XIM

A4815 - XIM: Parametric Site Analysis

**Instructor: Luc Wilson**
Tuesdays, 6-8pm 202 Fayerweather

Summary:

This course will examine the maturity of the 21st century metropolis by moving past conventional benchmarks and preconceptions of growth to develop flexible design systems founded on a holistic approach to economic, environmental, and social problems that will allow for speculation on many possible futures for the city. Using this methodology, termed X-Information Modeling or XIM, students will leverage parametric design tools to create systems that strategically integrate diverse objectives, and through Grasshopper for Rhino, visualize potential scenarios for a more informed decision making process.

Students will be given a site and a set of prompts to choose from that will guide a session long project. Based on the chosen prompt, students will reverse engineer key relationships influencing design and development, such as zoning, real estate value, social relationships (NYC Open Data, flickr, etc.), and the environment, in order to 1) find new relationships between traditionally separate or competing objectives, 2) to visualize speculative futures of the site, and 3) reposition and reorganize those relationships through a visualized evaluation process that challenges design and development preconceptions. Through this process students are asked to create new drawing types (static and animate) that can effectively communicate the intent of their parametric design systems for evaluation and critique. The end result will be a set of custom evaluation tools and speculative typologies.

Technically, students will learn Grasshopper for Rhino and an integrated workflow that includes Excel, Google Earth, Galapagos, Ecotect, and any Geotagged Data. Conceptually, students will learn how to evaluate and use data, how to visualize metrics, and, most importantly, how to define and translate simple concepts into powerful parametric relationships. Students must know Rhino. Grasshopper proficiency is not required, but a basic understand is recommended. Session A is required for Session B, however Session A can be taken without Session B. Grading for each session will be 30% attendance and weekly assignments, and 70% for the final project.

Muchan Park and Luc Wilson developed X-Information Modeling and the content of this course.
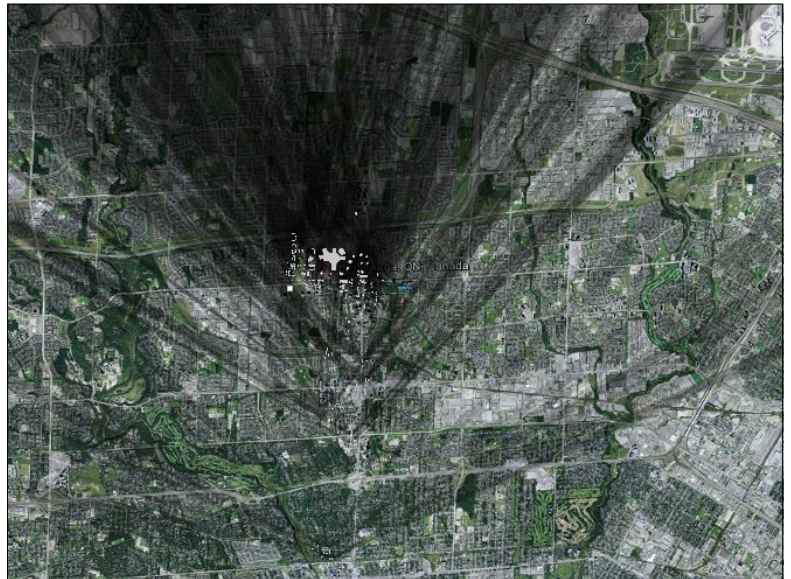
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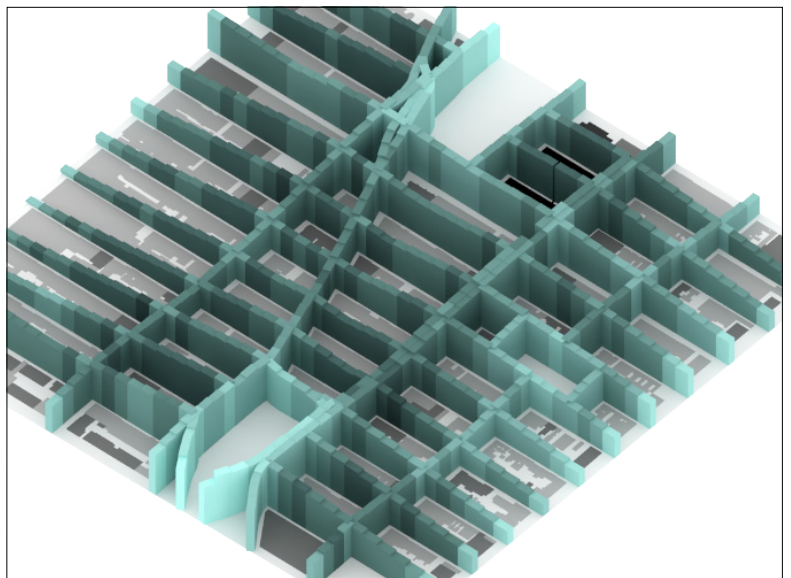
Visualization of walkability, sky exposure, and FAR near Union Square, NY

