SPECIAL ISSUE
NOVEMBER 2025

KICT NEWSLETTER

KICT TALE 2025 NEWSLETTER

KULLIYYAH OF ICT

INSIDE THIS ISSUE

TAWHIDIC PARADIGM IN TEACHING & LEARNING:

REINTEGRATING FAITH AND KNOWLEDGE

NOVEMBER 2025

WELCOME TO TALE 2025
NEWSLETTER

بسم الله الرحمن الرحيم

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KICT TALE NEWSLETTER

A MESSAGE BY THE CHAIRPERSON

Alhamdulillahi Rabbil 'Alamin.
All praise is due to Allah (SWT). Blessings and salutations be upon our beloved Prophet Muhammad (SAW), his family, companions, and all who follow in his path.

It is with great pleasure that I present this newsletter in conjunction with the KICT Teaching and Learning Exhibition (TALE) 2025, held on 25 September 2025 at the Kuliyyah of Information and Communication Technology (KICT), International Islamic University Malaysia. This year's theme, **"Tawhidic Paradigm in Teaching and Learning: Reintegrating Faith and Knowledge,"** strongly supports IIUM's mission to produce Balanced and Harmonious graduates.

The Tawhidic approach emphasises that the pursuit of knowledge is a form of 'ibadah and must be firmly rooted in faith, ethics, and adab. As educators in the field of ICT, our responsibility extends beyond academic delivery, we are entrusted to nurture intellect ('aql), spiritual consciousness (ruh), and noble character (akhlaq) in our students. In today's rapidly evolving digital landscape, it is crucial that technology-enhanced learning remains guided by Islamic values, ensuring that innovation does not come at the expense of ethics, humanity, or spirituality.

TALE 2025 served as a meaningful platform for academics, researchers, and students to share best practices and innovations that embody the Tawhidic paradigm. The exhibition provided valuable insights on how teaching and learning can be enhanced to uphold IIUM's educational mission, preparing our graduates to become professionals and leaders who serve the Ummah with knowledge, adab, and amanah.

My heartfelt appreciation goes to the organising committee, presenters, contributors, and participants for their commitment, creativity, and dedication. May this newsletter strengthen our collective efforts toward continuous improvement in teaching and learning, and inspire us to uphold the spirit of Rahmatan lil 'Alamin in our educational endeavours.

For event highlights, gallery, and resources, please visit:
🔗 https://kict-tale2024.my.canva.site/kict-tale-2025-website

Dr. Azlin Nordin
Chairperson
KICT TALE 2025

NOVEMBER 2025

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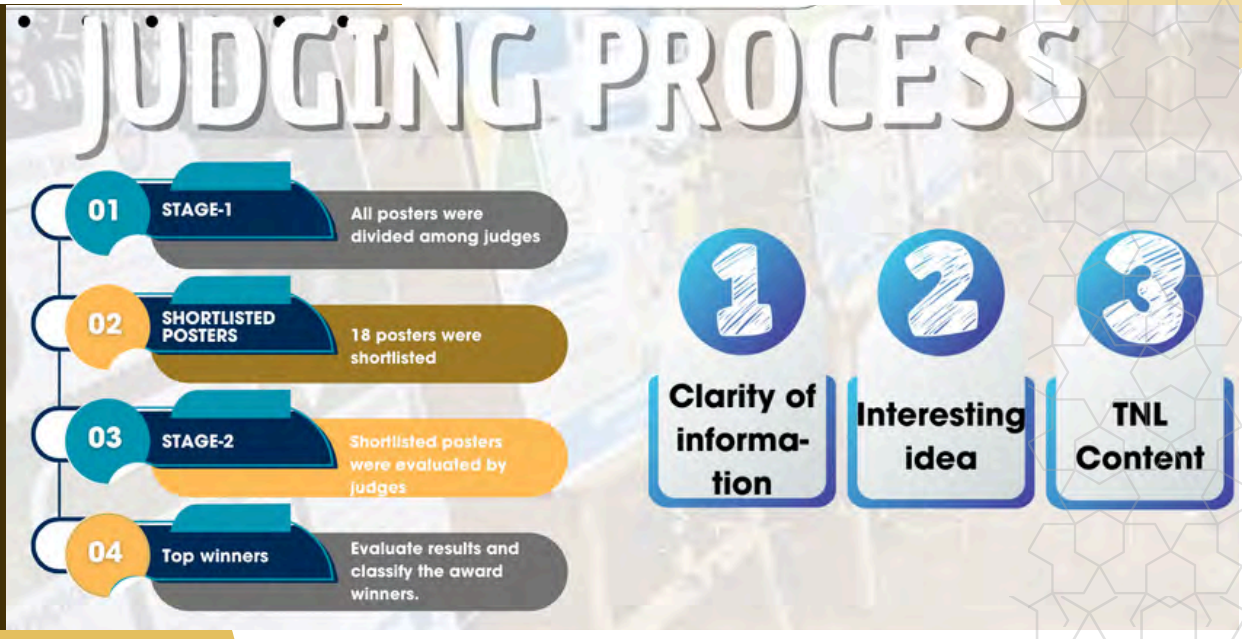
KICT TALE 2025

OPENING SPEECH BY PROF. EMERITUS DATO' TS. DR. TENGKU MUHAMMAD TENGKU SEMBOK, **DEAN OF KICT**

KICT TALE NEWSLETTER

JUDGING PROCESS

KICT TALE 2025



KICT TALE NEWSLETTER

AWARD WINNERS

Poster Title	Author	Award
Computation and Complexity: Bridging Computation with Tawhidic Philosophy	Prof. Emeritus Dato' Ts. Dr. Tengku Mohd Tengku Sembok	Gold
AI-Powered Experiential Learning in Design Thinking Through The Tawhidic Paradigm	Asst. Prof. Ts. Dr. Hazwani Mohadis	Gold
Tawhidic Paradigm and Innovative Strategies in Teaching Data Science	Asst. Prof. Dr. Raini Hassan	Gold

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AWARD WINNERS

Poster Title	Author	Award
Unlocking Bibliographic Excellence: KOHA as a Teaching Tool	Dr. Sharifah Nur Amirah Sarif Abdullah	Silver
Islamic Civilization and the Roots of ICT: Lessons from Muslim Scholars	Prof. Dr. Akram M Z M Khedher	Silver
Designing with Intention: Scaffolded, Student-Led Learning for Meaningful Data Stories	Assoc. Prof. Dr. Madihah Sheikh Abdul Aziz	Silver
CSCI 4347: Brain Computational Analytics - Ethics Committee Approval: A Key Step in Data Collection	Ts. Dr. Dini Handayani Dwi Oktarina & Assoc. Prof. Ts. Dr. Hamwira Yaacob	Silver
Ihsan-Centred Design: Designing Ethical User Digital Experiences through Tawhidic Principles	Prof. Dr. Murni Mahmud	Silver
Integrating Machine Learning Pedagogy with the Tawhidic Paradigm through Biologically Inspired Models	Prof. Ts. Dr. Amelia Ritahani Ismail	Silver
Tarfih Ta'leem: Gamifying Learning Experience to Nurture Responsible Project	Dr. Suhaila Samsuri	Silver

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AWARD GIVING CEREMONY

KICT TALE 2025

CONGRATULATIONS!

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PHOTOS GALLERY




A KEYNOTE SPEECH BY PROF MIRA (KICT/CPD)

A TALK BY DR AIZAT (KOED)


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PHOTOS GALLERY

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IIUM
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TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

ACCESSIBLE LEARNING ANYTIME, ANYWHERE:

LEVERAGING JOTFORM TOOL TO CREATE COURSE APPS

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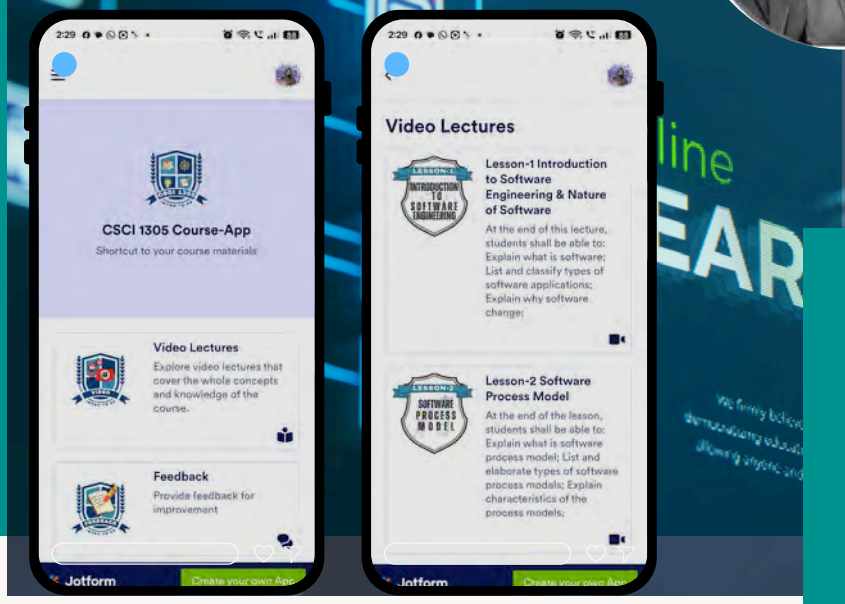
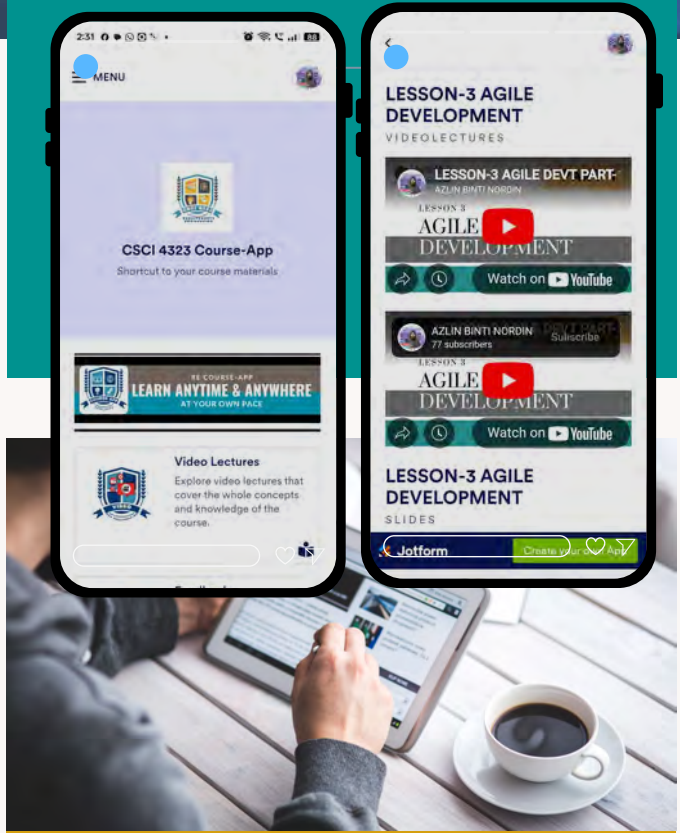
Jotform



USER INTERFACE DESIGN



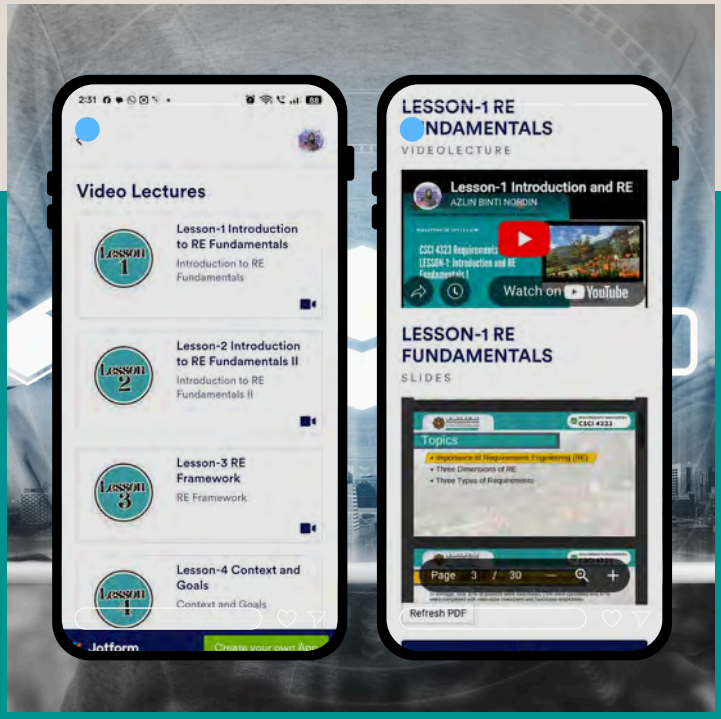
COURSE APP

INTRODUCTION

Teaching and learning in Islam is holistic, guided by the *Tawhidic* worldview that is knowledge as a trust (*amanah*) and means to serve Allah. Accessibility and inclusivity in education reflect the principle of facilitating beneficial knowledge (*'ilm nafi'*). Knowledge is a trust (*amanah*) and must be delivered equitably, enabling students to learn as part of their worship and role as *khalifah*.

Problem statement:

a. Students rely heavily on the university Learning Management System i.e. iTa'LeEM.
b. Barriers: login steps, occasional technical issues (e.g. server down, limited access), and less mobile-friendly access.



TAWHIDIC INTEGRATION

- Unity of Knowledge (*Tawhid*): Bridging modern tools with Islamic principles of education.
- *Amanah*: Ensuring equitable access to learning resources for all students.
- *Ihsan*: Supporting continuous learning beyond classroom walls.
- *Naqli* & *Aqli* Integration: Harnessing technology while staying rooted in Islamic values.

DESIGN & DEVELOPMENT OF COURSE APP USING JOTFORM

What is a course app?

- A lightweight course app created with JotForm tool.
- Works on any device with internet access.
- Provides quick access to key course materials.

Key Features :

- 📚 Lecture Notes & Slides
- 📹 Multimedia Resources (Video/Audio)
- 📝 Feedback Forms

BENEFITS & IMPACT

- For learners :
  - 🌍 24/7 access on any device
  - 📱 Simple, mobile-first interface
  - ⏱️ Saves time & reduces access barriers
- For lecturers:
  - 🆓 Free tool, quick to set up
  - 🔧 No coding required
  - 📊 Easy tracking of students' feedback

References:

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TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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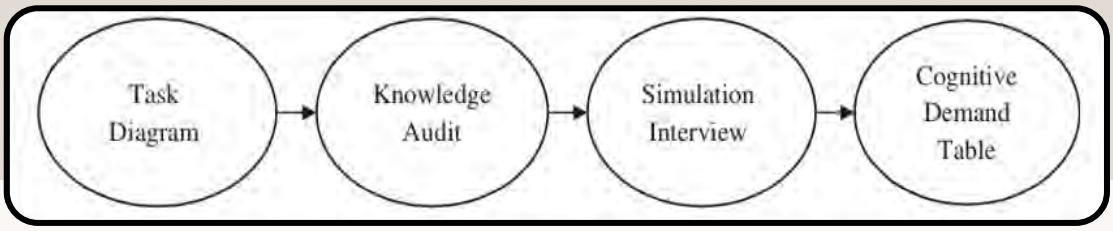
Smarter E-Training System through Applied Cognitive Task Analysis: Key Insights

In a contemporary educational environments, the ability to capture and translate expert cognitive processes into structured knowledge is essential for advancing training design and system development. As work tasks become increasingly complex, traditional instructional approaches often provide limited insights into the nuanced decision-making and experts' cognitive foundations in dynamic contexts.

Applied Cognitive Task Analysis (ACTA) emerges as a practical method for extracting expert knowledge and decision-making strategies, making it easier to capture the thought processes that drive skilled performance. ACTA is faster, less resource-intensive and requires minimal training, making it more accessible for practitioners and system designers without them requiring deep training in psychology. Its value shines in fields where observation is difficult, thus needs quick judgments, focused attention and complex problem-solving, such as technical domains, healthcare or emergency response.

Importantly, grounded in naturalistic decision-making, ACTA uncovers how experts make critical judgments and use information in dynamic environments, offering insights into both observable and implicit knowledge. By doing so, it not only supports knowledge elicitation and professional practice but also transforms expert thinking into actionable design and training recommendations.



Overview of the ACTA process

Task Diagram

- Maps out major task steps.
- Highlights which steps require the most cognitive effort.
- Provides a broad overview before digging deeper.

Knowledge Audit

- Uses structured questions to uncover expertise and strategies.
- Focuses on areas requiring judgment, prediction and situation awareness.
- Distinguishes how experts vs. novices handle challenges.

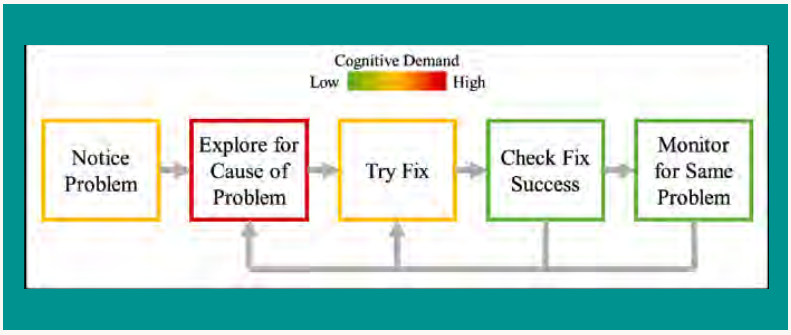
Simulation Interview

- Experts walk through a realistic or simulated scenario.
- Reveals how decisions are made under pressure.
- Identifies critical cues, potential errors and decision points.

Cognitive Demand Table

- Brings all findings together in a structured format.
- Lists difficult cognitive elements, common errors, cues and strategies.
- Acts as both an analytical tool and a communication bridge between experts and designers.

	Stage 1 **Task diagram**	Stage 2 **Knowledge audit**	Stage 3 **Simulation interview**	Stage 4 **Cognitive demand table**
Goal	*Document the task of interest*	*Document information about cognitive difficulties, as well as personal experiences for each task*	*Collect ideas and design sketches for the user interface of a combined medical device*	*Systematically refine the sketches*
Method	*Hierarchical task analysis*	*semi-structured interviews*	*Design scenarios*	*Design model*
Participants	*End-users*	*Experts*	*Experts*	*Experts*
Preliminary results	*One hierarchical task diagram with main tasks and corresponding subtasks*	*Details about the process, possible difficulties, and personal experiences*	*sketches of the device's user interface*	*Refined the model for the teams' sketches*

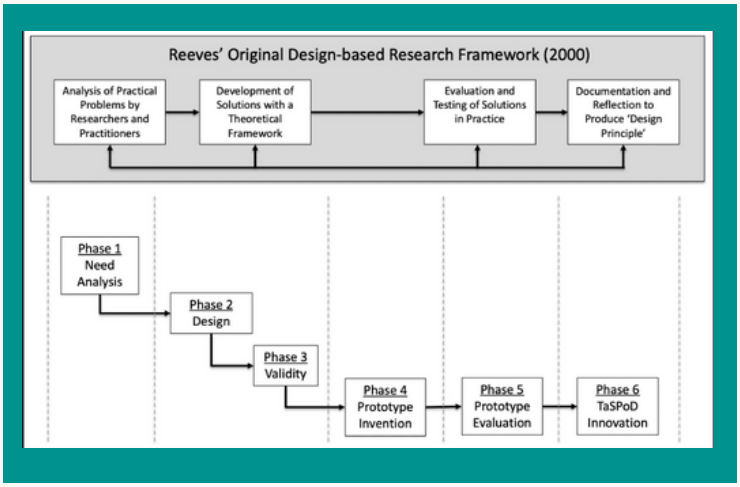


Why ACTA Matters

ACTA plays a vital role in turning complex, often hidden, thinking processes into knowledge that can be both made visible and taught to others. By doing so, it not only uncovers the reasoning behind expert performance but also provides clear guidance for improving the design of systems, training programs and user interfaces. This structured approach helps bridge the gap between novices and experts, ensuring that newcomers can quickly grasp and apply the critical skills that define professional expertise. Most importantly, ACTA guarantees that decision-making insights are systematically captured, shared and applied, creating a foundation for continuous improvement in both learning and practice.

