Bustling Vacancy

abstract

New York City College of Technology
The City University of New York
Department of Architectural Technology

ARCH 3609 Integrated Software in the Architectural Office

3 class hours, 3 credits
Office Hour:
Fridays 12.00pm -1.00pm
or by appointment

Bustling Vacancy

Motus | Mapping | Building Elements Cartography | Behavioral Patterns |

Overview

This project has multiple components that incorporate research, evidence, reading and thinking critically, demands organization and presentation skills and requires the ability to work collaboratively. Students work in groups of 2 or 3 over a semester period to produce a highly conceptual design project that is generated following rules of grammar, logic and mathematics.

The project brings together the Urban and the Architectural scales through a series of data abstractions and the establishment of rules that will define the proposals. The students are asked to come up with a design dictionary of 3 main architectural elements that serves as their "alphabet" for space creation. At the same time, the class focuses on developing a visual language to discuss, collect, measure and quantify **city behaviors/patterns**. The students will respond to the literal and symbolic notion of **"Motus"** in the city, and create mappings, diagrams and data visualizations. The projects will ultimately be based on the cartography of the architectural elements in such a way that they relate to the city mapping analysis.

The class we will not take data literally. It will rather depart from conventional definitions and ask what is the city, what is data, and how can they be re-applied in an architectural scale. The students are encouraged to think of new information types that present the idea of "Motus" in the city through the implementation of urban derived patterns thus producing a restless and poetic project.

Project's Brief

The assigned project involves four process stages, the "Alphabet" stage, the "Data" stage, the "Syntax" stage and the "Composition" stage. The **"Alphabet"** stage involves the creation of a design dictionary of four architectural elements: stair, corridor, wall and atrium. The **"Data"** stage involves the study of New York City using data analysis in order to identify and map "behavioral" city patterns. During the **"Syntax"** stage the students extract rules out of the city patterns that will define in a later stage their design. Last, in the **"Composition"** stage the students employ the generated rules in order to assemble their architectural elements studies. As a result, the students make use of their elements' cartography in such a way that relates to their city mapping analysis. The assembly of these elements will ultimately create a spatial 3d pattern. So, repetition of basic geometries evolves into behavioral patterns and ultimately **experiential space creation.**

Programmatically, the proposed space is an open air experiential space with theme the **'Pattern'**.

Site

The only constrain in terms of location is that the proposals are in NYC. The project conceptually is site less. Nevertheless, the students will ultimately need to apply their design specifically. For that purpose, they can select any empty lot of their preference or work with the Dumbo Riverfront: open space under the Brooklyn Bridge. **3d model with the surroundings of the area is provided on Blackboard.** Students can also select multiple (more than one) sites and disperse their design concept throughout the city.

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detailed description

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PROJECT INTRO

The project has as a theme the "pattern generation" and the passage from 2D illustrations to space & vice versa. So, repetition of component based geometries will evolve into patterns and ultimately experiential space creation. These geometries are basically a dictionary of main architectural elements in different configurations that you will be asked to create.

Programmatically, your designed space is an **open air experiential space** in an empty NY city lot with theme the '**Pattern'**. Your design has to respect the notion of **Maze / Motus** and make use of the cartography of your **architectural elements** in such a way that they relate to your **Pattern Mapping analysis**. The assembly of these elements will ultimately create a spatial 3d pattern themselves.

Selected Definition of Pattern:

- A regular and intelligible form or sequence discernible in certain actions or situations.
- **A set of instructions to be followed in making a sewn or knitted item.**

Your 2D pattern mapping will be based on NYC data that relate to the literal and symbolic notion of 'Motus'. In a "city that is always on the move," how can New Yorkers experience the ultimate noise and busyness redundancy? You will be producing a restless and poetic project placed into the urban landscape to highlight condensed and redundant unusual sources of movement, of density, of a mazed grid. The ultimate goal of the project is to investigate the concept of "pattern" in a fast moving city. In a very orthogonal grid how can New Yorkers experience a Grid redux? An excess of multidirectional movement, based on patterns?

The course will establish the theoretical and working framework of exhibit that pinpoints flows of stress, population density, agitation, fear among other factors - ultimately identifying intervention sites that will exhibit through a sensorial design ways of thinking about the creative potential of "Motus" in the urban landscape.

The class will focus on developing a visual language to discuss, collect, measure, and quantify 'busyness'. You will respond to the topic of Motus in the city, and create mappings, diagrams, data visualizations, diaries.

