UNIVERSITI TEKNOLOGI MARA

ENHANCEMENT OF PARCEL BASED SPATIAL INFORMATION VIA QUICK RESPONSE (QR) CODE

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Thesis submitted in fulfilment
of the requirements for the degree of
Master of Science

Faculty of Architecture, Planning and Surveying

April 2015

ABSTRACT

Locating land parcel physically on the ground based on Certified Plan (CP) or Land Title (LT) is time consuming and costly. With the advent of Information and Communications Technology (ICT), an innovation towards locating land parcel automatically on the Google Earth with the aid of Quick Response (QR) code is introduced. In this study, selected information from the CP and Land Title is encoded towards the preparation of a QR code. The generated QR code (output) contains, attribute information as well as the coordinate which is link to the location of the parcel via online (Google Earth/Maps) using smartphones technology system. The accuracy of the smartphones also has been assessing in this study. The accuracy was execute using 29 known points (Cadastral Reference Mark - CRM) distribute around Peninsular Malaysia monitor by Department Surveying and Mapping Malaysia (DSMM). Every point was tested and the difference was recorded. The accuracy result reported for the system is ±2 meter using Root Mean Square error (RMSe) equation. With the accuracy testified, navigating to the land parcel physically on the ground is practical and achievable. The output also been used in determining the best size and scanning resolution (standard smartphones cameras), for decode purpose. The best placement of the QR code on CP and Land Title documents also been justified. Furthermore, with the embedded QR code on CP and Land Title, locating land parcels could be done almost from anywhere, anytime all year round (24/7/365). This innovation will be of great advantage to a diversity of land related activities.). An outlined towards the creation and decoding of the QR code is presented and the prototype results wereportrayed in Appendix G.

ACKNOWLEDGEMENTS

Assalamualaikum w.b.t.
In the name of Allah s.w.t. The Most Benevolent and The Most Merciful.

First and foremost, I would like to express my greatest gratitude to a various people who had offered their assistance in writing this dissertation. I would also like to thank my supervisor, Assoc. Prof. Dr Jasmee bin Jaafar, who had given me the opportunity, guidance and his trustworthy support.

To all people that put together their information and suggestion, especially to Assoc. Prof. Hj. Nasri bin Md Rani, and all members from Department of Survey and Mapping Malaysia and Lembaga Juruukur Tanah Malaysia. I do owe their sincerity, cooperation and helpful in completing this study. Million thanks and only God can pay for all the kindness and cooperation.

Finally, I also like to extend my thanks to my family members especially to my lovely father, Juhari bin Abdullah and my mother, Salmah binti Hj Abdul Rahman. Last but not least to my friend Mohammad Nor Imran bin Mohammad Nor for his support, help and encouragement has enabled me to complete this dissertation.

Suriati Juhari

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