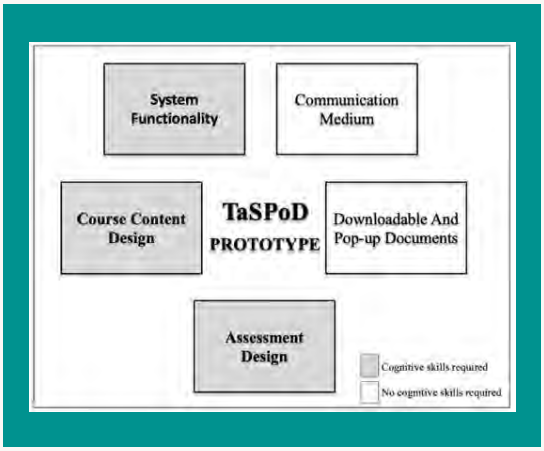
Introducing ACTA in Educational Settings: TaSPoD Case Study

To strengthen higher education's role in economic and social growth, a case study was conducted on the development of TaSPoD (E-Training System for Professional Development). The initiative addressed the need for continuous professional development among educators in the digital age, where lack of personalization, adaptability, real-time support and technological barriers often hinder adoption of online training. Using a Design-Based Research approach, the project followed iterative stages of analysis, design, validity, prototype innovation, evaluation and innovation. The analysis phase identified key training needs such as lack of innovation, insufficient feedback mechanisms and poor course design in existing systems. In response, a TaSPoD prototype was designed and refined with the help of ACTA techniques; Task Diagrams, Knowledge Audits, Simulation Interviews and Cognitive Demand Tables, to uncover expert knowledge and ensure usability.



Review of ACTA in TaSPoD

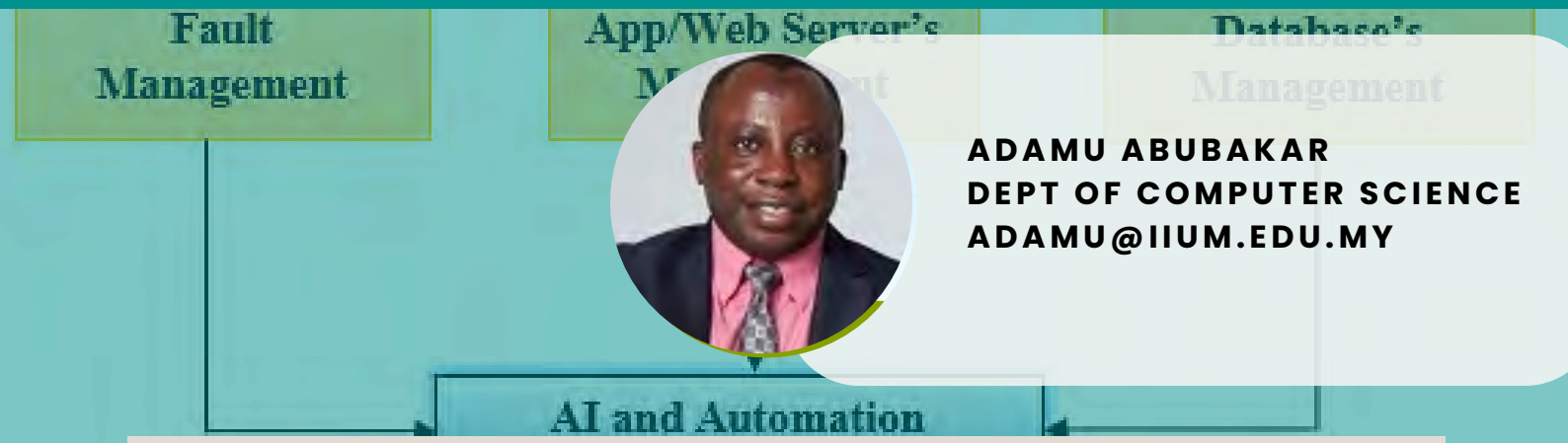
The evaluation of TaSPoD through task diagrams, knowledge audit tables and simulation interviews highlighted critical cognitive challenges in system design, course content and assessment modules. Task diagrams showed that system functionality, course content and assessments imposed the greatest cognitive demands, while features like voice overs and downloadable documents were less demanding. Knowledge audits revealed usability issues, particularly in navigation, screen layout and content interaction, stressing the need for intuitive design, multimedia integration, visible progress indicators and clear assessment criteria. Simulation interviews confirmed these challenges, noting difficulties in resuming previous sessions, sustaining learner motivation and ensuring fair assessments, while also emphasizing the need for real-time support and groupwork tools. Despite these limitations, experts acknowledged the system's potential to enhance professional development. By addressing identified gaps and integrating user-centered improvements, TaSPoD can deliver a more intuitive, engaging and effective e-training experience that empowers educators in continuous learning.



Takeaway

ACTA is more than just interviews and tables, it's a practical toolkit for understanding the "thinking behind the doing". Whether you're designing systems, training programs or educational tools, ACTA helps spotlight the cognitive skills that truly drive expert performance.

TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE



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Computer Networking Management

Next Generation Approach

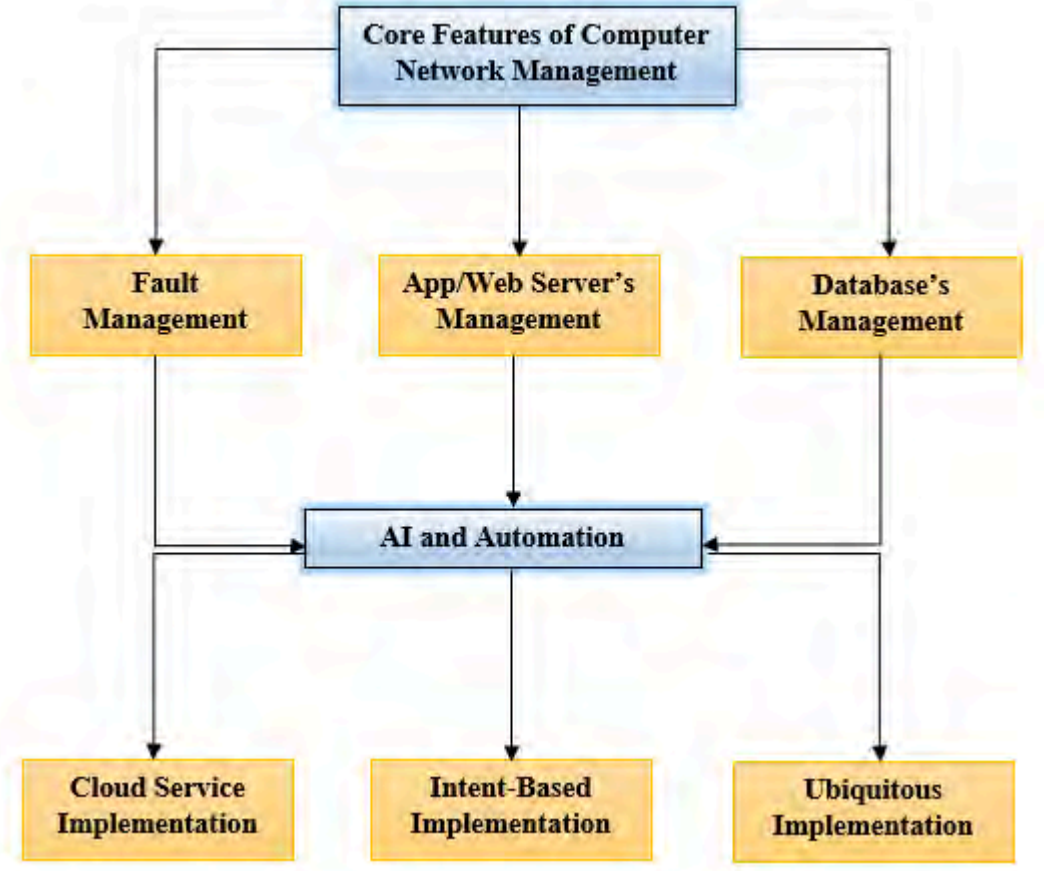
Abstract

Computer Network Management is a broad field that deals with the management, upkeep, and improvement of network infrastructure to make sure it works reliably, safely, and efficiently. It includes a number of important functions, such as Fault Management, which finds and fixes problems before they happen; Configuration Management, which controls device settings and software; Performance Management, which keeps an eye on bandwidth and latency to make sure the best throughput; Security Management, which uses firewalls and access controls to enforce policies against threats; and Accounting Management, which keeps track of how network resources are used for billing or planning. Network administrators use protocols like SNMP and NetFlow, as well as advanced management software, to make sure that the network is always available, secure, and connected. This helps the core business applications and services that rely on the network.

Emerging Strategies

- Fault Management through Detecting, isolating, notifying, and correcting faults
- Configuration Management by Tracking and managing the hardware and software
- Performance Management through Monitoring, measuring, and optimizing network performance metrics.
- Security Management by Controlling access to network resources, enforcing security policies.
- Accounting Management through: Tracking individual and group usage of network resources for the purposes of billing, cost allocation, capacity planning, or enforcing usage quotas.

Evolutionary Framework



Fault Management

- Finds, isolates, and fixes problems in the network before they affect service delivery.
- Uses predictive analytics to see hardware or link failures in real time.
- Sets up automated notifications for problems and ways to escalate them.
- Improves the reliability of the network with self-healing systems and proactive diagnostics.

Managing the App/Web Server

- Keeps an eye on the uptime of servers, how well resources are being used, and how well applications are performing.
- Automatically sets up, scales, and deploys web and application servers.
- Combines load balancing and failover systems to make sure the service keeps running.
- Uses tools for containerization and orchestration, like Docker and Kubernetes, to make things bigger.

Database Management

- Makes sure that important data assets are always available, backed up, and able to be recovered in case of a disaster.
- Uses data governance based on compliance, access control, and encryption.
- Improves the performance of queries by using indexing, caching, and distributed storage.
- Makes it possible to connect to cloud and AI systems for real-time data analysis and insight generation.

AI and Automation

- Turns business and operational goals into actions that the network can do on its own.
- Uses machine learning to improve settings and guess how demand will change in the future.
- Allows provisioning with no touch, fixing problems, and enforcing policies that change.
- Is the basis for cloud service, intent-based, and ubiquitous network implementations?

Implementations Strategies

Business Goals and Intent of Computer Network Management

The design of computer networks will increasingly be influenced by business goals in the future. Companies are moving toward intent-based networking (IBN), which makes network behavior automatically follow policies [1]. As businesses move toward hybrid and multi-cloud ecosystems, making sure that network configurations are in line with strategic business goals will make operations easier and safer. Also, AI and analytics will make it possible for business outcomes and network performance to constantly feed back into each other [2]. This will make sure that policies change as needed to keep up with changes in the market, regulations, and threats..

Automation and orchestration of Computer Network Management

Orchestration and automation will be the most important parts of network management in the future [3]. They will make it possible for operations to run without any human intervention and for infrastructures to fix themselves. With the help of SDN (Software-Defined Networking), AI-driven controllers, and automation platforms, network intent will easily turn into actions that can be carried out without any human help. This will greatly lower the number of configuration mistakes, speed up service deployment, and make the network more flexible [4]. With machine learning, predictive orchestration will let networks predict failures or congestion and move resources around before they happen. Cloud-native orchestration tools will bring together edge, IoT, and core network environments, making it possible to see and scale everything from start to finish. .

Functions of Management (FCAPS)

The FCAPS model, which stands for Fault, Configuration, Accounting, Performance, and Security, will always be important, but it will change as AI and analytics-driven management become more common [5]. Fault management will move from being reactive to being predictive. This means using algorithms that find anomalies to predict outages before they happen. Configuration management will include automation pipelines to make sure that version control, compliance, and deployment with no touch are all in place [6]. In multi-tenant environments, accounting will go beyond billing to include optimizing resources and predicting costs. Real-time telemetry and intent-verification systems will be used in performance management to make sure that service levels are met.

Collecting Data and Telemetry

Network telemetry will change the way networks are watched, improved, and protected in the future. New technologies like streaming telemetry, AI-driven analytics, and intent-based data pipelines will take the place of SNMP polling with data streams that happen in real time and are based on events. These systems will constantly gather detailed metrics, logs, and flow data from every part of the network [3]. This will allow for predictive maintenance and automatic fault detection. As 6G, edge computing, and the Internet of Things (IoT) grow, telemetry will be very important for keeping track of what's going on in different places [7]. Advanced correlation engines will link telemetry with digital twin models, letting operators see how changes will affect performance before they make them.

The infrastructure of the network

Network infrastructure is still the basis for intelligent management and automation, but its role is changing quickly. In the future, infrastructures will be highly programmable, cloud-integrated, and software-defined. They will include access, LAN, WAN, data center, and multi-cloud domains, all of which will be controlled by a single control plane. The rise of 6G, edge computing, and intent-based networking will push infrastructures to become adaptive ecosystems that can automatically adjust resources to meet the needs of applications. Static provisioning will be replaced by virtualized network functions (VNFs) and network slicing. This will allow for different services for IoT, critical communications, and immersive media.

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TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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IPython 8.30.0 -- An enhanced Interactive Python

In [1]: plaintext = "cryptography"

In [2]: plist = list(plaintext)

In [3]: pint = [ord(ch)-ord('a') for ch in plist]

In [4]: import numpy as np

In [5]: P = np.array(pint)

