



Embedding 3D into MPC

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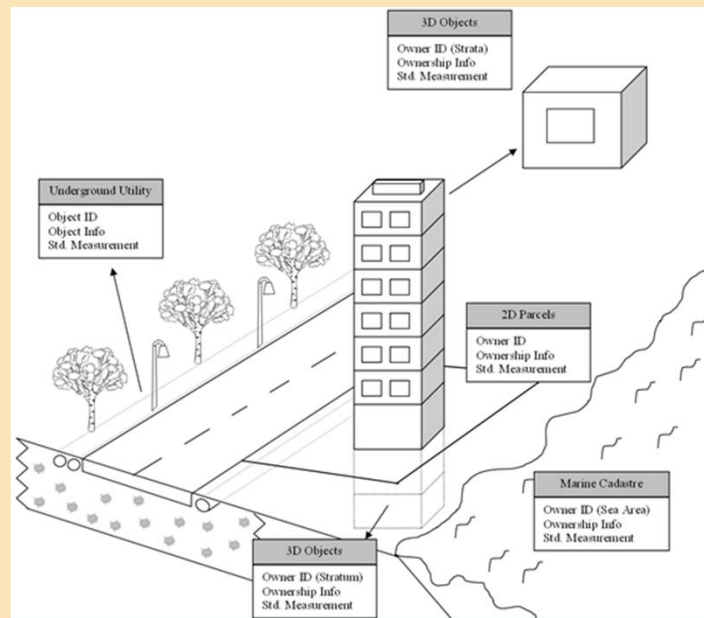
Outline

- Introduction
- The MPC components
 - 3D cadaster
 - 3D city model
 - 3D underground utility
- The proposed MPC
- Concluding remarks

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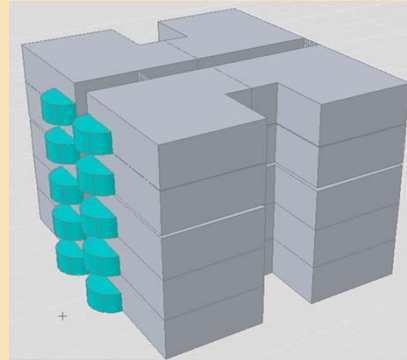
Introduction

- New initiative by Malaysian NMO
- Attempt to utilise various existing datasets and mapping and cadaster databases
- 3D technologies for MPC



