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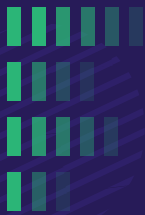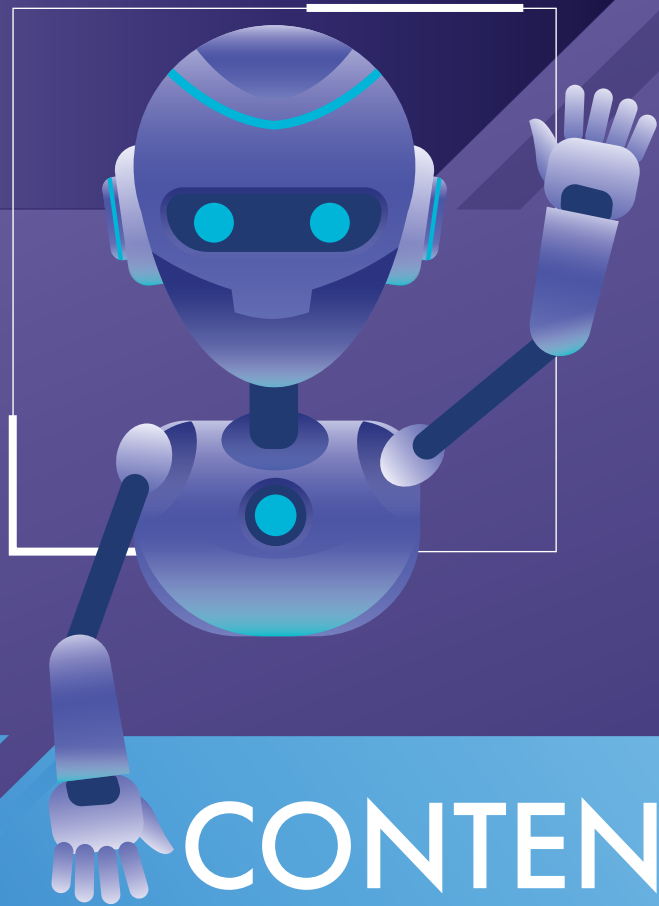
UNIMAS AI HUB

THE BACK STORY OF APAI

JOURNEY TO EXCELLENCE:
A TALE OF TRAINING, COLLABORATION,
AND GROWTH

MAPITA DI PERSADA PENDIDIKAN
TINGGI MALAYSIA

Elevating AI Towards
A Smarter Campus

CONTENTS

Dari Meja Pengarah

Assalamualaikum Warahmatullahi Wabarakatuh,

Pada kesempatan ini saya ingin merakamkan ucapan tahniah kepada sidang redaksi Tag-it kerana telah memilih tema yang amat signifikan iaitu "Elevating AI Towards A Smarter Campus" untuk terbitan 2024. Pemilihan tema tersebut adalah amat bertepatan dengan inisiatif yang telah digerakkan oleh UNIMAS dalam pewujudan Chatbot AI UNIMAS, penubuhan UNIMAS AI Hub serta penganjuran pelbagai program latihan dan sesi perkongsian ilmu berkaitan dengan teknologi AI.

Kursus-kursus berkaitan AI juga turut ditawarkan bagi meningkatkan kemahiran pelajar dalam bidang tersebut serta menggalakkan penerokaan, penjanaan dan pembangunan idea menggunakan AI. Pendekatan Gamifikasi, AI dan AI Generatif turut diperkenalkan dalam pengajaran dan pembelajaran di UNIMAS. Pelbagai projek penyelidikan berkenaan keupayaan mesin untuk mensimulasikan fungsi kognitif manusia, termasuk persepsi, penaakulan, pembelajaran, penyelesaian masalah, dan memahami bahasa semula jadi, turut dilaksanakan di UNIMAS.

Saya amat yakin dengan memanfaatkan AI secara bijaksana, UNIMAS dapat memperkayakan pengalaman pelajar, meningkatkan penyelidikan, dan menyumbang kepada pembangunan negara dan komuniti secara keseluruhannya.

Semoga hasrat murni dan usaha ini dipermudahkan, insya Allah...

Latifah Lah Abdullah

Chief Editor

Hello and welcome to the latest edition of Tag-it! Well, I'm thrilled to introduce this special issue focused on "Elevating AI Towards a Smarter Campus." At UNIMAS, we're always on the lookout for innovative ways to enhance our campus experience, and AI is playing a huge role in this transformation.

This edition is packed with exciting updates, including the successful implementation of our AI-powered chatbot, APAI. APAI is designed to assist staff, students, and the public by providing instant support and information. It's a great example of how we're using AI to make campus life more efficient and enjoyable.

We're also proud of the various training programmes we've conducted to equip our technical team with the skills needed to leverage AI technologies effectively. These programmes cover a wide range of topics from data analysis to machine learning algorithms, ensuring our team is well-prepared to keep UNIMAS at the cutting edge of technology.

The journey towards creating a smarter campus is a collective effort. It involves collaboration among educators, administrators, students, and technologists. In this issue, you'll find inspiring articles that showcase the innovative ideas driving our progress. We hope these stories motivate you to join us in exploring the new frontiers of AI.

Thank you for your continued support and interest in our publication. Let's continue to work together to create smarter campuses and a brighter future for all.

Best regards,

Alhadi

UNIMAS AI HUB

Prof. Dr Wan Hashim Wan Ibrahim
Chief Digital Officer (CDO), UNIMAS

AI for Educational Technologies
Curriculum and Learning Design (Pedagogy)

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AI Safe
Awareness among UNIMAS staff, students and surrounding communities, and worldwide collaboration and networking

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Research, innovation and community engagement

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IT Infrastructure

Higher education has prioritised efforts to integrate artificial intelligence (AI) into its teaching and learning environment. UNIMAS recognised the potential of AI and dispatched numerous academic staff to pursue advanced studies in this field. UNIMAS has also undertaken a substantial amount of AI-related research and innovation. The Ministry of Science, Technology, and Innovation (MOSTI) has formulated Malaysia's National Artificial Intelligence (AI) Roadmap 2021–2025, which emphasises the significance of AI in bolstering the country's economy and enabling it to realise its full global potential.

