Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

A FRAMEWORK OF HIFZBUDDY FOR FACILITATING QUR'ANIC MEMORIZATION: DIGITAL LEARNING APPROACH

Adriana Najiha Muhamad Rizal[1]
Nurul Sofea Mohd Fairuz[1]
Nuramalia Mohd Said[1]
Siti Munirah Mohd[1,2*]
Ahmad Bazli Ahmad Hilmi[1]
Nurhidaya Mohamad Jan[1,2]

[1] Kolej PERMATA Insan, Universiti Sains Islam Malaysia, Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia (E-mail: smunirahm@usim.edu.my)
[2] Education & Advanced Sustainability Research Unit, Kolej PERMATA Insan, Universiti Sains Islam Malaysia, Bandar Baru Nilai, 71800, Nilai, Negeri Sembilan (E-mail: smunirahm@usim.edu.my)
*Corresponding author: smunirahm@usim.edu.my

Article history
Received date : 23-11-2025
Revised date : 24-11-2025
Accepted date : 24-12-2025
Published date : 17-1-2026

To cite this document:
Muhamad Rizal, A. N., Mohd Fairuz, N. S., Mohd Said, N., Mohd, S. M., Ahmad Hilmi, A. B., & Mohamad Jan, N. (2025). A framework of HIFZBUDDY for facilitating Qur'anic memorization: Digital learning approach. *Journal of Islamic, Social, Economics and Development (JISED),* 11 (80), 280 – 290.

Abstract: *The memorisation of the Qur'an is a practice that requires discipline, consistency, and practical tools to support long-term retention. However, traditional methods often face challenges such as time constraints, a lack of personalised guidance, and limited engagement. Therefore, this study proposes a framework for HifzBuddy, a mobile application that supports Qur'anic memorisation through interactive and adaptive learning features. The project first goes for analysis and identifies various challenges that may arise within the current system. Then, developing a comprehensive framework outlining effective strategies and solutions to address these problems, ensuring more efficient and sustainable outcomes. This will involve gathering data, consulting stakeholders, and applying best practices to create a robust, adaptable structure tailored to the organisation's needs. The principal results at this stage include completing the entire application framework, encompassing key features such as personalised dashboards, murajaah tools, quizzes, progress tracking, community forums, and teacher-student modules. The findings contribute a conceptual and practical model for integrating technology with Qur'anic memorisation pedagogy, leading towards the development of a scalable digital platform for global use.*

Keywords: *mobile apps; qur'anic memorisation; digital learning; Islamic education*

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

Introduction

In recent years, the integration of technology into religious education has transformed how individuals engage with sacred texts. Digital tools, especially mobile learning applications, have enhanced memorisation, revision, and overall learning experiences (Wan Khairuldin et al., 2017). In the Islamic tradition, the memorisation of the Qur'an (*tahfiz*) remains a highly respected and spiritually enriching practice. However, maintaining consistent *murajaah* (revision) schedules poses significant challenges for many *huffaz* (Qur'an memorisers), particularly as they balance religious, academic, professional, and personal responsibilities.

Despite the abundance of Qur'an learning apps, many fail to address the needs of *huffaz* comprehensively. Common limitations include the absence of personalised revision plans, interactive assessment tools, community support, and AI-based systems capable of analysing learners' recitations for fluency and tajwid. Most apps also lack adaptive goal-setting features tailored to individual memorisation capacity and learning pace. These gaps often result in irregular revision routines, reduced retention, and diminished motivation over time (Mohamed Akhiruddin Ibrahim et al., 2024; Mustafa et al., 2021).

Advancements in mobile learning (m-learning), cloud services, and artificial intelligence offer the potential to redefine faith-based learning. Tools leveraging gamification, personalised algorithms, and real-time feedback can transform Qur'an memorisation experiences. Yet, there remains a lack of truly integrated platforms combining adaptive scheduling, AI-driven tajwid feedback, and social accountability features (Shaiakhmetoy et al., 2025). Addressing this gap is essential for supporting learner consistency, enhancing retention, and enriching the spiritual and educational journeys of huffaz worldwide.

