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INSPIRED 2024
IPOH INTERNATIONAL SUMMIT ON PROFESSIONALISM, RESEARCH & EDUCATION

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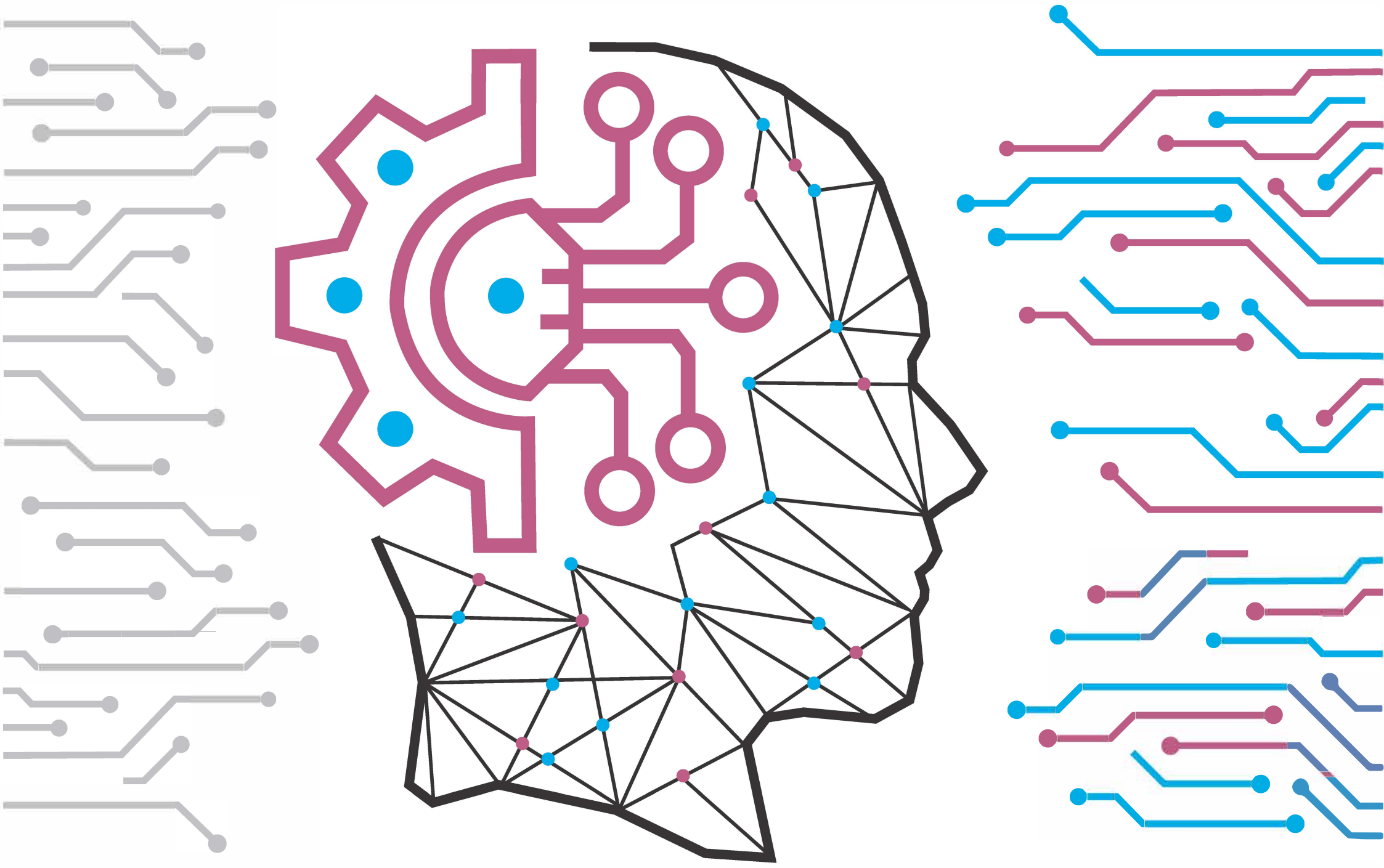

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THE 13TH INTERNATIONAL INNOVATION, INVENTION & DESIGN COMPETITION 2024

EXTENDED ABSTRACTS

e-BOOK

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THE 13th INTERNATIONAL
INNOVATION, INVENTION &
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Organized by:
Office Of Research, Industry,
Community & Alumni Network
UiTM Perak Branch

Perpustakaan Negara Malaysia Cataloguing in Publication Data

No e- ISBN: 978-967-2776-31-4

Cover Design: Dr. Mohd Khairulnizam Ramlie
Typesetting : Zarinatun Ilyani Abdul Rahman