In his yearly address, the Vice Chancellor of UNIMAS stated an AI Hub will be built in the campus and will facilitate the institution's transformation through the application of AI to teaching and learning, research, administration, and infrastructure. The enormous responsibility entrusted to AI Hub necessitates the participation and commitment of the entire campus community.

The Chief Digital Officer's Office will have direct oversight of the AI Hub, which will develop strategies for the implementation of AI across all UNIMAS departments and units. The AI Hub consists of 3 operational entities:

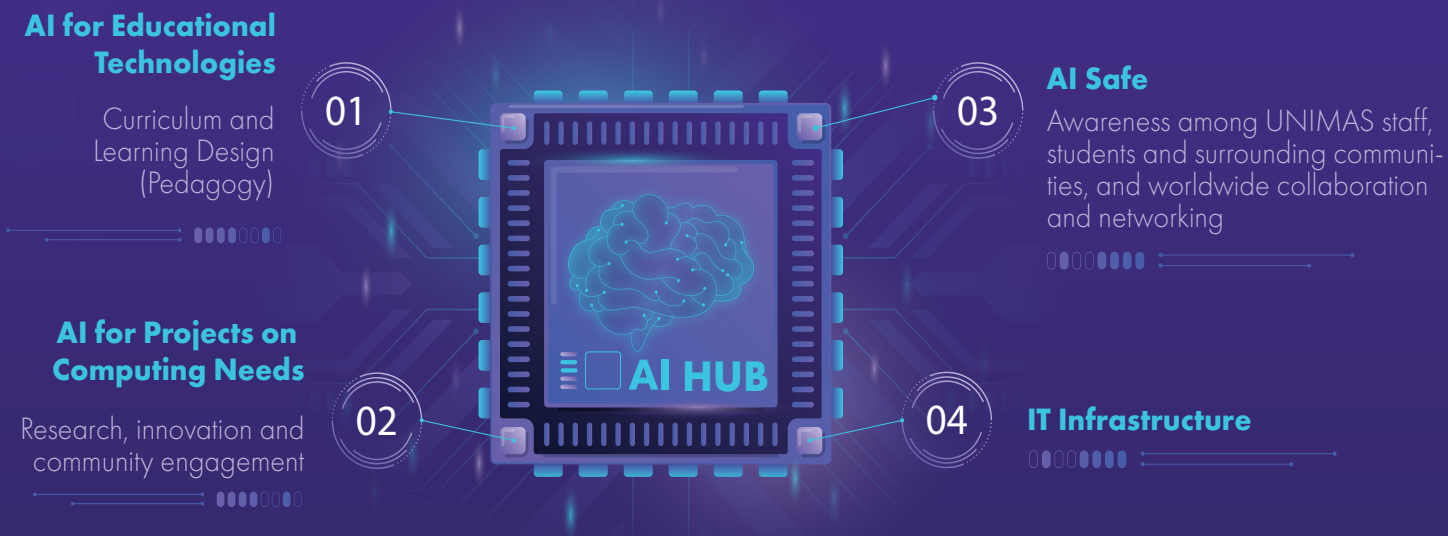1. AI for Educational Technologies (including pedagogy, curriculum, and learning design);

2. AI for Projects on Computing Needs (research, innovation, and community engagement); and

3. Safe AI (awareness among UNIMAS staff, students, and the surrounding community; and worldwide collaboration and networking).

Tun Abang Haji Openg Digital Centre (TAHODC) will play its role actively in providing IT support related to these AI initiatives.

We anticipate the following outcomes from the establishment of the AI Hub:

1. Incorporation of AI into all UNIMAS academic program curricula.

2. The advancement of AI-related research and innovation amongst researchers.

3. Integration of AI in administrative tasks across UNIMAS.

4. Active employment of AI across all ICT platforms in UNIMAS.

The AI Hub will serve as a central location where researchers can meet potential investors, industry partners, and communities, thereby expanding opportunities to generate income.

UNIMAS researchers will thoroughly investigate all the subsequent potential applications of AI via the AI Hub. AI has been extraordinarily beneficial in numerous ways. Artificial intelligence has had a profound impact on human existence, permeating every aspect of human life and improving convenience and efficiency in a multitude of domains.

Personalised suggestions: By analysing your behaviour and preferences, AI algorithms can generate customised suggestions for products, movies, music, and more. A number of applications pertaining to products, music, and films uti-

lised AI to guarantee that users were completely satisfied with their services.

Smart assistants: Artificial intelligence-powered virtual assistants such as GPT-4o, Siri, Google's Gemini Live, and Alexa can assist with task management, reminder setting, question answering, and executing actions such as playing music or activating smart home devices. Smart assistants are undergoing accelerated development and now provide practical applications, contextual comprehension, and real-time interactions. With their ongoing development, they have the potential to become essential companions in our day-to-day existence. Smart assistants use AI algorithms to comprehend natural language and execute a variety of operations through Natural Language Processing (NLP). Engaging in human-to-human conversations, conducting online transactions, and modifying environmental conditions (such as illumination or temperature) are some examples. It is vital to prioritise privacy and data security when utilising these tools.

Healthcare: The healthcare industry uses AI to aid in disease diagnosis, develop individualised treatment plans, and even execute robotic operations, thereby improving the overall healthcare ecosystem. AI can revolutionise healthcare delivery by improving diagnostics, predicting diseases, and customising treatment plans. By automating administrative duties, AI enables medical personnel to allocate their attention to patient care, thus boosting staff morale and retention. Additionally, it can accelerate life-saving treatments. Medical image analysis by AI algorithms (e.g., X-rays, MRIs) assists in the diagnosis of abnormalities. AI models anticipate disease progression, patient outcomes,

and potential complications in advance. By identifying potential candidates and analysing enormous datasets, AI expedites the drug development process. Chatbots powered by AI provide patients with information, appointment scheduling, and responses to inquiries. Intelligent systems customise treatment plans according to unique patient attributes. Although AI has numerous benefits to offer the healthcare industry, its proper implementation and adherence to ethical principles are crucial for optimising its advantages and minimising its risks.