Problem Statement

Memorising the Quran is a vital and esteemed practice in Islam. However, it presents several challenges that may hinder learners' ability to memorise it effectively based on time management and academic. Memorising the Quran is a vital and esteemed practice in Islam; however, it presents several challenges that may hinder learners' ability to memorise effectively, particularly due to time management and teacher availability. The study by Ahmad, M.R. et al. (2022) found that the primary problem encountered is a congested daily academic timetable, with 65.7% of students finding it difficult to balance both tasks. Similarly, tertiary-level huffaz face time management issues that hinder their ability to retain memorized material (Ismail, F.Z. et al., 2019). Besides, the conventional one-on-one teaching paradigm is frequently unsatisfactory because the number of educators available to oversee numerous students is limited. This makes it difficult for teachers to provide personalized guidance and control students' progress (Purbohadi D. et al., 2019)

Literature Review

Traditional methods of Qur'anic memorization, such as Takrar (repetition) and Tasmi' (recitation to a teacher), have been enhanced and, in some instances, replaced by modern technological approaches. These new methods utilise advancements in mobile technology, artificial intelligence (AI), and interactive applications to improve the memorization process. However, integrating these tools with traditional practices ensures a comprehensive approach that maintains the spiritual and educational integrity of Qur'anic memorization.

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

Mobile Learning (M- Learning)

Mobile learning (m-learning) refers to the use of mobile devices, such as smartphones and tablets, to facilitate learning anytime and anywhere. Its portability, flexibility, and multimedia capabilities make it a valuable tool for both formal and informal education. Studies have shown that m-learning can significantly enhance learner engagement and retention, particularly through features such as gamification, adaptive learning paths, and real-time feedback (Wan Khairuldin et al., 2017). In the context of religious education, m-learning allows students to access learning materials without time or location constraints, making it especially suitable for continuous practices such as Qur'an memorisation and murajaah. However, implementing mobile learning (M-learning) faces several challenges. First, many regions lack the robust technological infrastructure needed for smooth, reliable M-learning delivery, and teachers need proper training to integrate mobile technologies into their instructional practices effectively (Virama et al., 2025).

Memorising the Qur'an in Digital Era

Memorising the Qur'an (tahfiz) is a deeply rooted Islamic tradition, historically dependent on face-to-face teacher–student interaction. Technological advancements, however, have expanded the scope of tahfiz education, integrating traditional practices with modern technology. Digital tools can enhance tahfiz training by providing accessible audiovisual resources, interactive quizzes, and progress-tracking features (Mohamed Akhiruddin Ibrahim et al., 2024). These tools are particularly valuable for murajaah, enabling learners to revisit previously memorised portions at their own pace while maintaining accuracy and fluency. Success depends heavily on integrating pedagogical methods aligned with Islamic learning traditions.

Beneficially, digital tools enhance learner engagement by providing visual aids that simplify complex Tajweed concepts (Basir et al., 2024). These technologies also increase accessibility, enabling Qur'anic memorisation to reach a wider global audience through consistent assessments and support (Zohdi et al., 2024). Furthermore, it supports special needs learners, such as Mouro's Popup Book, which is specifically designed for autistic learners (Rahmahtrisilvia et al., 2024).

Concerns remain about the accuracy and reliability of digital pronunciation feedback when used without guidance from qualified teachers. Technological limitations, such as unstable internet access, restricted access to premium features, and limited device availability, also pose barriers to effective implementation (Ab Alim et al., 2025). Additionally, digital tools cannot replicate the essential spiritual elements of Qur'anic teaching, reaffirming the continued importance of human teachers and the need for a balanced hybrid learning approach (Mustapa et al., 2021).

