile application that provides information about plants in the Quran was developed. By focusing on providing structured and clear information, this application presents an attractive display containing descriptions, verse quotations, and other relevant information. Furthermore, to facilitate information

access, users can search for desired plants or Quranic verses. To simplify the data management process, a website was developed to input information displayed in the form of a mobile application. This step is expected to facilitate users in finding structured and engaging information, while also increasing interest in the topic of plants in the Quran.

MATERIALS AND METHODOLOGY

Place and Time of Research

This research took place in the Software Engineering Laboratory, Building C, Faculty of Mathematics and Natural Sciences, Syiah Kuala University. The research process took three months, from May 2025 to July 2025.

Materials

The materials used in this study consisted of hardware and software. The hardware used was an ASUS Vivobook laptop with an AMD Ryzen 5 5500U processor and 16GB of RAM. The software that were used included Visual Studio Code version 1.86.2, the Windows 11 operating system, Figma version 125.2.3, Express.js version 5.0.1, React version 19.1.0, React Native version 0.76.5, Expo version 52.0.23, and Node.js version 21.6.1.

Methodology

The method used in this research is Rapid Application Development (RAD). RAD was selected because it supports rapid prototyping, iterative refinement, and continuous user involvement in validating system requirements, making it suitable for the development of a search-based educational application whose features and interface usability need to be evaluated and improved through repeated user feedback (Khan et al. 2020; Hidayat and Hati 2021; Purwanto 2021; Mulyati et al. 2024). In contrast, Agile/Scrum places more emphasis on teamwork, user stories, and sprint-based project management, which are not the primary focus of this study (Khan et al. 2020). Additionally, the standard RAD model consists of four phases: requirements planning, user design, construction, and transition (David C. Yen 1998).

Requirement planning

Requirement planning is the initial stage in the Rapid Application Development (RAD) method, which is carried out to gather and understand various user requirements for the software to be built. This will form the basis for design and further development (Sudipa et al. 2023). In this process, the application's functional requirements are identified, namely the main features that must be present in the system. A literature review is also conducted that examines various sources related to the use of similar technologies and applications. The output of this stage is presented in the form of a table of functional requirements for each user group, namely admins and general users/students, which includes access systems, data management, search, filters, favorites, verse details, audio playback, scientific plant information, as well as criticism and suggestion features.

To develop multiplatform applications, several frameworks are used, namely React.js for the website frontend, a combination of React Native and Expo for mobile applications, and Express.js as the backend. React JS was chosen because it is based on interactive, stateful, and reusable components, and allows for faster page rendering (Kroons and Dewi 2023). Because it provides a consistent and optimal user experience, React Native with Expo support was chosen (Akter et al. 2025). Meanwhile, Express.js is used as a backend to support a faster and more efficient development process. (Azkarin et al. 2023). In addition to the framework, the system also requires a search mechanism that supports flexible data retrieval.

To meet these needs, Fuse.js is used to support the application's search process for plant data and information on Quranic suras and verses. Fuse.js is a JavaScript library that implements fuzzy string matching, a text matching technique that can tolerate typos or input variations. With this approach, the system does not only rely on exact match searches but can also display relevant results even if the keywords entered by the user do not completely match the stored data. The Fuse.js configuration used in the system includes the keys, includeScore,

threshold, minMatchCharLength, and ignoreLocation parameters. The keys parameter specifies the data attribute to be searched, includeScore generates a similarity value between 0 and 1, threshold sets the match tolerance level, minMatchCharLength determines the minimum number of characters processed, and ignoreLocation allows matching without considering text position (FuseJS 2025). These settings allow for more flexible search features than the exact match search method, while still maintaining the relevance of the results.