Transportation: AI helps optimise traffic flow, predict maintenance needs for vehicles, and improve autonomous driving capabilities.

Finance: AI is used in fraud detection, algorithmic trading, personalised investment advice, and customer service through chatbots.

Education: AI can provide personalised learning experiences for students, automate administrative tasks for teachers, and offer tutoring services.

Overall, AI technologies have substantially improved efficiency, convenience, and productivity. All UNIMAS communities will be able to take advantage of AI through the AI Hub, increasing overall efficiency and productivity.

The Back Story of APAI

Mahani Huja Husin & Ts. Mohd Razif Baital

REKA Cogna

APAI emerged as a phenomenal success, swiftly capturing the limelight upon the launch of the UNIMAS Chatbot. For any inquiries, the resounding advice within UNIMAS communities has become, 'Ask APAI.'

But who exactly is APAI?

APAI stands as the UNIMAS Chatbot, designed to address a plethora of queries and serve as your intelligent assistant. Currently, APAI is endowed with expertise in six primary knowledge base domains: Academic Matters, Research & Discovery, Admin & Finance, Student Affairs, ICT & Online Services, and General.

The name APAI was carefully chosen during our initial discussions with the chatbot working team, later called the APAI team. We aimed to find a name that resonated with the local essence of Sarawak. After brainstorming, "APAI" and "INDAI" were suggested, creating excitement among committee members. Additionally, incorporating "AI" in the name seamlessly fit the overall theme. The technical committee then gave APAI a persona inspired by the qualities of a 'Tuai Rumah' (Iban Longhouse Headman). According to Freedman, D. (1970), a 'Tuai Rumah' is expected to have a deep understanding of adat, impartiality, sound judgment in dispute resolution, and adept verbal communication skills. In Iban culture, fathers are fondly referred to as APAI. The APAI chatbot mirrors the wisdom-centric role of a 'Tuai Rumah.'

This thrilling project began with a fantastic idea from our Vice-Chancellor, Professor Dr. Ahmad Hata Rasit. The TA-HODC (Tun Abang Haji Openg Digital Centre) team was assigned the task of bringing the UNIMAS Chatbot to life by February 6, 2024, as part of the Amanat Naib Canselor. The team received this mandate on January 12, 2024, giving them less than a month to complete the project.

But how did this ambitious project take shape?

Various options were deliberated, including Microsoft Co-Pilot and REKA Cogna, an emerging initiative by the REKA Drivers team. In a nutshell, the management team opted for REKA Cogna as the platform to create APAI.

The Platform

APAI was created with REKA Cogna, the AI integration platform available recently in REKA App Builder.

Cogna started development in early August 2023 with the initial blueprint includes an inference engine for a locally hosted model. However, due to hardware limitations, the project was put on hold for a while. During this period, the team proactively explored the feasibility of leveraging cloud inference services like OpenAI and HuggingFace, a strategy successfully employed by Universiti Malaya for their virtual assistant, UMAI.

In a bid to glean further insights, Bahagian Aplikasi Pentadbiran organized knowledge-sharing session_ s with Mr. Haezal Musa from Universiti Malaya, focusing on OpenAI. This collaborative effort provided valuable perspectives on the practicality of integrating cloud AI inference services into Cogna.

The project resumed on early 2024 with a refined design, now equipped to seamlessly integrate with cloud inference services. Cogna unfolds its development in carefully planned stages, each introducing new capabilities to enrich the platform.

Phase 1: Text generation (available)

This phase will deliver the capability of text generation which enables the creation of AI chatbots. Cogna already supports models hosted on OpenAI, HuggingFace, Azure OpenAI, and VertexAI Gemini. The future plans include integration with locally hosted inference engines like LocalAI. Creators will have granular control over parameters such as temperature (creativity), system messages, and post messages.

Phase 2: Text analysis (available)

This phase will focus on improving the capability of text analysis which includes text classification and text extraction. Text classification can be used in decision-making or to automate certain tasks that normally rely on human judgement. Text extraction will facilitate the retrieval of data from various sources such as documents and images, converting it into a structured format suitable for processing and utilization in standard applications.

Phase 4: Text transformation (available)

This phase will provide the ability to carry out text transformation tasks, including summarizing text, rephrasing content, and translating text to various languages. This feature will be available as a utility service across applications in REKA.

Phase 3: Multimodality (upcoming)

With the advent of the multimodal model, text is not the only way of interacting with AI. This phase will bring support for multimodality and explore the possibility of using a more advanced RAG (retrieval augmented generation) technique. This phase also tries to improve vector database capabilities to store image embedding and other various data format.

Phase 4: AI Function Calling (upcoming)

In this phase, function calling capability will be introduced, enabling the creation of systems designed to take action. Parameters extracted from user prompts can be utilized as inputs for the relevant Lambda, enabling Cogna to perform various actions autonomously.

Knowledgebase

Cogna recognizes the pivotal role of a knowledgebase in AI-driven systems. Knowledgebase usually stored in a vector database and used to provide context for text generation or classification. Cogna is backed with options for vector storage/database such as ChromaDB and Milvus, allowing users to select the database that suits their requirements. Data vectorization can be done with various text-embedding model from OpenAI, VertexAI and HuggingFace. To ensure the accuracy of semantic search results from vector databases, Cogna exposes the parameter to further fine-tune the embedding process.

Data integration

- REKA Bucket: Cogna can ingest documents uploaded through form created with REKA, supporting various formats such as docx, pdf, plain text, and PowerPoint slide.

- REKA dataset: Addressing challenges in understanding structured data, Cogna approached the problem the other way around by providing tools to transforms dynamic structured datasets into stories, ensuring more accurate semantic search results compared to conventional schema-based data ingestion.

User Interface

Along with Cogna, new custom screen type is also introduced in REKA which can be used to quickly create UI for the chatbot. For external applications, RESTful endpoint for prompting is also provided. For websites, chatbot created with Cogna can be embedded easily.

