ICA Commission on the User Experience

2021 Business Meeting
15 December | Florence, Italy

Commission Chair
Robert E. Roth, PhD | reroth@wisc.edu
What is the “Use” Commission?

First established in 1984 as the **Map Use** Commission
- continual commission status since except 1999-2003

Refreshed in 2003 as the **Use & User Issues** Commission
- added treatment of usability & user-centered design

Currently the **User Experience (UX)** Commission
interaction

user(s)

interface

map interface

humans experience interactions

user(s)  humans use interfaces

map interface

**UX design** (eXperience)

user(s) \hspace{2cm} UI design \hspace{2cm} map interface

**Source:** Roth (2012) Cartographic Interaction Primitives: Framework & Synthesis
What is the “UX” Commission?
What is the “UX” Commission?

Source: van Elzakker et al. (2007)
Field-based usability evaluation methodology
What is the “UX” Commission?

Source: Roth et al. (2017) User studies in cartography: Opportunities for empirical research on interactive maps & visualizations

15 December 2021 | Florence, Italy
Leadership: 2011–2015

Corné van Elzakker | Netherlands
Chair: 2007–2015

David Forrest | United Kingdom
Vice-Chair: 2007–2015

Kristien Ooms | Belgium
Vice-Chair: 2011–2015

Alex Pucher | Austria
Vice-Chair: 2007–2015

ICA User Experience Business Meeting

15 December 2021 | Florence, Italy
Leadership: 2015–2019

Kristien Ooms | Belgium
Chair: 2015–2018
Vice-Chair: 2018–2019

Alena Vondráková | Czech Republic
Vice-Chair
Webmaster

Robert Roth | USA
Vice-Chair: 2015–2018
Chair: 2018–2019

Artemis Skarlatidou | United Kingdom
Vice-Chair

15 December 2021 | Florence, Italy
ICA User Experience Business Meeting
Leadership: 2019–2023

Robert Roth | USA
Chair: 2018–2023
Vice-Chair: 2015–2018

Luciene Delazari | Brazil
Vice-Chair

Katarzyna Słomska-Przech | Poland
Vice-Chair

Zdeněk Stachoň | Czech Republic
Vice-Chair

15 December 2021 | Florence, Italy
ICA User Experience Business Meeting
Terms of Reference for 2019–2023

1. **Website:** Maintain & expand the commission website on UX design & user issues: https://use.icaci.org/.

2. **Bibliography:** Maintain & expand the bibliographic reference for UX design & user studies in cartography & related field.
Latest Posts

**Registration is mandatory for participation in the ICC pre-conference workshops.**

Zdeněk Staňa | 23/11/2021

The workshops are organized at the University of Florence. Due to COVID-19 pandemics, access to the University of Florence is allowed only with a QR code issued by UniFi to authorized persons (for reasons of contagion control). So BEYOND the…

** ICC 2021 Florence**

Zdeněk Staňa | 05/10/2021

ICC 2021, 30th ICC will be organized as a hybrid event on 14-18th December in Florence, Italy. The UX Commission will co-host a workshop entitled “Immersive Cartography / Cartography for Immersive Environments” on Monday December 13th (2 pm). The event…

**ICA Joint Commission Workshop – Usability 4All**

Luciene Delazar | 24/09/2020

Date: Monday November 23, 2020. Location: Federal University of Paraná- Curitiba – Brazil We invite papers to be submitted to a joint Commission Workshop of the Commission on User Experience together with Commission on Cartography and Children, Commission on Maps…

Sign-up to our listserv!!!

Recent Comments

- Eric Swett on Workshop on lessons learned from volunteers’ interactions with geographic citizen science applications, 27 April 2018, London

Archives

- November 2021
- October 2021
- September 2020
- May 2020
- February 2020
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<td>Augmented Reality and Spatiality...</td>
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<td>Automated eye-movement prototype...</td>
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<td>2001</td>
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Abstract

Digitalization in schools requires a rethink of teaching materials and methods in all subjects. This upheaval also concerns traditional print media, like school atlases used in geography classes. In this work, we examine the cartographic technological feasibility of extending a printed school atlas with digital content by augmented reality (AR). While previous research rather
What is the Plan for 2019–2023?

1. **Website:** Maintain & expand the commission website on UX design & user issues: https://use.icaci.org/.

2. **Bibliography:** Maintain & expand the bibliographic reference for UX design & user studies in cartography & related field.

3. **Student Services:** Hold listening sessions with students to promote and advertise student research & opportunities.

4. **Educational Workshops:** Organize training workshops on UX design & user studies for students & non-specialists.
 Modules of Training Workshops

3rd Edition – Interactive Training Workshop on ‘Conducting and Designing User Studies’

@ICCGIS, Albena (Bulgaria)
June 15, 2016

The invitation to this workshop can be found here.

