CityEngine: A Quick Introduction

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2 minute city
What is procedural modeling?
Procedural Modeling Provides a Flexible 3D Design Environment Supporting a Rapid and Repeatable Process

Steps
- Author Rules (or use Library)
- Generate Multiple Design Scenarios
- Evaluate Alternatives

Particularly When Projects Require Many Iterations
Procedural Modeling is Intelligent Rule Based Database

- Interactive
- Multiple Views
  - Realistic Display
  - 3D Thematic Rendering
- Performance Reporting
  - Driven by Attributes
  - Visualized Dynamically
“Creating 3d faster, smarter, easier.”

“Enabling the rapid and interactive creation of 3D content, en masse or in situ, that is visually compelling, quantifiable, and sharable.”
Demo

GFA

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Total GFA (sq ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>192312</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>120243</td>
</tr>
</tbody>
</table>

Energy Consumption

- **Total Consumption**
  - Scenario 1: 2372 kWh
  - Scenario 2: 2494 kWh

The more compact design of Scenario 2 results in considerable lower heating costs.

Green Energy / Emissions

- **Total Carbon Emissions**
  - Scenario 1: 3.142 tons
  - Scenario 2: 3.219 tons

- **Total Green Electricity**
  - Scenario 1: 0.142 MWh
  - Scenario 2: 0.213 MWh

Neighboring Building Stock

- **2543 Buildings**
- **13 Buildings**
- **Average Height**: 32.5 Meters
Improved ease of use

- less buttons
  e.g. move type visibility to 2nd level access
- modern icons
  lets not look like windows xp anymore
- DPI sensitive
  + more spacing
- simpler tools
  e.g. better UI for get map data
- better toolbar
  toolbar in viewport as in scene viewer
- simpler 3D navigation
  no more ‘press-first-frame’ to tumble
- feedback
  Use status bar
- revised startup UX
  First impression
Esri CityEngine Roadmap

**Available**
- Scenario Management
- Dashboards
- Local Edits (Custom 3D models)
- 3D Measurement
- Better startup / launch
- Ease of use / user experience enhancements

**Later half of 2017**
- Computer Generated Architecture enhancements for zoning
- New interactive analytic tools
- 360 Photos Publishing for 360 VR

**Beyond**
- Named User Support
- Extended Platform Support
- Additional interactive analytic tools
3D Island
@ Esri Showcase
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Questions?

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