Why REKA Cogna

- In-house developed

- Does not depend on concrete implementations such as specific LLM providers, embedding store, etc

- Coherent integration with REKA ecosystem (identity and access management, datasets, Bucket, Lambda, etc) and UNIMAS Infostructure ecosystem

Whats Next for REKA Cogna

Cogna aims to advance its capabilities by integrating tools and agents to enable process automation. The platform is set to broaden its horizons by expanding supported data sources, incorporating data from RESTful endpoints and websites. Additionally, the default user interface for the chatbot still has more room of improvements, as the method of interaction and expected AI response might drastically change with the advent of multimodality. Vector database support will also be diversified, incorporating Elasticsearch and Qdrant for increased flexibility. Holding on to our original plan, we still look forward for local inference and local hosting of models, but now through LocalAI which will unlock more potential of generative AI while ensuring data security and privacy. As for our app creators, Cogna would be a powerful addition on top of other services available in REKA ecosystem such as Lambda and Bucket.

Things to consider while developing such project

1. Key Considerations for Project Development: Avoid Reinventing the Wheel: When developing a project like this, it is crucial not to start from scratch if existing solutions are available. Leverage existing tools and technologies to streamline the process.

2. Learn from Experts: Seek guidance from experienced professionals or those who have successfully implemented similar projects. Learning from their insights can save time and help navigate potential challenges.

3. Inclusive Team Involvement: Ensure that everyone on the team is actively involved and contributes their expertise. A diverse team brings different perspectives and skills, enhancing the project's overall quality.

4. Prioritize Engagement Sessions: Conduct regular engagement sessions to communicate project objectives clearly. This helps align everyone with the goals, fostering a collaborative environment and reducing misunderstandings.

5. Fast-Paced Decision-Making: Speed up decision-making processes. Given the tight timeline, swift and efficient decision-making is essential. Establish clear channels for decision approvals to prevent bottlenecks.

References:

Freedman, D. (1970). Report on the Iban: Volume 41 (1st ed.). Routledge. https://doi.org/10.4324/9781003136484

ment, as it brings together TAHODC with seasoned AI experts from the National Digital Department and Universiti Tun Hussein Onn (UTHM) for this inaugural training session.

Throughout the five-day training, Dr. Amit Barve's contagious sense of humor infused the classroom with warmth and productivity. Participants wholeheartedly engaged in the sessions, buoyed by Dr. Amit's expertise. His curriculum encompassed a wide spectrum of subjects, spanning AI, Machine Learning, GPU, and CUDA, fostering not only knowledge but also personal development among the participants.

> " The course was well-structured and organized. Kudos to the UNIMAS team and the trainer. We look forward to being invited again. "

Journey to Excellence: A Tale of Training, Collaboration, and Growth

Flora Intai

The memory of my solo journey to India in September 2023 for Parul University's International Week remains vivid in my mind. The treatment by Singapore Airline flight attendants, predominantly Hindi-speaking Indian passengers, was daunting. Yet, a strong inner voice urged me onward: "TAHODC awaits; an Indian AI expert must be sent to Sarawak as a trainer."

The journey to Parul University, reminiscent of scenes from Shah Rukh Khan's "Jawan" movie, offered insights into polite communication behaviors among Indians. That might facilitate my efforts to engage in meaningful discussions regarding AI trainer to UNIMAS, Sarawak.

The inaugural day at Parul University in Vadodara, Gujarat, India, brought a sense of optimism as guests were greeted with lively Bhangra Dance. It was on this occasion that I had the pleasure of meeting Dr. Amit Barve, Head of the Department of Computer Engineering at Parul University, for the first time.

The dates of April 22nd to 26th, 2024, carry profound significance as they mark the fulfillment of TAHODC's commitment. Dr. Amit Barve, a distinguished figure, spearheaded the training, meticulously crafting a syllabus to suit the participants' varying levels of AI comprehension. This collaboration is a source of great excite-

> " The trainer expertly steered us through AI and deep learning basics, seamlessly connecting theory to real-world applications. Hands-on coding exercises mirrored the concepts, all expertly explained by the trainer. "

> " The course covers AI concepts with hands-on exercises and real-world examples for practical application in various domains. "

> " Diving into the world of Generative AI, setting up locally while giving Python and Machine Learning a refreshing tune-up. "

MAPITA di Persada Pendidikan Tinggi Malaysia

Ts. Wan Azlee Hj. Wan Abdullah
Pengerusi MAPITA Sesi 2023/2024

Majlis Pengarah-Pengarah ICT IPTA (MAPITA) berperanan penting dalam landskap pendidikan tinggi Malaysia sejak penubuhannya pada tahun 2004. Pengiktirafan rasmi daripada Kementerian Pendidikan Tinggi (KPT) mengukuhkan keberkesanan MAPITA dalam memacu agenda pendigitalan di institusi pendidikan tinggi awam (IPTA).

Keanggotaan dan Peranan

MAPITA terdiri daripada Pengarah ICT di Universiti Awam, BPM KPT, JPPKK, MQA, dan PTPTN. Ia merupakan platform utama untuk kerjasama strategik, perkongsian pengalaman, dan penyelesaian cabaran ICT di universiti. Wakil MAPITA turut bertindak sebagai pakar rujuk dalam pembuat dasar dan jawatankuasa di KPT, menunjukkan sumbangan penting dalam penyelarasan dan pelaksanaan dasar ICT nasional.

Inisiatif MAPITA

MAPITA telah mengusahakan pelbagai inisiatif untuk memacu kecemerlangan pendigitalan di KPT dan IPTA, termasuk:

1. Bengkel Pendigitalan (Pengkomputeran Awan): Bertujuan membincangkan garis panduan perisian Microsoft GWS dan M365 serta penubuhan Cloud@KPT.

2. Kajian Menaik Taraf Rangkaian: Kajian mengenai penggantian peralatan rangkaian dan peningkatan LAN kepada 1Gbps.

3. Seminar ITLEAD Siri 1: Membincangkan peranan pentadbir ICT dalam adaptasi teknologi pendidikan tinggi.

4. Perancangan KPI dan Inisiatif 2024: Merangka dan memperkukuhkan KPI serta inisiatif ICT untuk 2024.

Fokus Utama

MAPITA memfokuskan kepada:

- Tadbir Urus, Kepimpinan, dan Kompetensi: Menambah baik tatakelola pelantikan CDO dan memperkasa pembangunan modal insan dalam ICT.