Next, the data collection process is also carried out through relevant methods, so that the data obtained can support the system design rationally and systematically. To collect data, plants contained in the Quran were identified by reading the translation of the Quran published by Kementerian Agama (2011). In addition, a search was conducted for journals, articles, and books discussing plants in the Quran to complement the information previously obtained. One of the book references used is "Plants of the Quran" by Farooqi (1997). Once the data is obtained, the keywords for the plants mentioned in the Quran are verified with commentators to ensure the accuracy and clarity of the terms used. The final step in this stage is to gather scientific information on each plant, including descriptions, classifications, and benefits, from reliable scientific sources.

User Design

In the user design phase, a prototype application was created based on the analysis results from the previous phase. The application design focused on the user interface (UI) and a prototype developed using Figma software. The resulting prototype was then tested to assess its suitability to user needs and expectations. The design was then refined and adjusted based on user feedback. This phase resulted in a complete application design, encompassing all pages, navigation structure, and logical flow, which would be used in subsequent implementation processes. The design for this system can be seen in Figure 1 and Figure 2.

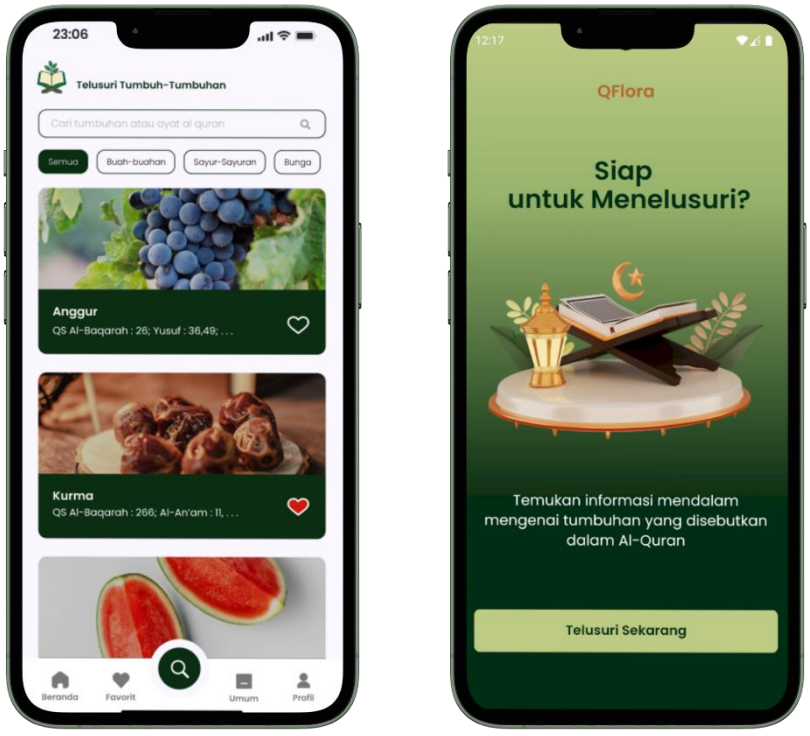

Figure 1. System architecture design of QFlora mobile application

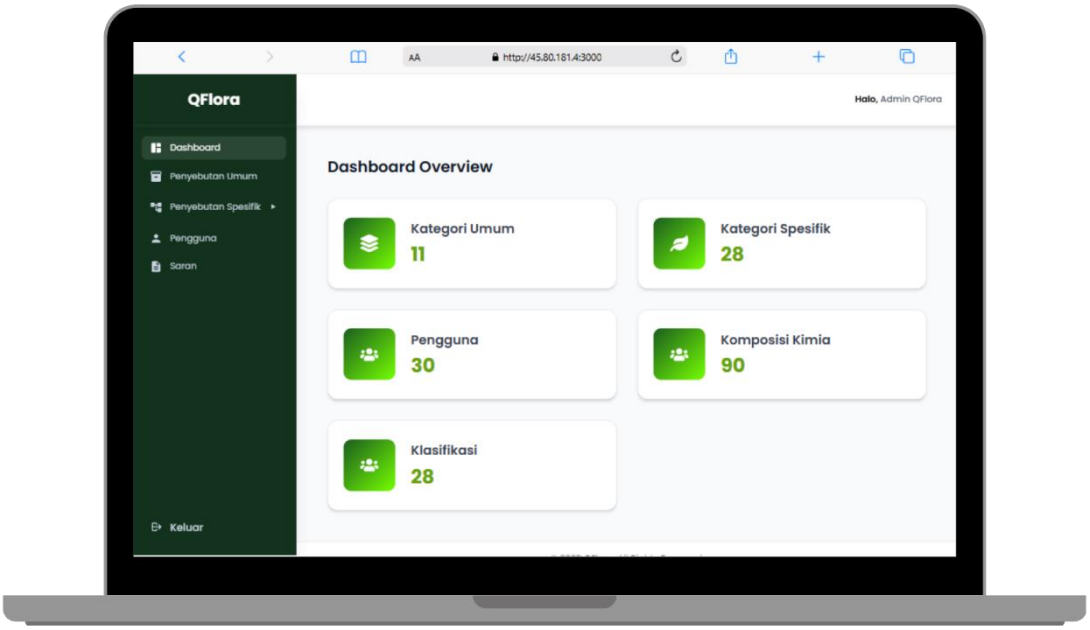

Figure 2. System architecture design of QFlora website admin

Rapid construction

System development is the stage where the previously developed system design is implemented into program code. The system is built using predetermined languages and frameworks. During this stage, the database, front-end, and back-end are developed. This stage results in a usable application, with continuous user feedback and suggestions being gathered to ensure the system meets expectations.

Implementation