AI Tools in Memorisation Qur'an

The use of Artificial Intelligence (AI) in Qur'anic memorisation is changing the way people learn by providing better tech support, personalised learning experiences, and more interest. AI tools often use speech recognition to give real-time feedback on recitation, adaptive learning algorithms that change the pace of learning based on how well the learner is doing, and gamification features that make learning more fun and rewarding. AI-based platforms make it easier for students who have not had formal religious education to access information, make learning more efficient through structured repetition, and include interactive features that keep students engaged. Still, they don't replace the moral and spiritual guidance that teachers provide

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

(Alrumiah, S. S., & Al-Shargabi, A.A., 2023; Alvindo, F. et al., 2024; Yahya, M.A.B., et al., 2025)

But there are still some ethical and practical problems. Some concerns focus on the accuracy of AI-generated feedback, especially regarding difficult Classical Arabic pronunciation. Other concerns include students becoming too dependent on technology, data privacy, and potential algorithmic bias. These factors underscore the importance of implementing the program carefully and responsibly, and of maintaining the integrity of traditional Qur'anic teaching in doing so (Ahmad, A. M. B., & Musa, M. A. B., 2025; Azhar et al., 2025).

Methodology

The methodological process is divided into three phases: Problem Identification, Ideation & Concept Development, and Framework Development that been illustrated in Figure 1

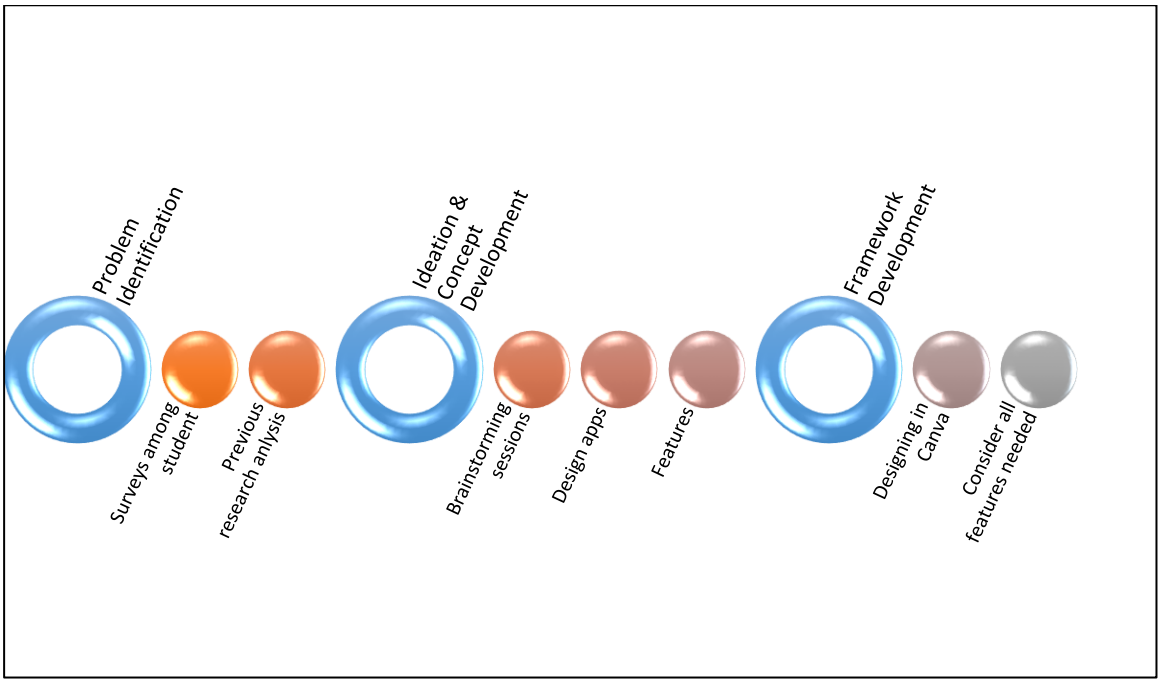

Figure 1: Methodology

Problem Identification

The first step is to identify the main problems with the current system. This entails administering surveys to students to ascertain their challenges, learning behaviours, and requirements. Additionally, prior research and literature reviews are examined to corroborate the findings and confirm consistency with established knowledge. This phase lays a solid foundation by identifying the most critical gaps to be filled.