- Sistem Aplikasi, Data, dan Platform: Memajukan e-learning dan kerjasama teknikal dalam bentuk meta-verse.

- Infrastruktur Fasiliti ICT dan Pusat Data: Pemusatan langganan perisian dan pengkomputeran awam melalui Cloud@KPT.

- Rangkaian dan Keselamatan: Meningkatkan rangkaian LAN/WiFi serta sistem keselamatan dan pematuhan piawaian standard keselamatan maklumat.

Platform Perkongsian

MAPITA juga menyediakan platform untuk pertukaran inovasi dan perkhidmatan melalui Sesi Knowledge Exchange (KnowX), yang bertujuan berkongsi teknologi terkini seperti IoT dan AI. Ini meningkatkan kemahiran dan kompetensi staf ICT serta mendorong penciptaan idea baru.

Repositori Kepakaran ICT

MAPITA sedang membangunkan Repositori Kepakaran ICT untuk menyediakan akses mudah kepada pengetahuan dan kepakaran dalam ICT, penting untuk menghadapi cabaran masa depan dengan kecerdasan buatan (AI) dan teknologi yang terus berkembang.

Kesimpulan

MAPITA berharap dapat terus menjadi sumber inspirasi dan sokongan bagi kemajuan pendidikan tinggi Malaysia dalam era digital. Dengan sokongan dan komitmen semua pihak, MAPITA yakin dapat mencapai kecemerlangan bersama dalam pembangunan pendidikan tinggi negara, membawa IPTA ke arah yang lebih dinamik, berdaya saing, dan relevan dalam era digital yang sentiasa berubah.

MAPITA komited untuk meningkatkan kompetensi staf ICT, memupuk inovasi, dan memperkukuh kerjasama strategik. Dengan usaha berterusan, MAPITA akan terus menyumbang kepada kemajuan ICT dalam pendidikan tinggi, membentuk masa depan digital yang lebih cemerlang.

ON THE MOVE

GRADUATE SUPERVISION AND THESIS MANAGEMENT SYSTEM (GSTM)
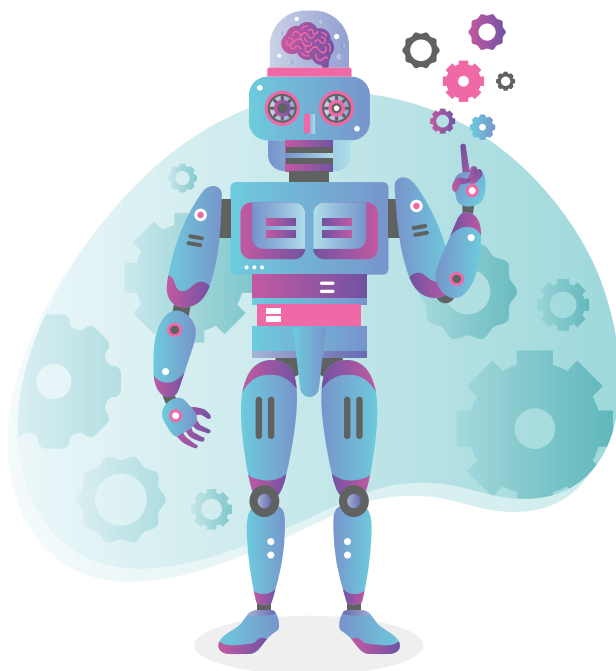
MyViva

MyViva and Graduate Supervision & Thesis Management

To ensure that our university's thesis submission and management process is efficient, two applications: MyViva and Graduate Supervision & Thesis Management System (GSTM) were developed on REKA platform. MyViva helps students manage their thesis submission. It puts all required information in one place for easy and transparent access and reference. The second application is Graduate Supervision & Thesis Management System (GSTM). This application is designed to facilitate the supervision and management of graduate students' theses. Through GSTM, supervisors can easily access and evaluate the supervision progress and the student specific requirements.
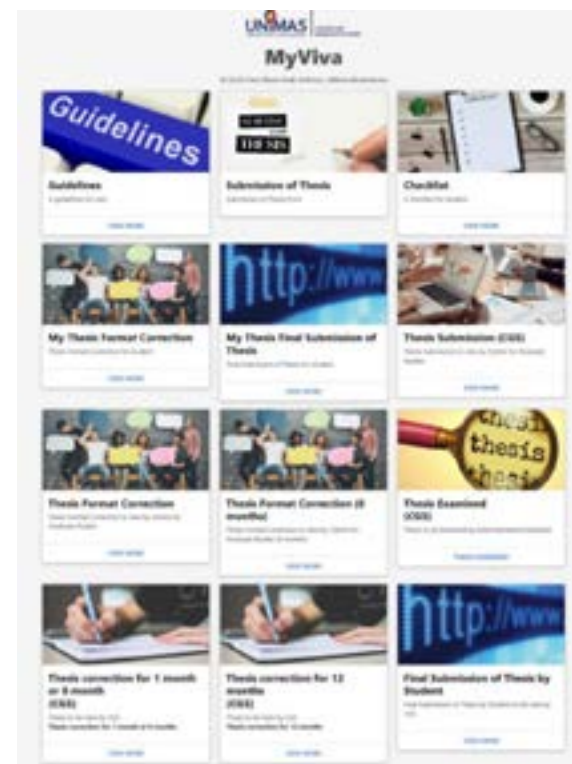
Academic Advisor on UNIMAS Now

The Academic Advisor, launched in May 2023, is the latest addition to the UNIMAS Now mobile app. It is designed to streamline the appointment management for both students and academic advisors, thereby enhancing the existing Academic Advisor Module within the Student Management System. The in-house development app not only broadens the system's functionality but also provides academic advisors with an intuitive and user-friendly tool to monitor their students' progress. It offers a seamless and efficient experience as users can easily access the app through their phone for a quick check of their supervisory information.