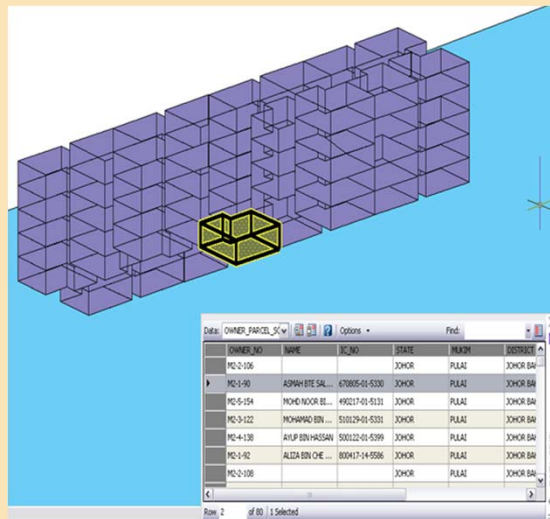
The MPC components

- 3D cadaster



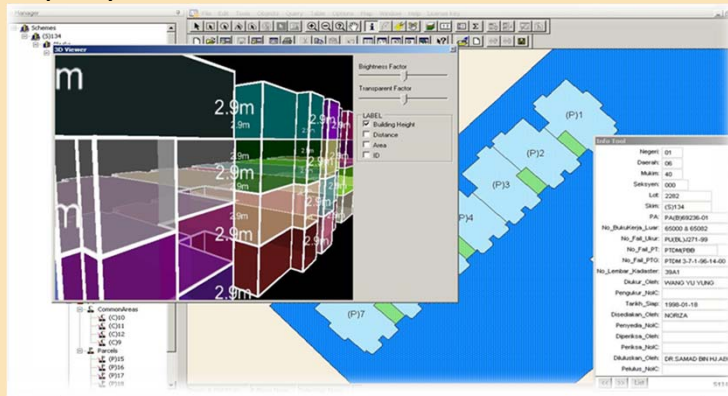
The MPC components

- 3D cadaster
 - query



The MPC components

- 3D cadaster
- query



The MPC components

- 3D city model



The MPC components

- 3D city model



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Query from 3D City Model database