In [
```

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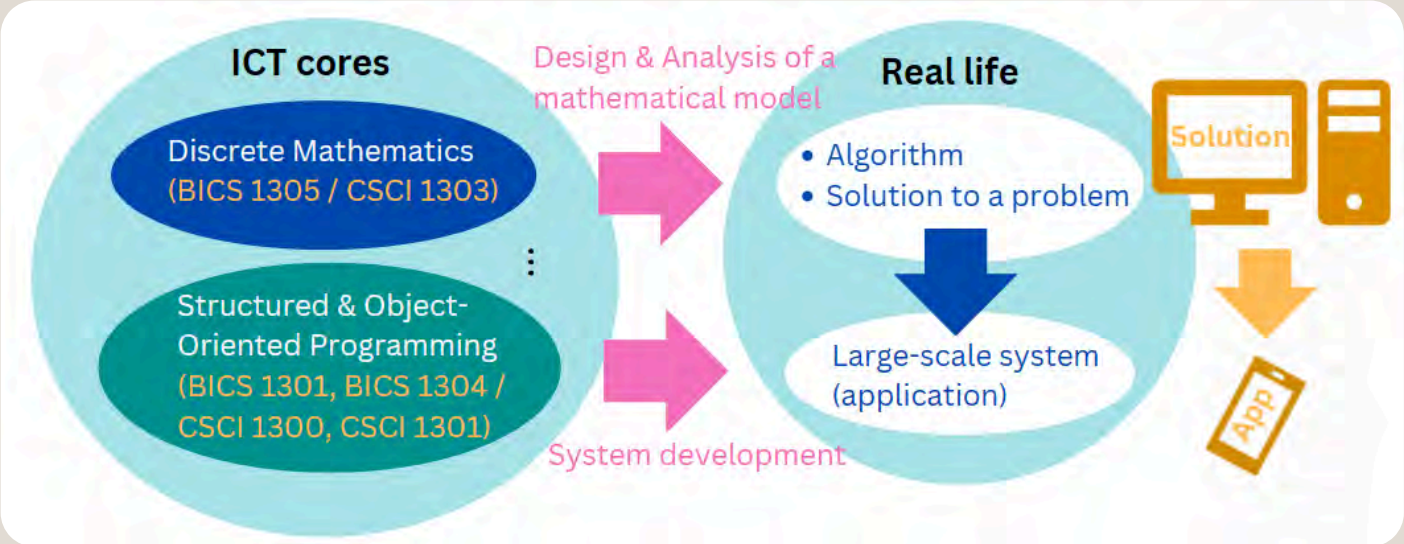
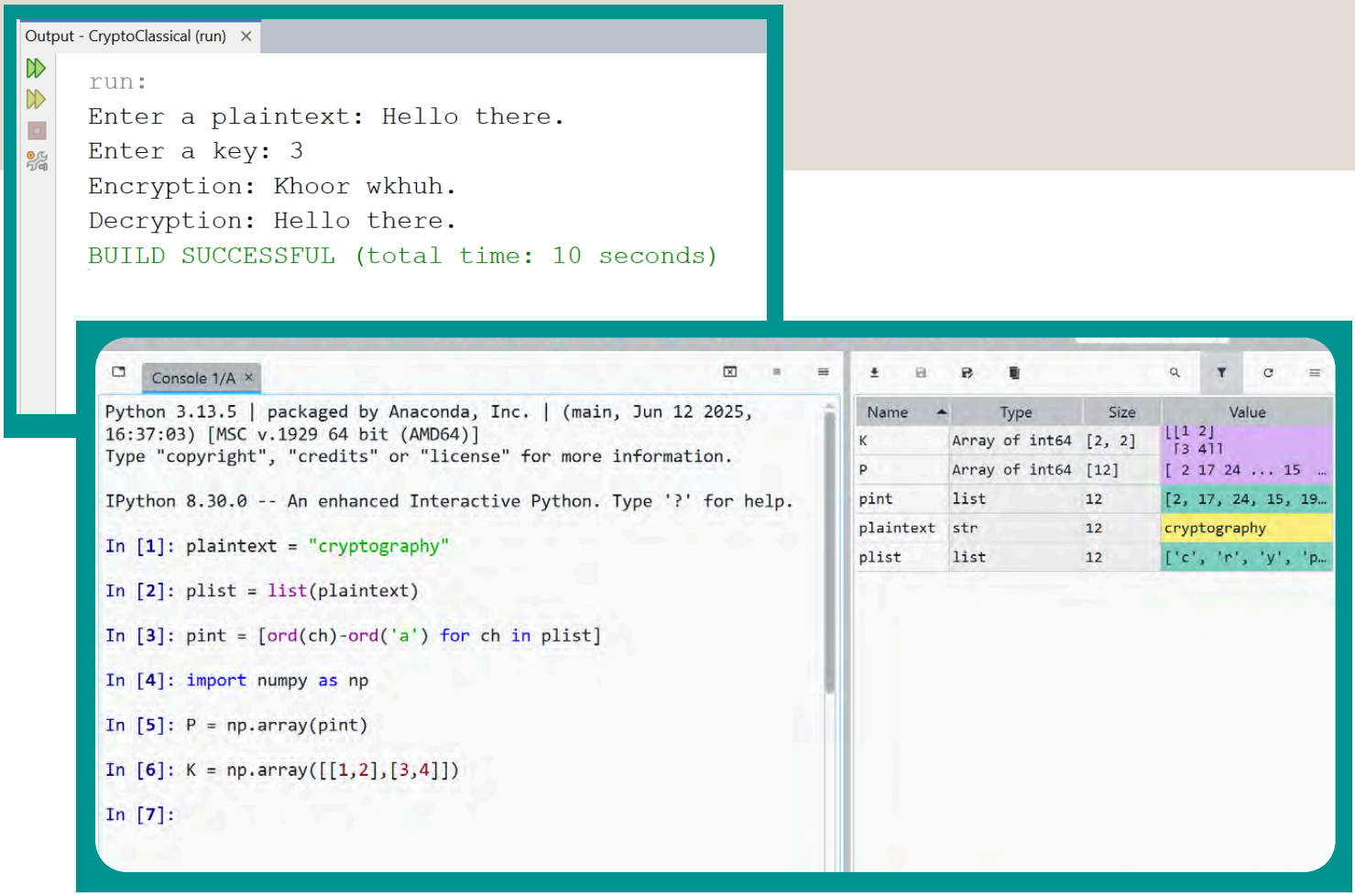
Learning Cryptography

Integration of Mathematics and Programming



Introduction

Cryptography is the science of secret writing. This is a field integrating mathematics and computer science technologies to secure our life. Hence, learning this field is a good opportunity for CS students to see how foundational ICT knowledge (such as discrete mathematics & programming) can be applied to explore a broader and more impactful area that addresses real-life problems. Learning Cryptography will tell us how a system we want to create can be modeled mathematically, how the modeled system is implemented on a computer through programming, and how it can appear in real-life use.



Java Programming

KICT students will learn Java in the 1st semester of their 1st year. Therefore, learning Cryptography with Java can be a good start. For example, Caesar cipher is defined as

$$y = (x + k) mod 26$$

where x is a plaintext letter (0 to 25) and k is a key (any integer), and transforming this cipher into a representation on Java source code would be an important process. We can see how abstraction in mathematics (such as variables and functions) is helpful in implementation and this idea can help understand AES.

Python

Python enables us to easily interact with a computer. For example, coding Hill cipher with Python can be a good practice. Given a situation where plaintext is very long and the key matrix is of large size, NumPy library can show high computational power.

Future work

Cryptography is a large area. Important topics need to be selected from classical encryption techniques until recent cryptographic protocols. Quantum Cryptography will also be necessary to be introduced for the future.

KICT TEACHING AND LEARNING EXHIBITION 2025

TAWHIDIC EPISTEMOLOGY LEADING THE WAY · UMMATIC EXCELLENCE LEADING THE WORLD

KHALĪFAH • AMĀNAH • IQRA' • RAḤMATAN LIL-'ĀLAMĪN

KULLIYYAH OF INFORMATION & COMMUNICATION TECHNOLOGY

KICT TALE 2025

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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AN OBSERVATION OF CHATGPT'S USE IN LEARNING OBJECT-ORIENTED PROGRAMMING (OOP)

INTRODUCTION

This project explores the evolving context of learning, focusing on how undergraduate students are using ChatGPT to study OOP. As technology reshapes every industry, it is crucial to understand how AI tools like ChatGPT are influencing the classroom. We explored how students are integrating this tool into their workflow—from debugging complex code to understanding abstract concepts—and what this means for the future of computer science education. Our findings aim to spark awareness about the teaching and learning (TNL) opportunities and challenges presented by this new learning paradigm.

DEMOGRAPHICS

A total of 110 students participated in the survey, comprising 61% male and 39% female respondents. The majority of responders were from the Centre of Foundation Studies (CFS) at IIUM, followed by Diploma holders (17%), Others (14%), and STPM (1%).

EXPERIENCES

The majority have 1–2 years or less of programming experience and have used ChatGPT for less than 2 years.

CHATGPT USAGE

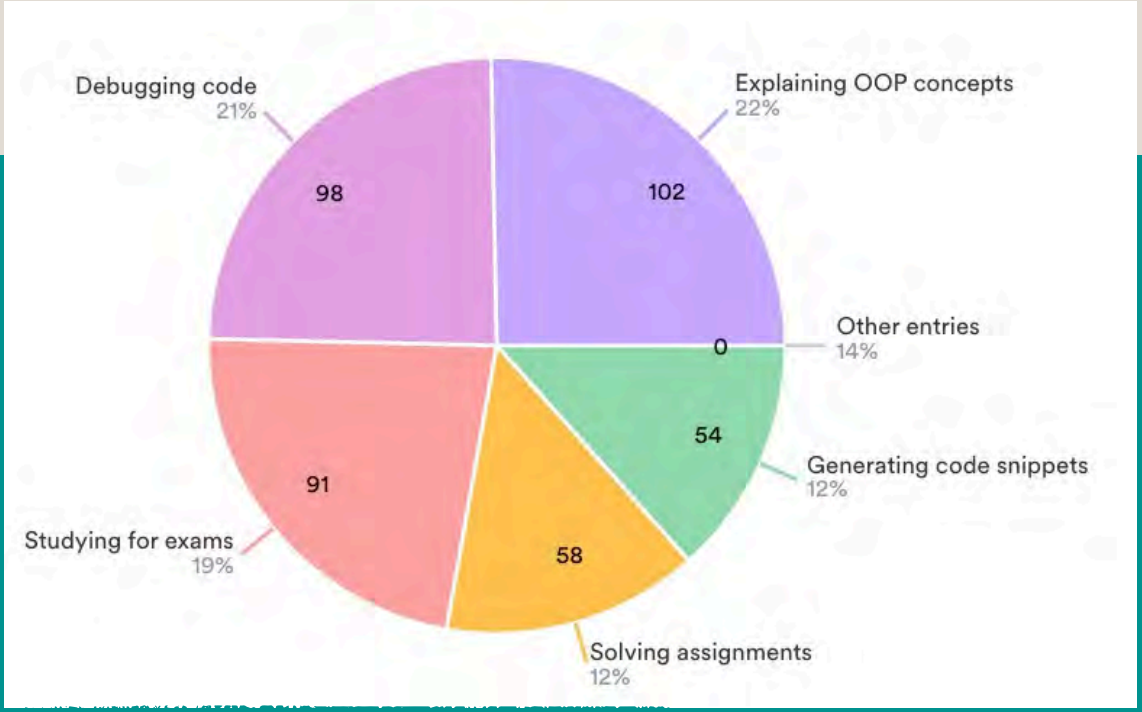

Fig-1: ChatGPT Usage

The chart shows that students primarily used the tool for explaining OOP concepts (22%), debugging code (21%), and studying for exams (19%). Smaller proportions used it for solving assignments (12%), generating code snippets (12%), and other purposes (14%)

CHATGPT PERCEPTIONS

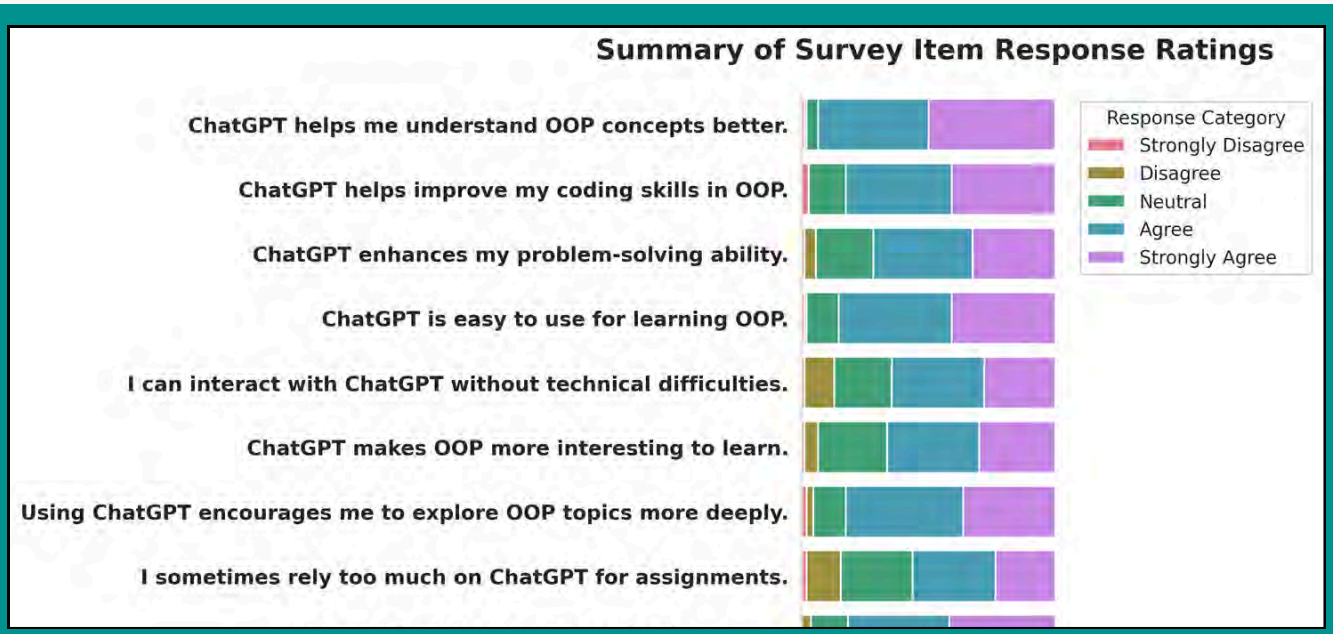

Fig-2: Survey responses

Perceptions of ChatGPT are overwhelmingly positive (majority “Agree” or “Strongly Agree” that it boosts understanding, skills, problem-solving). There is moderate acknowledgment of over-reliance and potential for plagiarism, but perceived net benefit is high.

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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TAWHIDIC PARADIGM AND INNOVATIVE STRATEGIES IN TEACHING DATA SCIENCE

Reflections on CSCI 4343 Data Science Using R Programming Language, Orange Data Mining, Real-World Cases, Islamic-Based Projects, and Industry Engagement

The integration of Islamic values, ethical principles, and real world data analytics is reshaping the teaching of Data Science at IIUM.

Anchored in Tawhidic pedagogy, supported by project based learning and industry engagement, the course cultivates students who are both technically proficient and ethically conscious.

From halal analytics to zakat optimization, it highlights how Data Science can be applied meaningfully for the benefit of humanity, Raḥmatan lil ʿĀlamīn.

INNOVATIVE TEACHING STRATEGIES

Blending creativity with real-world application, the course adopts case-based, project-based, and blended learning approaches to make Data Science both practical and engaging. Students work hands-on with R Programming and Orange Data Mining, analyzing real datasets on issues such as diabetes risk, food waste, and road accidents. Digital platforms like MS Teams, iTa'leem, and Telegram keep collaboration active, while peer evaluation encourages fairness and teamwork. Adding an industry touch, a guest session by eBdesk Malaysia offered students valuable exposure to the use of Big Data and smart-city analytics in professional settings.

TAWHIDIC FRAMEWORK AND VALUES-BASED LEARNING

The course embraces a Tawhidic approach that views knowledge as an amanah (trust) and learning as a purposeful act beginning and ending with duʿa. Students are encouraged to connect Data Science with Islamic values, ethics, and community needs, making their work both relevant and meaningful. Their projects tackle real-world issues such as halal analytics, zakat optimization, and Palestinian solidarity analytics, reflecting a balance between technical skills and social awareness. Each project also aligns with the Sustainable Development Goals (SDGs), promoting accountability, justice, and service to humanity, Raḥmatan lil-ʿĀlamīn.

STUDENT IMPACT & KEY OUTCOMES

Students took an active role in their learning by designing research questions, choosing datasets, and applying analytical methods. This approach encouraged creativity and critical thinking. Students learned to use technology responsibly, combining technical skills with social awareness. Feedback showed stronger engagement, professionalism, and appreciation for meaningful learning. Projects included studies on food waste reduction, zakat analytics, and halal product detection. The Student Feedback Survey for Semester 2, 2024/2025, placed the course among the Top 5 in Teaching Effectiveness and Top 4 in Course Evaluation, reflecting how faith, data, and innovation nurture graduates who serve knowledge and humanity.

KICT TEACHING AND LEARNING EXHIBITION 2025
TAWHIDIC EPISTEMOLOGY LEADING THE WAY
UMMATIC EXCELLENCE LEADING THE WORLD
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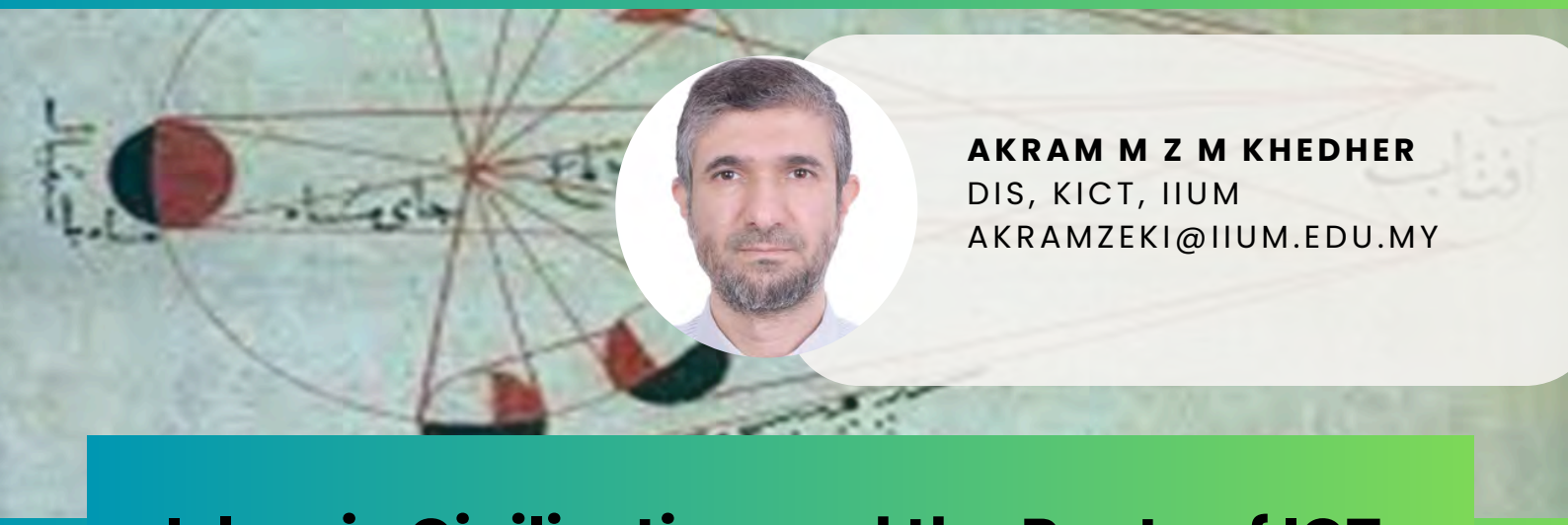
KICT TALE 2025

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE



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Islamic Civilization and the Roots of ICT: Lessons from Muslim Scholars

Background

The Islamic Golden Age (8th–14th centuries) was a period of great progress in science, technology, and culture. Muslim scholars worked hard to study knowledge from earlier civilizations and to add new discoveries. They believed that seeking knowledge was part of serving Allah and helping people. Important centers of learning such as Baghdad, Cairo, and Cordoba became places where science and faith worked together. Scholars like Al-Khwarizmi, Ibn Sina, and Alhazen made discoveries that later influenced Europe and shaped the modern world.

Keywords:

Islamic Golden Age, Muslim Scholars, Islamic Civilization, ICT Heritage, Contributions to Science and Technology

Muslim Scholars Achievements in ICT

- Jabir ibn Hayyan: Steganography & Engineering
- Muhammad al-Khwarizmi: Math, algebra, and algorithms
- Banu Musa Brothers: Mathematics
- Abbas ibn Firnas: Mathematics
- Al-Sabi Thabit ibn Qurra al-Harrani: Math, statics, and algorithms
- Abu Arrayhan Muhammad ibn Ahmad al-Biruni: GPS system,
- Ismail al-Jazari: Mathematics, and engineering, Mechanical Devices (Computer Hardwar), automation (robots)
- Al-Farabi: Logic, and knowledge systems, information and reasoning.

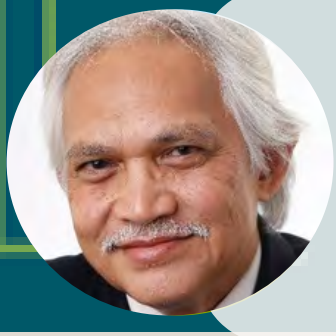
Benefits for Education

Teaching about Muslim scholars in ICT courses can inspire students to see science as more than technical skills. It helps them connect their studies with faith and values. Students learn that knowledge can be used to serve humanity and please Allah.

This topic also builds pride in Islamic civilization and encourages students to follow the example of scholars who combined hard work, ethics, and spirituality.

By linking history with modern subjects like computing and information technology, teachers can show students that Islam has always supported learning and innovation.

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE



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COMPUTATION & COMPLEXITY Bridging Computation with Tawhidic Philosophy

IMITATION GAME

This course introduces the foundations of computation through Automata Theory, Turing Machines, and Complexity Theory. Students explore deterministic and non-deterministic automata, grammars, and the universal Turing Machine, while analyzing problem classes such as P, NP, and NP-completeness.

Complexity theory, together with the Halting Problem and Gödel's incompleteness theorems, highlights barriers to unbounded computation, thus questioning the plausibility of technological Singularity. From a Tawhidic perspective, such unlimited power belongs only to Allah, affirming the limits of human and machine reasoning.

Construction Platform

Students can construct and experiment their automata and languages in Prolog, or other platform. By coding and implementing automata and grammars, students can explore the notion and understand the theory of complexity.

AUTOMATA AND PHILOSOPHICAL ENQUIRY

Blending automata theory with philosophical enquiries can deepen students' understanding of both the mechanics of machines and the complexities of human thought.

These exercises provide a creative way to connect computational theory with philosophical inquiry:

- Construct a journey of life automaton based on concept of Jabariyah and Qadariyah.
- Construct a journey of Maqamat automaton based on Al-Ghazali's maqamat and their preconditions.

Answers to these exercises could be implemented in Prolog platform or using other platforms.

THE THINKING MUSLIM

Sources of knowledge philosophy in invention: idealism - idea of computer; rationalism - Turing Machine Proof; Empiricism - von Neumann's Architecture; Revelation - Tafakkarun.
Complexity: Philosophy of Time and Space; Parallel World; Quantum Computer

Divine Knowledge and Determinism

DISCUSSION ON JABARIYAH & QADARIYAH

The deterministic nature of DFA can be related to the deterministic views of the Jabariyah school of thought, which emphasizes predestination. In contrast, NFA—with its multiple possible states and non-deterministic paths—can be linked to the Qadariyah school, which advocates free will.

Discussion: In both models (DFA and NFA), the system still functions within a set of rules. This aligns with the theological principle that even in the Qadariyyah school, human free will exists within the broader framework of divine omniscience and decree.

Al-Ghazali's maqamat and Rules of Tajwid

Al-Ghazali outlines a spiritual journey toward closeness to God, described in terms of maqamat (stations). The maqamat represent the stages a seeker (salik) passes through.

Construct of Tajwid Rules can be implemented naturally using automata. This portrays an application of the theory.

Al-Ghazali's Maqamat Automaton

