

DH-402

Quantification of user experience

Boullier Dominique

Cursus	Sem.	Type
Digital Humanities	MA1, MA3	Obl.

Language of teaching	English
Credits	5
Session	Winter
Semester	Fall
Exam	During the semester
Workload	150h
Weeks	14
Hours	5 weekly
Courses	3 weekly
TP	2 weekly
Number of positions	

Summary

The course will deliver all the conceptual and technical resources required for managing a user-centered design process that depends more and more on sophisticated quantification methods.

Content

User experience is the target and the resource of the digital economy: provide new valuable experience, get the feedback from traces and tests, trigger the contribution from online communities and reinvent the product, the service, the content. Digital Humanities provide new attractive user experiences. They also design the sensors, the traces, the tests, the metrics and the concepts for understanding user's behavior. The course will deliver all the conceptual and technical resources required for managing a user-centered design process that depends more and more on sophisticated quantification methods.

Content:**1/ History of cognitive technologies and innovations (session 1 and 2)**

a/ Historical landmarks in cognitive technologies

Goody: writing

Eisenstein: printing

Panofsky and Alpers: perspective

b/ History and sociology of innovations

(related to content industry and UX)

Telecoms, computer interfaces, internet, photography, music. Technical evolution and business models

2/ Cultural differences in user experience (session 3 and 4)

a/ A primer on anthropology and theories of representation

Descola (four ontologies)

Translation : linguistic and cultural stakes and theories

Digital experience around the world (the phone as the universal device or not?)

Culturomics (Manovich)

b/ Sociotechnical analysis of innovations and appropriation processes

Theory of diffusion (Rogers)

Appropriation and reinvention : case studies and strategies

Generation gap: learning by immersion, imitation and training, primer and secondary socialization processes.

3/Cognitive and semiotics dimensions of UX (session 5 and 6)

a/ Perception, memory and attention

Perception: salience, features

Gestalt theory

Learning processes

Problem solving and decision theories

Distributed cognition approaches (Suchman, Hutchins)

Human-Machine Interaction theories and methods

Attention economy

b/ Semiotics

Index, symbol, sign (Peirce)

Structural semiotics (Greimas) and narratology

Graphic semiology (Bertin)

Data viz issues and concepts (tables, timelines, maps, and dashboards)

4/ Quantification and feedback of UX (session 7, 8 and 9)

a/ Big Data in quantification history: statistics, surveys, polls and social listening. (Desrosières)

Propagation and memetics metrics (Kleinberg, Leskovec)

b/ Audience theories, design and methods

Media theory (Mc Luhan)

The phantom public (Lippmann)

Two-step flow (Katz Lazarsfeld) and influence

From panels and focus groups to social listening

c/ Psychometrics and tests

Natively digital traces, on line/ offline and mixed methods (consumer journeys).

Individual testing of cognitive activity: eye-tracking and other body sensors

Mechanical turk methods for testing

UX modeling: Subjective evaluation

5/ Collective engagement in UX (session 10 and 11)

a/ Principles

Contributions, exchanges and crowdsourcing as part of UX (comments, annotations, controversies) (boyd)

Wikipedia's political and cognitive processes (Cardon)

Distributed architectures at technical and cultural levels (Musiani)

Ecology of UX in public spaces: publics and crowds, events design.

b/ Methods

Digital Methods (Rogers and Marres)

Community management : theory and techniques

Social Network Analysis (from reputation to multiplexed engagements) (Watts, Granovetter, Burke)

Quantified self and other communities

6/ Design methods (session 12 and 13)

a/ User modeling (from Eco to Norman)

Learn how to better differentiate (and combine) interface design, interaction design, information design

b/ User centered design (quantification and feedback data in the loop).

Testing methodologies (protocols and principles of validation)

Presentations and general discussion (session 14)

Keywords

quantification; networks; social sciences; opinion; digital architectures; digital methods; traces; memetics; attention economy; smart city.

Learning Prerequisites

Required courses

None

Recommended courses

None

Important concepts to start the course

Attention, appropriation, public

Learning Outcomes

By the end of the course, the student must be able to:

- Create a user model
- Make a user model by combining data sources

- Design usability tests protocols
- Plan content evolution
- Develop specific metrics
- Elaborate the relevant interpretation of the results

Transversal skills

- Use a work methodology appropriate to the task.
- Give feedback (critique) in an appropriate fashion.
- Take account of the social and human dimensions of the engineering profession.
- Demonstrate the capacity for critical thinking
- Summarize an article or a technical report.

Teaching methods

Highly interactive course including readings and reports, debates, design of methods for small projects.

Expected student activities

Readings every week, documentation for case studies, debates during the sessions, small project by team of 2.

Assessment methods

- 40% Final Individual report in the form of an essay about one specific method (20 pages and a technical summary)
- 20% Reading report and presentation
- 40% Final Project in teams of two.

Supervision

Office hours	Yes
Assistants	Yes
Forum	Yes

Resources

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- To save everything, click here : technology, solutionism, and the urge to fix problems that don't exist / Evgeny Morozov
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- Digital methods / Richard Rogers
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- Les lois de l'imitation / Gabriel Tarde

Websites

- <https://sites.google.com/site/dominiqueboullier/>
- <https://shs3g.hypotheses.org/>

Videos

- <https://www.youtube.com/watch?v=gfsv5df8SYw>