Session A - Parametric Site Analysis

Session A will be research oriented, with students focused on creating and developing a unique evaluation tool set for investigating and experimenting within a site through a series of prompts provided by the instructor. Students will collect data, identify relevant metrics, and analyze their site by introducing various speculative scenarios. Session A will introduce the following grasshopper topics: data management, proximity based evaluation, GIS to Grasshopper, linking geo coded data to grasshopper, animation, and data visualization. Concepts covered: metrics, quantitative vs qualitative, value, evaluation methodologies, and data based decision-making.

For fall 2013 the site of investigation and experimentation will be Midtown New York. Each student will pick one of the following prompts as provocation for their project:
• How to measure the experience of the pedestrian?
• s there a sustainable density?
Students working from the same provocation should share resources, research, and results. Within each prompt, students are free to work individually or as a team.

Session A schedule:
• Week 1: Spatial Evaluation Techniques
• Week 2: Social Evaluation Techniques
• Week 3: Combining Metrics + Massing Animation
• Week 4: Individual Project Critiques
• Week 5: Metric Visualization + Working Through Class Grasshopper Questions
• Week 6: Final
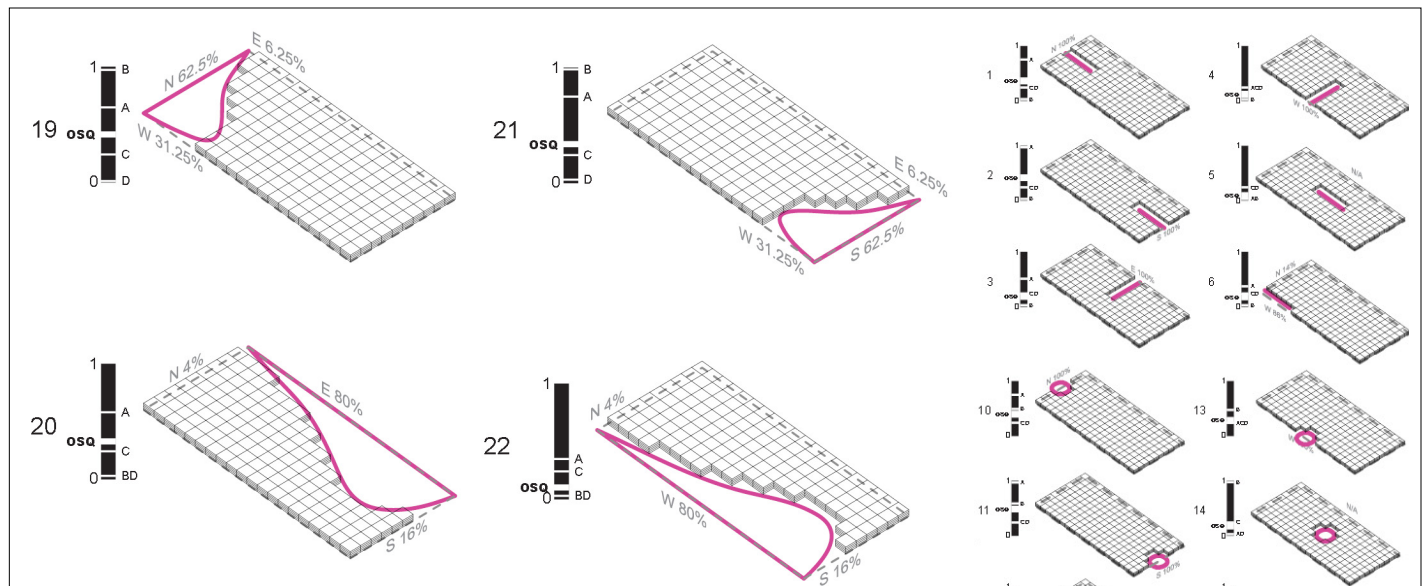
Open Space Evaluation. Christine Nasir

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