In the final stage of the RAD method, system testing is conducted to ensure that the developed software meets the requirements and specifications. Two types of testing are conducted at this stage: functionality testing and usability testing. Functionality testing uses black box testing to ensure that all features operate according to predetermined specifications on both mobile and website platforms. The test scenarios covered core functions such as login, data addition, data deletion, data editing, and information display on both platforms. In total, 46 features were tested, consisting of 28 on the website and 18 on the mobile platform. All tested features performed as expected, resulting in a 100% success rate. Testing took place between May 27 and 30, 2025, in Banda Aceh. Because the system requires internet access to obtain data from the API, testing on both platforms was conducted with an internet connection.

Meanwhile, usability testing was conducted using the Usability Metric for User Experience (UMUX) method, which is a concise usability scale as an alternative to the System Usability Scale (SUS) (Lewis and Sauro 2021). This method uses four main questions with a seven-point scale, where 1 indicates strongly disagree and 7 indicates strongly agree. Respondents for this test consisted of students and the general public. The students came from various faculties, aged 19-22 years old, while the general public consisted of a diverse group of professionals, including alumni and lecturers from various academic backgrounds, aged 25-45 years old. Respondents were asked to try the application in .apk format on an Android device and then fill in the answers via Google Form where the assessment results were calculated based on the scores of the four questions provided. The UMUX score was calculated by subtracting 1 from the answers to the odd-numbered items and subtracting the answers to the even-numbered items from 7. Next, the adjusted scores were added together, divided by 24 as the maximum score, and then multiplied by 100 to obtain a score in the range of 0-100. The value was then averaged across all

respondents and interpreted using the UMUX standard, where a higher score indicates a better level of usability. Interpretation for scores on the UMUX method refers to SUS-based categories, where scores of approximately 12.5, 20.3, 35.7, 50.9, 71.4, 85.5, and 90.9 correspond to worst imaginable, awful, poor, OK, good, excellent, and best imaginable, respectively (Bangor et al. 2008; Bangor et al. 2009).

