ARCH 484/584 Measured Attachment: Big Data meets Urban Design
Winter 2014, University of Oregon Portland White Stag Building
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In association with the UO Urban Interactions Laboratory

PURPOSE
How do we understand the 'big data' of a site and design architecture that acknowledges this understanding over time?

This intermediate level studio 'Measured Attachment: Big Data meets Urban Design' will investigate the ability to analyze the urban phenomena of a site by measuring primary data in-situ and develop the urban architecture genes of a material affect that support that phenomena over time. The studio will work with the Portland metropolitan transit agency TriMet, artist/urban design expert Tad Savinar and potential real estate developers of the new Milwaukie Alignment transit corridor in southeast Portland to find an interface between public and private space with the values of Portland. Digital urban analysis tools developed in the UO Parametric Places course and UO life | city | adaptation: Barcelona Urban Design Program will be used to begin the term. Supplemental media instruction time including Grasshopper and Elk will be made available at least once a week for the first weeks of the term. The studio will work in association with proprietary research developed in the new Urban Interactions Laboratory with Architecture Assistant Professor Philip Speranza, Product Design Assistant Professor Jason Germany and Urban Systems Management Graduate Research Fellow Dan Anthony with the objective to use interactive design to empower urban participation. Opportunities may be available to continue design and research work beyond the studio and in association with the Urban Interactions Lab via independent study or work-study.

Architecture Design
Program: developer mixed-use commercial ground floor with residential above or commercial hotel programming
Construction Area: approximately 75,000sqft *as required by zoning analysis
Envelop Focused: early determination of volume, circulation and program.

Course Teaching Method
In class course time will be spent with class discussion, case studies assignments, group work, pinups and desk crits. Desk crits will be more common at the end of the term. The studio will operate in the research driven studio approaches of BIG and AMO/OMA.
Reading and Software Methods
You will be asked to do readings and software tutorials prior to the start of and during the term during and after class hours for us to make the best use of the 10-week term. (Tadao Ando, Stan Allen, James Corner, Alejandro Zaera-Polo, Vicente Guallart, Toyo Ito, Sou Fujimoto, Karen Franck, Simon Anholt, Philip Speranza)

*This document is preliminary. Some studio criteria may change.

METHOD / APPROACH

Multi-scale, simultaneous approach to design

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<tr>
<th></th>
<th>Scale</th>
<th>Team Type</th>
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<tbody>
<tr>
<td>Urban Analysis</td>
<td>1:100</td>
<td>Studio</td>
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<tr>
<td>Urban Design</td>
<td>1:10</td>
<td>Team</td>
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<tr>
<td>Urban Architecture</td>
<td>1:1</td>
<td>Individual</td>
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Urban Systems Analysis Tools
Use and development of existing tools from UO course and UO lab work.
Digital and or analog use of tools, group work
Infographics for strong visual communication of purpose and tool application

Material Affect

*material affect: the qualitative experience in the environment that is given a place to be understood through the senses through the specific properties of a material and its assembly*

Bottom Up Urban Design, 1:1 small scale to large-scale design approach
(Examples: Ned Kahn, Speranza Architecture with Artist Janet Echelman)
Detailed Envelope Approach

Introduction and Exposure to Media Tools

Artist Janet Echelman; Architect Philip Speranza; ARUP Engineering; diamond drawing Buro Happold Engineering, stress image by ARUP London. Photo © Will Novak
I. Documentation and Analysis  
(weeks 1-3) 
- Conceptual understanding of attachment [writing] 
- Documentation of the site across scales: city, district, neighborhood and urban room [plans, CNC models, studio work] 
- Urban Systems Analysis Tools © tools from PP and lcaBCN- selection, study method, test use [Analog and digital Parametric Models, Rhino/Illustrator and Grasshopper] 
- Statistical Research with comparison site [Infographics ] 
- Primary data collection [neighborhood ‘affect’ maps] 
- Tool use, ‘Analog Parametric’ or ‘Digital Parametric’ approach [Application to existing and new graphics from tools] 
- Material Affect, conditions to performative scenarios [Case study: Ned Kahn, Herzog de Mueron, James Corner, Paricio Clotet] 
- Tool application to multiple sites? (anywhere along Alignment?) [Application to existing and new graphics from tools] 
- Zoning Analysis Massing, Volume Study [zoning line diagrams, bullet points] 
- Place Branding Study [writing, Case Analysis of local and non-local example]

II. Project Synthesis, System development  
(weeks 4-7) 
- Application of 2 to 4 given sites along the Milwaukie Alignment between the Portland-Milwaukie Light Rail Bridge and the Southeast Powel Boulevard, US Route 26 [drawing and models, group work] 
- Application of tool and zoning analysis to building envelope, circulation, material affect [urban planning and urban design guidelines / tool suggestion] 
- Scenario Studies, conditions of the Material Affect (measured phenomenon at site) [story board conditions as scenarios of material affect] 
- Urban Architecture, envelope and attachment (‘phenol/geno’ relationship) [wall sections, wall axonometric, wall detail, unit/system positions over time] 
- Place Branding Study [Identity study and presentation]

III. Urban Architecture Development, Presentation  
(weeks 8-10) 
- Envelope: Design Development [1:1 drawings and models] 
- Urban Design: Design Development [1:1 drawings and models] 
- Urban Architecture: Design Development [parti diagrams, plan, section, perspectives, 3D model, model] 
- Place Branding Presentation, Scenarios and Attachment finalization [Identity and Identity over time with participation, Drawings] 
- Presentation to TriMet Bob Hastings and Tad Savinar, private developers including Wilson-Charles and others, UO faculty, City of Portland. [drawings, diagrams and models via Powerpoint, blog post, book pages]