EDITORIAL BOARD

TELEGRAM BOT: BUILDING TECHNOLOGY IV (DBT244)

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ABSTRACT

UiTM lecturers have a critical responsibility: imparting knowledge to students. However, managing teaching materials, including lecture notes in various file formats, can be challenging. These notes often end up scattered across hard drives, cloud storage, and USB drives, leading to confusion and forgetfulness. Additionally, ensuring that all students receive updated files can be cumbersome. To address these issues, a Telegram Bot was developed. Operating within the popular messaging app Telegram, this bot offers several advantages. First, it provides centralized access, allowing lecturers to retrieve teaching materials anytime and anywhere without the need for additional app installations. Second, instead of carrying a laptop to connect to projectors, lecturers can use their mobile phones. By wirelessly connecting to projectors using a wireless display receiver, they can display teaching materials directly from the Telegram Bot. Finally, the bot allows for real-time updates to lecture notes, ensuring that students always have access to the latest versions. In summary, this innovative solution streamlines lecturers' tasks, enhances accessibility, and simplifies the teaching process.

Keyword: Telegram App, Bot, Teaching Materials, Mobile Phone, Wireless

1. INTRODUCTION

UiTM lecturers play a pivotal role in educating students, and one of their key responsibilities is to create teaching materials, including lecture notes in various formats such as text, photos, slides, and videos. However, managing these notes can be challenging as the notes are often scattered across personal laptop hard drives, cloud storage, and USB drives. Lecturers may struggle to locate specific notes, leading to confusion and potential oversight. Additionally, ensuring that all students receive updated files poses a significant hurdle. To address these issues, a Telegram Bot was developed. Operating within the popular messaging app Telegram, this bot offers several advantages. First, it provides centralized access, allowing lecturers to retrieve teaching materials anytime and anywhere without the need for additional app installations. Second, instead of carrying a heavy laptop and using cables to connect to projectors, lecturers can use their mobile phones. By wirelessly connecting to projectors using a wireless display receiver, they can display teaching materials directly from the Telegram Bot. Finally, the bot allows for real-time updates to lecture notes, ensuring that students always have access to the latest versions.

This innovative solution streamlines lecturers' tasks, enhances accessibility, and simplifies the teaching process. Telegram, with its familiar and widely used interface, offers users a comfortable platform (Gope et al., 2023). For lecturers, the convenience is evident: they need only carry their mobile phones to class and wirelessly connect to projectors using display receivers. The Telegram Bot serves as a tool for displaying essential teaching materials, which can be conveniently stored within

the bot. Lecture notes can be updated periodically, leveraging the popularity of the Telegram Application. Previous studies have explored automation in Telegram bots, enhancing user interactions across various devices—mobile phones, tablets, laptops, and desktop computers (Abu.zaid et al., 2023; Mohan et al., 2021; Nizomutdinov, 2023; Oxoli et al., 2022; Rosid et al., 2018; Setiaji & Paputungan, 2018). Ultimately, the system aims to provide a free and open-source alternative for UiTM staff and students to create dynamic learning environments, foster communication, provide valuable resources to students, and enhance the teaching and learning experience.

2. METHODOLOGY

Telegram is a widely used messaging application. It offers a powerful feature known as Bots. These Bots allow users to create and run applications within the Telegram platform. Users can interact with Bots by sending commands, and in response, the Bot provides feedback based on the received instructions. Once a Bot is developed, users can easily search for it by name. Upon accessing the Bot for the first time, users are greeted with a Start button. Clicking this button reveals an interface with the main menu options. The menu as shown in Figure 1 includes various chapters related to soil mechanics, investigation, improvement, stabilization, deep foundations, cofferdams, retaining walls, basements, as well as sections for assignments, lesson plans, assignment formats, course information, rubrics, and a demo video for the Mackintosh Probe. Users can also access a brief explanation of the Bot by clicking the Bot Description button. Furthermore, clicking other buttons reveals the content of respective notes, assignments, and additional materials. To seamlessly share this content with a projector, lecturers can connect their mobile phones to a wireless display receiver attached to the projector, enabling immediate teaching without any hassle. Scan the QR code attached at the end of this article to experience the full features of the Bot.