RESULTS AND DISCUSSION

The application has been successfully developed and packaged in an .apk file, making it accessible to users on Android devices. This indicates that the system has reached the implementation stage and is ready for end-user use. The integration of various features such as search, verse exploration, and filters demonstrates that the system is capable of supporting users' needs in accessing plant information in the Quran more flexibly and easily. Furthermore, the application is equipped with a Fuse.js-based feature that allows users to find the desired plant or surah even if there are spelling errors in the search keywords. This makes the search process more flexible and easier than the exact search method, which relies on exact keyword matches. In addition, category filters such as "Fruits" are applied to refine the displayed results. The application also features a favorites feature, which allows users to mark desired plants. Furthermore, users can also access detail pages for specific or general plant mentions, which provide complete scientific information along with the Quranic verses that mention them. The application also supports audio playback of verses, allowing users to directly listen to the desired Quranic verses. Finally, there is a profile page that allows users to view their personal and application information and provide suggestions and input regarding future application development.

The foundation of these features lies in the dataset of plants mentioned in the Quran, which consists of 28 plants referred to specifically and 11 plants referred to generally. This dataset, summarized in Table 1 and Table 2, provides the core information managed by the system and displayed to users through the application interface.

Table 1. List of specifically mentioned plants in the Quran

No	Plant Name	Number of Mentions	Surah(s) and ayah(s)
1	Grape	14 times	Al-Baqarah 266; Al-An'am 99; Yusuf 36, 49; Ar-Ra'd 4; An-Nahl 11, 67; Al-Kahfi 32, 42; Al-Mu'minun 19; Yasin 34; An-Naba 32; Abasa 28
2	Barley	1 time	Yusuf 43
3	Red Onion	1 time	Al-Baqarah 61
4	Garlic	1 time	Al-Baqarah 61
5	Lote Tree	2 times	Al-Waqi'ah 28; Saba' 16
6	Caspian Manna	2 times	Taha 80–81
7	Spruce	1 time	Saba' 16
8	Pomegranate	3 times	Al-An'am 99, 141; Ar-Rahman 68
9	Wheat	8 times	Yusuf 43, 46, 48, 59, 60, 63, 65, 88
10	Ginger	1 time	Al-Insan 17
11	Lentil	1 time	Al-Baqarah 61
12	Camphor	1 time	Al-Insan 5
13	Basil	2 times	Ar-Rahman 12; Al-Waqi'ah 89
14	Date Palm	18 times	Al-Baqarah 266; Al-An'am 99, 141; Ar-Ra'd 4; An-Nahl 11, 67; Al-Kahfi 32; Maryam 23, 25; Al-Mu'minun 19; Asy-Syu'ara 148; Yasin 34; Qaf 10; Al-Qamar 20; Ar-Rahman 11, 68; Al-Haqqah 7; Abasa 29
15	Gourd	1 time	As-Saffat 146
16	Rose	1 time	Ar-Rahman 37

No	Plant Name	Number of Mentions	Surah(s) and ayah(s)
17	Henna	1 time	Al-Insan 5
18	Pitch Pine	1 time	Ibrahim 50
19	Banana	1 time	Al-Waqi'ah 29
20	Mustard	2 times	Al-Anbiya 47; Luqman 16
21	Clover	2 times	Abasa 28,31
22	Siwak Tree	1 time	Saba' 16
23	Tamarisk	2 times	Saba' 15-16
24	Cucumber	1 time	Al-Baqarah 61
25	Fig	1 time	At-Tin 1
26	Tuba Tree	1 time	Ar-Ra'd 29
27	Olive	7 times	Al-An'am 99, 141; An-Nahl 11; Al-Mu'minun 20; An-Nur 35; Abasa 29; At-Tin 1
28	Zaqqum Tree	10 times	Al-Isra 60; As-Saffat 62–67; Ad-Dukhan 43–44; Al-Waqi'ah 52