Ideation and Concept Development

After clearly defining the problem, the next step is to generate ideas and concepts. Brainstorming sessions with selected educators. Ideas for the system or app are discussed, refined, and evaluated to determine feasibility.

Framework Development

The last step is to create a complete, organised framework that brings together all the ideas and features developed so far. The framework is made in a clear, organised way, often with the help

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

of design tools such as Canva. All required parts are accounted for to ensure the framework is reliable. Figure 2 illustrates the framework design of Hifzbuddy Mobile Apps.

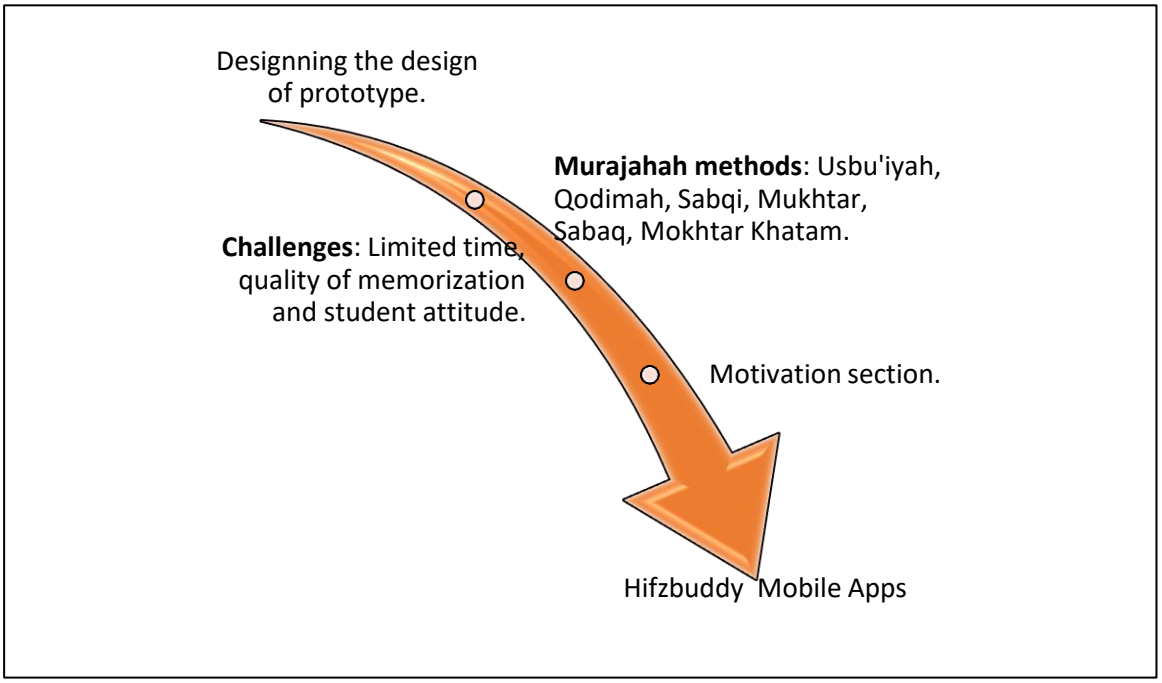

Figure 2: Framework of Hifzbuddy

Results

The Canva prototype includes screen layouts, navigation flow, and feature placement shown in Figure 3 until Figure 6. The visual framework allows developers to understand user interactions before actual coding begins. Key design components completed in the wireframe include:

a. Sign-Up and Login Pages : Designed for secure user registration.
b. Profile Dashboard: Displays progress, performance statistics, and memorization history.
c. Homepage: Includes daily highlights, progress summary, and quick access to memorization tools.
d. Menu Screen: Provides navigation to all main features.