Digital Business Card

UNIMAS Digital Business Card, accessible via UNIMAS Now, is an eco-friendly and convenient way for UNIMAS staff to share their contact details. By allowing others to scan the unique QR code, they coinstantly share their digital card. This innovative feature not only reduces paper waste and printing costs but also allows users the freedom to share their contact information with anyone, at any time, and from anywhere. Additionally users have the option to link their UNIMAS Digital Business Card to their preferred social media platforms. This app is a smart, sustainable, and sophisticated way to connect in today's digital world.

ON THE MOVE

OTiMS

The Overtime Management System (OTiMS) was carefully designed to replace the eOT system, which was out of date. This change came about after a thorough study of the problems with the legacy system. The goal was to add more features, make the interfaces easier to use, and streamline the process. Notably, the way the calculations are done has been improved to give more accurate estimates, which means that amount is always correct.

A big improvement in usefulness is the addition of the ability to claim unrecorded leave, which wasn't possible with the legacy system. This feature makes the system more flexible by letting users handle leave cases that weren't being tracked before. The beta version of the system went live in January 2023, and after a lot of testing and tweaking, it was stable after three payroll runs. The successful implementation of OTiMS is a big step forward in terms of how well it works and how easy it is to use. It fixes the problems with the legacy system and gives us a strong way to handle overtime.

Endowment & Waqf

The Division of Endowment and Waqf of UNIMAS is using technology to increase productivity and enhance endowment and waqf projects as sources of revenue for the institution. Procedures like collecting and distributing annual contribution statements which were done manually, are moving to an automated system. With limited members, the division looks for technology to improve outreach to staff, students, and the general public while streamlining processes.

The eDonation platform which was launched in January 2024, allows contributors to maintain profiles, track contributions, and make wage deductions (for employees). This

technical development not only simplifies internal procedures but also improves accessibility and openness, which promotes a more effective and inclusive approach to endowment and waqf projects at UNIMAS.

eClips 2.0

The management of medical and dental benefits witnessed a substantial upgrade with the introduction of eClips in 2015. Realising the shortcomings of outdated technology, a comprehensive reengineering project was started in 2023 to improve the user experience for panel clinics, Bahagian Pengurusan Organisasi (BPO), and staff members. The revamped system, which went live in beta mode in January 2024, offers additional features for pensioners that make it easy for them to monitor their medical and dental usage. Interestingly, eClips is the first in-house system to integrate UNIMAS Identity on Keycloak.

Since its beta release, eClips has undergone iterative improvements and continues to actively welcome user input. This is our commitment to consistently fulfilling the demands of our users, and we will strive to be a state-of-the-art platform for effective and user-friendly medical and dental benefit administration.

BPO Online

The homeland passage and welfare application system's outdated technology has made it clear that it cannot accommodate the process owner's request for additional services. In response, the technical team has chosen to begin the system redevelopment using REKA. This revamped system is designed to seamlessly integrate additional services

in the future. Presently, the system encompasses four applications; welfare, homeland passage, Skim Prihatin UNIMAS, and Medical Guarantee Letter applications. The use of REKA empowers developers to prioritise solutions over the intricacies of technology.

ePrestasi Reengineering

The ePrestasi System underwent reengineering due to performance issues, outdated technology, and the need for dynamic evaluation criteria. The system was divided into ePrestasi for administrative staff and ePrestasi for academic staff. The reengineering process itself is complicated. It covers multiple phases tailored to align with specific deadlines for key activities such as Penetapan Sasaran Kerja Tahunan, Kajian Pertengahan Tahun, Pencapaian Sebenar, Penilaian PPP, Penilaian PPK, Panel PTJ, Panel Universiti, and My Appraisal Result. The project is completed in March 2024.

To enhance effectiveness and responsiveness, a beta roll-out strategy was used, allowing continuous improvement based on user feedback. Despite initial complaints, the system's performance significantly improved, emphasising the positive impact of the reengineering efforts. This iterative approach accelerates system maturity and provides developers with valuable insights from real-life scenarios.

eHarta

The PHP-based system, including eHarta, has experienced a lapse in version upgrades over several cycles. Consequently, it beomes need to redevelop eHarta to ensure continued accessibility for end users. The primary objective of this redevelopment is to enhance both user experience

and system functionalities. The major challenge faced in this project revolves around the intricacies of migrating data from the previous version, complicated by differences in database structures.

UNIMAS Identity Migration

Since 2016, user authentication process through Single Sign-On (SSO) has been enabled using OAuth2 standard in "UNIMAS Identity". To improve online identity management and unlock advanced features such as passwordless login, UNIMAS has initiated the deployment of "UNIMAS ID" which is powered by Keycloak. Keycloak is an open source software product to allow single sign-on with identity and access management aimed at modern applications and services.

Keycloak allows UNIMAS applications to use a modern authentication standard such as OIDC and OAuth2.1. The migration process has started with REKA-based applications, followed by eClips 2.0 and other newly developed applications/modules. Migration is expected to be completed by the end of 2024.

Sistem Pemilihan Waktu Bekerja Fleksi (WBF)

Since January 2023, UNIMAS has implemented Waktu Bekerja Fleksi (WBF). The manual process initially used hard-copy forms. TAHODC developed the WBF system to allow staff to select their preferred working hours for approval through an online platform. With this implementation, there has been a notable reduction in paper usage, streamlined monitoring, and expedited approval processes.

Mesyuarat Majlis Pengarah-Pengarah ICT Universiti Awam (MAPITA)

Ts Alhadi Bujang
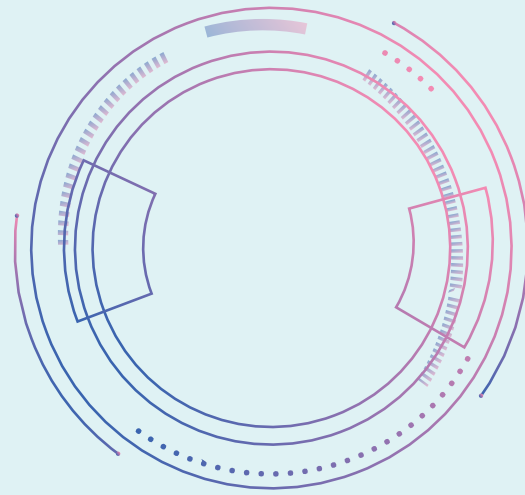
Universiti Malaysia Sarawak telah mendapat kepercayaan untuk menjadi tuan rumah Mesyuarat Majlis Pengarah-Pengarah ICT Universiti Awam (MAPITA) yang membuka tirai 2024 pada 6 Mac 2024.