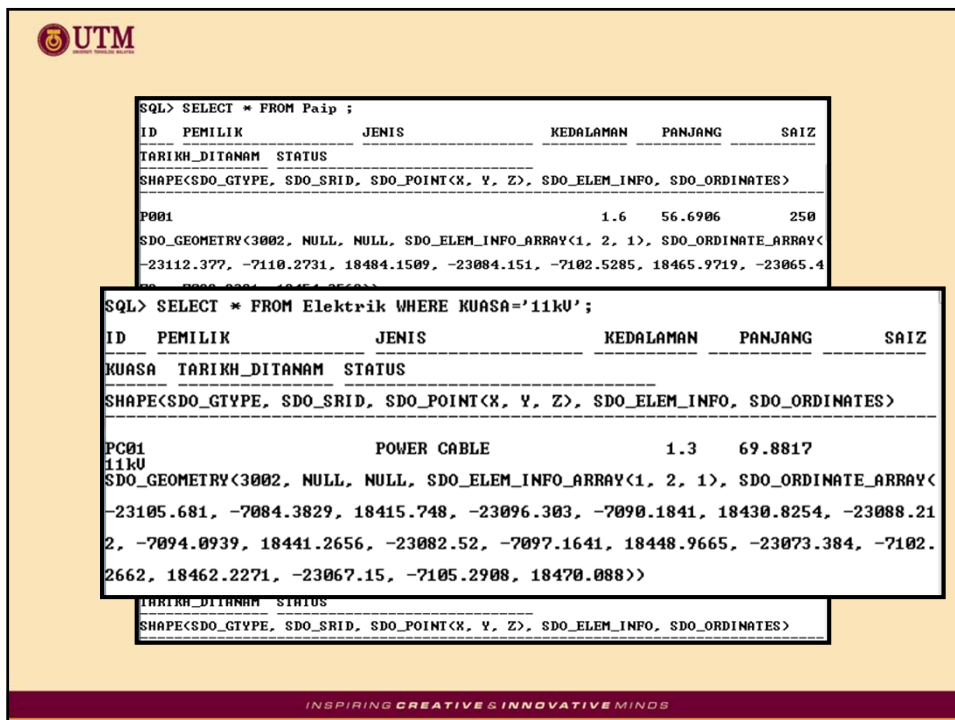
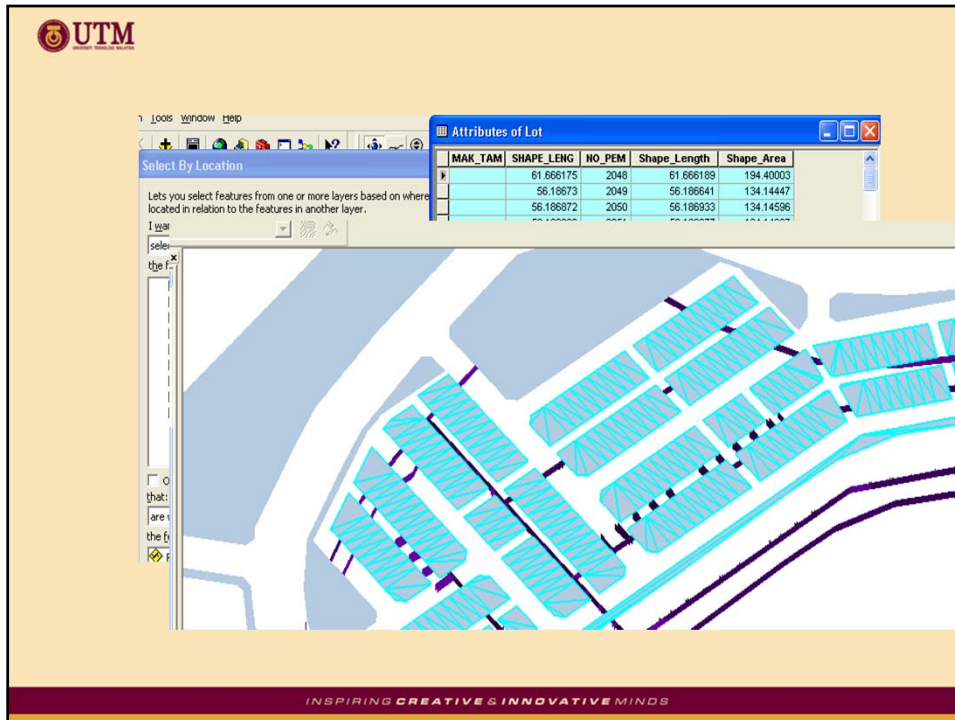
- How many buildings, trees, traffic lights?
- How many storeys?
- Total green area?
- From which window can I see place XY?
- What is the total windows area of the buildings?
- Where are the entrances or exits?
- What is the energy demands for cooling and electricity?
- Show all objects belong to wall X at level XX at building YY