PROCESS PHASES

1st Part_ ALPHABET
The "Alphabet" stage involves the creation of a design dictionary of three basic architectural elements: stair, wall and atrium. These are the "bricks" you will be using to construct space.
You will come up with at least 30 different configurations for basic architectural elements. So, you are to produce 10 studies per element:

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stair (amphitheater, sculpture, ramp etc)
partition (inhabited wall, corridor, bridge, stoa, organic, crack, branch etc)
atrium (light insertion, geometry boolean, expressive envelope, etc)

References:
- On Blackboard under Contents / Integration Project_Bustling Vacancy / Architectural Elements
- Look carefully at the results from previous semester: PLB_EDUCATION

2nd & 3rd Parts_ DATA & SYNTAX

The data stage involves the study of New York City's five boroughs using data analysis in order to identify and map "behavioral" city patterns such as patterns of noise, circulation, population, income, crime rates, programmatic uses, urban density, energy consumption etc. The teams **select a minimum of two data maps and numeric tables supporting these maps** and through research, observation and analysis they correlate them and create a series of abstractions.

You will assemble and visualize patterns of noise, circulation, behaviors etc. :
noise: water fountains, fire houses, traffic, etc.
circulation: metro entrances, traffic etc.
visual patterns: buildings set back, urban walls façade patterning, solid/void, height restrictions etc.
behavioral patterns: entertainment, consumerism, culture, universities etc.

During the "Syntax" stage the students extract rules out of the city patterns that will define in a later stage their design. Outcome of this phase is a series of 2d diagrams and graphs explaining the "behavior" of each of the maps and their diagrammatic interpretation in 3d.

Resources:
https://nycopendata.socrata.com/
http://nyc.pediacities.com/Nycpedia
wirednewyork forum
http://wirednewyork.com/forum/

References:
- On Blackboard under Contents / Integration Project_Bustling Vacancy / Data references
- Look carefully at the results from previous semester: PLB_EDUCATION

4th Part_ COMPOSITION

This stage is about composing all the material produced during the Alphabet, the Data and the Syntax phases. You are to employ the generated rules in order to assemble your architectural elements' studies. You have to put together selected wall, atrium and stair studies (a minimum of 2 studies) following the rules extracted from the city pattern research to create a project.

REFERENCES & RESOURCES

All the material related to the project including references, resources, 3d files, Presentation Template and related links are posted on Blackboard under **Contents / Integration Project_Bustling Vacancy.**

STRUCTURE AND TIME SHEETS

After Midterm the class will be mostly split in two sections: first part is a lecture or workshop on software and technical skills and the second part (60mnts) is organized as desk-critiques or open discussion on each team's progress and concept.

You are required to work in groups and meet once per week with their collaborator/s for two hours of brainstorming. Then you have to distribute the tasks between you in order to meet the weekly goals of the project as defined in the weekly assignment handouts.

I expect that you devote 4 hours weekly over the course of a semester. **I will share with you a google spreadsheet. This is a timesheet template created in google drive to control the time spent per task** **(see format bellow).**

PROJECT'S DELIVERABLE CHECKLIST & PRESENTATION TEMPLATE.

Teams will use the provided Ion Blackboard nDesign Template (Boards 24"by36") to layout their projects. You will be creating a minimum of 6 boards for this project. The material requested are as follows:

01. ALPHABET. Architectural Elements studies. **4 BOARDS in total**

- 1 axo per study,
- 1 plan per study,
- 1 elevation per study and
- 1 critical perspective rendered view.

Please add titles, ground line for the elevation and figures for both the elevation and the render.
Boards 01&02 should have illustrated axo diagrams, plan, elevation and title for each study (30 studies in total).
Boards 03&04 should have perspective Vray Renders with silhouette and title for each study.

02. DATA & SYNTAX. City Maps Research and 2d/3d interpretation of the behavioral patterns. **1 BOARD at least**

- The two Original maps you are analyzing, nicely illustrated and clearly explained w/labels.
- Numeric tables supporting your maps.
- **2d diagrams** / a series of graphs and diagrams explaining the "behavior" of each of the maps. These diagrams should serve as abstractions of the original data and define RULES for your design composition.
- **3d diagrams /** 3D interpretation of the above 2d diagrams and rules.
- Text describing your understanding of the city in regards to the data you research.
- Small reference Images/Precedents (other projects) that relate to ideas that help your project evolution.

03. COMPOSITION. Project generation and supporting visuals. **1 BOARD at least**

- line-drawings: 2 axos, 2 perspectives, 1 exploded analysis, plans, 2 elevations, 2 sections. Add silhouettes as **scale references**. All of the line-drawings should be outcome of make2d in rhino and then illustrator.
- 2 renderings minimum (1 eye level, 1 bird's eye view)
- 2 collages , conceptual and realistic
- precedents (other projects/forms that inspired you)
- text describing your composition.

