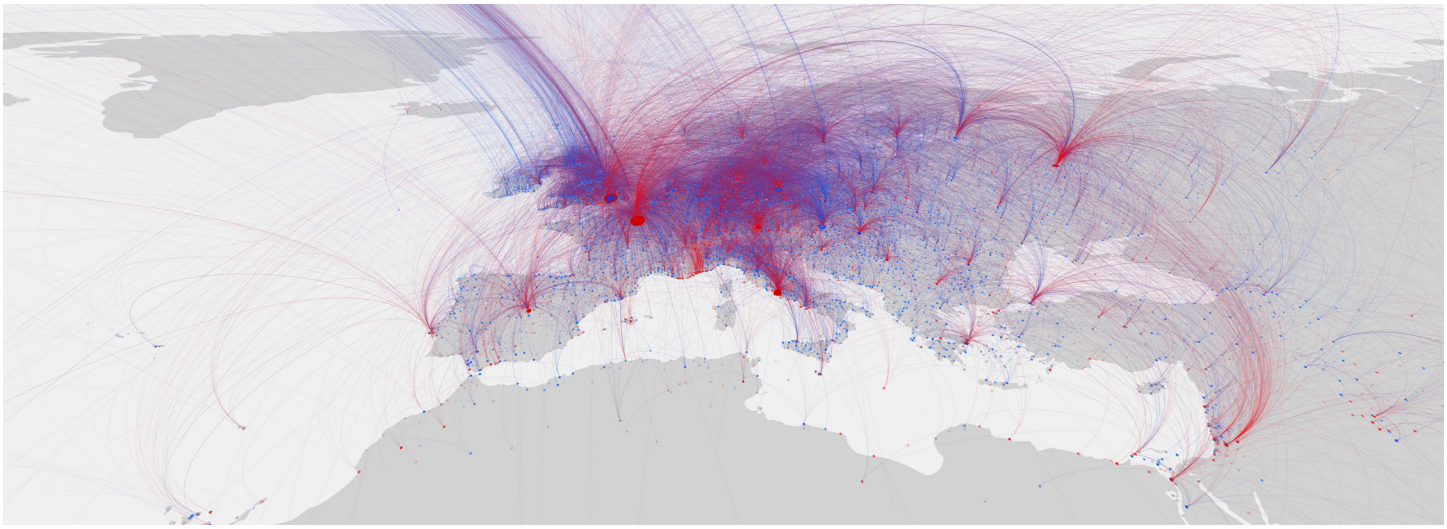
Syllabus: Visualizing Cultural Histories

Instructor: Dr. Maximilian Schich, Associate Professor

ATEC6353.501.17S



Source: Maximilian Schich & Mauro Martino (www.cultsci.net)

General information

The course meets in *Spring 2017*, *Thursdays, 7:00pm–9:45pm* in room *ATC 4.902*
Course materials are available at https://utdallas.box.com/v/S17-ATEC6353-Viz-download
Assignment submission to https://utdallas.box.com/v/S17-ATEC6353-Viz-upload
Coursebook see http://go.utdallas.edu/atec6353.501.17s

Instructor contact

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Phone: +1-972-883-4334 – *Web:* http://www.utdallas.edu/atec/schich/ – *Email:* maximilian.schich@utdallas.edu
Office hours: Please meet me right after class or make an appointment via email.
Email subject prefix: [6353 Viz] (please use in all communication with the instructor)

Mission

In the ***Visualizing Cultural Histories*** course we will do data visualization to characterize and understand cultural interaction and dynamics over time. We will learn and apply visualization methods in group collaborations, using an inverted classroom configuration. We will engage in seminar-style discussion during course sessions, discussing project progress and related materials of interest. Our workflow pipeline will be driven by a feedback-loop of discussing, doing, re-discussing, and re-doing visualizations, in order to reach an optimum of insight from our chosen sets of data. Aiming for innovative solutions, there is no prescribed tool set or method, even though ample guidance and literature will be provided for beginners and experts alike. The key learning objective of the course is both practical and theoretical visual literacy. The key product will be a visualization co-authored in a group and targeted to either an academic audience or a broader public on the web.

Rationale

Data analytics and visualization have become an essential part of our literacy and skill-set. Reading and doing visualizations has become a key competence for creatives, humanists, scientists, and business people alike. Wherever we look, in broad-audience newspapers, offices, board rooms, and even computer games, we are confronted with ever-increasing amounts of data that cannot be understood without the use of more or less sophisticated aesthetic representations, and critical thought that is able to disambiguate visual evidence from potential bias. Understanding cultural histories, via qualitative humanistic thought, quantification, and visualization, is becoming a mission critical enterprise for society and the planet. Not only can visualizing cultural histories facilitate our understanding of topics within the arts and humanities, such as literature, painting, and the history of ideas; it can be also be crucial to understand critical dynamics related to governance and business, including tourism, consumer trends, trade, human mobility, migration, the spread of disease, and the impact of society on the environment.

Grading policy

Percentages: Attendance & Participation 45% + Assignments 45% + Presentation 10%
Grading scale: A = 100 - 90 B = 89 - 80 C = 79 - 70 D = 69 - 60 F = 59 - 0

Course calendar

2017-01-12	Session 01	Course introduction
2017-01-19	Session 02	*Project proposal planning*
2017-01-26	Session 03	*Project proposal planning*
2017-02-02	Session 04	*Data acquisition*
2017-02-09	Session 05	*Data acquisition*
2017-02-16	Session 06	*Data acquisition*
2017-02-23	Session 07	*Data analysis*
2017-03-02	Session 08	*Data analysis*
2017-03-09	Session 09	*Data analysis*
2017-03-16		Spring break (no class)
2017-03-23	Session 10	*Data analysis*
2017-03-30	Session 11	*Data visualization*
2017-04-06	Session 12	*Data visualization*
2017-04-13	Session 13	*Data visualization*
2017-04-20	Session 14	*Data visualization*
2017-04-27		*Final project due (two hours before class)*
2017-04-27	Session 15	Project presentations
2017-05-09		*Final grades go online*

Assignments

Weekly assignment

Work towards your proposal goal and prepare to present progress in class.
We will form groups at the beginning and work towards a final visualization project.

