eCampus GO: STUDENT'S DASHBOARD FOR CLASSROOM SEARCHING

ADAM CHIN BIN AMRAN CHIN WAN MUHAMMAD IKHWAN BIN WAN ZUHAMINI

Final Year Project Report Submitted in Partial Fulfilment of the Requirements for the Diploma in Geospatial Technology in the College of Built Environment Universiti Teknologi MARA

JULY 2024

ABSTRACT

eCampus GO: Student's Dashboard For Classroom Searching

This research is to layout spatial data for the University Technology MARA, Seri Iskandar Campus, and design a search button of the "eCampus GO". The methodology includes three phases: To summarize, this project required tasks such as data collection, digitization, importing data into ArcGIS Pro, and developing a dashboard. Secondary data collected from OpenStreetMap and Google Earth Pro with data from ground observation for important buildings in campus. All these data were scanned and geo-referenced using AutoCAD and converted into shape files and then imported in to ArcGIS Pro for 3D modelling. The 3D scene was made base on changing the height of buildings and subsequently adding more features of the campus and saved to ArcGIS Online. The dashboard is created with ArcGIS Web AppBuilder; Therefore, included 3D model and the search widget to find the classroom and facilities. The outcome reveals a good 3D model of the campus, where by students will be in a position to navigate the information they require by rendering the tool interactively. This means that the "eCampus GO" is capable of well preparing and presenting spatial data that improves facilities and areas of accessibility in the campus. In conclusion, it can be pointed that the dashboard works as an easily-navigable, integrated, and multifunctional tool for students, guests, and administrators, helping to enhance campus orientations and access to various kinds of information.

ACKNOWNLEDGEMENT

Upon the completion of this project, we would firstly like to express our gratitude to Allah SWT for giving us strength, convenience and understanding in managing our final year project.

We also extend our heartfelt gratitude to our supervisor TS GS DR ERNIEZA SUHANA BINTI MOKHTAR for her thorough analysis on our written report, she provided many insights and pointed out mistakes that otherwise would have been over looked by us. During our short time together, we learned many valuable formatting and writing skills in Microsoft Word, to that we give our many thanks as it greatly helped us keeping our report as true as possible with the provided format.

Besides written reports, our supervisor also shared their experience and assisted us in the development of "eCampus GO" as she prior to this she had experiences in creating something similar. She pointed out our errors and gave suggested solutions to our challenges, overall this has shown to have improve our dashboard. In our final year project Dr. Ernieza has played a crucial role in ensuring that our final year project is completed smoothly and timely.

We would also like to extend our appreciation to Geospatial student in providing the necessary resources, guidance and external help for our final year project. The lecturers involved has been incredibly informative in assisting us to complete our written report.

Lastly, we would like to express our deep gratitude to our parents for always been there to support us, whether financially or emotionally. Throughout on our four semesters in pursuing our diploma, they have never failed us and have always been there for us whenever we needed them. Thank you for being our parents. (Adam Chin Bin Amran Chin and Wan Muhammad Ikhwan Bin Wan Zuhamini)

TABLE OF CONTENT

ABSTRACTü	
ABSTRAKiii	
ACKNOWNLEDGEMENTiv	
TABLE OF CONTENTv	
LIST OF TABLEvii	
LIST OF FIGUREviii	
INTRODUCTION	
1.1	Background of Study1
1.2	Problem statement
1.3	Significance of study
1.4	Objectives of Study
CHAPTER 2	
LITERATURE REVIEW4	
2.1	Introduction4
2.2	Conventional data searching4
2.3	Overview of location data searching5
2.4	Latest Technology on Location and database Searching8
2.5	Previous study on GIS application for location data searching9
2.6	Summary10
CHAPTER 3	
METHODOLOGY11	
3.1	Research design
3.3	Data processing14

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Campus management is defined as a support campus manager in their decisionmaking processes, the use of the information delivered by smart campus tools and their application in organisational processes has received little attention. (Bart Valks et al., 2021). Several studies use dashboards in the connection of Internet of Things (IoT) information to strategic decision-making processes in the management of university campuses. (Bart Valks et al., 2021).

There are numerous studies related to campus management using integrated technology. Internet is used for campus management using opens source software to organize the facility campus environment, classing searching, and other information. Studies related to campus management using integrated technology have been produced such as the smart campus management platform of digital twin utilized digital twin technology to digitize the campus environment, equipment, students, teaching resources and other information of the school, thus achieving three-dimensional visualization, intelligent analysis, and feedback (Pan Hu et al., 2023)

Therefore, this study intended to provide the e-campus for classroom searching which can help the students easily navigate especially to new students on campus. This project focuses on gathering information on the Universiti Teknologi MARA, Seri Iskandar campus space from various online sources to digitize buildings and facilities. This involves the use of Geographic Information System (GIS) software such as ArcGIS Pro. This "eCampus GO" that offers classroom searching in three-