Your project should have **a title.** Bustling Vacancy is a general title that needs to be changed according to your take on the bustling idea. Place all the above mentioned produced material in the given indesign layout. Use as many boards as needed to present your project.

ASSESSMENT

This project is 50% of the overall grade. All the students have to weekly upload their work digitally on Blacbloard following the given file name protocol. I have designed and posted on Blackboard a Rubric relevant to the project's learning objectives with 5 scales (needs improvement, satisfactory, good quality, excellent quality). The class is broken down into four big presentations (1/4 pin up, Midterm Review, 3/4 pin up , Final Review). The overall grade for this project is outcome of your weekly submissions grade (40%) as well as their 4 main group presentations grade (60%) throughout the semester.

The performance criteria I asses for your **group project presentations** in my Rubric are based on oral communication:

Organization

Ability to collaborate and present successfully as a group a highly sophisticated project.
Professionality in presentation and meeting the given deadlines.
Followed layout and visualization instructions for the project.

Quality of Supporting Material

Neatness and accuracy of the visuals.
Quality of written description.
Quality of city data analysis and data interpretation.
Quality of final design as defined by the constraints set by the city data each team is analysing.

Delivery

Quality of oral presentation. The presentation techniques, speech and posture as well as coordination btw the group members are appropriate and appealing.
Quality of plotted boards (nicely cut, pinned and in great resolution).

The performance criteria I asses for your **weekly group project digital submissions** are:
followed instructions and submission on time, file composition, file neatness & accuracy, file line weights & resolution, file presentation.

READINGS AND REFERENCES

All required and recommended readings are uploaded on Blackboard. Students will be notified weekly on the specific text, tutorial, reference they should study for the following class meeting.

Readings List:

- Branzi, Andrea. (c2006). No-stop city: Archizoom associati. Orléans: HYX.
- Castells, Manuel. (1998). End of millennium. Malden, Mass.: Blackwell Publishers.
- Henri Lefebvre, (1991). The production of space. Cambridge, Mass.: Blackwell.
- Hughes, J, & Sadler, S. (Eds.) (2000). Non-plan: Essays on freedom participation and change in modern architecture and urbanism. Boston, Mass: Architectural Press.
- Isozaki, Arata. (2009). Arata Isozaki. (K.T. Oshima, Ed.). New York, NY: Phaidon.
- Jacobs, Jane. (1961). The death and life of great American cities. New York: Random House.
- Martin, Reinhold, & Baxi, Kadambari. (2007). Multi-national City: architectural itineraries. Barcelona: Actar.
- Mike Davis. (2006). Planet of Slums: Urban Involution and the Informal Working Class. New York: Verso.
- Mostafavi , Mohsen & Doherty, Gareth & Harvard University Graduate School of Design. (Eds.). (2010). Ecological Urbanism (1st ed.). Baden: Lars Müller Publishers.
- Rossi, Aldo. (1982). The Architecture of the City. Cambridge: The MIT Press.
- Saskia Sassen. (c2001). The global city: New York, London, Tokyo. Princeton, N.J.: Princeton University Press.
- Simmel, Georg. (1903), The Metropolis and Mental Life. Dresden: Petermann.
- Wirth, Louis."Urbanism as a way life" The American Journal of Sociology. Chicago: The University of Chicago Press, 1938. Vol. 44, No. 1, pp. 1-2.
- Wolch, Jennifer, & Dear, Michael (1993). Malign Neglect: Homelessness in an American City. San Francisco: Jossey-Bass.
- Zardini, Mirko. & the Canadian Centre of Architecture. (Eds.). (2006). Sense of the City, An Alternate Approach to Urbanism. Baden: Lars Müller Publishers.

Weekly Agenda

group project breakdown

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01	**InDesign / CV & Cover letter, Written skills**
02	**Rhino basics: interface, line, surface, solids & boolean operations | Integration Project Introduction_ Architectural Elements Cartography**
03	**Rhino surface creation & line extraction out of surfaces/solids + Illustrate Diagrams (from Rhino to Illustrator) | Architectural Elements Cartography**
04	**Rhino Vray + Portfolio in Indesign | Architectural Elements Cartography**
05	**1/4 PIN UP OF PORTFOLIOS**
06	**Rhino Paneling Tools 2d&3d | Architectural Elements Cartography**
07	**Illustrator & Rhino (From Illustrator to Rhino, Heightfield) Visualization: Exploded Analysis, Overlay of VrayRender with make2d linedrawings | City Data Patterns**
08	**Workshop 01_Folded Topography : Paneling Grids and Mesh Patch in Rhino_ Repeat exploded analysis.**
09	**MIDTERM REVIEW w/guests (Integration project cartographies, data & Portfolio)**
10	**Workshop 02_Vray Rhino | City Data Analysis Review**
11	**Workshop 03_Section Cuts | Desk-critics on the overall project's composition**
	Spring Break
12	**3/4 PIN UP OF THE INTEGRATION PROJECT**
13	**GIS**
14	**Photoshop _Conceptual Collage, Mixed Technique & Realistic Collage**
15	**Online portfolio | Portfolio Review & general questions**
16	**FINAL REVIEW w/guests (Integration Group Project & Portfolio)**