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

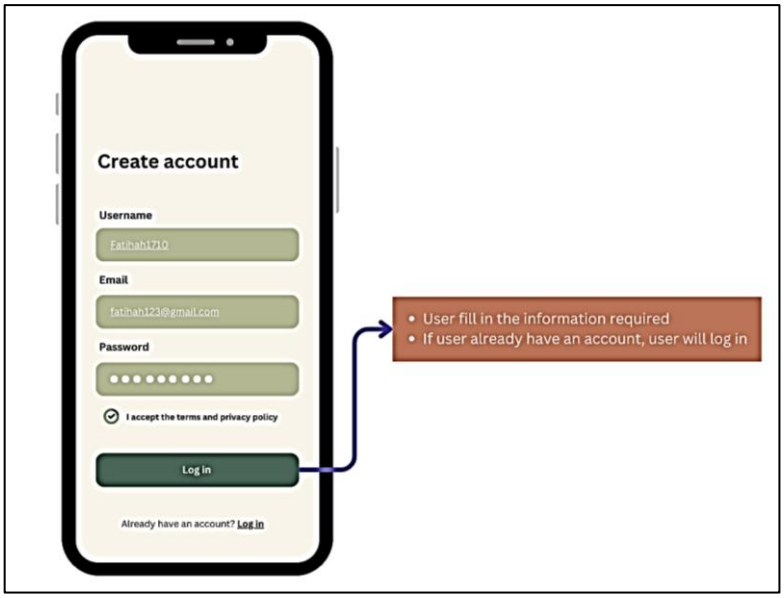

Figure 3: Sign in page

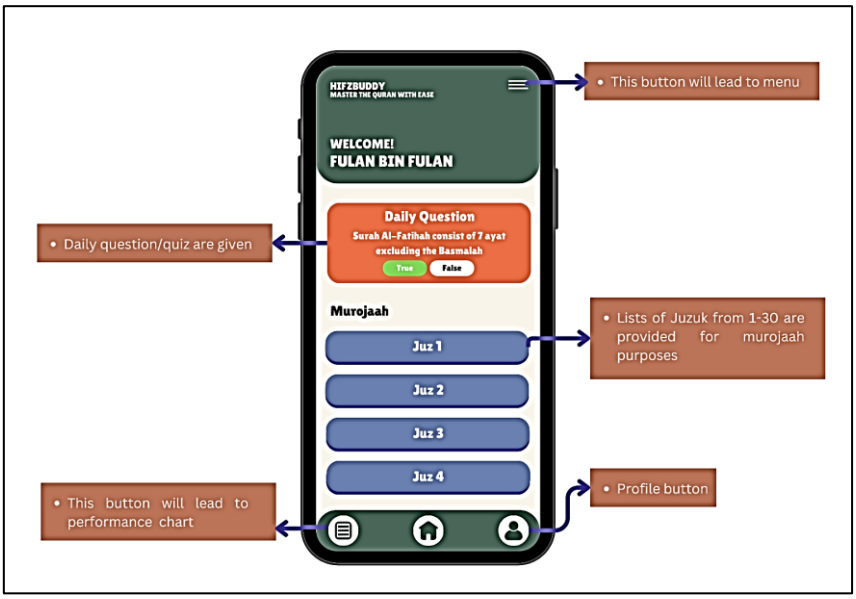

Figure 4: Homepage

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