```
% Define transitions between stages
transition(tawbah, wara, 'Sincere repentance and intention for change').
transition(wara, zuhd, 'Avoidance of doubtful matters and moral vigilance').
transition(zuhd, sabr, 'Detachment from worldly desires and contentment').
transition(sabr, shukr, 'Patience through trials and maintaining faith').
transition(shukr, tawakkul, 'Gratitude in all circumstances and trust in God').
transition(tawakkul, rida, 'Total reliance on God's will with peace').
transition(rida, mahabba, 'Acceptance of God's decree and love for God').
transition(mahabba, ma'rifah, 'Love leads to deep knowledge of God').
transition(ma'rifah, fana, 'Gnosis culminates in annihilation in God').
```

MAQAMAT FINITE STATE AUTOMATON

Components of the FSA:

- States (Maqamat): Each maqam (spiritual stage) is represented as a state in the FSA.
- Transitions: The transitions between states represent the spiritual actions or conditions required to move from one maqam to the next.
- Initial State: The starting point of the journey, i.e., Tawbah (Repentance).
- Final State: The ultimate spiritual realization, i.e., Fana' (Annihilation in God).

KICT TEACHING AND LEARNING EXHIBITION 2025

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TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

TALE NEWSLETTER

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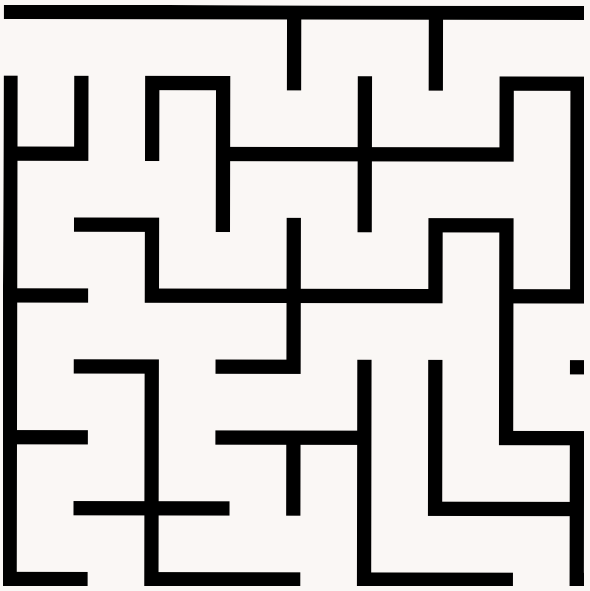
INFO 2304: System Analysis & Design

An Interactive Escape Room Challenge to Explore Sampling Methods

Abstract

In the INFO2304: System Analysis & Design course, students learn the principles of data collection and various sampling techniques, including random, stratified, systematic, and convenience sampling. To make this concept more practical and engaging, an innovative Escape Room Challenge was designed. This gamified activity enabled students to work in groups, solve sampling puzzles, and unlock progressive stages by applying correct methods. The approach successfully enhanced student motivation, critical thinking, and applied understanding of sampling concepts, making the learning experience interactive and impactful.



Introduction

Understanding sampling techniques is essential for accurate data analysis and system design. However, students often find theoretical explanations abstract and difficult to relate to real-world practice. To address this learning gap, the Escape Room Challenge was introduced as an active learning strategy to transform theoretical knowledge into hands-on problem-solving.

This initiative also aligned with the Tawhidic values in teaching, encouraging purposeful learning, teamwork, and ethical data interpretation, reinforcing both academic and moral development.

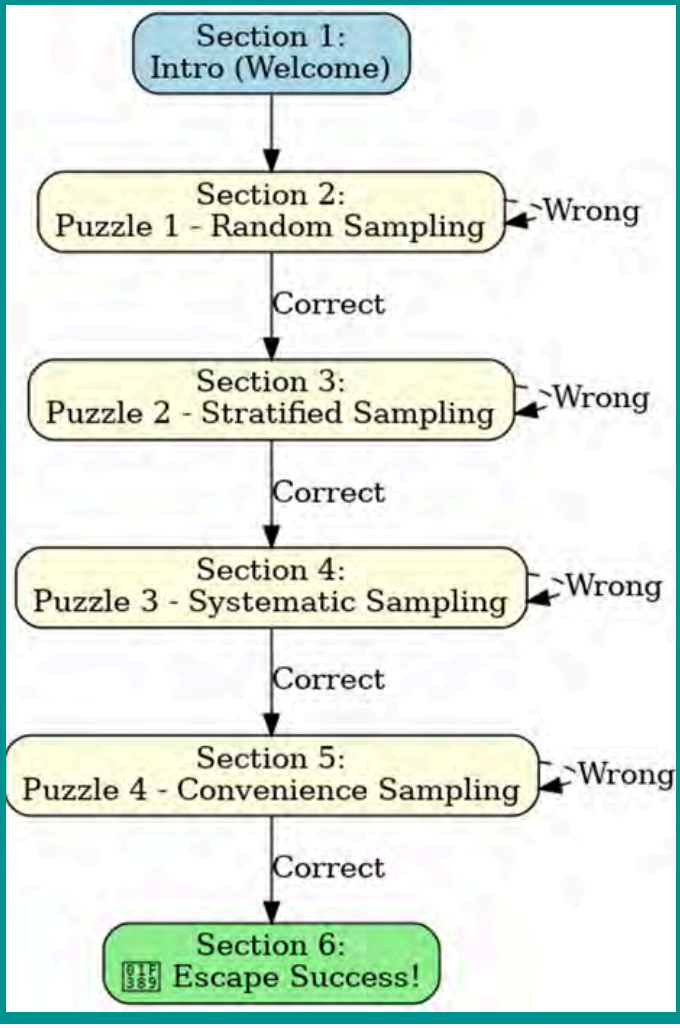
Escape Room Activity Overview

The immersive challenge placed students in teams within a fictional Data Lab, where they were "locked" and required to escape by successfully answering sampling-related questions. Each puzzle applied a different sampling method, and teams could only advance by selecting the correct answer. Incorrect answers guided them back to retry, supporting learning through practice rather than penalty.

Sampling Puzzles Included

- Random sampling from a student list
- Stratified sampling across faculties
- Systematic sampling (every nth entry)
- Convenience sampling based on nearest available group

This format encouraged creativity, teamwork, time-sensitive decision-making, and conceptual clarity.



Tawhidic Reflection: Integrating Faith & Knowledge

Islam emphasizes seeking knowledge with sincerity, fairness, and responsibility. This activity reflected these values by promoting:

- Integrity in decision-making
- Collaboration and mutual support
- Purposeful learning
- Respect and unity among peers

It embodied the Tawhidic paradigm by blending professional skills with spiritual and ethical development.

Key Takeaways & Future Directions

The Escape Room Challenge was well-received and demonstrated significant educational value. Future improvements may include:

- Real-life industry-based sampling scenarios
- Digital badges or leaderboard recognition
- Debriefing sessions or personal reflection journals
- Enhanced multimedia and storyline elements
- Possible hybrid or physical escape-room setup

These enhancements will deepen engagement and strengthen reflective learning.

Conclusion

The Escape Room Challenge successfully transformed the teaching of sampling methods into a lively, engaging, and meaningful experience. By integrating technology, gamification, teamwork, and Islamic values, the activity enriched student learning holistically.

Such innovative teaching approaches prepare learners with both the analytical competence and ethical foundation needed for success in the evolving digital and knowledge-driven world.

TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

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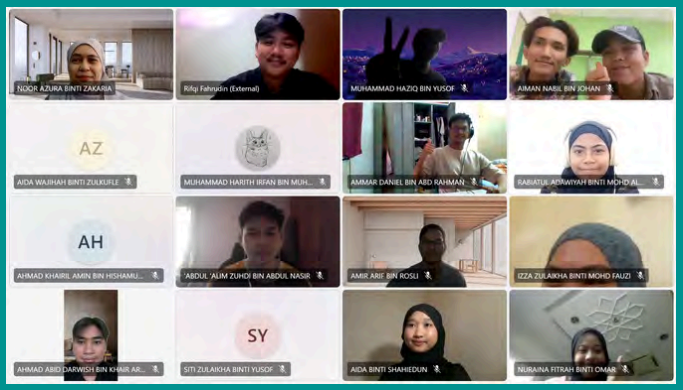
EMPOWERING LEARNING THROUGH INDUSTRY ENAGAGEMENT & ACADEMIC EXPERTISE

INTRODUCTION

Teaching and learning are most impactful when they integrate perspectives from both academia and industry. Academicians contribute theoretical foundations, research-driven insights, and structured methodologies, while industry speakers bring practical experience, real-world challenges, and evolving best practices.

By combining these perspectives, learners gain a holistic understanding that not only strengthens their academic knowledge but also enhances their readiness for professional environments. Such collaborations foster innovation, encourage critical thinking, and bridge the gap between theory and practice.

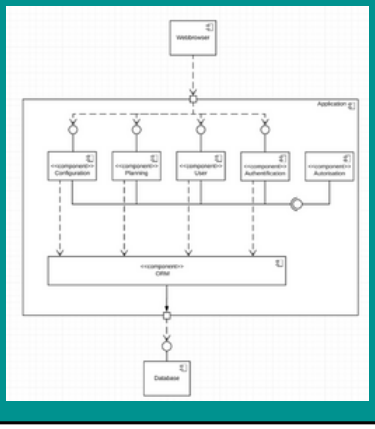
SOFTWARE DESIGN & ARCHITECTURE

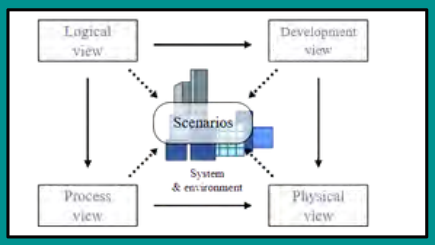


Software Design and Architecture builds the ability to reason about system structure and quality attributes such as scalability, reliability, security, and maintainability. The course treats patterns as proven solutions to recurring problems so students learn when and why to apply them rather than only naming them.

Architectural coverage includes layered, client server and microservices for deployment independence, event driven and message oriented systems for loose coupling, service oriented integration for interoperability, and pipe and filter or peer to peer for specialised workflows.

Design patterns span creational, structural, and behavioural families, for example, Factory and Builder for controlled creation, Adapter and Facade for integration, and Strategy and Observer for flexible behaviour, together with practices such as Repository and dependency injection to improve testability.





MOTIVATION

Inviting experts from industry and university strengthens the course by connecting foundational theory with current practice in software engineering and software design and architecture. Practitioners bring real systems, live constraints, and recent tools, which helps students see how patterns, quality attributes, and trade offs are decided in production. Researchers contribute the latest evidence, emerging methods, and principled evaluation, which deepens students' reasoning beyond recipes.

This engagement keeps the curriculum aligned with standards and technologies used in the field, improves readiness for internships and employment, and builds a community of practice that supports ongoing learning and collaboration.

INDUSTRY ENGAGEMENT

Industry engagement in software development is strengthened through active knowledge sharing between professionals and students. A KICT alumnus was invited for a sharing session to reflect on his experiences in software development, drawing from both his internship and current professional role.

Such initiatives provide students with first-hand insights into industry practices, tools, and challenges, while also highlighting the relevance of academic learning in real-world applications. This type of engagement not only enriches the teaching and learning environment but also motivates students to better prepare for their future careers in software development.

ACADEMIC EXPERTISE

An academic expertise was invited to deliver an online lecture as part of the knowledge-sharing initiative. A lecturer from Universitas Catur Insan Cendekia (UCIC) conducted a session on User Experience (UX), a key topic under Human–Computer Interaction (HCI), for the Software Design and Architecture students. This initiative opened a new perspective for KICT students by allowing them to learn directly from an external expert, enriching their understanding of user-centered design and usability. At the same time, it strengthened academic partnership between the institutions, further supported by the established Memorandum of Understanding (MoU).

REFLECTION

The sessions with the alumnus and the UCIC lecturer transformed abstract concepts into lived practice. Hearing how an engineer navigates real projects helped students see why design and architectural patterns matter, how trade offs are made, and how practices such as version control, code review, and continuous delivery support quality. Students reported clearer links between coursework and workplace expectations, stronger motivation to build portfolios, and more focused questions about internships and career pathways, while the discussions also modelled professional habits such as documenting decisions and communicating with non-technical stakeholders. The UX lecture deepened understanding of user-centred design and its connection to software architecture by giving students practical tools for problem framing, personas, task flows, and usability evaluation. At the same time, the session strengthened collaboration between institutions and laid the groundwork for joint critiques, co supervised capstones, and future guest reviews that keep the course aligned with current practice.

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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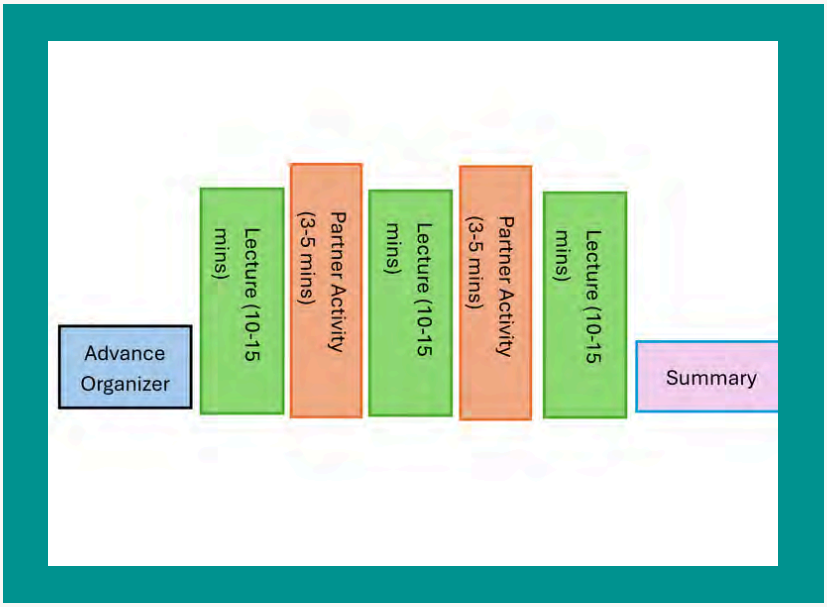
Enhancing Learning Through Chunked Lecture-Activity Method

Have you had experience of students lost interest in your class? There are many strategies to enhance learning experiences in your lecture session. You can break down the whole lecture into few activities to retain your students' interest during the lecture.

Smith (2007) suggested to use advanced organizer before starting each of lecture. Advance organizer is a brief overview or objectives before a lecturer started the content during lectures or classes. This helps students to get connected with the new knowledge and their prior knowledge.

Five Stages of Chunked Learning Process



A chunked lecture involves five structured learning stages. The first stage, the Advance Organizer, serves as an introduction that activates prior knowledge and prepares students for new concepts. It can be any material related to the lecture topic—such as a recent news article or case study. For instance, when teaching Risk Management, sharing current news helps students connect theory to real-world practice.

The second stage is the First Cycle, which consists of a 10–15 minute mini-lecture on the topic (e.g., the definition of risk management), followed by a 3–5 minute Partner Activity. A partner activity is a form of peer learning where two students discuss key points or complete a short collaborative task to reinforce understanding.

The third and fourth stages — the Second Cycle and Third Cycle — follow the same pattern of short lectures and partner activities. These cycles encourage continuous participation, ensuring that all students remain engaged throughout the session.

Finally, the fifth stage is the Summary, lasting about five minutes, where the instructor reviews the key takeaways and reinforces the main concepts covered in the lecture. This concluding step helps consolidate learning and provides closure to the session.

Benefits of Chunked Learning Process

The benefits of this learning process are:

- reduces cognitive overload
- improves focus and participation
- encourages peer discussion
- enhances knowledge retention

This approach enhances students' interest in new knowledge and promotes active engagement throughout the lecture. Instead of merely listening, students participate in brief discussions and conclude with summary and reflection activities. Such a method sustains attention, deepens understanding, and improves knowledge retention during the learning process..

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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BEYOND THE TEXTBOOK: TRANSFORMING DIGITAL AND EMBEDDED SYSTEMS LEARNING THROUGH EXPERIENTIAL LABORATORIES

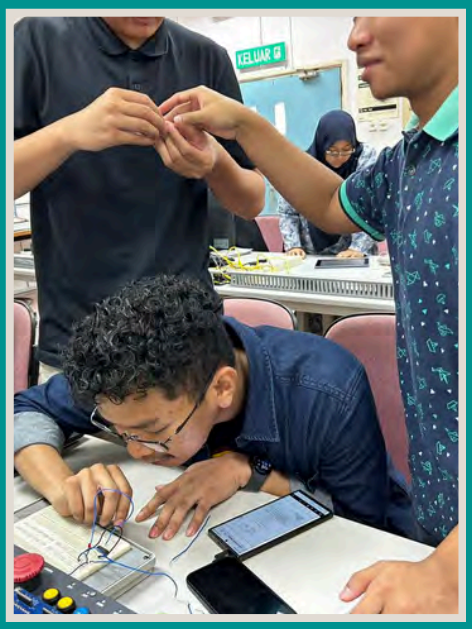
ABSTRACT

A dedicated Digital and Embedded System Laboratory was developed to bridge the gap between theory and practice. Students were provided with hands-on opportunities to design and implement projects that directly reflect concepts taught in class. Through structured integration of laboratory activities, students demonstrated deeper comprehension of theoretical principles and reported enhanced motivation in learning. The approach not only transformed the traditional classroom into an active learning environment but also cultivated critical problem-solving, teamwork, and creativity among learners.

This dual approach ensures that students can engage actively, making theoretical concepts more tangible. Although no comparative data from previous cohorts is available at this stage, the preliminary evidence from student feedback highlights the transformative potential of this innovation. This first-cycle implementation establishes a baseline for future iterations and serves as a model for cultivating active, meaningful learning experiences in technical education.

Impact

Student reflections highlight that the newly established Digital and Embedded Systems Laboratory transformed their learning experience from passive observation to active exploration. Many expressed excitement in being able to "see theory come alive" through real projects and hands-on design. They reported increased motivation to attend classes, improved comprehension of complex circuit and programming concepts, and a stronger sense of ownership in their learning. One of the students expressed, "*This lab has helped me understand more on how circuit diagrams translate into breadboards, helping me understand how the subjects we learn as CS students translate to what electrical engineers do on a regular basis. Overall, this lab was an exciting and informative session.*" Several noted that working in groups not only strengthened their technical understanding but also enhanced communication, patience, and teamwork — "We learned more from helping each other solve errors than from memorizing notes." Such reflections underscore the laboratory's success in fostering enthusiasm, engagement, and self-directed learning.



Outcomes

🌟 Student excitement: Reflection reports consistently highlight enthusiasm and motivation to learn.

📚 Improved comprehension: Students were able to connect classroom theories to real-world projects.

🤝 Collaboration fostered: Group projects encouraged teamwork and peer-to-peer knowledge sharing.

💡 Skill-building: Strengthened critical thinking, design, and problem-solving abilities.

INTEGRATED INFORMATION RETRIEVAL, AI LITERACY, TAWHIDIC EPISTEMOLOGY, AND MAQASID METHODOLOGY

LISC 7414: Information Retrieval & AI Literacy

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A TAWHIDIC-BASED IR-AI AT A GLANCE

OVERVIEW

Integrated IR, AI Literacy, Tawhidic Epistemology, and Maqasid Methodology in Master of Library and Information Science

This topic of the course covers the theory of causality, borrowing from one of the points made in al-Ghazali's Tahafut al-Falasifah, Osman Bakar's Quranic Identity, Fathi Hasan Malkawi's Integration, and Jasser Auda's Maqasid Methodology.

READ MORE

Integrated information retrieval, artificial intelligence literacy, Tawhidic epistemology, and Maqasid methodology are the topics for the second week of LISC 7414 Information Retrieval and AI Literacy. Information retrieval (IR) also covers identifying a set of possible answers to a research question or a hypothesis.

AI-powered IR systems must accurately provide answers or causes and effects; thus, an integration with Tawhidic epistemology and Maqasid methodology is essential. A reference and research librarian by profession provides a credible list of citations to educators, learners, and scientists. Thus, with the latest AI features in information retrieval systems, librarians conduct AI literacy programs.

READ MORE

The search strategies in AI-powered IR systems must include query expansion beyond past data and causes. The sources of knowledge include al-Qur'an, Sunnah, phenomena, and civilizations. Phenomena include information poverty, credibility, and accountability, among others. The integrated model covers productive, constructive, and consumptive dimensions. This model requires an acceptable methodological awareness in the interpretation of al-Qur'an and Sunnah, drawing gaps and conclusions from the phenomena and civilizations.

SYNOPSIS

Teaching-and-Learning for Integrated IR, AI Literacy, Tawhidic Epistemology, and Maqasid Methodology