Table 2. List of generally mentioned plants in the Quran

No	Category	Number of Mentions	Surah(s)
1	Seeds	11 times	Al-An'am 59, 95, 99; Yasin 33; Qaf 9; Ar-Rahman 12; An-Naba 15; Abasa 27; Al-Baqarah 261; Al-Anbiya 47; Luqman 16
2	Fruits	31 times	Al-Baqarah 126, 265, 266; Al-A'raf 19, 22, 57; Ar-Ra'd 3, 35; An-Nahl 11, 69; Al-Kahfi 33; Al-Mu'minun 19; Al-Qasas 57; Fathir 27; Yasin 35, 57; As-Saffat 42, 66; Sad 51; Fusilat 47; Az-Zukhruf 73; Ad-Dukhan 55; Muhammad 15; Ar-Rahman 11, 52, 54, 68; Al-Waqi'ah 20, 32; Al-Haqqah 23; Al-Mursalat 42; Abasa 31
3	Flowers	1 time	Ar-Rahman 12
4	Grains	1 time	Al-An'am 95
5	Leaves	4 times	Al-An'am 59; Al-A'raf 22; Taha 121; Al-Fil 5
6	Gardens	10 times	Al-Baqarah 266; Al-An'am 99; Ar-Ra'd 4; Al-Kahfi 35–40; Al-Mu'minun 19; An-Naml 60; Al-Qalam 22
7	Trees	29 times	Al-Baqarah 35; Al-A'raf 19,20,22; Ibrahim 24–26; An-Nahl 10, 68; Taha 120–121; Al-Qasas 30; Al-Mukminun 20; An-Nur 35; Luqman 27; Yasin 80; As-Saffat 62, 64, 146; Ad-Dukhan 43; Al-Fath 18; Ar-Rahman 6; Al-Waqi'ah 52, 72; Al-Ghasyiyah 6; Al-Hajj 18; An-Naml 60; Qaf 9; Al-Insan 14
8	Grass	4 times	Sad 44; Abasa 31; Al-A'la 4–5
9	Vegetables	2 times	Al-Baqarah 61; Abasa 28
10	Vegetation	20 times	Al-An'am 99, 136, 138; Al-A'raf 58; Yunus 24; Ar-Ra'd 4; Al-Anbiya 78; An-Nahl 10; Al-Kahfi 45; Taha 53; Al-Hajj 5; Asy-Syu'ara 7, 148; As-Sajdah 27; Az-Zumar 21; Al-Fath 29; Al-Hadid 20; Luqman 10; An-Naba 15; An-Nazi'at 31; At-Tariq 12
11	Shoots	1 time	Al-Fath 29

All the plants identified in the dataset were implemented in the application, except for one, namely zaqqum. Although it is mentioned in the Quran, zaqqum was not included because it does not exist in the real world and therefore has no scientific classification or empirical data. Excluding this plant ensures that the application only presents plants that can be scientifically validated and observed, thus maintaining the accuracy of the information provided.

To ensure the performance of the system, two types of testing were conducted, namely functional testing and usability testing.

Functionality Testing

Functionality testing was conducted using black box testing to verify the operation of system features based on predefined test scenarios. It focuses on what can be seen through simple observation, such as the software interface described in the specification document, without considering the software's code structure. This testing does not utilize information related to the internal structure of the software or system (Homès 2024). In this study, there were 46 total tests, with 18 focused on the mobile app and 28 on the admin website, which manages data in the mobile app. The summary of the test scenarios, expected results, and outcomes is presented in Table 3 and Table 4.

