

Abstract Conference Proceedings

Preferences of Mobile Learning Application Features Among Female Middle-Aged Learners to Learn Al-Quran

Nazean Jomhari, Syahida Mohtar, Baharul Hisyam, Mumtaz Begum Peer Mustafa, Mohd Yakub @ Zulkifli Mohd Yusoff, Shamsul Arrieya Ariffin

In the smartphone era, e-learning integration with mobile devices enables learning anytime and anywhere, known as mobile learning. While many studies explore mobile learning among college students, little is known about the readiness of middle-aged Muslims to adopt it for Quranic studies. This study investigates factors influencing the readiness of 168 Malaysian women aged 40 to 60, non-native Arabic speakers, to use mobile learning for Quranic Arabic. Data was collected via structured online questionnaires. Findings show that learners prefer specific features, particularly in-app communication and quizzes, which fulfill their needs for interaction and assessment-key to satisfaction and sustained engagement. Other valued features include tutor selection, push notifications, and offline access, though preferences differ by age, education, and Arabic knowledge. Less interest was shown in progress bars and gamification. The study concludes that effective mobile learning apps should emphasize interactivity and meaningful assessment tools.

Evaluating Bias and Consistency in Large Language Models (LLMs): A Metric-Based Framework for Responsible AI Interaction

Varsha Supreeth

Large Language Models (LLMs) such as ChatGPT, Claude, and Gemini have become popular tools for information retrieval and question answering. However, these systems often exhibit biases, which can be problematic for users, particularly high school students who use them for learning. This latent bias can lead students to form opinions without deeper critical analysis. This study investigates how LLMs respond to different types of prompts and measures the consistency of their answers. We hypothesize that LLMs will exhibit greater response divergence on sensitive topics, such as politics and ethics, while showing more consistency on factual or creative tasks. To test this, we queried LLMs across five categories: politics, government policies, sports, facts, and creative writing. A novel distance metric was developed to quantify the similarity between LLM responses, taking into account both semantic content (entities) and sentiment. The results confirm our hypothesis, revealing significant divergence in responses to sensitive questions and high alignment on factual ones. This research indicates that while LLMs are convenient, it is crucial for users, especially students, to approach the information they provide with a critical perspective, particularly on complex and nuanced topics.

A Systematic Literature Review: Virtual Reality and Machine Learning for Alzheimer's Disease Diagnosis

Christian Nathaniel Tjandra, Siti Azreena Mubin, Khalifa Djemal, Amir Ali Feiz

Alzheimer's Disease (AD) is a progressive neurodegenerative disorder where early detection is critical for timely intervention. However, traditional paper-based cognitive assessments lack ecological validity and rely on subjective clinician evaluation. This study conducts a systematic

literature review (SLR) to examine how virtual reality (VR) cognitive assessments integrated with Machine Learning (ML) can enhance diagnostic accuracy and scalability. Following PRISMA 2020 guidelines, six empirical studies published between 2020 and 2025 were analysed for system design, biomarkers, ML models, and performance metrics. Results show that VR provides realistic, engaging cognitive tasks. At the same time, ML effectively processes multimodal datasets, including eye-tracking, hand-tracking, and behavioural data, achieving diagnostic accuracy above 89% and enabling predictions of disease progression. The review identifies key research gaps, including generalizability issues, limited cognitive domain coverage, a lack of clinical trials, VR accessibility challenges, and sensor noise. These findings highlight the potential of VR-ML systems as robust, objective tools for AD screening and severity classification.

The Design of Web-Based Bachelor Project Assessment System using Design Thinking

Azrina Kamaruddin, Siti Athirah Othman, Nurul Saidahtul Fatiha Shahabudin

This paper presents the high-fidelity design development of FYPAAssess, a web-based Bachelor Project Assessment System developed using the Design Thinking approach. The study highlights the inefficiencies of the current manual process involving coordinators, supervisors, assessors, and students, which creates an administrative burden, time inefficiency and restricted access to mark compilation and calculation. FYPAAssess is designed to overcome these challenges by enabling seamless coordination including student assignation to supervisors, mark input by supervisors and assessors, automated calculation, and integrated notification features. The FYPAAssess design emphasis is placed on a user-friendly interface guided by principles of simplicity, clarity, and familiarity to enhance usability by implementing the Design Thinking approach. The proposed solution aims to streamline evaluation workflows, improve communication among stakeholders, and strengthen the overall management of the Bachelor Project assessment process.

AI-Enhanced Hybrid Metaverse Framework for Multiplayer Interactive and Gamified Virtual Campus Tours

Sagar Rajan, Siti Azreena Mubin, Vinesh Thiruchelvam

This study proposes a Hybrid Metaverse Framework (HMF), driven by AI, for immersive, interactive, and multiplayer virtual campus tours. By using Artificial Intelligence (AI), Virtual Reality (VR), and gamification approaches, the Framework provides deeper engagement between universities and potential students and other stakeholders. The non-playable characters (NPCs) controlled by AI provided the ability to interact that could be adapted based on user interaction, and the approach provided a platform for users to work together to explore the campus. A mixed-methods trial involving 15 users found that the HMF provided significantly greater levels of engagement and task completion and knowledge retention compared to traditional single-user campus tours. In the qualitative user feedback, participants reported greater sense of social presence, collaborative, learning, and feeling more personally guided through the campus. The findings of this study position this kind of HMF as a scalable and flexible approach to addressing outreach and orientation approaches in the higher education landscape.

Towards Considerate AI: Building a Fair and Polite Chatbot for Customer Service

Pei Yi Looi, Ng Jin Jin, Li ZhiHan, Raja Jamilah Raja Yusof, Viktor Kaptelinin

This project presents the design of a customer service chatbot that communicates fairly and politely using a large language model (LLM). While most chatbots prioritize efficiency, they often neglect tone and bias, which affect user trust and satisfaction. To address this, we applied fairness and politeness strategies across key service scenarios—product recommendations, order tracking, and FAQs. Built with Flowise and enhanced by Retrieval-Augmented Generation (RAG) and Pinecone, the chatbot integrates design principles from politeness theory and fairness guidelines. Evaluation through user feedback and heuristics showed that respectful and emotionally aware responses improved user perception. This work highlights how ethical language design enhances chatbot communication and offers a framework for building more socially intelligent AI assistants.

Gesture-Controlled Human-Computer Interaction: A Touchless Approach to Input Devices

Devyani Patil

This research paper presents the design and implementation of a virtual keyboard and mouse system intended to upgrade human-computer interaction by replacing predictable physical input devices with a software-based interface. The virtual keyboard allows users to type text and give commands via on-screen keys, which can be controlled complete mouse clicks, touch inputs, or computer visualization methods like hand-tracking. This method allows a flexible and natural communication model without the use of physical hardware and increased convenience. The system's main goal is to improve practicality for users with physical disabilities or in states where physical input devices are inconvenient. The system design is based on flexible elements that enable ease of integration and modification. It operates Python libraries like OpenCV for real-time image processing and hand credit, and Tkinter for GUI formation. Some of the key functionalities involve active key mapping, visual feedback, and responsive event handling to provide a fluid user experience. The article deliberates the details of implementation, including the technologies employed, system roadmap, and user interface. Rigorous performance testing was done, importance parameters like response time, input correctness, and general user satisfaction. The findings establish that the system performs well in emulating old-style input devices and shows low potential and high accuracy in detecting user connections.