

**SYLLABUS: ARTS-UG 1647 Making Virtual Sense**  
3D graphics studio for critically-driven creative applications

Gallatin School of Individualized Study, New York University  
fall 2012, fridays 9:30 AM to 12:15 PM  
35 West 4th Street, 2nd Floor Multimedia lab II

**Instructor**

**Carl Skelton** carl@ultratopia.com  
office hour: Fridays 12:30-1:30  
room 506, 1 Washington Place

Until recently, the creation of interactive 3D graphics was only possible for large and capital-intensive uses: the armed forces, large-scale architectural/engineering work, mass entertainment. Now, open-source applications and powerful personal and portable computers are making it practical for individuals and small groups to independently build and share alternative visions. Whether you are interested in exploring new ways to construct complex networks of ideas in the present, or to imagine physical spaces to reflect and support new ways of life, this arts workshop provides a blend of critical orientation and hands-on experience.

In this open project studio, the majority of course time and work will be taken up with the development of student-built individual or small team concepts, to be developed as 3D graphic "fly-through" models. I will introduce each session with a brief presentation/discussion about a relevant example of visual/spatial concept design, from Classical Athens to Liberty City. Individual and group critiques of work in progress and one-on-one troubleshooting will be set up as necessary to support each artist and collaboration in the studio.

Theoretical discussions will be initiated with a mix of relevant writings and media. Here is a representative sampling of sources: Douglas Engelbart, Eric Raymond, William Gibson, Zaha Hadid, Judith Donath, the Athenian Acropolis, the Kalachakra Mandala, Salisbury Cathedral, the Schindler house, Artigas gardens, the 1958 World's fair Philips pavilion, the Seagram's building, Grant Theft Auto IV, the monastery of La Tourette, the Mangin plan, [compendium.org](http://compendium.org), Betaville.

**requirements**

- 1** regular attendance and participation (yes, I will be taking attendance)
  - 2** midterm assignment: formal definition of the design to be undertaken- this can be presented in narrative (text) form, as a storyboard, or as a rough wireframe model in preparation for the final project.
  - 3** final assignment: a fully detailed and complete model
- attendance & participation, 20%;  
midterm assignment 40%;  
final assignment 40%.

## schedule

September 7

MIDTERM ASSIGNMENT SET; orientation to course goals and format

"Architecture": structuring relationships between elements; introduction to technology options, their underlying approach/philosophy/capabilities.

September 14

Betaville

September 21

Color: semantic, symbolic, iconography

September 28

The Kalachakra Mandala

Pecha Kucha- each student to give very short presentation about their project idea/strategy

October 5

Shape: vocabulary and grammar

October 12 (midterm assignment due)

Visual Rhetoric: Data Visualization and Mapping

October 19 (midterm grades submitted)

Memory Palace: Mnemonic Visualization

In-class review of one or two of the submitted projects

October 26

Flushing Meadows: short history of a future-scape

November 2

Production Values & Gestures

November 9

Detailing: Conceptual Organization With Color, Shape, & Texture

November 16

Layout- visual organization strategies

Pecha Kucha: very short presentations of work in progress

November 23 no class (thanksgiving recess)

November 30

Design Patterns: Alexander, Kay,

December 7

Collaboration and Workflows

December 14  
Augmented Design Environments: the State of the Art

December 21 Final Project Due

Grades Submitted December 24th

## reading list

Alexander, Christopher (1965). A City Is Not a Tree. Architectural Forum 122 (April 1965), Reprinted in LeGates and Stout (1996).  
<http://www.rudi.net/books/200>

Alexander, Christopher, Sara Ishikawa, Murray Silverstein (1977) A Pattern Language / Towns Buildings Construction Oxford U. Press

Csikszentmihalyi, Mihaly (1991). Design and Order in Everyday Life. Design Issues 8:1, 26-43. Reprinted in (Margolin, V. and Buchanan, R., eds) (1995). The Idea of Design. Cambridge: MIT Press.

Engelbart, D. C. (1962). Augmenting Human Intellect: A Conceptual Framework Summary Report AFOSR-3233, SRI Project No. 3578.

Gibson, William (1994). Virtual Light London: Viking Press

Jacobs, Jane (1992). The Death and Life of Great American Cities. New York: Vintage Books. (Original edition, New York: Random House, 1961.)

Mitchell, William (1995). City of Bits. Cambridge, MA: The MIT Press.  
<http://www.kejvmen.sk/cob.pdf>

Raymond, E.S. (2000). The Cathedral and the Bazaar. version 3.0, at  
<http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar>, accessed 18 October 2006.

