

Bowers Research Project

Proposal: A hybrid research and teaching proposal focused on the development of an experiential visual relational database linking building information with geospatial data for the Centre County region, specifically West Campus and portions of State College Borough. ~ Tim Murtha, et al "Bowers Proposal" 2007

Google SketchUP Pro 7.0
(Program Work Flows)

Google Earth Pro 4.3
(Program Work Flows)

GIS 9.3
(Program Work Flows)

Autodesk Revit
(Program Work Flows)

SketchUp: Work to be Completed
(Complete Building Modeling)

Travis Flohr - Research Assistant (me)

Create model naming standards and methodology

Import GIS Data into SketchUp

- 3214_Buildings.shp
- 3214_Parcels.shp
- 3214_Streets.shp

DEM Model into SketchUp

Photo texture mapping methodology for building facades

Place individual building models in the master SketchUp file:

- 3214_SCSubWatershedBasin-NoTxt.skp
- or
- 3214_SCSubWatershedBasin-Txt.skp

SketchUp File Locations

- 146.186.126.6 (Server)
- Bowers_Research (Folder)
- 3214_SCSubWatershedBasin (Folder)
- SketchUp (Folder)
- 3214_SCSubWatershedBasin-NoTxt.skp (overall site model no facade photo textures)
- 3214_SCSubWatershedBasin-Txt.skp (overall site model with facade photo textures)
- Individual Building Files (Folder)
- (See Individual Building Naming Rules).shp

File (Individual Building) Naming Rules: Using Parcel Tax ID Numbers

Rule #1: For buildings with no photo texture mappings: If a building is completely contained within a single parcel, then that parcels unique Tax ID Number shall be used. For example a parcel Tax ID Number will read as follows: 36-017-,151-,0000- then the file shall be named 36_017_151_0000-NoTxt.shp

Rule #2: For buildings with photo texture mappings: If a building is completely contained within a single parcel, then that parcels unique Tax ID Number shall be used. For example a parcel Tax ID Number will read as follows: 36-017-,151-,0000- then the file shall be named 36_017_151_0000-Txt.shp

Rule #3: For buildings with no photo texture mappings: If a building is not completely contained within a single parcel and is built on numerous parcels, then the lowest parcel unique Tax ID Number shall be used. For example if building is spread across several parcel Tax ID Numbers will read as follows: 36-017-,151-,0000-, 36-017-,151-,0001 then the file shall be named 36_017_151_0000-NoTxt.shp

Rule #4: For buildings with photo texture mappings: If a building is not completely contained within a single parcel and is built on numerous parcels, then the lowest parcel unique Tax ID Number shall be used. For example if building is spread across several parcel Tax ID Numbers will read as follows: 36-017-,151-,0000-, 36-017-,151-,0001 then the file shall be named 36_017_151_0000-Txt.shp

Individual Building Modeling Methods

1. Open file: 3214_SCSubWatershedBasin-NoTxt.skp
2. Copy the building footprint of the building being modeled.
3. Open a blank document and paste the building footprint by edit: paste in place.
4. Once the building footprint is pasted in place save the document on the local drive you are working one per the File (Individual Building) Naming Rules for your particular building.
5. Complete modeling the buildings geometry per Field Measurements.
6. Once model is complete and file is saved. Copy file to the following folder on the server: Bowers_Research (Folder): 3214_SCSubWatershedBasin (Folder): SketchUp (Folder): Individual Building Files
7. Then update Google Earth Tracking Progress File.

Field Measurement Methods

To be determined by the undergraduate students. To use laser range finder. To learn to use they should consult Lauren or Tim Murtha.

Google Earth Methodology of Tracking Progress

Building Symbology (All Colors in RGB):

- No Work Completed (247,247,247) — [White Box]
- Field Measurements Taken (For SketchUp)(217,217,217) — [Light Pink Box]
- Form Model in SketchUp (No Photo Textures)(189,189,189) — [Light Grey Box]
- Textures Model in SketchUp (Textures applied)(150,150,150) — [Medium Grey Box]
- Field Measurements Taken (For Revit)(115,115,115) — [Dark Grey Box]
- Model Completed in Revit (82,82,82) — [Black Box]

Team Parcels (All Colors in RGB):

- Team One (161,217,155) — [Light Green Box]
- Team Two (65,171,93) — [Dark Green Box]
- Team Three (254,153,41) — [Orange Box]
- Not in Study Area (107,174,214) — [Blue Box]

Google Earth File Locations

- 146.186.126.6 (Server)
- Bowers_Research (Folder)
- 3214_SCSubWattershedBasin (Folder)
- GoogleEarth (Folder)
- SketchUpModeling_Progress.kmz

Revit File Locations

- 146.186.126.6 (Server)
- Bowers_Research (Folder)
- 3214_SCSubWattershedBasin (Folder)
- Revit (Folder)

Team #1 - Undergraduates LArch
Name: Reid
Name: Alex

Team #2 - Undergraduates LArch
Name: Kristen
Name: Lauren

Team #3 - Undergraduates AE
Name: Will
Name: Matt
Name: Tyler

Teams to self-organize based on given workflow and parameters

Each team will be assigned different areas within the modeling boundary

Each team must update Google Earth with their progress and schedule meetings with me at least once every two weeks