Mesyuarat dihadiri oleh 40 orang orang ahli MAPITA yang terdiri daripada 20 orang Pengarah ICT universiti-universiti awam, penceramah serta wakil-wakil yang dilantik. Para delegasi mula tiba sejak 4 Mac 2024.

TAHODC telah merangka beberapa program pengisian pada 5 Mac. Para delegasi dibawa melawat Borneo Cultures Museum, muzium kedua terbesar di Asia Tengggara dan terbesar di Malaysia. Pada sebelah malamnya pula, mereka disajikan dengan makan malam bertemakan makanan asli Sarawak, khususnya kaum Melanau. Dapatlah merasa keenakan umai, linut, ikan terubuk goreng, tumpik dan lain-lain.

Hujan lebat pada sebelah pagi 6 Mac 2024 tidak mematikan semangat para delegasi menghadiri mesyuarat MAPITA di bangunan TAHODC. Sebelum mesyuarat bermula, para delegasi memanaskan badan dengan dibawa melawat sekitar bangunan baharu TAHODC. Selesai mesyuarat, sesi perkongsian ilmu yang julung-julung kalinya dijenamakan sebagai KnowX turut diadakan.

Seramai 6 orang penceramah daripada universiti awam serta syarikat luar telah berkongsi pengalaman serta pengetahuan mereka dan di sampaikan dalam bentuk ringkas, padat, serta mudah difahami.

Alhamdulilllah, keseluruhan program telah mendapat maklumbalas yang amat positif daripada para peserta. Insha Allah kita akan berjumpa lagi di mesyuarat seterusnya.

The Paradigm Shift in AI – Prediction to Generation

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The distinction between science fiction and reality is becoming increasingly hazy as artificial intelligence (AI) permeates every aspect of our life. What started out as an attempt to replicate human intellect has developed into a potent instrument that can actively shape the future rather than just predict it. Predictive artificial intelligence has become widely used in many areas, including product recommendations, early disease detection, weather forecasts, and market trends. Through extensive data analysis, these systems were able to spot trends and generate well-informed forecasts.

Generative AI represents the next significant advancement in artificial intelligence, shifting from merely making predictions to creating original content and solutions. This evolution opens numerous opportunities across various fields. For instance, media professionals utilize tools like OpenAI's GPT-4 to draft stories, news articles, and reports, freeing up more time for detailed research and investigative journalism. In graphic design and fine arts, platforms like DALL-E generate unique images from textual descriptions, transforming the creative process for designers and artists by enabling rapid prototyping and concept exploration. In healthcare, generative AI contributes to precision medicine by crafting personalized treatment plans based on a patient's genetic information, medical history, and lifestyle. It also accelerates drug discovery by developing new molecular structures with potential therapeutic benefits. In education, AI customizes course materials to suit individual learning styles and speeds. Legal professionals leverage generative AI to analyze documents, identify relevant case law, and draft legal briefs tailored to specific cases. Customer service benefits from AI chatbots that handle routine inquiries, personalize responses, and generate scripts for complex situations. In finance, generative AI creates tailored financial reports, offers investment advice based on risk profiles, and prepares personalized financial planning documents. Architects and designers can swiftly produce initial design concepts and 3D models. Musicians and sound designers use AI to generate sound effects, alter existing themes, and compose mood-based background music. In marketing, AI crafts personalized texts, develops targeted campaigns, and produces various ad versions. For software developers, generative AI identifies code issues, automates repetitive tasks, and generates code snippets. Data scientists use AI to create visualizations, summarize complex data, and suggest new research avenues.

Although generative AI has enormous potential, there are also important social and ethical issues it brings up. These systems depend on enormous volumes of data, many of which contain personal information, thus protecting the privacy and security of that data is crucial. Fairness and bias mitigation are especially important because AI models have the potential to reinforce the biases seen in training data. Complex intellectual property issues surrounding the ownership of AI-generated content arise, and the capacity to produce deepfakes calls for reliable techniques for disinformation detection and prevention. The ways in which we work, live, and create could all be completely transformed by generative AI. In order to fully realize the transformative potential of AI, it will be imperative that we promote responsible development and collaboration between humans and this technology.

RENOVASI RUANG DI TAHODC

Mohamad Khairul Firdhaus M. Dollah

Gretchen Rubin, seorang penulis dan penceramah motivasi pernah berkata "The physical environment profoundly influences the way we feel and think. A cluttered room may exacerbate depression and reduce motivation." Beliau merujuk kepada kepentingan susun atur ruang kerja yang boleh mempengaruhi cara kita bekerja dan berfikir.

Hasil daripada Mesyuarat Pengurusan serta mengambil kira pendapat warga kerja, TAHODC mengambil keputusan mengubahsuai beberapa ruang di bangunan Pejabat TAHODC sebagai langkah meluaskan fungsi dan keceriaan ruang. Ruang-ruang tersebut melibatkan Galeri, Bilik Mesyuarat 1, dan Bilik Rekreasi. Bagi memastikan perancangan dapat dilaksanakan dengan sumber peruntukan kewangan yang terhad, hanya kerja-kerja pengubahsuaian asas dan melibatkan struktur di Galeri dan Bilik Mesyuarat 1 dilaksanakan menggunakan khidmat kontraktor. Kerja-kerja selainnya seperti susun atur, mengecat, pemilihan dan pembelian perabot dilakukan oleh staf dalaman. Tidak terhenti setakat itu, mereka berjaya memasang laminated flooring yang dibeli daripada sumbangan dalaman staf.

Manakala pengubahsuaian di Bilik Rekreasi juga merupakan usaha dan titik peluh 12 orang staf TAHODC. Mereka bekerja keras sehingga lewat malam menjadikannya sebuah bilik rehat yang kondusif dan dengan tagline "Give me a </br> (break)".