Huizinga, Johan Homo Ludens/ a Study of the Play Element in Culture Boston: Beacon Press 1950 (original Dutch edition 1938)

Nieuwenhuys, Constant Une Autre Ville Pour Une Autre Vie Paris: Internationale Situationniste No. 3 1959

Burke, Timothy (2004) Play of State: Sovereignty and Governance in MMOGs  
<http://www.swarthmore.edu/SocSci/tburke1/The%20MMOG%20State.pdf>

Tufte, Edward the Visual Display of Quantitative Information

Plato's Republic / Book VII Allegory of the Cave  
<http://www.gutenberg.org/ebooks/1497>

Dogme 95 Vow of Chastity

[http://pov.imv.au.dk/Issue\\_10/section\\_1/artc1A.html](http://pov.imv.au.dk/Issue_10/section_1/artc1A.html)

[http://ifsstech.files.wordpress.com/2008/06/the\\_vow\\_of\\_chastity.pdf](http://ifsstech.files.wordpress.com/2008/06/the_vow_of_chastity.pdf)

Moholy-Nagy, Laszlo (1932) The New Vision: From Material to Architecture

Trans. Daphne Hoffmann New Bauhaus Books Vol. 1 New York: Brewer, Warren & Putnam, inc.

More, Saint Sir Thomas Utopia/ Of Their Towns, Particularly of Amaurot

<http://4umi.com/more/utopia/3>

Norman, Don (1988) The Design of Everyday Things New York: Basic Books

Morville, Peter and Louis Rosenfeld (2006) Information Architecture for the Worldwide Web Sebastopol O'Reilly

Wigley, Mark (1999) Constant's New Babylon / The Hyperarchitecture of Desire

Rotterdam 010 Uitgeverij

Raymond, Eric (1999) The Cathedral and the Bazaar

<http://www.catb.org/esr/writings/homesteading/cathedral-bazaar/>

Sennett, Richard (1990) The Conscience of the Eye New York: Alfred A. Knopf

Motter, Dean et.al. (1984/1988) Mister X Toronto: Vortex Comics

Stanley Robinson, Kim (1993-1996) Mars Trilogy (Red Mars, Green Mars, Blue Mars)

Joseph Müller-Brockmann (1988, first German Edition as Rastersysteme für die visuelle Gestaltung: Ein Handbuch für Grafiker, Typografen und Ausstellungsgestalter, 1961) Grid Systems In Graphic Design Verlag Gerd Hatje

## media

Mumford, Lewis (1939) The City [http://archive.org/details/0545\\_City\\_The](http://archive.org/details/0545_City_The)

Open Street Map <http://www.openstreetmap.org/>

Google Earth <http://www.google.com/earth/index.html>

Kalachakra Mandala:

<http://vimeo.com/9160254>

<http://www.youtube.com/watch?v=rx4mdjMIqNo>

<http://www.video.fixgen.com/ar/video/Aoi2BtAKAXI/mandala-sand-painting.html>

Giant Steps Animation (double bootleg)

Martin Wattenberg, Newsmap <http://newsmap.jp/>

Zhang Yimou (2002) Hero PRC

Teshigahara, Hiroshi (1964) Woman In The Dunes Japan

PBS The World of Tomorrow

Ric Burns (1999) New York (you can find it in 8 segments on Youtube)

Concept mapping/org and flow charts/project management

<http://compendium.open.ac.uk/institute/download/download.htm>  
<http://www.mindmapping.com/>  
<http://www.omnigroup.com/products/omnigraffle/>  
<http://visio.microsoft.com/en-us/pages/default.aspx>  
<http://www.gteam.com/>  
<http://argouml.tigris.org/>  
<http://processing.org/>

3D modeling

Blender  
<http://www.blender.org/> (open source)  
Sketchup  
<http://www.sketchup.com/intl/en/index.html> (free download for basic version)  
Maya & 3DS Max (free student licenses)  
<http://usa.autodesk.com/adsk/servlet/pc/index?siteID=123112&id=17355061>  
Rhino  
<http://www.rhino3d.com>  
(note: the Beta releases for Rhino 5 are free - Windows AND Mac OS - and they work pretty well)

Collaborative Design

betaville.net  
Revit  
GTeam <http://www.gteam.com/>

Gallatin School of Individualized Study New York University [IDSEM-UG 1695] Competing Images of the Sage: Confucius and Lao Tzu  
Spring 2016 Mon, Wed 9:30-10:45 1 Washington Place, Room 527 Ethan R. Harkness ([email protected]) Office Hours: Tues 2:00-6:00  
PM (by appointment) 411 Lafayette Street, 3rd Floor, Office #368 Among the early. I will uphold the Gallatin policy on cheating and  
plagiarism found at <http://www.gallatin.nyu.edu/academics/policies/policy/integrity.html>. Electronics: Cell phones should be turned off  
and placed out of sight during class. tablets, and e-readers may be used for class-related purposes. New York University / Gallatin  
School of Individualized Study is located in New York, NY, in an urban setting. Degrees & Awards. Degrees Offered. Degree.  
Concentration. Sub-concentration. Master of Arts (MA). January 15. Types of financial support available. Health Care Benefits  
Institutionally-sponsored Loans Scholarship and/or loans Graduate Assistantships. Student Body. 132. Total Graduate Students. 64%.  
International Breakout (representing other countries). 35%.