Module 1:
Methods and techniques of use, user and usability research in geo-information processing and dissemination.
Kristien Ooms, Ghent University

The first module will introduce you to use, user & usability research in geo-information processing and dissemination. Reasons for doing such research are to understand and explain how GI tools work for their users and to design more usable tools. In this first module, the focus will be on the latter. The concept of User Centred Design will be presented and an overview will be given of the most commonly applied research techniques, along with tips & tricks on how and when to use them. Experiences will be shared in interactive sessions.

See slides →

Module 2:
Quantitative versus Qualitative user research: selecting the right approach.
Robert Roth, University of Wisconsin Madison

When setting up a user study in cartography and GIS, it can be a difficult task to select the right method from the long list of available options. Methods commonly are divided between quantitative and qualitative approaches, with an increasing recommendation to mix these methods across a

https://www.zotero.org/groups/928693/uuui/items/5AGCKS8I/library
Workshop on Adaptable Research Methods For Empirical Research with Map Users

Thursday 6 May 2021

Everyone globally has been affected by the COVID-19 impact on planned research projects as a result of restrictions on movement and personal interactions. Despite these challenges, people have been successful in sharing their experiences in adapting user research methods for remote research to help each other solve unsolved problems.

Session 1

22:00-22:20 (AEST) Experiences with Collaborative Map Use Interface in Remote Courses of Maritime Spatial Planning
Pyry Kettunen, Christian Koski, Mikko Rönneberg
15 minutes presentation + 5 minutes discussion, slides, recording

Bradley Denney, Amy L. Griffin, Zdeněk Stachoň
15 minutes presentation + 5 minutes discussion, slides, recording

22:40-23:00 (AEST) Performing cartographic visual search experiments online: opportunities and challenges
Vassilios Krassanakis, Anastasios L. Kesidis, Athina Pappa, Loukas-Moysis Misthos
10 minutes presentation + 10 minutes discussion, slides

https://cogvis.icaci.org/21_adaptable.html


CV-38 - Usability Engineering & Evaluation

In this entry, we introduce tenets of usability engineering (UE) and user-centered design (UCD), interrelated approaches to ensuring that a map or visualization works for the target use. After a general introduction to these concepts and processes, we then discuss treatment of UE and UCD in research on cartography and geographic visualization. Finally, we present a classification of UE evaluation methods, including a general overview of each category of method and their application to cartographic user research.

Author and Citation Info:


This entry was first published on March 9, 2018. No earlier editions exist.

Topic Description:

1. Definitions
2. Overview
3. UE Approaches and Applications
4. UE Evaluation Methods

1. Definitions

evaluation: the assessment of the extent to which a product, mapping or otherwise, supports user needs

conceptual development: the outline of a product’s functional requirements prior to product development, as identified from the work domain analysis

debugging: the process of fixing errors and optimizing code before final release of a product to the end users
KRAAK, ROTH, RICKER, KAGAWA, and LE SOURD

MAPPING FOR A SUSTAINABLE WORLD

https://digitallibrary.un.org/record/3898826
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5. **Scholarly Workshops:** Organize research workshops on UX design & user studies with other commissions & sibling intellectual commissions.

6. **ICA Sessions:** Organize sessions on user studies and UX design at the 2021 & 2023 International Cartography Conferences.
ICA Joint Commission

Workshop Usability 4All

https://www.youtube.com/playlist?list=PLGqsHedNsYJlaYDAL-IQU8_rmhACTR2o

Commission on User Experience
Commission on Cartography and Children
Commission on Maps and Graphics for Blind and Partially Sighted People
Commission on Open Source Geospatial Technologies

Programming:
Morning - ICA Chairs presentations
Afternoon - Presentation of selected papers.

Send your contribution (max 2 pages, pdf format) until October 10th to luciene@ufpr.br

Inclusive Design

Recognize exclusion; solve for one, extend to many; learn from diversity

- Recognize exclusion
  - Designing for inclusivity not only opens up our products and services to more people, it also reflects how people really are. All humans grow and adapt to the world around them and we need our designs to reflect that.

- Solve for one, extend to many
  - Everyone has abilities, and limits to those abilities. Designing for people with permanent disabilities actually leads to designs that benefit people universally. Constraints are a beautiful thing.

- Learn from diversity
  - Human beings are the real experts in adapting to diversity. Inclusive design puts people in the centre from the very start of the process, and those fresh, diverse perspectives are the key to true insight.