Students learn to design an AI literacy program with this integrated model in selected AI tools. Their AI Literacy program covers conducting a literature search for research topics and gaps, completing a systematic review and a critical review, understanding past data, and drafting a possible conclusion. The notion of cause and effect forms the set of relevance criteria for selecting the possible answers.

CAUSALITY & INTEGRATION

INFORMATION RETRIEVAL & CAUSAL AI

ALLAH SWT is the direct and sole cause for any phenomena. The strongest notion of causality is that only God is the cause. The weakest notion of causality is that a natural cause has a nature that gives rise to a certain effect.

This course offers a lecture and hands-on experience on information retrieval with AI features to identify findings that explain cause-and-effect relationships.

Components of Sources of Knowledge:

- al-Quran as the Divine Guidance
- Sunnah as the Prophetic applications
- Society consists of people, nations, civilizations, etc.

Integrated model has three dimensions:

- The productive dimension of an integration requires intellectual creativity. An information scientist develops a retrieval model.
- The constructive dimension aims for useful and beneficial purposes. A librarian designs an information literacy program derived from the retrieval model.
- The consumptive dimension encourages the use of an intellectual structure to understand the phenomena. A researcher uses the literacy program to obtain the findings and cause-and-effects.

NOTION OF RELEVANCE

RECALL, PRECISION, REFORMULATION, & FINE-TUNING

Relevance relates to the proportion of the findings that answered the questions with these requirements: major global phenomena, e.g., information poverty; open science and open method/analysis; credibility and accountability, e.g., citations; and limitations of the answers.

Reference Sources:

Al-Ghazali's Tahafut al-Falasifah
Osman Bakar's Quranic Identity
Malkawi's Integration
Auda's Maqasid Methodology
Scopus AI
Dimension AI Annotation
AI-tools for research works

TEACHING NLP THROUGH TAWHIDIC LENS: TOWARDS BRIDGING FAITH, LANGUAGE AND TECHNOLOGY

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The Tawhidic Epistemology: Unity in Knowledge and Meaning

Natural Language Processing (NLP) seeks to model and process human language, mirroring the Qur'anic emphasis on communication as a divine gift as decribed in Surah Ar-Rahman (3:4): "He created the human being; He taught him speech".

READ MORE

The Qur'an and Sunnah illustrate how mastery of language strengthens community, diplomacy, and knowledge transfer.

A timeless example is Zayd ibn Thabit (RA), who learned Hebrew in just two weeks to assist the Prophet ﷺ in official correspondence while safeguarding the Muslim community and fostering intercultural understanding. His commitment exemplifies purposeful learning and service.

READ MORE

The Tawhidic worldview emphasizes unity, coherence, and purpose in all branches of knowledge. This worldiew integrates reason (‘aql), revelation (wahy), and the senses (hiss) within a purposeful moral framework.

NLP and the Tawhidic Worldview

Tawhidic epistemology offers a holistic perspective that views language as more than just data or human constructs. Through this lens, NLP becomes not merely a computational object or model, but a means to understand and nurture human communication in the service of truth (haqq), justice (‘adl), and compassion (rahmah).

NLP Interdisciplinary Research

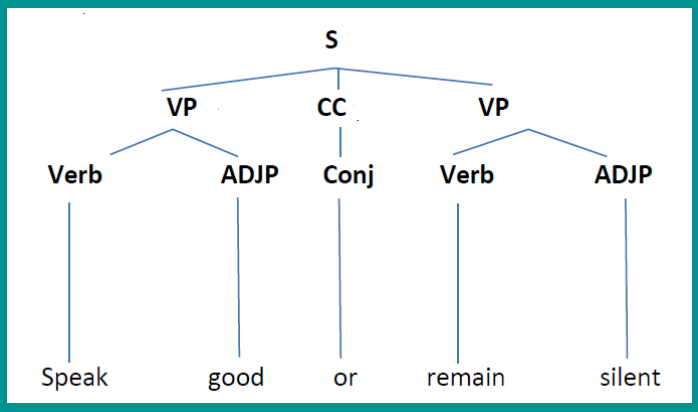
Research work in NLP addresses real social and spiritual needs such as preserving endangered languages, enriching Qur'anic accessibility, and enhancing interfaith dialogue.

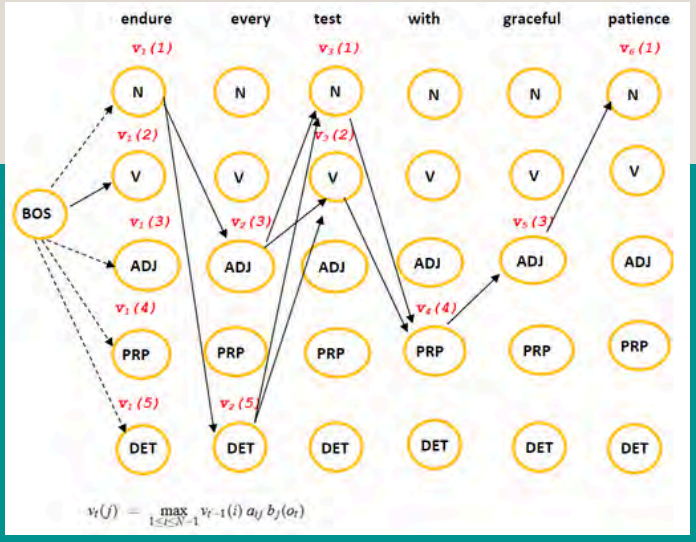
Tawhidic epistemology inspires NLP interdisciplinary research connecting computer science, linguistics, and Qur'anic studies that respects meaning beyond mechanics while fostering a balanced pedagogy that unites intellect ('aql) and spirit (ruh).

Quranic Verses and NLP Tasks

Studying Sentence Parsing and Machine Translation (MT) through the lens of Tawhidic epistemology encourage students to learn and appreciate the Qur'anic linguistic precision and reflections.

The analysis of the structure and rhythm of Qur'anic recitation (*tajweed*) reflect sequential patterns that parallel computational models like Hidden Markov Models (HMMs) and Finite State Transducers (FSTs).





These frameworks capture transitions between linguistic states, echoing how the Qur'an maintains balance and order in its revelation.

In Sentiment Analysis, we seek to identify emotions, opinions, and attitudes expressed in text, classifying them as positive, negative, or neutral. From a Tawhidic epistemological perspective, emotion ('atf) is not a random or trivial aspect of language; it is a reflection of the human soul (nafs) and heart (qalb) that must be understood ethically: *"Are they truthful (sidq)? Do they promote goodness (ihsan) or harm (fasad)?"*

Thus, when designing sentiment analysis models, Muslim researchers can move beyond polarity detection to ethical sentiment interpretation, by distinguishing between expressions that uplift or degrade human dignity, fostering positive digital discourse rather than manipulation or polarization. Thus, sentiment analysis under *Tawhidic* principles becomes an act of moral discernment (*furqan*), recognizing the spiritual responsibility in processing human emotion.

The Principle of Order and the Concept of Zakah in Language Models

Language modeling, which predicts the next word or sequence in a sentence, reflects the structured coherence inherent in human communication. Through Language Models (LM), learners reflect on how language expresses human innate disposition (*fitrah*). From a Tawhidic perspective, this order mirrors the divine principle of *mizan*; balance and proportion in language creation and speech. Human language is known to follow patterned sequences of meaning and logic.

The use of smoothing techniques in language modeling to address the problem of data sparsity, aligns with the concept of zakah, "Take (with consent) from the rich (seen n-grams) and distribute to the poor (unseen n-grams)." Just as zakah purifies wealth and maintains social equilibrium, smoothing redistributes probability mass from seen to unseen events ensuring no element is neglected.

This concept provides a meaningful analogy that reflects how Islamic values can illuminate even technical aspects of machine learning, grounding computational reasoning in moral and spiritual insights, in contrast with the popular western analogy of Zorro; "Rob from the rich and distribute to the poor."

Towards a Faith-Driven Digital Future

Conventional NLP education focuses on algorithms, models, and data pipelines. A Tawhidic approach reframes these components with awareness of moral accountability and divine guidance.

As AI continues to shape communication and cognition, the Tawhidic paradigm ensures that technological progress remains ethically anchored. Teaching NLP through this lens produces graduates who are not only technically skilled but also spiritually conscious; graduates that view coding and computation as acts of ibadah when done with sincerity, justice, and purpose. These values inspire learners to explore beyond syntax and semantics to understand how language shapes thought, culture, and community. .

The convergence of faith, language, and technology reminds us that every algorithm, every word, and every model can reflect divine unity and purpose, just as the Qur'an calls believers to engage in tafakkur (deep reflection) and tadabbur (contemplation):

أَفَلَا يَتَدَبَّرُونَ ٱلْقُرْءَانَ ۚ وَلَوْ كَانَ مِنْ عِندِ غَيْرِ ٱللَّهِ لَوَجَدُوا۟ فِيهِ ٱخْتِلَٰفًا كَثِيرًا

"Do they not reflect upon the Qur'an? If it had been from [any] other than Allah, they would have found within it much contradiction"

- Surah An-Nisa (4:82) -

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TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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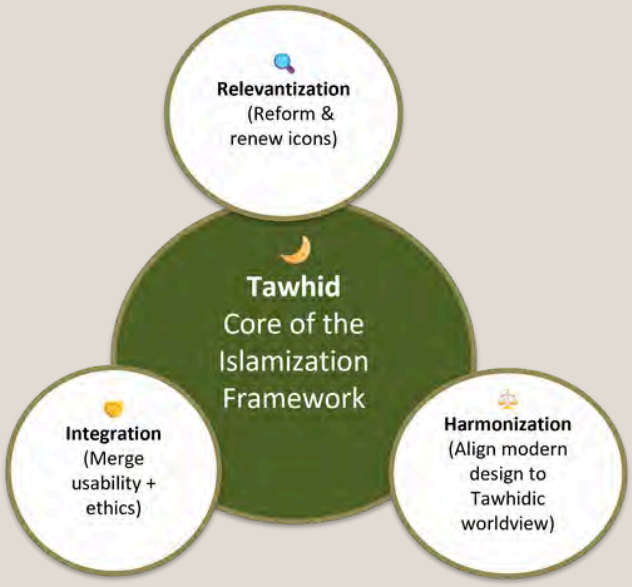
From Meaning to Usability: Tawhidic Pathways for Ethical Icon Design

INTRODUCTION

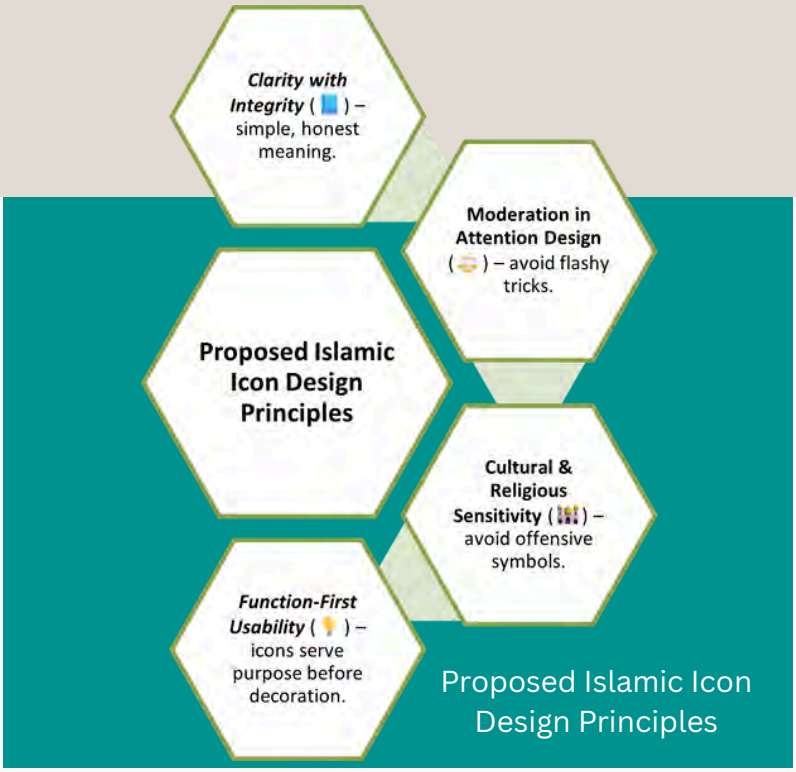


Methodology

Icons are powerful - they do more than enable clicks. They visualize complex information, support learning, and shape moral choices. Yet many modern designs overlook ethics and Tawhidic values, allowing visuals to mislead or promote immorality. Guided by the *Islamization of Knowledge* framework - **Relevantization, Integration, and Harmonization**, this study identifies both benefits (clarity, inclusivity, learning support) and risks (distraction, immorality, deception) in icon design. It aims to develop a Tawhid-based framework for ethical icon design, integrating usability with Islamic ethical principles to enhance digital teaching, learning, and moral integrity.

METHODOLOGY

The study adopts a qualitative approach guided by the *Islamization of Knowledge framework*—**Relevantization, Integration, and Harmonization**. It includes literature review, comparative analysis, and insights from Islamic sources to develop a Tawhidic-based framework for ethical icon design.



Proposed Islamic Icon Design Principles

FINDINGS

KEY FINDINGS AND PRINCIPLES

The study identifies key ethical principles for Islamic icon design:

- **Clarity with Integrity** 📘: simple, honest meaning.
- **Cultural & Religious Sensitivity** 🕌 : avoid offensive symbols.
- **Moderation in Attention Design** ⚖️ : avoid flashy tricks.
- **Function-First Usability** 💡 : icons serve purpose before decoration.

The proposed Islamic icon design principles provide educators and developers with ethical tools for icon development.

Key Findings:

- **Beneficial Icons**: 📘 Book, 💡 Lightbulb, 🕌 Mosque. Promote clarity, learning, and spirituality.
- **Harmful Icons:** 🔴 Flashy notifications, 🙈 Inappropriate emojis, 🎭 Misleading buttons. Cause distraction, addiction, and moral decline.

DISCUSSION

EXAMPLE APPLICATIONS

Islamic design principles can guide ethical visuals across platforms:

- ⚖️ **Banking apps:** use the justice and trust symbol.
- 📘 **E-learning platform:** use book or light icons for knowledge.
- 🌙 **Prayer apps:** use crescents and calligraphy, avoid figures.
- 💬 **Communication tools**: replace inappropriate emojis with respectful ones.


Sample Icons

CONCLUSION

CONCLUSION & IMPLICATION

By aligning meaning with usability, ethical Islamic icon design reintegrates faith and knowledge in digital education. Icons shape hearts, minds, and behaviour; when guided by Tawhidic values, they enhance learning, remembrance, and moral consciousness within the Tawhidic Paradigm of Teaching and Learning.

TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

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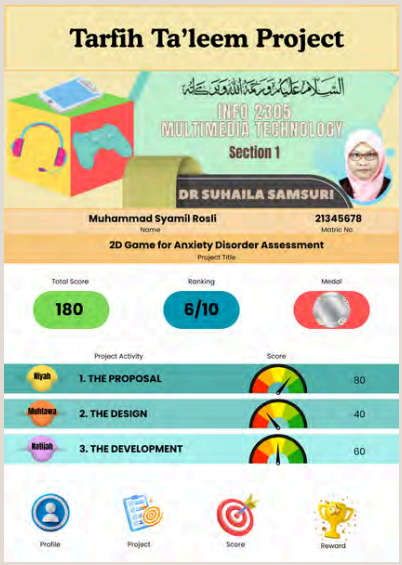
Tarfih Ta'leem: Gamifying learning experience to nurture responsible project

Abstract

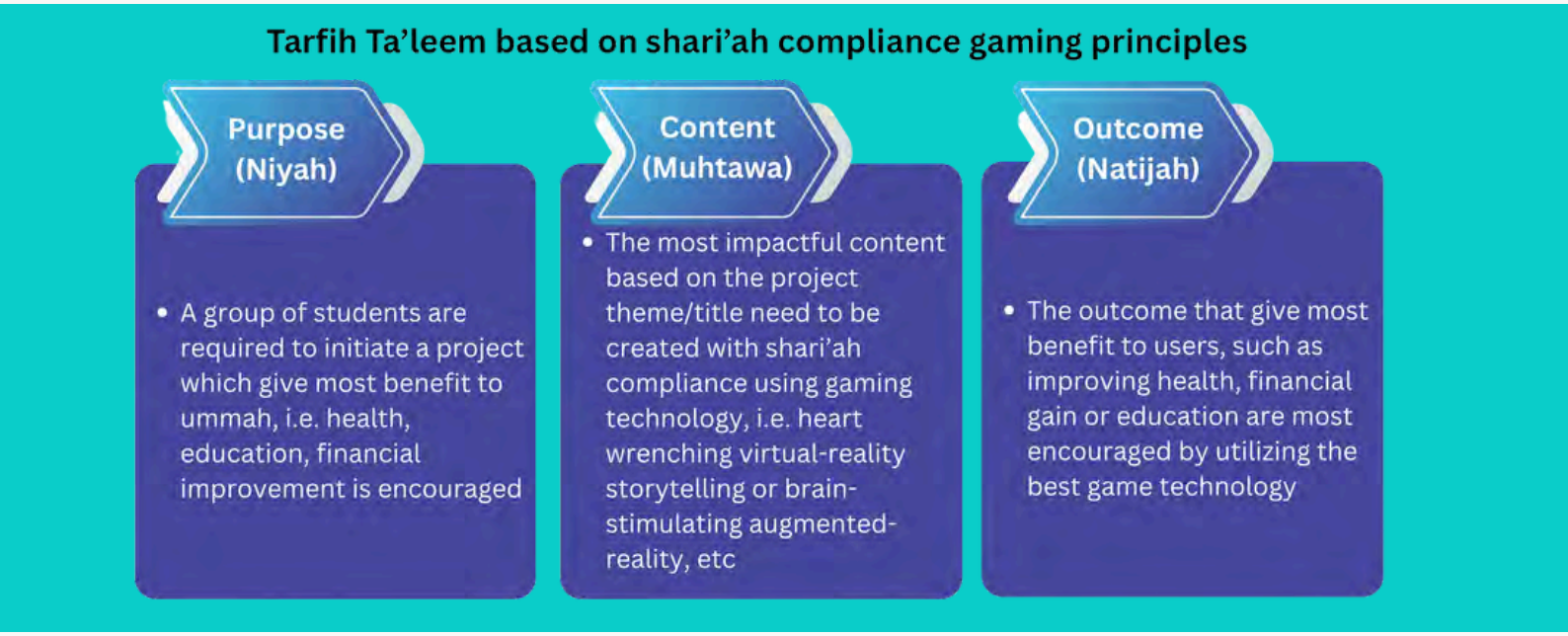
The method "Tarfih Ta'leem," which means "entertainment in education," introduces a virtuous gamification learning technique infused with shari'ah elements; purpose (niyah), content (muhtawa), and consequence (natijah). This method is designed to nurture quality students who embody responsibility, particularly when initiating IT projects, by integrating spiritual and ethical dimensions into educational practices. Rooted in the Tawhidic worldview and epistemology, Tarfih Ta'leem establishes a holistic learning environment that harmonizes creative development with spiritual growth. The gamification framework aligns with shari'ah principles, ensuring that the purpose of education transcends mere knowledge acquisition to inculcate moral integrity and accountability.

By embedding entertainment within structured learning activities, this method fosters student engagement while maintaining a focus on divine purpose and meaningful consequences. Tarfih Ta'leem ultimately aims to produce balanced individuals who excel academically and uphold ethical responsibilities in their professional endeavors, especially in the information technology domain.



Gamification Sample

The three principles of niyyah, muhtawa, and natijah are the foundation of the rubric for all projects that are initiated under the 'Tarfih Ta'leem' concept.



This gamification is implemented in accordance with its fundamental technical adoption. A student must satisfy the requirements and utilize their creativity to receive a reward, as indicated by the activities provided. Points will be awarded for each milestone, and badges will be granted upon completion to denote the project's quality. From time to time, students may observe their position on the class leaderboard.

Challenges/Rewards

- **Student needs to do investigation, study on the most fullfiling Tarfih Ta'leem based project which contribute most to the community**
- **The points will be given based on their achievement as gamification reward**

Level Progression

- **Student needs to submit the evidence of their progress for each project stage, begin with project title and theme initiation proposal, content development and feedback of the digital content in social media for points and reward collection**

Badges/Achievement

- **The collection of points will be granted the badges of gold, silver or medal based on the most impactful project and the progress.**

Leaderboard

- **The student achievement will be ranked in leaderboards based on the points collections to encourage them to be more productive**

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TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

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AquaAIoT

BACKGROUND

- Joint project: IIUM & Fisheries Research Institute
- Focus: AI + IoT for water quality & HAB monitoring
- Tested at Sungai Geting, Kelantan

SITE VISIT

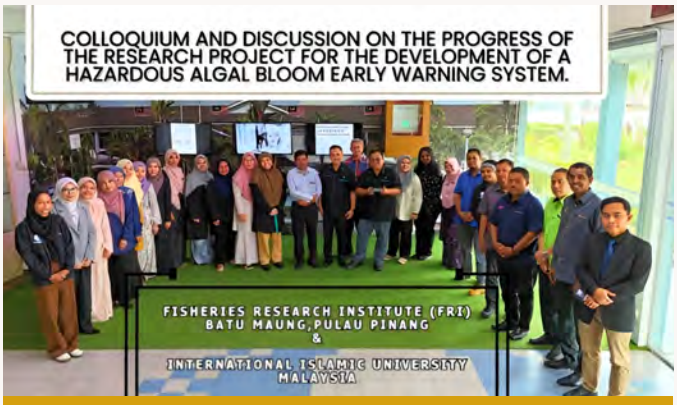
- Location: Sungai Geting, Tumpat, Kelantan
- Date: 7 May 2025
- Activity: Water sampling & sensor comparison (Desun vs YSI)
- Outcome: Identified strengths and limitations of prototype sensors

BACKGROUND

of AquaAIoT

AquaAIoT is a collaborative initiative between IIUM and the Fisheries Research Institute (FRI Batu Maung) to explore the use of Artificial Intelligence (AI) and the Internet of Things (IoT) in monitoring Harmful Algal Blooms (HABs).

The project focuses on developing smart sensors, real-time dashboards, and AI-driven forecasting models to provide early warning of HAB events. This innovation aims to support sustainable aquaculture, protect marine ecosystems, and improve decision-making for coastal communities.



Colloquium on HAB Early Warning System Progress between FRI Batu Maung & IIUM

SITE VISIT

TO SUNGAI GETING, KELANTAN

On 7 May 2025, IIUM's KICT and the Fisheries Research Institute (FRI) conducted a joint water quality sampling at Sungai Geting, Kelantan. The activity, held from noon to 2:00 pm, covered five locations, including the jetty and stations along the river up to the Thai border.

The purpose was to test the prototype sensors against the standard YSI ProDSS multiparameter meters. Four parameters were measured: water temperature, chlorophyll-a, dissolved oxygen (DO), and salinity.

Results showed that the prototype sensors for temperature and DO produced values close to YSI, while salinity readings were slightly higher. The chlorophyll-a sensor, however, was inaccurate due to a faulty cleaning brush that allowed debris buildup.

IIUM team on site at Sungai Geting, Kelantan during the sampling.

Sampling activities by FRI Batu Maung at Sungai Geting, Kelantan.

Sampling station near the Malaysia–Thailand border (Tak Bai, Thailand)

QUICK FACTS

ON THE SITE VISIT

1. Date: 7 May 2025
2. Location: Sungai Geting, Kelantan (near Thai border)
3. Partners: IIUM KICT & Fisheries Research Institute (FRI)
4. Parameters: Temperature, Chlorophyll-a, DO, Salinity

The team concludes that the prototype needs recalibration, fixing of the cleaning system, and adding sensors for nutrients such as nitrate and phosphate. Cloud integration is also planned to allow real-time data monitoring and early detection of HABs.

AI FOR HUMANITY: EMPOWERING AI ETHICAL SHOPPING FOR PALESTINE

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PROJECT OVERVIEW

🚀 INTRODUCING "BOICOTT"

At its core, Boicott serves as a centralized reference point for consumers who want to support the Palestinian cause. The app allows users to instantly check the status of products through a barcode scanner, making it easier to confirm whether an item should be boycotted. For those who prefer manual search, a simple search bar is included, ensuring that information is always within reach.

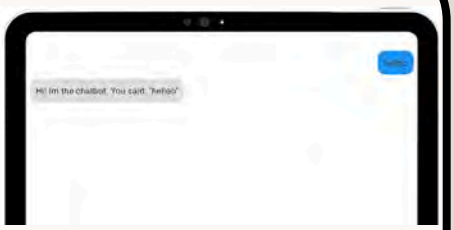
📊 Why It Matters ?

The impact of this project extends beyond personal convenience. Boicott provides a trusted, centralized source of information, addressing the widespread issue of misinformation about boycotted brands. It also strengthens the global boycott movement by reducing economic support for companies associated with Israel, while helping communities feel more involved in meaningful action.

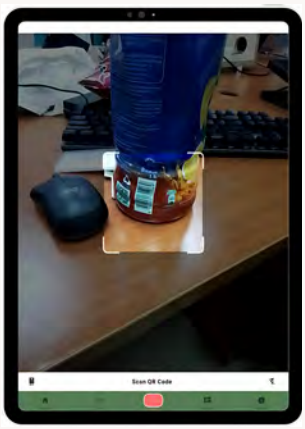
🔑 Core Features

