

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF UNDERGROUND UTILITY
DATA MANAGEMENT UTILIZING AN OPEN-
SOURCE GIS SOFTWARE**

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Thesis submitted in fulfillment
of the requirements for the degree of
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AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

The Malaysia government have mandate the trust to Department Survey and Mapping Malaysia (JUPEM) to gather and organise the data for underground utility mapping. Hence in 2006, JUPEM has established a division for underground utility mapping-PADU (formerly known as Utility Mapping Section of the Mapping division) to compile all the data regarding the utility data. A Standard Guideline for Underground Utility Mapping (PKPUP 1/2006) has been produced by JUPEM in order to specify the procedure for collection, organise, and way of sharing data. In this circular also mention the issues for data quality and stakeholders. Thus meet the requirement that have been set by PADU. However, there is no legalisation or proper law that demand all the utility provider agency to share the data to PADU because the cost of licensed GIS software is expensive. The aim for this research is to design GIS database template for underground utility data management using QGIS software. In order to give them an option of what software they can use, the research will differentiate between an open-source GIS software and licensed software based on a few aspect. In this research, the outcome is to grasp the potential of QGIS software to develop an underground utility database.

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