Source: Microsoft Inclusive Design Toolkit
https://www.microsoft.com/design/inclusive/
Pre-Conference Workshop Immersive Cartography / Cartography for Immersive Environments

Monday, December 13 - Firenze, Via Laura, 48 Room A2.09
Webex link:
https://unifirenze.webex.com/unifirenze/j.php?MTID=mcc5491e2b25e30d8e585633b5a33a831

14:00 - 14:10 Introduction
- Commission on User eXperience (UX) - Zdeněk Stachoň
- Commission on Cognitive Issues in Geographic Information Visualization - Petr Kubíček

Part 1 - Keynotes (Petr Kubíček, Chair)
14:10 - 14:30
Alex Klippel - Thinking within - explorations toward a science of consciousness
14:30 - 14:50
Arzu Coltekin - Extended (virtual, augmented, mixed) reality in geography
14:50 - 15:10
Ioannis Giannopoulos - Geographic Aware Augmented Reality
15:10 - 15:30
Čeněk Šašinka - Collaborative Immersive Virtual Environment for learning

15:30 - 15:45 Break

Part 2 - Practical Examples (Zdeněk Stachoň, Chair)
15:45 - 16:10
Raziel Hargit, Doiane Spenkevá - Evacuation in iVE: How to measure activities and interaction
25 talks over 4 sessions!
What is the Plan for 2019–2023?

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6. **ICA Sessions:** Organize sessions on user studies and UX design at the 2021 & 2023 International Cartography Conferences.

7. **UX Research Agenda:** Jointly develop a research agenda on map UX.

8. **User Studies Handbook:** Jointly organize an overview reference on designing & conducting user studies in cartography.

15 December 2021 | Florence, Italy
User studies in cartography: opportunities for empirical research on interactive maps and visualizations

Robert E. Roth a, Arzu Çöltekin b, Luciene Delazari c, Homero Fonseca Filho d, Amy Griffin e, Andreas Hall f, Jari Korpi f, Ismini Lokka b, André Mendonça g, Kristien Ooms h and Corné P.J.M. van Elzakker i

aUW Cartography Lab, Department of Geography, University of Wisconsin-Madison, Madison, WI, USA; bGeographic Information Visualization and Analytical Research Group, University of Zurich, Zurich, Switzerland; cDepartment of Geography, University of California, Los Angeles, CA, USA; dGeospatial Computing Lab, Environment and Sustainability Institute, University of Exeter, Exeter, UK; eSchool of Physical, Environmental and Geographical Sciences, University of Melbourne, Melbourne, Australia; fDepartment of Technology in Social Sciences, University of Turku, Turku, Finland; gSchool of Technology, Amazonas University, Manaus, Brazil; hSchool of Technology, Ghent University, Ghent, Belgium; iGeography, University of Minnesota, Minneapolis, MN, USA

ABSTRACT

The possibility of digital interaction, where the reader of the map experiences the map as the user of the map, and the user’s experience is mapped, is driven by advances in interactive maps and visualizations. In this paper, we consider the potential for empirical research on interactive maps and visualizations in cartography. We introduce methods and techniques for conducting empirical research on interactive maps and visualizations, and we present examples of recent research in the field. We also discuss the potential for empirical research on interactive maps and visualizations to contribute to our understanding of the role of maps and visualizations in society.

KEYWORDS

Empirical cartography; interactive maps; visualizations; user studies; user experience
Table 1. Opportunities for empirical research on the design and use of interactive maps and visualizations.

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<th>Basic research on interactive maps and visualizations</th>
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<tr>
<td>1. Expand qualitative and mixed-method research to confirm and enrich quantitative research in cartography</td>
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<tr>
<td>2. Improve consistency and detail in the reporting of method designs</td>
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<td>3. Promote purposeful sampling of study participants and limit convenience sampling</td>
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<td>4. Adopt new approaches to treat interactive, online, and mobile maps and visualizations as unique study materials</td>
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<td>5. Define and assess high-level, insight-based tasks to complement benchmark tasks in user studies</td>
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<td>6. Complement laboratory and online studies with field studies</td>
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<tr>
<th>Adapting methods for UCD studies</th>
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<td>7. Establish gold standards for administering and assessing UCD studies on interactive maps and visualizations</td>
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<td>8. Streamline and contextualize the UCD process for interactive cartography and visualization</td>
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<td>9. Promote comprehensive UCD case studies</td>
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<td>10. Leverage UCD studies for participatory action research</td>
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<td>11. Conduct user-centered studies on the political economy of interactive cartography and visualization</td>
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<tr>
<th>Additional empirical needs in interactive cartography and visualization</th>
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<td>12. Articulate dimensions of interface complexity in user studies</td>
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<td>13. Develop strategies to compare static and interactive maps</td>
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<td>14. Investigate the value of interactivity in new map use cases</td>
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<td>15. Evaluate non-cartographic and neocartographic interfaces supporting map design and production</td>
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<td>16. Evaluate mobile interactions</td>
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<tr>
<td>17. Develop and integrate design guidelines for interaction and representation in cartography</td>
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</table>