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The MPC components

- 3D underground utility
 - Majority of the databases are in 2D and hardly integrated with cadaster
 - Efforts being investigated on 3D database for underground utility objects e.g. pipelines, cables, etc.

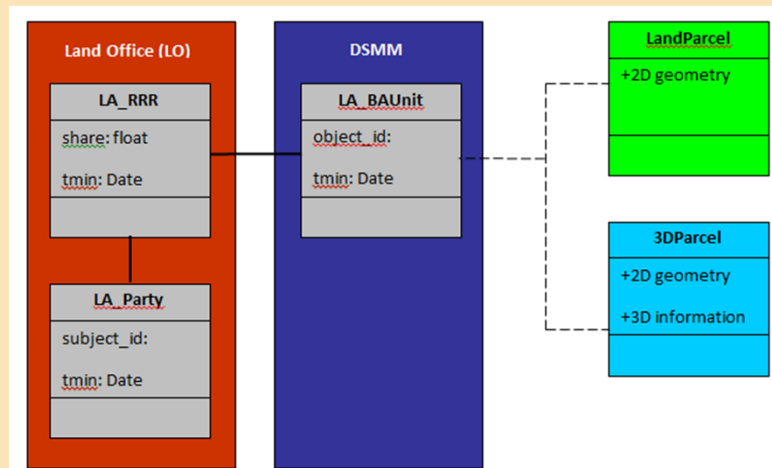




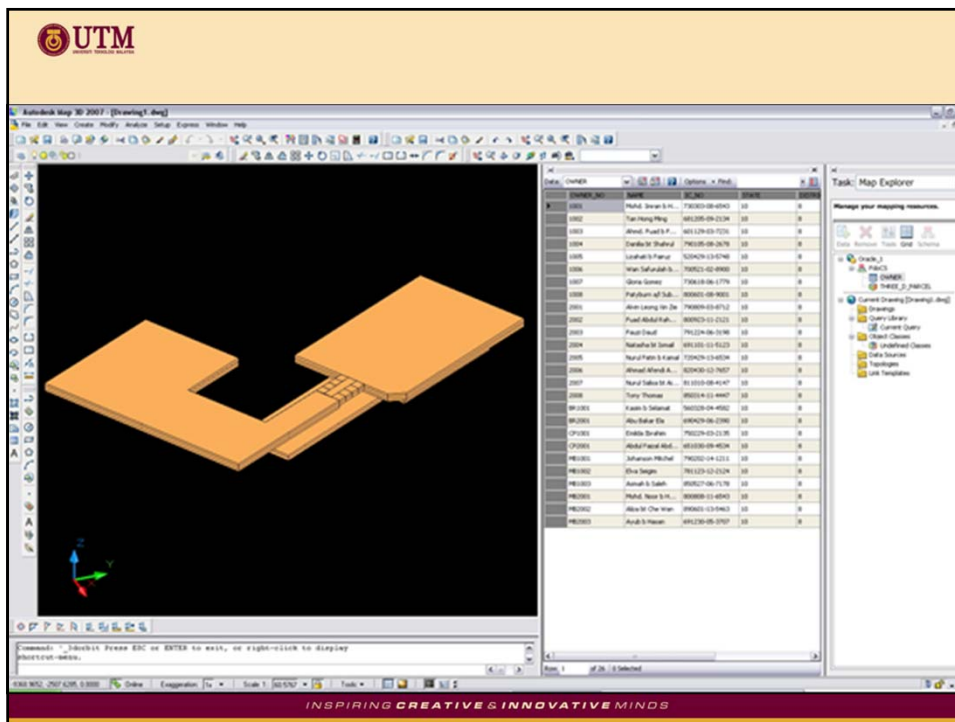
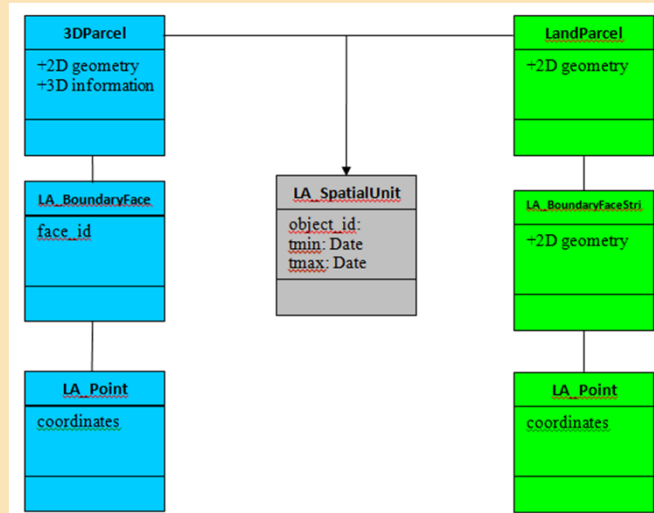
The possible implementation

- Based on Land Administration Domain Model (LADM)
- Preservation of existing 2D cadaster + registration of 3D situations
- We are working with the relevant authority e.g. NMO for definitions of 3D situations as well as with FIG 3D cadaster WG

The possible implementation



The possible implementation

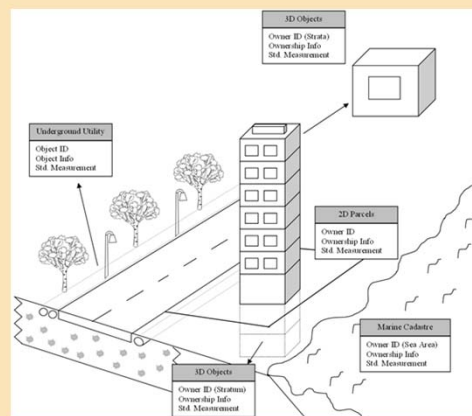


Concluding remarks

- We have described several possible components for 3D MPC – including 3D cadaster, 3D city model, 3D underground utility
- The 3D MPC - at the conceptual stage and several issues still need to be addressed further e.g.
 - definition of 3D situations and other legal aspects
 - integration of several existing databases and datasets

Concluding remarks

- 3D GIS technologies surely will enhance the MPC initiative
- Better understanding of the real world objects.





Acknowledgments

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That's all, thank you!

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