Each week, the universal assignment is **(a)** to prepare single image files (such as screenshots) or single-page PDFs in a folder documenting your progress **(b)** to zip the folder, **(c)** to rename the zip to YYYYMMDD-Projectname-NetID####.zip (where YYYYMMDD is the presentation class date, Projectname is the project name, and NetID#### is the NetID of the group member that hands in);

In addition, everybody indiviudally **(e)** prepares a very brief (less than 200 words) progress report every week, documenting individual contribution and progress; **(f)** save the progress report as a plain .txt file with the filename YYYYMMDD-Projectname-NetID####-report.txt;

Finally upload all files to *https://utdallas.box.com/v/S17-ATEC6353-Viz-upload* no later than 1 hour before class.

PS: Of course, you can include dynamic sources such as websites or animations in the zip. But please always also include single page screenshots or PDFs with the URL in the zip folder and (optionally). It makes sense to add an "extra-material" subfolder within the zip.

Final assignment

Hand in the final visualization project with a two page project description, and prepare for presentation in class.
With your final project, include a two page document with (A) a project title, a 500 word summary, and a cover figure with a caption on a single page, and (B) a list of five key references as well as a properly cited figure source on page two. In addition, produce a slide-deck to briefly present your proposal in class, and/or present the visualization dynamically. In terms of format, please use the "project proposal" and "slide" templates available via http://goo.gl/tKQUAX.

In terms of file format, hand in a PDF for the project description, another PDF for the slides, and whatever necessary for the visualization as a .zip. To facilitate collaboration, please strictly follow the filename format convention: YYYYMMDD-Projectname-final-NetID####.zip, incldluing YYYYMMDD-Projectname-description-NetID####.pdf, and YYYYMMDD-Projectname-slides-NetID####.pdf. Individually, please hand in your final weekly report separately in the usual format YYYYMMDD-Projectname-NetID####-report.txt. To hand in, upload everything to *https://utdallas.box.com/v/S17-ATEC6389-Urban-upload* before the final deadline as given in the class calendar.

Instructor bio

Dr. Maximilian Schich is an associate professor in Arts & Technology at the University of Texas at Dallas and a founding member of the Edith O'Donnell Institute of Art History. He works to converge hermeneutics, information visualization, computer science, and physics to understand art, history, and culture. He is the first author of "A Network Framework of Cultural History" (Science Magazine, 2014) and a lead co-author of the animation "Charting Culture" (Nature video, 2014). Schich is also an editorial advisor at Leonardo Journal, an editorial board member at Palgrave Communications (NPG), Advances in Complex Systems (ACS), and the Journal for Digital Art History. He publishes in multiple disciplines and is a prolific speaker, translating his ideas to diverse audiences across academia and industry. His work received global press coverage in 28 languages. For more info see www.schich.info.

Recent publictions

1. Maximilian Schich: **Confusion.** *Edge.org* (31 Dec 2016)
   https://www.edge.org/response-detail/27209 *a brief comment (fresh from the frying pan)*
2. Maximilian Schich: **Figuring out Art History.** *arXiv:*1512.03301 (22 Oct 2015)
   http://arxiv.org/abs/1512.03301 *an invited perspective paper (Int. Journal for Digital Art History)*
3. Maximilian Schich, Chaoming Song, Yong-Yeol Ahn, Alexander Mirsky, Mauro Martino, Albert-László Barabási, Dirk Helbing:
   A Network Framework of Cultural History. *Science* 345,6196 (2014) 558-562.
   (free access via http://www.cultsci.net/) *a peer-reviewed research paper*
4. Maximilian Schich and Mauro Martino: **Charting Culture.** *Nature video* (31 Aug 2014)
   https://youtu.be/4gIhRkCcD4U *a computer animation*

Course & instructor policies (aka the fine print)

Class policies

- ***All announcements will be sent via email.*** Students are responsible for reading each announcement in detail.
- All students will participate in the discussion. Observers are expected to participate in the discussion equally.
- Students need to read all the assigned readings or complete homework prior to the class discussion.
  Homework assignments need to be submitted by the specified deadline (no exceptions!).
  The nature of an assignment including deliverables will be defined together, announced in class, or sent out as an email announcement.
- Students have the ***responsibility of backing up all their data, code, and preliminary work***. When writing code, it is highly encouraged to use a version control system, such as github, bitbucket, etc.
- Storage (regardless of the procedure): Maintain a ***digital library of examples*** (painting, sculpture, music, literature, computer art, interactive works, etc.) to be shared in class. Strictly adhere to academic and intellectual property procedures when quoting a work, or when presenting it as an example. Do not present the same work in two different classes.
- Please contact the instructor if you have a disability that requires some arrangements so that appropriate arrangments can be made.
- Participants must sign the attendance sheet at the begin of every session. Showing up late without excuse via email before class will be counted as non-attendance.
- The descriptions and timelines contained in this syllabus are *subject to change* at the discretion of the instructor.

UT Dallas Syllabus Policies and Procedures

- The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to http://go.utdallas.edu/syllabus-policies for these policies.
- The principles of academic honesty and ethics will be enforced. ***You should credit all your sources.*** Plagiarism (see UTD syllabus policies for definition) in final presentations, papers, or posters will not be tolerated.
- Excessive unexcused non-attendance (see UTD syllabus policies for definition) will lower your grade.