Table 3. Black box testing scenarios for QFlora mobile app

No	Tested Feature	Test Scenario	Expected Result	Outcome
1	Login with Google (admin)	Tap “Login with Google” and select valid account	Redirected to home page	Passed
2	Access Home Page	Tap “Home” icon	Home page successfully displayed	Passed
3	Search Plant / Verse / Surah	Enter keyword (e.g., “Kurma”) in search bar	Relevant results displayed	Passed
4	Filter by Plant Category	Tap category filter (e.g., “Fruit”)	Only plants from selected category shown	Passed
5	Access Favorites Page	Tap “Favorite” icon	Favorite page successfully displayed	Passed
6	Add to Favorites	Tap heart icon on a plant card	Heart icon turns red, plant added to favorites	Passed
7	Remove from Favorites	Tap heart icon again on a favorited plant	Heart icon unfilled, plant removed from favorites	Passed
8	Submit Feedback (valid)	Open “Feedback” form, fill fields, click “Submit”	Success notification displayed	Passed
9	Submit Feedback (empty)	Submit without filling required fields	Error “type/description cannot be empty” displayed	Passed
10	View Specific Plant Details	Tap on a specific plant card	Plant detail page with verses and “Plant Info” button displayed	Passed

Table 4. Black box testing scenarios for QFlora website admin

No	Tested Feature	Test Scenario	Expected Result	Outcome
1	Login with Google (admin)	Select admin account	Redirected to dashboard page	Passed
2	Login with Google (non-admin)	Select non-admin account	Login denied; error message displayed	Passed
3	Access General Category sidebar	Click “General Category” in sidebar	General Category page displayed	Passed
4	Access Specific Category sidebar	Click “Specific Category” in sidebar	Specific Category page displayed	Passed
5	Access Classification sidebar	Click “Classification” in sidebar	Classification page displayed	Passed
6	Access Chemical Composition sidebar	Click “Chemical Composition” in sidebar	Chemical Composition page displayed	Passed
7	Access User sidebar	Click “Users” in sidebar	User management page displayed	Passed
8	Add General Category (valid input)	Fill all required fields and click “Save”	Data successfully added to database	Passed
9	Add General Category (empty input)	Click “Save” without filling any field	Error message “required fields must be filled” displayed	Passed

No	Tested Feature	Test Scenario	Expected Result	Outcome
10	Upload Qur'anic Verses (valid Excel file)	Click "Upload Verses" and select valid Excel file	Data successfully imported into database	Passed

Usability Testing

Usability testing is conducted to assess the level of usability of a system from a user perspective. This testing uses the Usability Metric for User Experience (UMUX) method. UMUX was designed as a short and effective usability scale, thus replacing the longer and more widely used System Usability Scale (SUS) (Brooke 1996). This method has a number of advantages, one of which is that it is concise because it only includes four questions, but is still able to demonstrate a high level of reliability and validity (Lewis 2018). Although SUS is a quick scale, using a shorter, reliable scale like UMUX can minimize user time, cost, and effort (Borsci et al. 2015). Before conducting the test, an application test plan is first prepared which can be seen in Table 5.

Table 5. Test plan for QFlora mobile app

Category	Description
Scenario	1. The user downloads the .apk file of the QFlora application. 2. The user opens the application. 3. The user logs in to the application using a Google account. 4. The user accesses the home page. 5. The user accesses the search page. 6. The user searches for a plant or surah in the Quran. 7. The user selects one of the plants displayed. 8. The user presses the play button to listen to the verse audio on the plant detail page. 9. The user accesses the scientific information detail page of the plant. 10. The user accesses the general category page. 11. The user likes one of the plants. 12. The user views the list of favorite plants. 13. The user submits feedback or suggestions. 14. The user signs out from the application. 15. The user fills out the questionnaire via the provided Google Form link. Login with Google (non-admin)
Tool	Android smartphone
Result	The testing results are presented in Table 4.6.

Respondents for this test were 31 people who used Android smartphones, consisting of 17 active students from various faculties with an age range of 19-22 years, as well as 14 members of the general public, including alumni and lecturers from various scientific backgrounds. After running the application, respondents were asked to fill out a questionnaire form consisting of 4 questions with a rating scale of 1-7 (Lewis and Sauro 2021), as shown in Table 6.

Table 6. Black box testing scenarios for QFlora website admin

No.	Question
1	This system's capabilities meet my requirements.
2	Using this system is a frustrating experience.
3	This system is easy to use.
4	I have to spend too much time correcting things with this system.