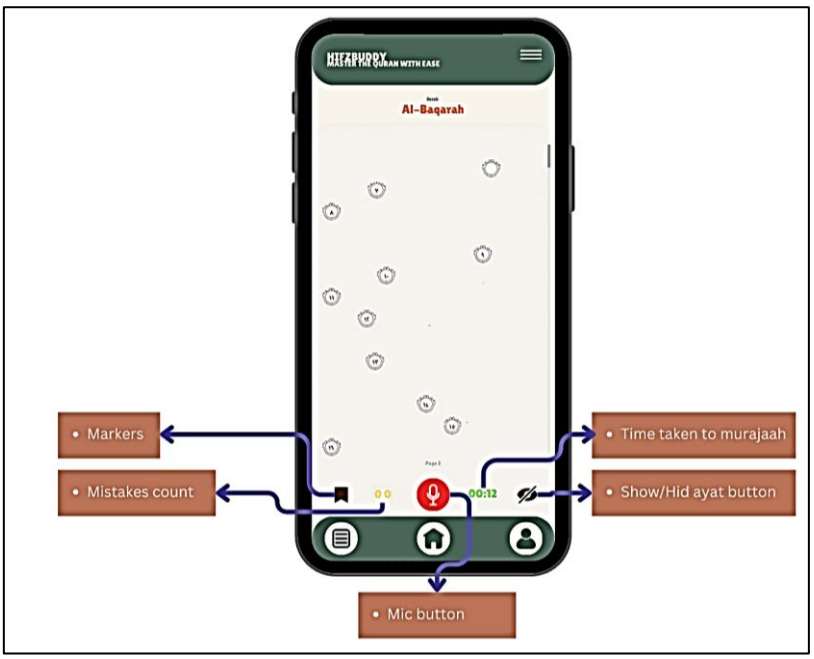

Figure 5: Murajaah page

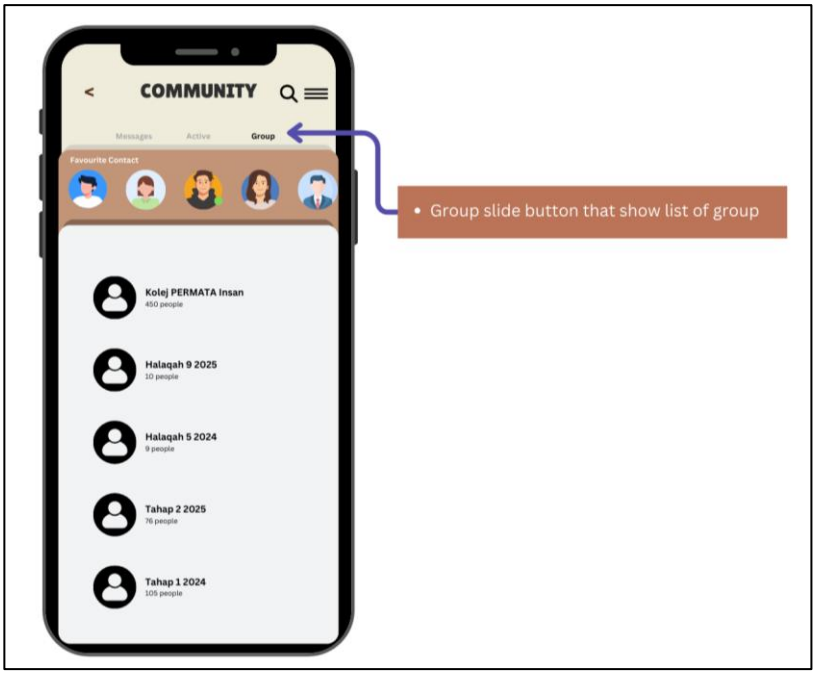

Figure 6: Community page

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

Table 1 is the features with description of Hifzbuddy mobile apps.

