The Fourth International Workshop on GIS Technology and Application

3D GIS Technology for Urban Planning

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PART 2 Demolition So Case

PART 3 Scheme Comparison Case



New System for Urban Planning



GIS Capability for Urban Planning

Connection to Urban Design Data

Quick Modeling Based on 2D Data

Spatial Processing for 3D Features

Spatial Query and Analysis

Aesthetic 3D Scene

Connection to Urban Design Data





Quick Modeling Based on 2D Data



Integration of Geology Data and Building Model



Dimension Reduction - Building Section



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Openness Analysis



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Analysis on Underground Pipeline Network





Introduction

As the traffic worsened in recent years, the proposal for road expansion is approved by the community committee.
Buildings within 10 meters to the road center line need to be demolished.



Data & Steps

- Add Bottom and Road into the scene
- Create expansion area
- Create building models based on Bottom
- Find out buildings to be demolished using 3D Query



Add Data into Scene

Dataset -> Right Click -> Add to Current Scene





Expansion Area

• Spatial Analysis -> Vector Analysis -> Buffer Zone -> Buffer Zone

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Expansion Area

• 3D Designer -> Modeling by Rule -> Linear Stretch

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Building Models from Bottom

• 3D Designer -> Modeling by Rule -> Linear Stretch

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Building Models from Bottom

- Select expansion area in the scene
- Buildings intersecting with the expansion area should be demolished.



Buildings to Be Demolished

- Select expansion area in the scene
- Spatial Analysis -> Query -> Spatial Query -> 3D Spatial Query

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Buildings to Be Demolished





Introduction

- An old building is going to be replaced by a new service center
- There are two design schemes for the service center. The community committee wants to compare them in the scene based on oblique photography 3D model before making the decision.



Data & Steps



- Flatten the model of old building
- Add the models of Scheme A and Scheme B into the scene and set their attitudes
- Compare the two schemes in the scene

Flatten the Model

- 3D Data -> 3D Tiles -> Model Flatten
- Import Flatten Surface: Flatten@bim



Flatten the Model





After

Add Scheme Models into the Scene

- Dataset -> Right Click -> Add to Current Scene
- Select scheme layers in Layer Manager
- Style Settings -> Extension Settings
 - Attitude Mode: Relative to Ground
 - Attitude: 75





Compare Schemes



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THANK YOU.