Keseluruhan kerja dilaksanakan selamat 7 hari, bermula dari 26 Februari sehingga 3 Mac 2024. Kami amat bangga dengan hasil kerja kerana sebahagian besarnya adalah hasil titik peluh staf TAHODC sendiri. Hasilnya? Lihatlah gambar-gambar yang ada. "Rindok ati, nong!!"
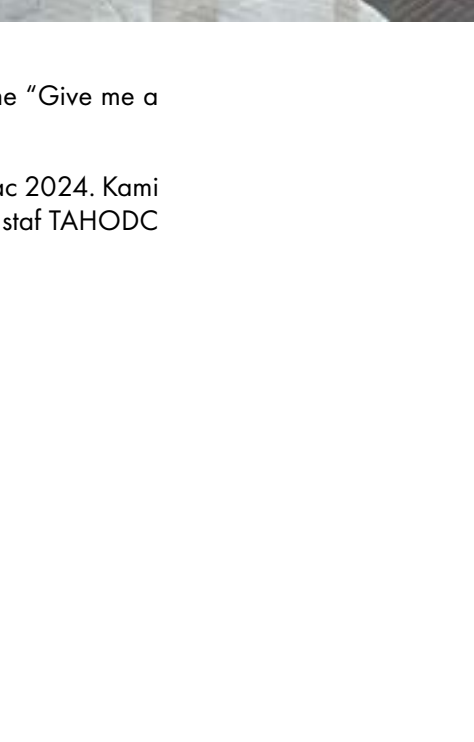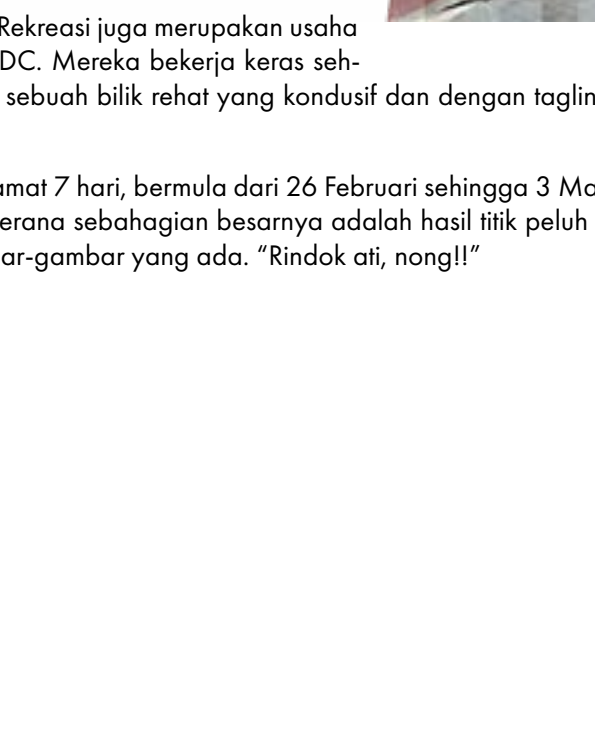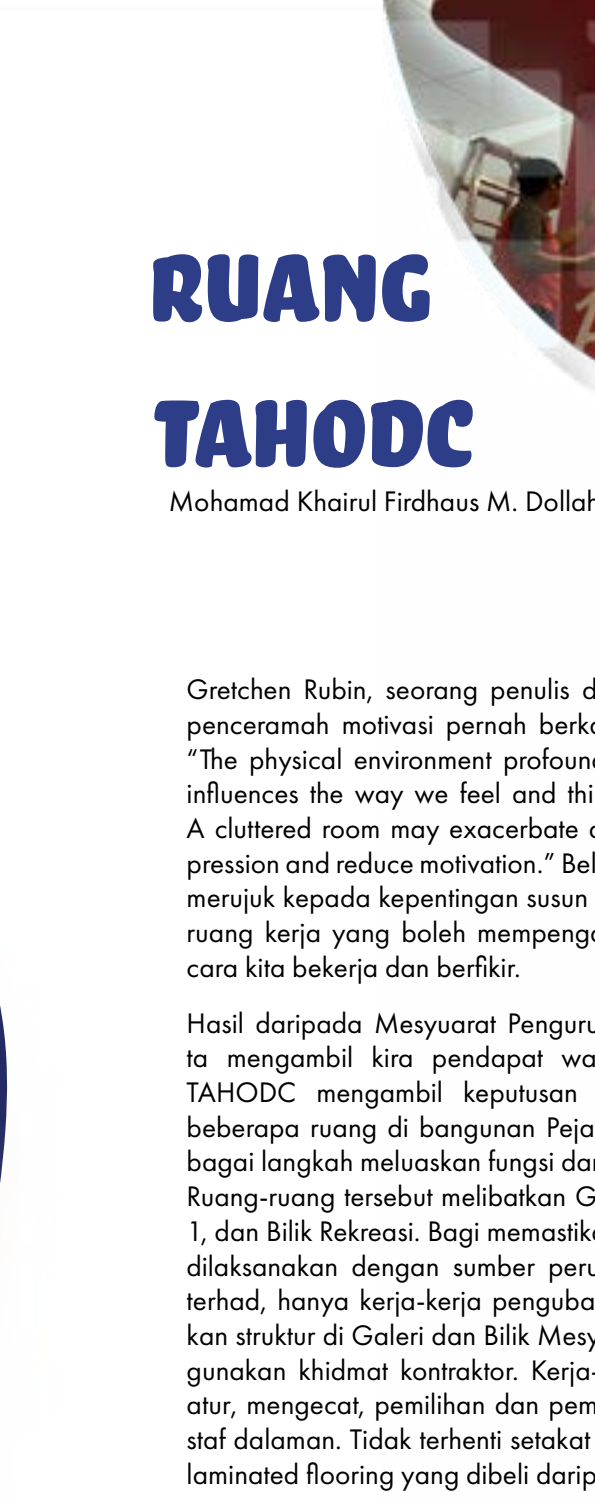
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