One of the app's strengths is its community-driven database. Users can contribute by submitting products, backed with credible sources, which are then reviewed by administrators. This ensures accuracy while growing the database organically. To make the experience more interactive, an AI-powered chatbot is integrated, allowing users to ask questions about boycotted products and receive clear, natural responses. Most importantly, Boicott secures its database using Ethereum blockchain technology, which prevents tampering and guarantees the integrity of boycott-related information.

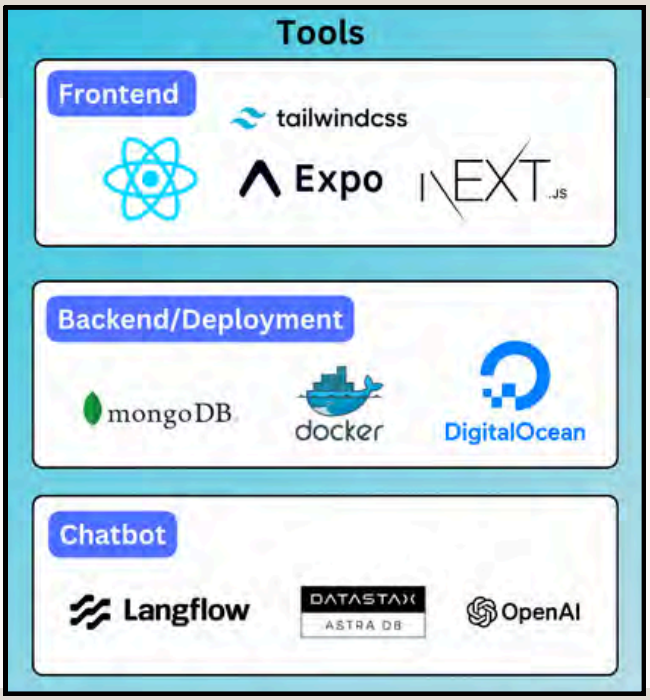
THE HOME PAGE DESIGN



CHATBOT PAGE DESIGN



BARCODE SCANNER PAGE DESIGN



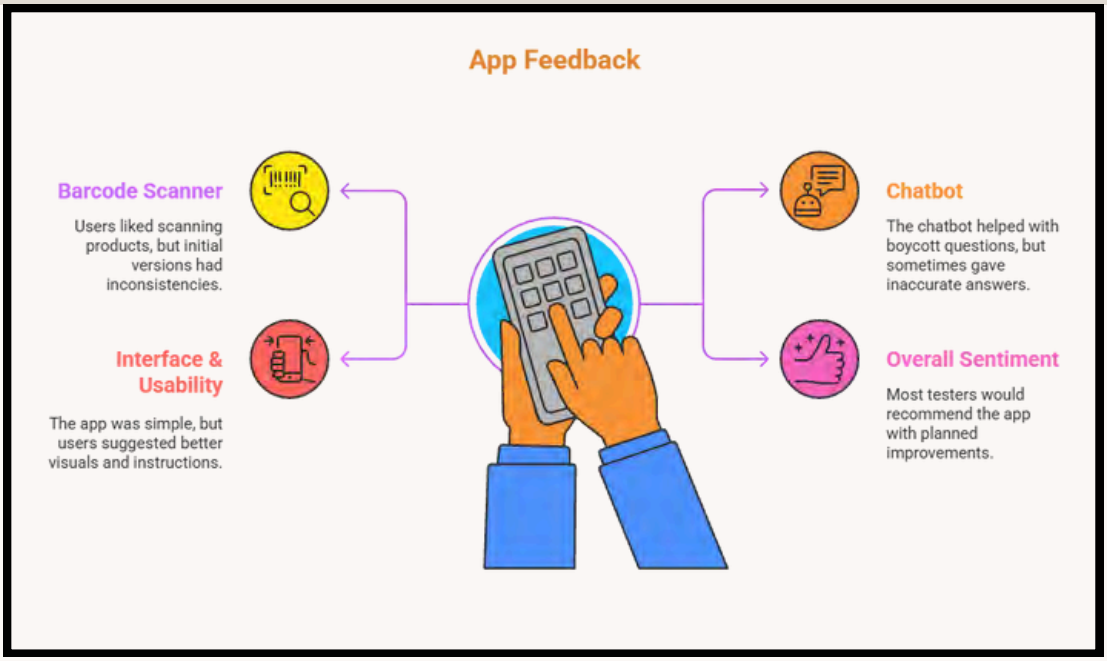
⚙️ The Technology Behind It

- Frontend
  1. React Native & Expo → Build the mobile app.
  2. Next.js → Admin dashboard.
  3. TailwindCSS → Clean, responsive design.

- Backend / Deployment
  1. MongoDB → Stores boycott product data.
  2. Docker → Easy app deployment.
  3. DigitalOcean → Cloud hosting for app & chatbot.

- Chatbot
  1. Langflow → Chatbot workflow builder.
  2. AstraDB → Stores knowledge for accuracy.
  3. OpenAI API → Provides natural conversations.

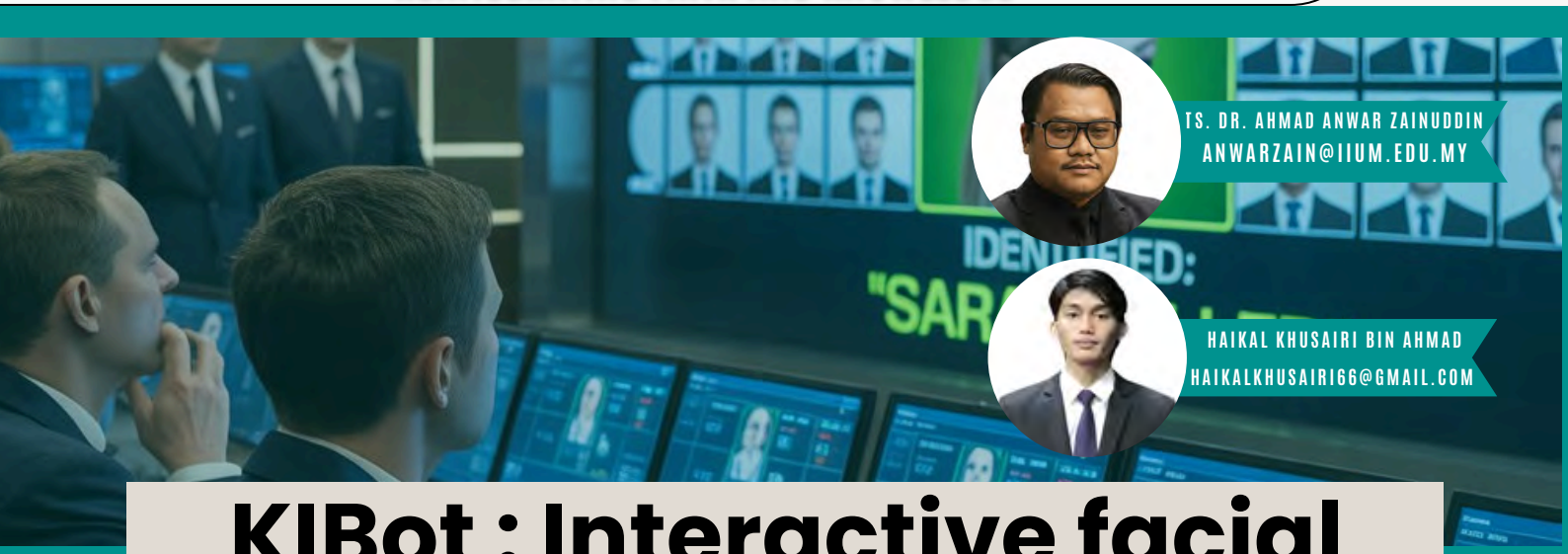
📝 User Feedback



🌟What's Next?

- Scalability Enhancements – Transitioning from Ethereum to a lighter blockchain to ensure smooth performance as the user base grows.
- Admin Dashboard – Building a web-based admin panel to simplify how products, companies, and boycott data are managed, making updates faster and more accurate.
- User Experience Improvements – Redesigning the interface with improved visuals, interactive features, and easier navigation to boost engagement and usability.

"Boicott is more than just a mobile app — it's a digital movement, empowering consumers to stand with Palestine through informed and ethical shopping choices."



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KIBot : Interactive facial recognition in KICT,IIUM

Demonstrating the interactive facial recognition system during an academic visit from Germany.

This work focuses on the development of a human-friendly facial recognition system designed to provide secure and efficient access control in various environments. With increasing demand for advanced security solutions in offices, organizations, religious facilities, and public spaces, facial recognition technology offers a contactless and intelligent alternative to traditional methods such as keys, cards, or manual attendance systems. The system is created to not only enhance security but also improve convenience and user experience. Overall, this project demonstrates how modern computer vision and artificial intelligence can be applied to create a reliable, intelligent, and adaptive facial recognition system, offering both enhanced protection and a seamless user experience for modern access control applications.

Live demonstration of an interactive facial recognition system to an international guest

The Problem We Aim to Solve

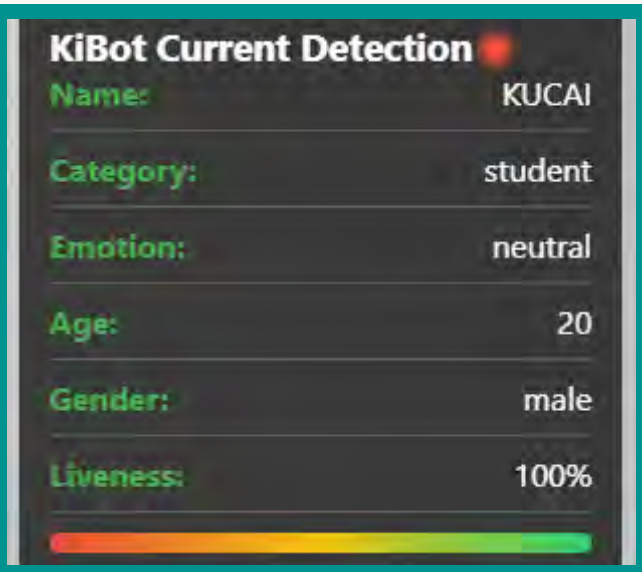
PROBLEM STATEMENT

Traditional access control methods, such as keys, access cards, and manual attendance systems, often create challenges in terms of efficiency, security, and user convenience. Keys and cards can be lost, stolen, or duplicated, leading to potential security risks, while manual attendance and registration processes are time-consuming and prone to human error. In high-traffic environments such as offices, organizations, religious facilities, and public spaces, these limitations become even more critical as they can cause delays, crowding, and frustration for users. Furthermore, many existing systems lack the ability to verify liveness, making them vulnerable to spoofing attempts. These challenges highlight the need for a more secure, intelligent, and interactive access control solution.

Our Answer: Interactive Facial Recognition

SOLUTION

To address the limitations of traditional access systems, this project introduces an interactive facial recognition system that combines security with user convenience. Unlike keys, cards, or manual check-ins, the system provides fast and contactless access while ensuring reliability through liveness detection and real-time recognition. It not only verifies identity but also displays details such as name, category, age, gender, and emotion, making the system more interactive and informative. Optimized using a Design of Experiments (DOE) approach, it adapts to different lighting and hardware conditions, delivering a scalable and intelligent solution for modern facilities.



Feature display of the interactive facial recognition system

What KIBot can do ?

FEATURES

- **Automated Attendance** – Records staff, student, or visitor attendance instantly without manual input.
- **Emotion Detection** – Identifies user emotions (happy, sad, neutral, etc.) to enhance interactivity.
- **Demographic Insights** – Estimates age and gender for user profiling and facility analytics.
- **Visitor Categorization** – Differentiates between staff, members, and visitors for customized access.
- **Real-Time Monitoring** – Provides live updates for security and management purposes.
- **Liveness Detection** – Prevents spoofing attempts by detecting whether the face is real or from a photo/video.
- **Data Analytics** – Collects and analyzes information on visitor flow and usage patterns for better facility management.
- **IoT Integration** – Can connect with smart devices (doors, lighting, AC) to create automated environments.

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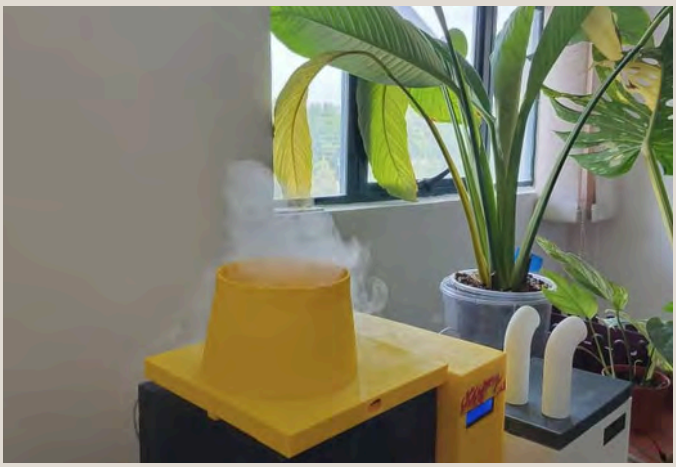
AGRILINK
INDOOR AGRICULTURE SENSOR FOR HOME GARDENERS

"Problem Statement"

As urban areas expand, farmland availability is shrinking, and traditional farming methods are increasingly unable to meet food demand. People living in densely populated areas such as condominiums and flats often face limited soil access, leading them to adopt indoor farming as a practical alternative. However, indoor farming also presents challenges, including difficulty in maintaining proper humidity, dependence on manual monitoring, and inefficient water usage, which restrict its overall effectiveness and sustainability.

"What is Agrilink?"

AgriLink, an automated smart humidifier system that takes care of your plants like a true companion. Whether you live in a small apartment or manage an indoor garden, AgriLink makes plant care simple, efficient, and worry-free.



"Why Agrilink?"

The Problems We Aim to Solve:

- **Maintaining Optimal Humidity –** Plants need the right humidity to grow. AgriLink keeps it balanced automatically.
- **Manual Monitoring** – Constantly checking plants is tiring. AgriLink's sensors do it for you.
- **Inefficient Water Usage** – Overwatering wastes water. AgriLink saves water by giving plants only what they need.

"Agrilink Feature"

Among the features that are available for users:

- **Automatic Humidity Control** – DHT22 sensor monitors temperature and humidity, while the mist maker keeps the air perfectly balanced for your plants.
- **Smart Sensor Network** – Measures soil moisture with soil sensor YL-69 , water level with an ultrasonic sensor, and air conditions with DHT 22 precision. The ESP32 microcontroller manages all sensors seamlessly for optimal plant care.
- **IoT Cloud Dashboard** – Monitor everything from your phone, anywhere, anytime using Thingsboard/Blynk.
- **Water-Saving System** – Uses just the right amount of water, reducing waste.
- **Affordable & Practical** – Built with low-cost technology 3D printing so everyone can benefit.

"What Our Objective?"

- **Develop a Smart Humidifier System -** AgriLink is built using the NodeMCU ESP32 and IoT technology to create a reliable, automated solution for plant care.
- **Optimize Plant Growth with Real-Time Monitoring -** By collecting live data from sensors, AgriLink ensures plants always receive the right humidity and water at the right time. This reduces guesswork and keeps plants healthier.
- **Support Indoor Agriculture at Low Cost -** Our goal is to make smart farming tools affordable and practical, so even people in small apartments or limited spaces can enjoy successful gardening.

"CONTRIBUTION TO SOCIETY"

AgriLink is more than just a product—it's a step towards a sustainable future.

- **Environmental Impact** – Conserves water and energy, reducing the carbon footprint of farming.
- **Urban-Friendly** – Enables people in cities to grow food in small spaces, promoting self-sufficiency.
- **Better Harvests** – Creates healthier plants, contributing to local food security and productivity.

By making technology affordable and easy to use, AgriLink brings smart farming to everyone, not just big farms.

AGRILINK COMPONENTS:

ESP 32 MICROCONTROLLER

DHT 22 SENSOR

ULTRASONIC MIST MAKER

SOIL MOSTURE SENSOR

ULTRASONIC SENSOR

AGRILINK SOFTWARE:

ARDUINO IDE CODING

BLYNK DASHBOARD

THINGSBOARD DASHBOARD

"So Be Part of the Change"

With AgriLink, you no longer need to worry about overwatering, under-humidifying, or neglecting your plants. We do the hard work, so you can enjoy the results.

Imagine walking into your indoor garden and finding your plants thriving—green, fresh, and healthy because AgriLink took care of them while you were busy.

Join us in transforming urban gardening into a smarter, greener, and more sustainable experience.

AgriLink – Technology that cares for your plants, so you can care for the planet.

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TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

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REHABILITATION AI OF THINGS SYSTEM (RAIOTS)

A STROKE PATIENT ENGAGES IN RAIOTS WHILE BEING SUPPORTED BY CLINICIANS AND RESEARCHERS.

KULLIYYAH OF INFORMATION AND COMMUNICATION TECHNOLOGY, IIUM REPRESENTATIVES WITH DOCTORS AND REHAB SPECIALIST AT HOSPITAL PUTRAJAYA.

The Rehabilitation Artificial Intelligence of Things System (RAIoTS) is an innovative platform designed to enhance stroke rehabilitation through the integration of Internet of Things (IoT), Artificial Intelligence (AI), and cloud-based technologies. This system addresses the limitations of traditional rehabilitation, particularly for patients who face difficulties attending frequent in-person sessions due to mobility or accessibility challenges. RAIoTS enables remote monitoring and interactive rehabilitation by incorporating wearable sensors, Mediapipe-based motion tracking, and Convolutional Neural Networks (CNNs) for accurate gesture recognition and movement classification.

PUBLICATION

1. Zainuddin, A. A., Mohd Dhuzuki, N. H., Puzi, A. A., Johar, M. N., & Yazid, M. (2024). Calibrating Hand Gesture Recognition for Stroke Rehabilitation Internet-of-Things (RIOT) Using MediaPipe in Smart Healthcare Systems. International Journal of Advanced Computer Science & Applications, 15(7).
2. Zainuddin,Ahmad Anwar et al. "Web-Based Medical Information System for Stroke Rehabilitation Internet-of-Things (RIOT) Patients: A Prototype."
3. Zainuddin,Ahmad Anwar et al., et al. "Design and implementation of a deep learning-based hand gesture recognition system for rehabilitation Internet-of-Things (RIoT) environments using MediaPipe." IIUM Engineering Journal 26.1 (2025): 353-372.

PROBLEM STATEMENT

VOICE AI

For stroke survivors, traditional rehab often means frequent hospital visits, which can be tiring and difficult. With RAIoTS, patients can practice exercises from the comfort of their homes while still being monitored by healthcare professionals. The system gives real-time feedback if movements are done incorrectly, helping patients adjust instantly.

Mediapipe – Tracks hand movements using just a camera

Testing RAIoTS system with patients in a collaborative rehab session at Putrajaya Hospital, Malaysia.

HOW RAIOTS WORKS

RAIoTS uses camera-based motion tracking (Mediapipe) and AI to support home rehabilitation. The camera captures hand movements, Mediapipe tracks them in real time, and CNNs check for correct gestures. Data is sent to the cloud for therapists to review and give feedback, making rehab interactive, monitored, and accessible anywhere.

BENEFITS FOR STROKE PATIENTS

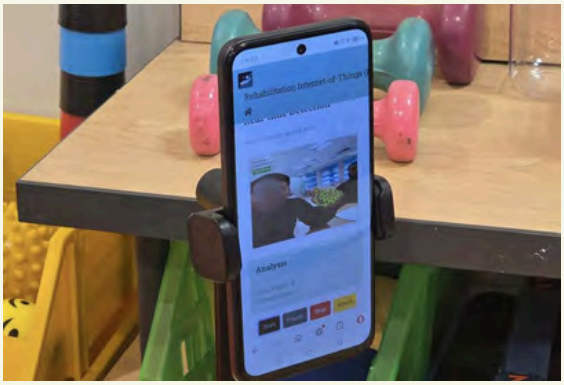
For stroke survivors, traditional rehab often requires tiring hospital visits. With RAIoTS, patients can do exercises at home while being monitored remotely. The system gives real-time feedback, helps correct movements instantly, and allows therapists to track progress and personalize recovery. This makes rehabilitation more convenient, motivating, and effective, especially for those with mobility challenges.

TECHNOLOGY SPOTLIGHT

RAIoTS brings together four key technologies:

- 📹 Mediapipe – Tracks hand movements using just a camera.
- 🧠 CNNs – Classify gestures (open hand, closed hand, finger touches) with high accuracy.
- 🎙️ Voice AI – Gives instructions, listens to commands, and motivates patients hands-free.
- 💬 Chatbot – Provides 24/7 answers, reminders, and extra support.

Together, they make rehabilitation accurate, hands-free, and patient-friendly.



Witnessing the RAIoTS system in action during real exercise, detecting patient hand gestures with precision.

GLOBAL HEALTHCARE IMPACT

RAIoTS makes rehab affordable and accessible worldwide. With just a camera and internet, patients in rural or low-resource areas can receive AI-guided therapy at home. Its hands-free, voice-controlled design reduces hospital visits, eases healthcare burdens, and brings quality rehabilitation to everyone.

KICT TEACHING AND LEARNING EXHIBITION 2025

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UMMATIC EXCELLENCE LEADING THE WORLD
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KULLIYYAH OF INFORMATION & COMMUNICATION TECHNOLOGY

TAWHIDIC PARADIGM IN TEACHING & LEARNING:
REINTEGRATING FAITH AND KNOWLEDGE

TALE NEWSLETTER

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'YOU ARE AN INTERIOR DESIGNER'

AI-POWERED EXPERIENTIAL LEARNING IN DESIGN THINKING THROUGH THE TAWHIDIC PARADIGM

Introduction

Design Thinking	Empathize: Understand user needs & pain points	Define: Turn insights into problem statement.	Ideate: Generate multiple creative design solutions.	Prototype: Build models or visual mockups.	Test: Collect feedback and refine the design.
Tawhidic Paradigm	**Rahmah, رحمة** means 'mercy' "And We did not send you, except as a mercy to the worlds." (Al-Anbiya 21:107)	**Hikmah, حكمة** means 'wisdom' "He grants wisdom to whoever He wills. And whoever is granted wisdom is certainly blessed with a great privilege." (Al-Baqarah 2: 269)	**Ihsan, إحسان** means 'doing best' in the perfect awareness of God's presence "..do good, for Allah loves those who do good." (Al-Baqarah 2:195)	**Khilafah, خِلافة** means 'stewardship' "The world is green and beautiful, and Allah has appointed you as His stewards." (Hadith, Sahih Muslim)	**Adl, عدل** means 'justice' and 'fairness' "Indeed, Allah commands you to return trusts to their rightful owners;ı and when you judge between people, judge with fairness. " (An-Nisa,4:58)
Application in Learning	Understand users' needs with care and empathy.	Frame problems wisely, ensuring meaningful and ethical design challenges.	Generate ethical, high-quality, and meaningful ideas.	Build solutions responsibly, considering societal and environmental impact.	Evaluate designs ethically and inclusively.

This project combines AI-enhanced **experiential learning** with **Design Thinking (DT)**, guided by the **Tawhidic paradigm**. Students take on the challenge of **designing an ideal student room** by applying the five phases of DT - Empathize, Define, Ideate, Prototype, and Test while integrating Tawhidic values: **Rahmah (compassion), Hikmah (wisdom), Ihsan (excellence), Khilafah (stewardship), and Adl (justice).** AI role-play as an interior designer, generating layout options, furniture arrangements, and design solutions, while learners review, validate, and refine the AI-generated outputs. Through interviews, ideation, prototyping, and testing with actual users, students cultivate **ethical, creative, and future-ready problem-solving skills**, demonstrating how **faith and knowledge can be harmoniously integrated** in practical, innovative learning experiences.

Method AI Tools Human + AI Synergy

Students participate in a five-phase Design Thinking process:

EMPATHIZE

Goal: Understand users' needs, context, challenges
Method: Students gather and analyze needs through surveys, interviews, and observations. AI assists by processing data, generating personas, and identifying patterns, while students validate the findings to ensure contextual relevance.

DEFINE

Goal : Synthesize user insights & clearly articulate the core problem
Method: AI clusters insights and proposes problem statements. Students review these statements, refining them to align with ethical and Tawhidic principles.

IDEATE

Goal: Generate a wide range of creative solution
Method: AI generates multiple design alternatives, including furniture arrangements, color schemes, and functional layouts. Students evaluate and select feasible, innovative ideas, ensuring that proposals reflect Tawhidic values.

ChatGPT

Gemini

Claude

Mistral

LlaMA

NVIVO

Miro

Mokkup

Balsamiq

Step 1: Plan User Research
- AI Task: Generate interview questions for understanding user experiences.
- Sample prompt:

```
You are an interior designer. Suggest a list of interview questions to ask students about their daily experiences, challenges, and needs living in a Mahallah student room, focusing on comfort, inclusivity, and community.
```

- Human Task: Review and select best questions for real interviews.

Step 2: Conduct Interviews
- Human Task: Conduct actual interviews with students, collect raw data.

Step 3: Create Empathy Map
- AI Task: Use interview transcripts to generate an Empathy Map (Says, Thinks, Does, Feels).
- Human Task: Validate and adjust empathy map for accuracy.

Step 4: Develop User Persona
- AI Task: Generate 1-2 personas based on empathy map and interview data.
- Human Task: Refine persona for cultural and contextual accuracy.

Step 5: Synthesize insights
- AI Task: Cluster interview insights into key themes using affinity mapping.
- Sample prompt:

```
Based on these interview summaries, group the insights into 3-5 themes. Label each theme with a short descriptive phrase.
```

- Human Task: Validate themes and remove irrelevant patterns/themes.

Step 6: Define the Problem Statement
- AI Task: Draft 3 alternative POV (Point of View) statements.
- Sample prompt:

```
Create 3 alternative POV statements using this format: "[User] needs a way to [need] because [insight]." Use the following interview themes.[Paste themes after prompt]
```

- Human Task: Select and refine the best POV statement.

Step 7: Propose innovate solutions
- AI Task: Produce 10-15 creative dorm layout concepts.
- Sample prompt:

```
Suggest 10 innovative dormitory design ideas that optimize space, privacy, and comfort while encouraging community interaction. Include at least 2 ideas that use eco-friendly and cost-effective solutions.
```

- Human Task: Shortlist best ideas and brainstorm additional ones.

Sample AI-generated output



PROTOTYPE

Goal: Build tangible, low-fidelity representations solutions
Method: AI produces 3D or virtual models, suggesting materials, décor, and lighting. Students assess the models for usability, feasibility, and ethical alignment, making iterative adjustments.

TEST

Goal: Engage users to evaluate solutions in real context
Method: Prototypes are evaluated with actual users (students). Humans facilitate testing and collect qualitative feedback, while AI analyzes the data to identify patterns and suggest optimized room layouts. Students review AI recommendations to ensure the final design balances functionality, aesthetics, and ethical considerations.

Figma

Canva

Leonardo AI

Adobe Firefly

DALL-E

Midjourney

Step 8: Build responsible design prototype

- AI Task: Create 2-3 layout visualizations or 3D renderings of selected ideas.
- Sample prompt:

```
Generate a detailed description for a 3D perspective view of a student room highlighting distinct zones: sleeping, studying, storage, and prayer area. Include materials, lighting effects, and a sense of scale.
```

- Human Task: Modify 3D model for real-world constraints (cost, space).

Sample AI-generated output

Step 9: Evaluate prototype with users and refine the prototype

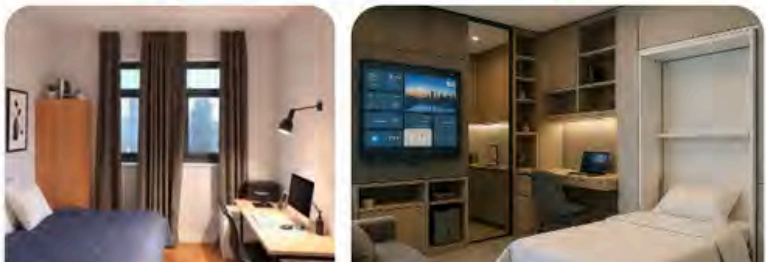
- Human Task: Gather feedback from student on the proposed design of an ideal room
- Sample user feedback

"The room feels spacious" "I like that there is plenty of storage"
"too bright! can be very hot in the afternoon"

- AI Task: Analyze user feedback and suggest an optimized room interior design.
- Sample prompt:

```
Based on the following student feedback [insert feedback] propose optimized room layouts.
```

Sample AI-generated output



Experiential learning involves getting new experience and then reflecting on it.

Contributions

This project demonstrates a practical model for **integrating AI with experiential learning** while maintaining ethical oversight through the **Tawhidic paradigm**. Students **actively participate** in interviews, AI-assisted ideation sessions, prototype evaluation and reflective discussions. User testing and iterative refinement provide hands-on, reflective learning experiences that **bridge theory and practice**, **harmonizing faith, knowledge, and technological innovation.** The approach can be adapted across disciplines, promoting holistic education that cultivates responsible, creative, and reflective learners.

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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TALE NEWSLETTER

Code with Purpose:

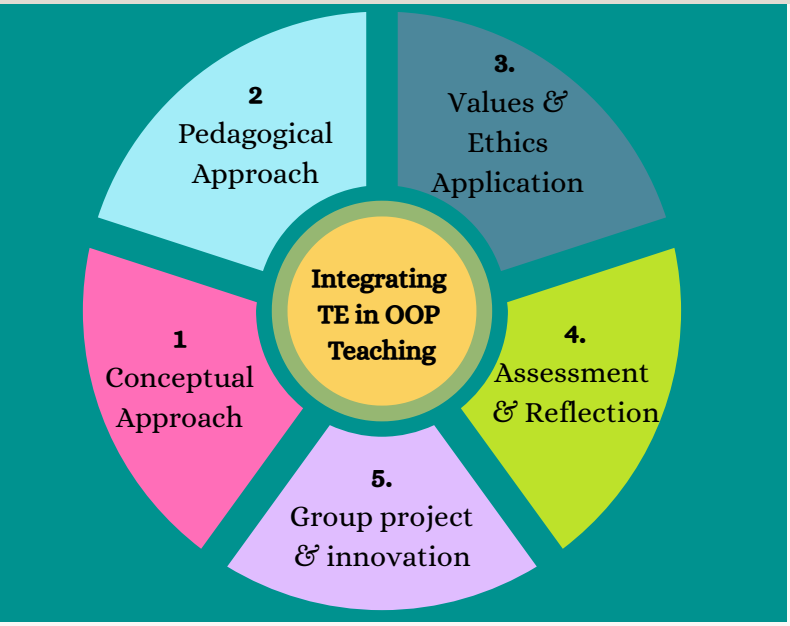
Infusing Tawhidic Epistemology in Object-Oriented Programming Teaching

In the age of rapid digital transformation, educators face the challenge of teaching programming not only as a technical skill but as a purposeful endeavor aligned with ethical and spiritual values. This poster presents a pedagogical framework for integrating Tawhidic Epistemology (TE) into the teaching of Object-Oriented Programming (OOP) at the undergraduate level. TE is a philosophy of knowledge rooted in the Islamic concept of Tawhid, that is the Oneness of Allah. TE asserts that all true knowledge originates from Allah, and everything in existence reflects His will, design, and purpose. In TE, acquiring knowledge is not merely an intellectual pursuit but a spiritual responsibility to understand the signs (ayat) of Allah's creation.

The teaching approach emphasizes how core OOP principles such as encapsulation, inheritance, abstraction, and polymorphism reflect the divine attributes of order, unity, and purpose in creation. By aligning class design, object modeling, and modular thinking with the concept of divine systems, students are encouraged to see programming not as a neutral activity but as a reflection of hikmah (wisdom) in the universe.

The teaching approach outlines five key strategies: (1) Conceptual Integration, linking OOP constructs to Qur'anic reflections; (2) Teaching Activities that embed spiritual metaphors and ethical analogies; (3) Values & Ethics, emphasizing amanah (trust) and the role of software engineer as a khalifah (steward); (4) Assessment Methods, including reflective writing and faith-informed problem solving; and (5) Project-Based Learning focused on addressing real-world problems within the Muslim ummah. This initiative nurtures not only competent software engineers but also conscientious digital contributors with a strong moral compass. TE emphasizes the unity and coherence of all branches of knowledge under the divine truth, and it guides learners to seek knowledge ethically, purposefully, and in a way that leads to the recognition and worship of the Creator.

METHODS TO INTEGRATE TAWHIDIC EPISTEMOLOGY (TE) IN OOP



2. PEDAGOGICAL APPROACH: ISLAMIC-WORLDVIEW BASED INSTRUCTIONAL DESIGN

- Start lessons with relevant Qur'anic verses or hadith: E.g., before introducing the concept of modular design, recite: "And everything with Him is by due measure." (Qur'an 13:8). Reinforces the idea of order, precision, and purpose in code and creation.
- Use analogies from Islamic knowledge and cosmology: i) Analogy of classes as divine templates, akin to Allah's creation of different species. ii) Using surah Al-'Alaq to emphasize knowledge ('Iqra') and how coding is an act of seeking understanding of logical systems created by Allah.
- Reflective Questions with Tawhidic Context: Encourage students to reflect: "How does this programming concept reflect the order and wisdom in Allah's creation?" "How can I apply this concept in a way that serves a maqasid-al-shariah (higher purpose)?"

1. CONCEPTUAL INTEGRATION - CONNECTING OOP PRINCIPLES WITH TAWHIDIC CONCEPTS

encapsulation

Reflects how Allah conceals and protects aspects of creation for a purpose

inheritance

Highlights the continuity in creation, akin to how traits are passed down by Allah's will.

Polymorphism

Demonstrates how one method can adapt in many forms, similar to Allah's Asma' al-Husna. This reflects different aspects of His attributes.

Class/Object

Classes as blueprints mirror Allah's design in creation (everything has a blueprint/purpose, i.e. fi ahsani taqwim). Objects reflect manifestations of this divine design.

3. ETHICAL INTEGRATION: FOSTERING RESPONSIBLE CODING WITH TE

- Emphasize responsibility in software development as a form of amanah (trust).
- Discuss the implications of automation, AI, or systems built using OOP, and encourage students to code with ethical intention (e.g., not for exploitation, harm, or spreading falsehood).
- Incorporate project themes that serve maslahah (benefit to society) such as: i) Islamic finance apps. ii) Learning platforms with Islamic ethics, iii) Tools for accessibility and inclusivity

4. ASSESSMENT AND REFLECTION ACTIVITIES

- Include reflective journals: Ask students to reflect on how their learning of OOP principles deepens their appreciation for the systematic nature of Allah's creation.
- Design assessments that challenge students to:
  - Apply OOP to solve real-world problems in ways aligned with Islamic values.
  - Justify design decisions not only technically but ethically and spiritually.

5. GROUP PROJECT AND INNOVATION

- Encourage group projects that are informed by TE
- Example: An OOP-based system that supports Islamic learning, Qur'an apps, ethical AI, or sustainability-focused tools.
- Evaluate not just technical correctness but alignment with Islamic values and social good.

SAMPLE ACTIVITIES

GROUP ACTIVITY: "CODING WITH PURPOSE"

In groups, design a simple Class diagram for an Islamic-themed app (e.g., PrayerTime, QuranTracker, ZakatCalculator). Identify OOP features in the design.

SPIRITUAL REFLECTION ACTIVITY: "DIVINE BLUEPRINT"

Ask students: "How do these OOP principles reflect the oneness and wisdom in Allah's creation?" Provide prompts:
– How is inheritance in code like the passing of traits in creation?
– How does encapsulation relate to the concept of satr (concealment/privacy)?
Students write brief reflections.

DISCUSSION: ETHICAL CODING AND RESPONSIBILITY

Discuss Amanah in Software Development. Prompt questions:
– What are the risks of unethical use of OOP (e.g., surveillance, manipulation)?
– How can we code as stewards (khalifah)? Elaborate KICT Motto (Code to Heaven)

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TALE NEWSLETTER

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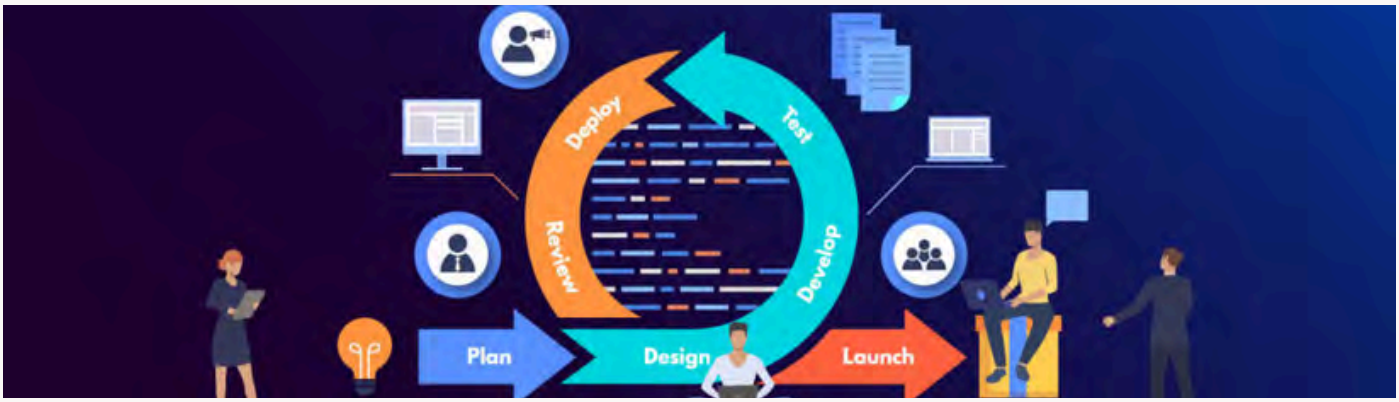
Towards Spiritually-Grounded Agility in Scrum Project Management

Mapping the Agile Manifesto to Spiritual and Ethical Values



In today's fast-moving project environments, Scrum offers teams the structure and agility to adapt quickly, collaborate effectively, and deliver consistent value. However, when combined with Tawhidic Epistemology, Scrum evolves from a management framework into a holistic system of ethical and spiritual excellence.

The Tawhidic worldview, rooted in the Oneness of Allah (Tawhid) — reminds us that every professional act is an act of 'ibādah (worship). This integration harmonizes the pursuit of project goals with moral accountability, responsibility, and sincerity (ikhlāṣ).

TEXT HERE

The Bridge Between Agile and Tawhid

The Agile Manifesto, the philosophical foundation of Scrum, emphasizes adaptability, collaboration, and customer value.

By aligning these with Tawhidic values, each Agile principle gains deeper meaning and transforming daily project routines into opportunities for ethical reflection and spiritual growth.

MAPPING THE AGILE MANIFESTO WITH TAWHIDIC PRINCIPLES

Agile Manifesto Value	Scrum Focus	Tawhidic Value	Spiritual Reflection
Individuals and interactions over processes and tools	Encourages teamwork, communication, and shared understanding.	Shūrā (Consultation) & Ukhuwwah (Brotherhood)	Collaboration becomes a form of shūrā, where decisions are made through mutual respect and unity.
Working software over comprehensive documentation	Focuses on delivering real value to users.	Iḥsān (Excellence) & Amānah (Trustworthiness)	Delivering functional outcomes with sincerity reflects amānah and the pursuit of iḥsān in work.
Customer collaboration over contract negotiation	Builds trust and long-term partnership with clients.	ʿAdl (Justice) & Raḥmah (Compassion)	Fairness and empathy define client relations, ensuring just outcomes that benefit all stakeholders.
Responding to change over following a plan	Promotes flexibility and continuous improvement.	Tawakkul (Reliance on Allah) & Hikmah (Wisdom)	Change is embraced with tawakkul, trusting Allah's wisdom and adapting responsibly to new circumstances.

When viewed through the Tawhidic lens, Scrum ceremonies gain new depth:

- Daily Stand-ups become acts of amānah and shūrā, emphasizing honesty and cooperation.
- Sprints embody iḥsān — the pursuit of excellence with discipline and sincerity.
- Retrospectives encourage muḥāsabah (self-reflection), aligning continuous improvement with moral growth.

Leading with Trust, Wisdom, and Spiritual Accountability

the Scrum Team stands at the heart of every successful delivery. It is a self-organizing unit that combines diverse expertise. Product Owner, Scrum Master, and Developers are all working together toward one shared goal: delivering value continuously and efficiently.

Yet, when viewed through Tawhidic Epistemology, the Scrum Team is more than just a technical unit. It becomes a community of ethical collaboration, bound by faith, trust, and shared accountability before Allah.

THE SPIRIT OF ETHICAL AGILITY

A Tawhidic Scrum Team thrives on both performance and purpose. Success is measured not merely by meeting deadlines or delivering software, but by the integrity, compassion, and sincerity that shape each interaction. In this way, teamwork becomes ʿibādah, a service with spiritual awareness. Each member contributes to the greater good, knowing that their efforts are ultimately for Allah's pleasure, not just organizational success.

CONCLUSION: BUILDING TRUSTWORTHY AND PURPOSE-DRIVEN TEAMS

Integrating the Agile Manifesto with Tawhidic Epistemology enriches Scrum with moral intelligence. It ensures that project success is not only measured by efficiency or profit but by the integrity, justice, and sincerity shown throughout the process. By combining agility with spirituality, organizations nurture teams that are not just adaptable but accountable before people and before Allah. Together, they embody the essence of ethical agility: "to serve with excellence, to lead with trust, and to work with purpose."

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TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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Thinking Like a Tester: Role Playing in Course Delivery

Abstract

Software testing education requires more than theoretical understanding, it demands the development of a tester's mindset. Integrating role-playing activities into course delivery encourages students to "think like testers," enhancing analytical reasoning, communication, and problem-solving skills. This article discusses how role-playing can be effectively applied in software testing education to simulate real-world contexts, promote critical thinking, and prepare students for professional testing environments.

Keywords:

Software Testing, Tester Mindset, Role-Playing, Experiential Learning, Quality Assurance, Active Learning.

Introduction

In software engineering education, students often focus on coding, algorithms, and design, while testing is treated as a secondary phase. However, quality assurance and defect prevention depend heavily on the tester's ability to think critically and anticipate potential failures. The phrase "thinking like a tester" refers to adopting a mindset that questions assumptions, explores edge cases, and values evidence over intuition. Teaching this mindset effectively requires active, experiential learning methods—one of which is role-playing.

Thinking Like a Tester

To think like a tester is to view software from multiple perspectives users, developers, clients, and security experts. A tester's mindset is curious, skeptical, and analytical. It focuses on discovering what could go wrong rather than proving what works. Testers ask questions such as:

- What happens if the user enters invalid data?
- How does the system behave under extreme conditions?
- Are there hidden assumptions in the requirements?

Cultivating this mindset in students requires more than lectures. It requires experiential learning where they confront ambiguity, explore systems, and learn from failures.

Role-Playing as a Pedagogical Strategy

Role-playing transforms passive learning into active exploration. In a software testing course, role-playing can simulate real-life testing scenarios. For example:

- Tester–Developer Interaction: One group plays testers who identify bugs, while another plays developers defending their code. This encourages negotiation, technical reasoning, and communication.
- Client Acceptance Testing: Students act as clients evaluating whether a software product meets their expectations. This teaches the importance of understanding requirements and user satisfaction.
- Agile Sprint Reviews: Students role-play as QA engineers within Agile teams, practicing test planning, execution, and reporting in iterative cycles.

Benefits of Role-Playing in Software Testing Education

The integration of role-playing fosters multiple learning outcomes:

- Critical Thinking: Students learn to analyze requirements and anticipate risks.
- Communication Skills: Testers must convey defects effectively and diplomatically.
- Collaboration: Role-playing encourages teamwork across functional boundaries.
- Authentic Assessment: Instructors can evaluate students based on observed behaviors, decision-making, and applied reasoning rather than rote memorization.
- Motivation and Engagement: Simulated professional contexts make learning interactive and relevant.

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TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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Designing with Intention:
Scaffolded, Student-Led Learning for Meaningful Data Stories

Reintegrating Faith and Knowledge in Data Visualization

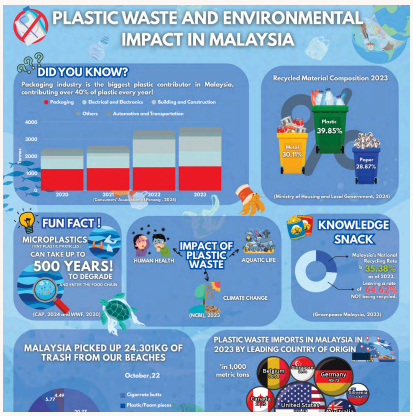
Why This Approach?

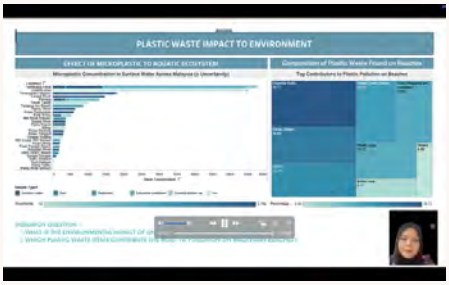
Rooted in the Tawhidic Paradigm of teaching and learning, this initiative bridges faith and knowledge through intentional design. Students are guided by niyyah (intention) and amanah (trust), values that shape how they visualize, analyze, and communicate data ethically.

Course Context: INFO4312 Information Visualization

The course moves students beyond "just charts." Through scaffolded, project-based learning, students transform one real-world dataset into:

1. A static infographic (design and storytelling)
2. An interactive Tableau dashboard (analysis and interactivity)





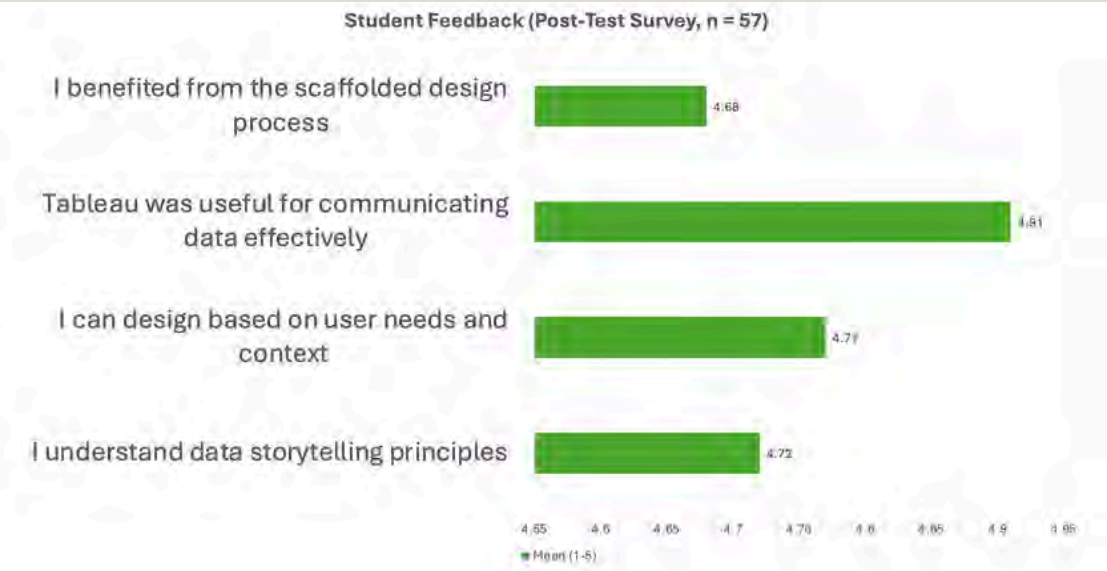
Topics include EV adoption, blood donation trends, weather and climate data, business performance, and more.

Tawhidic Integration in Practice

- Weekly tazkirah reinforces moral and spiritual grounding.
- Reflection journals prompt students to examine why and how their visualizations serve others.
- TE (Tawhidic Epistemology) principles anchor every design in ethics and impact.

REFLECTIONS ON TABLEAU & STUDENTS' WORK

Pre-test: 100% of students had no prior Tableau experience

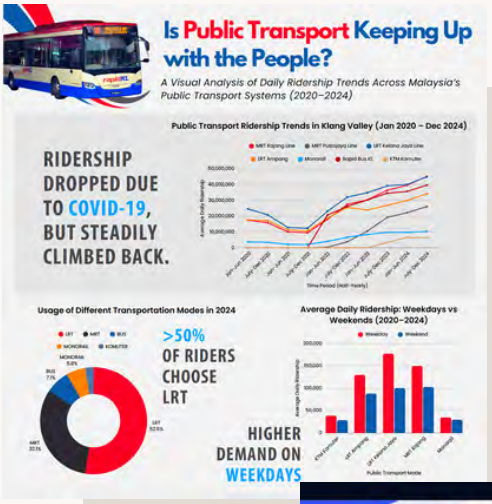


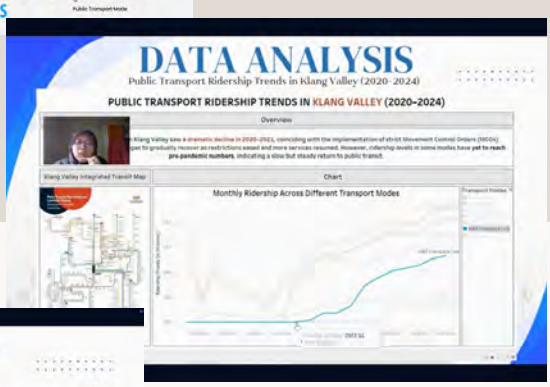
WHAT THEY ACHIEVED

Students' work evolved from static infographics to interactive dashboards that demonstrated:

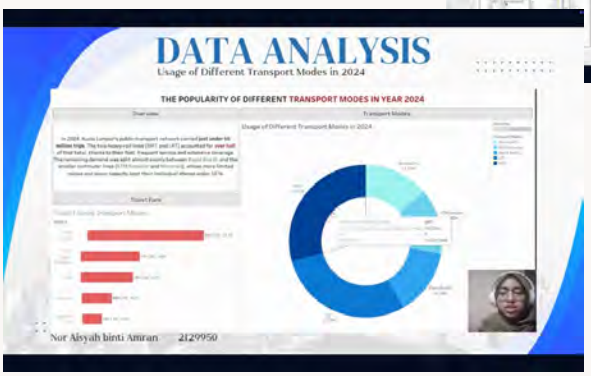
- Clear narrative flow
- Attention to user experience and cognitive principles
- Strong ethical framing aligned with niyyah and amanah
- choosing the right charts for the right insights

"The tazkirah reminded me of purpose in design"





"This course reminded me that good design is also an act of amanah."



Learning Gains and Student Voices

"Critique sessions helped me think like a designer, not just a student submitting work."

LEARNING GAINS

Method Used

The course employed a scaffolded, student-led approach, combining:

- Learning by doing (hands-on Tableau activities)
- Iterative feedback cycles (peer critique & lecturer review)
- Reflection (journals, self-assessment, and tazkirah summaries)

Students worked independently on datasets they cared about, encouraging ownership and deeper exploration.

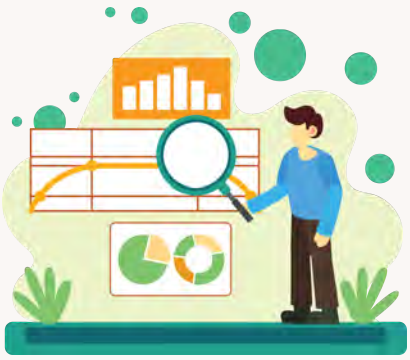
STUDENTS' VOICES

- 100% of students had no prior Tableau experience at the start.
- By semester's end, there was a notable rise in A-grade performance
- Students demonstrated mastery in visual hierarchy, storytelling, and ethical framing.

"I thought charts were enough, but now I know how to guide users through a story."

"Using the same dataset twice forced me to go deeper and communicate better."

"Now I see dashboards differently. I can spot good and bad design choices easily."



This teaching innovation shows that faith-integrated, student-driven design enhances not only technical skills but also purposeful creativity and ethical awareness. It redefines visualization education, from producing charts to crafting meaningful data stories that serve humanity.

TAWHIDIC PARADIGM IN TEACHING & LEARNING: REINTEGRATING FAITH AND KNOWLEDGE

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Creative Design Technique: Integrating Faith, Creativity, and Collaboration

The course Creative Design Technique represents an embodiment of experiential and reflective learning at KICT, aligning with the university's Tawhidic paradigm, a worldview that integrates faith (iman), knowledge ('ilm), and practice ('amal).
Through tutorial assignments and real-world group projects, students were encouraged to transform design theory into practice by collaborating with local entrepreneurs within IIUM's entrepreneurial ecosystem.

By engaging directly with real clients, students experienced the amanah (trust) of a designer: to deliver creative, ethical, and functional solutions that benefit others. The project served as a bridge between aesthetic creativity and spiritual accountability, emphasizing that design, when guided by Islamic values, becomes a medium of khilafah—contributing positively to society and environment.

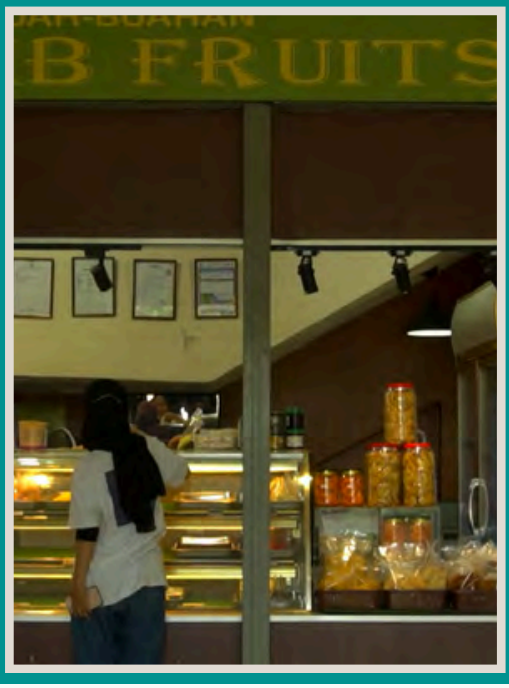
LEARNING THROUGH DOING

Students explored how elements and principles of design, typography, color theory, and layout techniques contribute to effective communication. Through hands-on activities, they created posters, brochures, pamphlets, and promotional videos that reflect both creativity and responsibility.

The course's tutorial structure encouraged students to move beyond imitation toward critical creation, where every line, shape, and color choice reflects intentionality, clarity, and ethical consideration.

COLLABORATIVE LEARNING AND REAL-WORLD IMPACT

Working in teams taught students communication, negotiation, and project management skills. Each group acted as a design consultant for a small IIUM-based business or social initiative, producing professional visual outputs that address real marketing needs. This experience cultivated empathetic design thinking, students learned to listen to client needs, balance creativity with business goals, and deliver solutions that align with both user expectations and Islamic ethical guidelines.



IMPACT ON STUDENT DEVELOPMENT

The integration of faith, creativity, and collaboration produced holistic outcomes:

- Enhanced design literacy and ability to critique visual communication.
- Strengthened entrepreneurial awareness through engagement with real clients.
- Improved soft skills: teamwork, communication, and leadership.
- Heightened reflective and ethical awareness, aligning creative work with Islamic values.
- Empowered identity as responsible designers and digital innovators.

KICT TALE NEWSLETTER

Special thanks to the KICT TALE 2025 committee:

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Thank you!