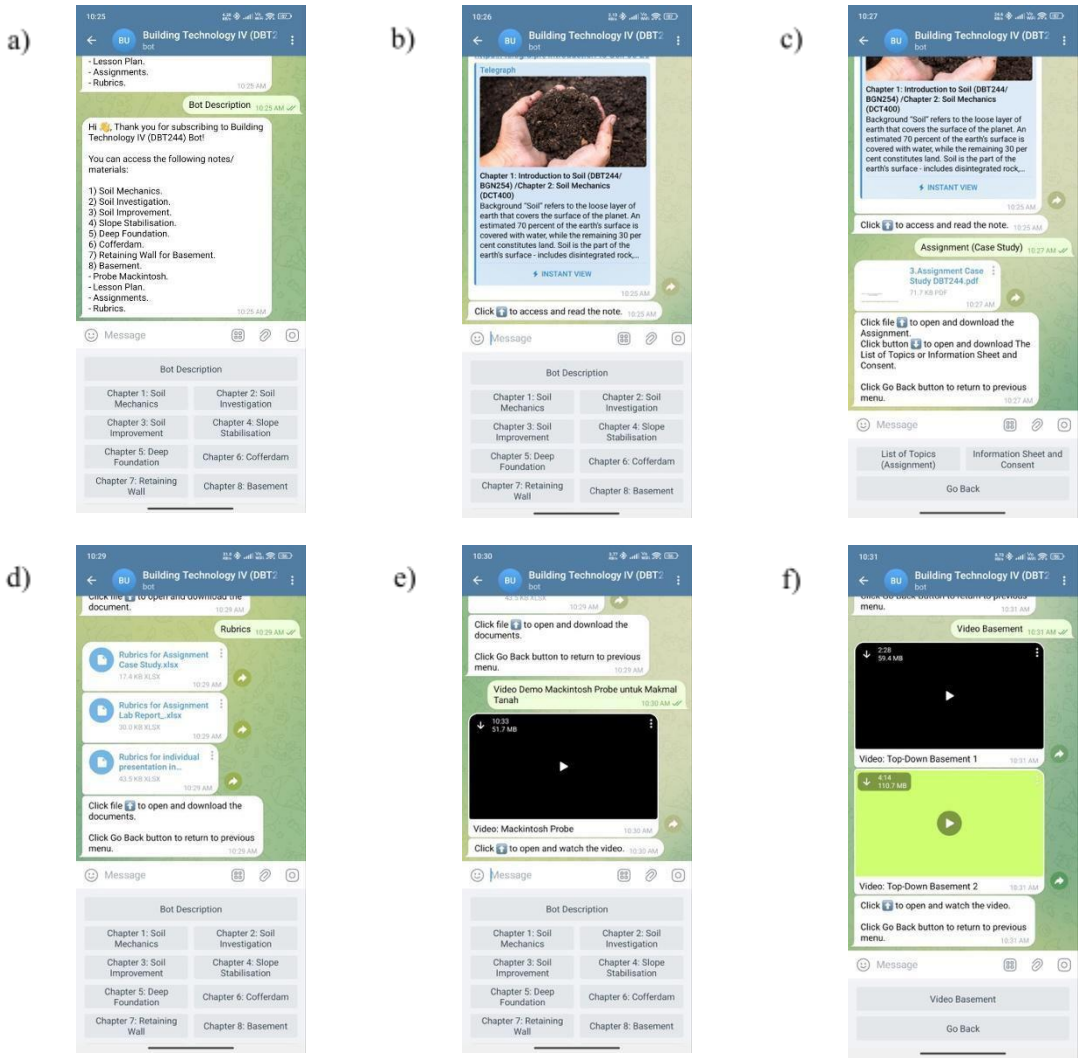

Figure 1 Bot description (a), Chapter 1 Soil Mechanics (b), Assignment Case Study (c), Rubrics (d), Demo video for Mackintosh Probe (e), Video for Basement (f)

3. CONCLUSION

The integration of a comprehensive Bot within Telegram heralds a transformative shift in digital learning. End users are liberated from the need to install multiple applications, as all necessary lecture materials are neatly organized and readily accessible within the Bot's menu. This seamless access is not confined by location or device; whether through a mobile phone, tablet, or desktop computer, the multi-platform nature of Telegram ensures that users can operate the Bot across Android, iOS, and Windows ecosystems. The cloud-based framework of Telegram allows for installation on numerous devices without restrictions, offering users the agility to connect with educational content swiftly, irrespective of their whereabouts. Collaboration is equally streamlined, with the ability to share lecture notes and materials among the teaching team and students, fostering a dynamic and interactive

learning environment. The Bot ease of access is epitomized by the QR code as shown in Figure 2, serving as a simple gateway to the Bot, thus encapsulating the essence of modern education: ubiquitous, flexible, and collaborative.

Figure 2 Scan this QR code to access the Telegram Bot

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