Esri CityEngine & Minecraft

- Engaging Citizens in 3D City Planning -
A 10 Year Old City Planner?
“Block by Block involves young people in the planning of urban public spaces. Minecraft has turned out to be the perfect tool to facilitate this process.”

Source: http://blockbyblock.org/
Players are placed in a borderless, randomly generated land with no supplies, directions, or objective. It's up to them to decide what to do. By collecting materials from the world players can ‘craft’ items and build whatever their minds can imagine.
How we can share our worlds with theirs.

How 2D data can be leveraged in 3D with Esri CityEngine.
Appeal to a wider audience

3 Keys:

Make it easy.
Make it cheap.
Make it fun.
Real-world scenarios

- My town - its current look, what if we build/destroy
- Lava flow (ie. Hypothetical Mount Rainier eruption)
- Forest fire (ie. Stanley Park)
- Sea levels raising
Living in a new world

And, of course, the fun stuff

Roller coasters in nature

Maze Generating

Racing across Toronto streets

Living in a new world
Project Vision:

Leverage Esri CityEngine and Minecraft to increase citizen engagement in neighborhood design & planning.
Source Materials
CityEngine is a great tool for transforming data into a realistic city model, which can then be adjusted according to further needs.
Goal: Combine 2D & 3D datasets to create a 3D model in CityEngine
City Engine Results

Output
The GIS output becomes a canvas of the city in Minecraft, which then offers a gaming style geo design tool that citizens and their children can interact with.
How it’s done

- Create CGA Rules to Create a 3D World
- Apply rules to create 3D objects in CityEngine
The path from CityEngine to Minecraft

- Export the model to a 3D format for further work in FME (Esri Data Interoperability Extension)
- CityEngine rules for can prepare for conversion to Minecraft
- Data Interop / FME Workbench creates the transformation to Minecraft
CityEngine is a powerful tool for combining 2D & 3D datasets. The 3D model output is realistic and puts the data in a perfect position to be converted to Minecraft.
Thinking outside the block
BIM to Minecraft is fun and easy!
- Map IFC objects to Minecraft block types
- Convert each IFC object to Point Cloud
- Consider scaling depending on use case
- Watch x/y/z position for multiple building worlds
Linear Network to Minecraft
(Railway)
Maze Runner Generator

fme.ly/MazeGenerator
How to Make Minecraft Worlds

fme.ly/MinecraftWorlds
Thank you!

www.safe.com

dmitri.bagh@safe.com