Source: Roth et al. (2017) User studies in cartography: Opportunities for empirical research on interactive maps & visualizations
Research Special Issue

Introduction

Envisioning the future of cartographic research

Amy L. Griffin, Anthony C. Robinson & Robert E. Roth
Pages: 1-8
Published online: 19 May 2017
Abstract | Full Text | References | PDF (965 KB)

Articles

Of maps, cartography and the geography of the International Cartographic Association

Mengo-Jan Kraak & Sara Irina Fabrikant
Pages: 9-31
Published online: 20 Apr 2017
Abstract | Full Text | References | PDF (4539 KB)

Geospatial big data and cartography: research challenges and opportunities for making maps that matter

Anthony C. Robinson, Urik Demirer, Antoni B. Moore, Aileen Buckley, Bin Jiang, Kenneth Field, Mengo-Jan Kraak, Simon P. Comber & Claudio R. Slater
Pages: 32-40
Published online: 13 Mar 2017
Abstract | Full Text | References | PDF (3188 KB)

User studies in cartography: opportunities for empirical research on interactive maps and visualizations

2209 Views
22
17 CrossRef citations
37 Altmetric
Call for Papers: Special Focus Issue of the International Journal of Cartography on the State of the Art & Science in Cartography

Posted on July 6, 2021 by Arzu Sulmakin

Call for Papers: Special Focus Issue of the International Journal of Cartography on the State of the Art & Science in Cartography

Guest Editors: Arzu Sulmakin, Anthony C. Robinson, Luciene Delazari, Pyry Kettunen

The ICA Commissions on Visual Analytics, Cognitive Issues in Geographic Visualization, and User Experience (UX) invite paper submissions for a special focus issue of the International Journal of Cartography (https://www.tandfonline.com/toc/tica20/current). The theme for this special issue is “The State of the Art & Science of Cartography.”

The special issue will cover a wide range of topics related to cartography, including but not limited to:

- Visualization techniques and tools
- Cognitive and psychological aspects of cartography
- User experience and interaction design
- Geovisualization for decision-making
- Advanced cartographic techniques and applications

Manuscripts should be submitted online through the ICA’s internal peer review system (https://ica-internal-icaros.org). Authors should follow the journal’s guidelines for manuscript preparation and submission.

Deadline for submission: [Insert Deadline]

Further details and guidelines can be found on the ICA’s website (https://www.cartography.org).

For questions or inquiries, please contact the Guest Editors:

Arzu Sulmakin
arzu.sulmakin@uni-jena.de

Anthony C. Robinson
anthony.robinson@unsw.edu.au

Luciene Delazari
luciene.delazari@unsw.edu.au

Pyry Kettunen
pyry.kettunen@unsw.edu.au

We look forward to receiving your submissions and exploring the latest advancements in cartography.
Beijing 2019!
Mobile Map UX Research Agenda: ~2022

**ICA Commission on Cognition**
Amy Griffin | Australia
Hua Liao | China
Tumasch Reichenbacher | Switzerland
Shengkai Wang | China
Wangshu Wang | Austria
Cao Yinghui | China

**ICA Commission on LBS**
Haosheng Huang | Switzerland
Yi Cheng | China
Weihua Dong | China
Georg Gartner | Austria
Jukka Krisp | Germany
Liqui Meng | Germany

**ICA Commission on UX**
Robert Roth | USA
Arzu Çöltekin | Switzerland
Luciene Delazari | Brazil
Bradley Denney | Australia
André Mendonça | Brazil
Jie Shen | China
Zdeněk Stachoň | Czechia
Mingguang Wu | China

15 December 2021 | Florence, Italy
ICA User Experience Business Meeting
About GeoFort

GeoFort is an educational attraction on an exciting fort in the New Dutch Waterline in the field of cartography and navigation. On GeoFort the visitor will meet old and new geotechniques in the GeoExperience, the 'intelligent' maze and Bat Trail Garden. Also on GeoFort is a restaurant, the 3D Cafe and several meeting rooms.

>> What is Geo?
>> The fortress
>> Sponsors and partners
>> Organisation

2022
2024!?
ICA Commission on the User Experience (UX)

2021 Business Meeting
15 December | Florence, Italy

How can we better support your user needs!?

Commission Chair
Robert E. Roth, PhD | reroth@wisc.edu