After testing using the UMUX method, data was obtained from the test results which were calculated using the following steps:

- Each odd-numbered item is calculated using the formula [user score - 1], while even-numbered items are calculated using the formula [7 - user score].
- All user ratings are added together and then divided by 24 (the highest score).
- The resulting score is then multiplied by 100.
- The result is then averaged across all users.
- The resulting score is then scored on a scale of 0-100 (Finstad 2010)

The results of the tests using the UMUX method that have been carried out can be seen in full in Table 7. Based on the test results, the developed mobile application achieved an average score of 91.53%. According to the SUS interpretation standards (Bangor et al. 2008; Bangor et al. 2009; Lewis and Sauro 2021), scores above 90.9 are categorized as the best imaginable category. This indicates that the application has a very high level of usability and can be used effectively and efficiently by users, exceeding the threshold commonly associated with excellent usability.

Table 7. Results of score transformation based on the UMUX questionnaire

Respondent	Question Scores				Transformed Scores				Final Score
	Q1	Q2	Q3	Q4	TQ1	TQ2	TQ3	TQ4	
Student 1	7	1	7	1	6	6	6	6	100.00
Student 2	5	2	7	3	4	5	6	4	79.17
Student 3	7	1	7	1	6	6	6	6	100.00
Student 4	5	2	6	2	4	5	5	5	79.17
Student 5	4	2	7	1	3	5	6	6	83.33
Student 6	7	1	7	1	6	6	6	6	100.00
Student 7	7	1	7	1	6	6	6	6	100.00
Student 8	6	1	5	2	5	6	4	5	83.33
Student 9	7	6	7	1	6	1	6	6	79.17
Student 10	7	1	7	1	6	6	6	6	100.00
Student 11	7	1	7	1	6	6	6	6	100.00
Student 12	6	2	6	1	5	5	5	6	87.50
Student 13	5	2	6	2	4	5	5	5	79.17
Student 14	7	1	7	2	6	6	6	5	95.83
Student 15	7	2	7	2	6	5	6	5	91.67
Student 16	6	2	7	2	5	5	6	5	87.50
Student 17	6	1	7	1	5	6	6	6	95.83
Public 1	7	1	7	1	6	6	6	6	100.00
Public 2	7	5	5	6	6	2	4	1	54.17
Public 3	7	1	7	1	6	6	6	6	100.00
Public 4	7	1	7	1	6	6	6	6	100.00
Public 5	6	1	6	1	5	6	5	6	91.67
Public 6	7	1	7	1	6	6	6	6	100.00
Public 7	7	1	7	3	6	6	6	4	91.67
Public 8	7	1	7	1	6	6	6	6	100.00
Public 9	6	1	7	2	5	6	6	5	91.67
Public 10	6	1	7	2	5	6	6	5	91.67
Public 11	7	1	7	1	6	6	6	6	100.00
Public 12	6	1	7	2	5	6	6	5	91.67
Public 13	7	1	7	1	6	6	6	6	100.00
Public 14	7	1	6	4	6	6	5	3	83.33
Average									**91.53**

CONCLUSION

This study demonstrates that the developed application is capable of supporting users in accessing and exploring information about plants mentioned in the Quran through an integrated system between mobile and web platforms. This application contains complete information regarding taxonomic classification, scientific descriptions, and benefits of plants, and provides a Fuse.js-based search feature that enables a flexible and error-tolerant search process, allowing users to find relevant information even if there are inaccuracies in writing keywords based on plant names, surahs, or verses of the Quran. From the data collection results, 28 plants were identified that were mentioned specifically and 11 plants that were mentioned generally in the Quran. The results of the usability test showed an average UMUX value of 91.53%, which is included in the best imaginable category, thus indicating a very high level of usability. This indicates that the application has a good level of acceptance by users and can be used easily in real use. In addition, the results of the functionality test showed that all system features run as expected, which confirms the reliability of the developed system.

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