Table 1: Features of Hifzbuddy mobile apps

Features	Description
Sign Up	Secure user registration and login system
Profile	Tracks user performance and memorization history
Homepage	Displays daily reminders, progress summary and quick links
Menu	Central navigation hub for all features
Quiz	Daily Islamic knowledge and Quran-related quizzes
Settings	User preferences for notifications and audio trackers
Classroom	Teacher-student module for group learning
Community	Discussion forum for user interaction and motivation
Murajaah	Verse-by-verse memorisation and revision tool with audio tracker and verse highlighting
Resources	Access to tafsir, tajwid guides and learning materials

Conclusions

In conclusion, the design and planning phase of HifzBuddy has produced a detailed, systematically structured framework that directly addresses the deficiencies observed in existing Qur'an memorisation platforms. By embedding personalised revision mechanisms, adaptive goal-setting functions, advanced technological support tools, and features that foster community engagement, the proposed system aligns closely with the research objective of strengthening memorisation retention and elevating learner engagement. The outcomes of this phase indicate that HifzBuddy offers a pedagogically sound and digitally enhanced solution capable of supporting long-term Qur'anic memorisation practices.

Acknowledgements

The authors would like to acknowledge and extended special gratitude to Kolej PERMATA Insan, Universiti Sains Islam Malaysia for funding.

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

References

Ab Alim, N. N. A., Wahid, K., Abd Zamani, S. N. H., & Adenan, F. (2025). Artificial Intelligence As A Support Tool for Quran Memorization: An Exploratory Study on The Potential Use of AI Applications Among Non-Islamic Studies Students. *Quranica, 17*(2), 157-186. doi: https://ejournal.um.edu.my/index.php/quranica/article/view/64953.

Ahmad, A. M. B., & Musa, M. A. B. (2025). Artificial Intelligence (AI) in the Field of Tahfiz: A Simulation Study of ChatGPT Interaction in Qur'anic Murājaʿah. *Quranica, 17*(2), 214-240.doi: https://sare.um.edu.my/index.php/quranica/article/view/64961/18921.

Ahmad, M. R., Bahri, S., Ashmir Wong, M. S. M., Ismail, A. T., & Saiman, Z. (2022). The Issues and Challenges of Plus Tahfiz Students in Maintaining the Memorisation of The Quran in UiTM. *Journal of Fatwa Management and Research, 27*(2), 27-36. doi: https://doi.org/10.33102/jfatwa.vol27no2.435.

Alrumiah, S. S., & Al-Shargabi, A. A. (2023). Intelligent Quran Recitation Recognition and Verification: Research Trends and Open Issues. *Arabian Journal for Science and Engineering, 48*(8), 9859-9885. doi:10.1007/s13369-022-07273-8. doi: https://doi.org/10.1007/s13369-022-07273-8.

Alvindo, F., Setiawan, N. A., & Nugroho, H. A. (2024). *Al-Quran Recitation or Sound Processing Analysis : A Systematic Literature Review on Methods.* Paper presented at the ICECOS 2024 - 4th International Conference on Electrical Engineering and Computer Science, Proceeding.doi: https://doi.org/10.1109/ICECOS63900.2024.10791189.

Azhar, M. H. M., Bakri, M. F. M., Ahmad, K., & Rosele, M. I. (2025). Ethics and Limits of Artificial Intelligence (AI) in Quranic Exegesis According to the Epistemological Framework of Islamic Knowledge. *Quranica, 17*(2), 97-124. doi: https://tamilperaivu.um.edu.my/index.php/quranica/article/view/64949/18914.

Basir, A., Karoso, S., & Saidi, S. (2024). Enhancing Qur'an Reading Proficiency in Madrasahs Through Teaching Strategies Top of Form. *Nazhruna: Jurnal Pendidikan Islam, 7*(2), 373-389. doi: https://doi.org/10.31538/nzh.v7i2.4985.

Ismail, F. Z., Yusof, N. H., Osman, A. F. A., Embong, R., Abdelgelil, M. F. M., & Omar, N. (2019). *Retaining quranic memorisation for huffaz at the malaysian tertiary institutions: Key challenges and future iot potentialities.* Paper presented at the Proceedings - 2019 International Conference on Future Internet of Things and Cloud Workshops, FiCloudW 2019. doi: https://doi.org/10.1109/FiCloudW.2019.00018.