file naming protocol

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Please use the following format for all weekly assignments posted to blackboard. Only one mamber of the group will post not both!

professorlastname_semester_studentfirstname-studentlastname_assignmentname.filetype

If you have more than one files per assignment then name accordingly:

professorlastname_semester_studentfirstname-studentlastname_assignmentname 01.filetype

Example:

tsafoulia_F13_peter-smith_cover letter.pdf

or

tsafoulia_F13_peter-smith_cover letter 01.pdf

CASE 01. STAIR

CASE 02. ATRIUM

CASE 04. WALL

CASE 01. STAIR

AXO DIAGRAMS

PLAN_ELEVATION

S1. Stacking

S2. Stacking

S3. Stacking

S4. Stacking

S5. Stacking

CASE 02. ATRIUM

A1. Stacking

A2. Stacking

A3. Stacking

A4. Stacking

A5. Stacking

CASE 04. WALL

W1. Stacking

W2. Stacking

W3. Stacking

W4. Stacking

W5. Stacking

Architectural Elements Studies

SPACE CREATION

- MAKE 2D PERSPECTIVE DRAWINGS

- EXPLODED ANALYSIS

- RENDERS

CONCEPTUAL COLLAGE

Your Project Title

DATA ANALYSIS _ 'SYNTAX' CREATION

DEFINE AND VISUALIZE RULES

PLANS
SECTIONS
ELEVATIONS

Your Project Title

DATA ANALYSIS _ PATTERN RESEARCH

MAP I_ TITLE

MAP

2D DIAGRAMS

MAP ABSTRACTED

3D DIAGRAMS

MAP II_ TITLE

MAP

2D DIAGRAMS

MAP ABSTRACTED

3D DIAGRAMS

Your Project Title

CASE 01. STAIR

CASE 02. ATRIUM

CASE 04. WALL

CASE 01. STAIR

CASE 02. ATRIUM

CASE 04. WALL

PERSPECTIVE RENDERS

S1. Stacking

S2. Stacking

S3. Stacking

S4. Stacking

S5. Stacking

A1. Stacking

A2. Stacking

A3. Stacking

A4. Stacking

A5. Stacking

W1. Stacking

W2. Stacking

W3. Stacking

W4. Stacking

W5. Stacking

Architectural Elements Studies

Hours per Task spent by each member of the group	GROUP 1			GROUP 2			GROUP 3		GROUP 4		GROUP 5		GROUP 6	
	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name	Name
WEEK 02 / Feb 03-07														
Concept/Brainstorm (Group meetings)														
Research/Precedents (Web Research_GIS_Readings)														
3d Modelling (Rhino & Plug-ins_Autocad)														
Visualization (Illustrator_Rendering_Photoshop)														
Presentation (Indesign Presentations_Printing_Text Preparation)														
WEEK 03 / Feb 10-14														
Concept/Brainstorm (Group meetings)														
Research/Precedents (Web Research_GIS_Readings)														
3d Modelling (Rhino & Plug-ins)														
Visualization (Illustrator_Rendering_Photoshop)														
Presentation (Indesign Presentations_Printing_Text Preparation)														
WEEK 04 / Feb 17-21														
Concept/Brainstorm (Group meetings)														
Research/Precedents (Web Research_GIS_Readings)														
3d Modelling (Rhino & Plug-ins)														
Visualization (Illustrator_Rendering_Photoshop)														
Presentation (Indesign Presentations_Printing_Text Preparation)														
WEEK 05 / Feb 24-28 1/4____ PIN UP														
Concept/Brainstorm (Group meetings)														
Research/Precedents (Web Research_GIS_Readings)														
3d Modelling (Rhino & Plug-ins)														
Visualization (Illustrator_Rendering_Photoshop)														
Presentation (Indesign Presentations_Printing_Text Preparation)														
Total Hours per Member														
Total Hours per Group														
	GROUP 1			GROUP 2			GROUP 3		GROUP 4		GROUP 5		GROUP 6	