Mohamed Akhiruddin Ibrahim, Azniwati Abdul Aziz, Ahmed Abedalqader Hasan Qatanany, & Shaker, M. H. (2024). Digital Tools Revolutionizing Tahfiz Al-Quran Learning Processes. *Journal of Electrical Systems, 20*(10s), 4970-4978. doi:https://journal.esrgroups.org/jes/article/view/6171.

Mustafa, N. M., Mohd Zaki, Z., Mohamad, K. A., Basri, M., & Ariffin, S. (2021). Development and Alpha Testing of EzHifz Application: Al-Quran Memorization Tool. *Advances in Human-Computer Interaction, 2021*(1), 5567001. doi:https://doi.org/10.1155/2021/5567001.

Mustapa, A. M., Saad, M. F. M., & Ismail, S. (2025). Traditional to Digital: Evaluating the Use of AI in the Tarteel Application to Enhance Quran Memorization. *Quranica, 17*(2), 53-73.doi: https://mojes.um.edu.my/index.php/quranica/article/view/64936.

Purbohadi, D., Rahmawati, B. R. N., & Setiyawan, H. (2019). *Development of Qur'an Memorization Learning Model Based on Mobile Learning.* Paper presented at the Journal of Physics: Conference Series. doi: https://iopscience.iop.org/article/10.1088/1742-6596/1381/1/012029.

Rahmahtrisilvia, R., Amani, R., Mahdi, A., Luthfi, A., Efrina, E., Kusumastuti, G., Ediyanto, E. (2024). *A Mauro's Popup Book based on Voice Recognition: The Implementation for*

Volume: 11 Issues: 80 Special Issue [January, 2026] pp. 280 – 290
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: academicinspired.com/jised
DOI: 10.55573/JISED.118020

Learning Al-Qur'an of Students with Autism. Paper presented at the AIP Conference Proceedings. doi: https://doi.org/10.1063/5.0234863

Shaiakhmetov, D., Gimaletdinova, G., Momunov, K., & Cankurt, S. (2025, 27-28 June 2025). *Evaluation of the Pronunciation of Tajweed Rules Based on DNN as a Step Towards Interactive Recitation Learning.* Paper presented at the 2025 International Conference on Computer Systems and Technologies (CompSysTech). doi: https://doi.org/10.1109/CompSysTech65493.2025.11137272.

Virama, L. O. A., & Yudhistira, D. (2025). Identifying Challenges and Opportunities in the Implementation of Mobile Learning in Physical Education: A Literature Review. *Physical Education Theory and Methodology, 25*(3), 719-724. doi: https://doi.org/10.17309/tmfv.2025.3.29.

Wan Khairuldin, W. M. K. F., Yusof, M., Rahman, M., Deris, M., ab rahman, A., Adam, F., & Ismail, D. (2017). Learning Al-Quran Based on the Mobile Learning (M-Learning): A Literature Review. International Journal of Academic Research in Business and Social Sciences, 7. doi: https://doi.org/10.6007/IJARBSS/v7-i4/2780.

Yahya, M. A. B., Mohamad, S., Malik, M. N. H. B. A., Bidin, S. A., & Muna, A. C. (2025). Empowering the Tradition of Quran Memorization through Artificial Intelligence (AI): A Conceptual and Contemporary Review. *Quranica, 17*(2 Special Issue 14), 447-475. doi: https://sare.um.edu.my/index.php/quranica/article/view/64937/18944.

Zohdi, A. M., Al-Hafdi, F. S., & Alhalafawy, W. S. (2024). The Role of Digital Platforms in Studying the Holy Qur'an: A Case Study based on the Voices of Students from Diverse Cultures at the Prophet's Mosque. *Journal of Ecohumanism, 3*(7), 3050-3062. doi: https://doi.org/10.62754/joe.v3i7.4440.