THE DIGITAL, AFFECTS AND SPACE (DigitAS): How digital media and augmented reality change the perception of public spaces

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dha go!es digital Day

25 September 2020, Austrian Academy of Sciences (virtual conference)

universität innsbruck

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Researching Extended Realities

Advancing technological development of digital media and ICT

(mobile connectivity, augmented reality, virtual reality…)

→ **Increasing involvement of people in everyday life with digital media** via various devices

→ **Increasing complexity of people‘s perception of the world**
(cf. Bork-Hüffer 2016; Bork-Hüffer et al. 2020; Dey et al. 2018, Felgenhauer & Gäbler 2018; Lemos 2008; Malpas 2008; Miller & Horst 2013)

→ **Potential impacts of digital media on people’s perceptions and practices increasingly addressed by media and politics**
(e.g., hate speech, gaming, ’fake news’, voting)

→ **Lack of adequate methods to research these impacts**, especially in mobile, public settings outside the lab

→ **Lack of attention to subconscious effects** of use of digital media, i.e. affective-emotional continuum

DigitAS Research Question

What is the potential of

- **mobile mixed** (digital, bio-sensing, interview) **method(ologie)s**
- for researching the **effects of digital media**
- on the **affective-emotional experience of public places**?

THE DIGITAL, AFFECTS AND SPACE (DigitAS)

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Methodological Approach

- Integrating **digital, bio-sensing, qualitative interview method(ologie)s** in a spatio-temporal context
- Combining **mobile, non-representational** and **representational** method(ologie)s (cf. Adey 2010; Merriman 2014; Kaufmann & Bork-Hüffer accepted for publication; Ricketts et al. 2008; Sheller & Urry 2006; Spinney 2015; Verne 2012)
- Bridging research on **emotions** and **affects** (cf. Schurr 2014; Schurr & Strüver 2016)
- Reflecting on **ethical implications of method development** (Kaufmann et al. accepted for publication)
- **Triangulating** perspectives for **co-creating** knowledge on „cON/FFlating spaces“ (Bork-Hüffer & Yeoh 2017, Bork-Hüffer et al. 2020)

➢ **Example of application:**
Perception of public parks when using digital media in situ

➢ **Research sites:**
Venediger Au park (Vienna), Rapoldi park (Innsbruck)

DigitAS Data Collection Process

① Narrative-biographical interviews

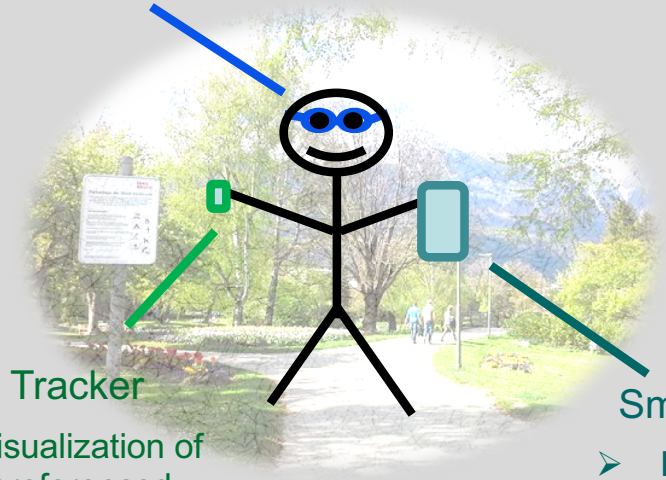
- Individual trajectories
- Experiences with public parks
- Mobile + social media use

② Mobile data collection in public parks

(Vienna: Venediger Au park, Innsbruck: Rapoldi park)

Mobile Eye Tracking Tobii Pro Glasses 2, 50Hz

- *Eye fixation*
- *Duration of fixation*
- *Index of Cognitive Activity*
- *Audio + **video recording***



GPS Tracker

- 3D Visualization of georeferenced eye tracking data

Smartphone

- Digital media stimuli

③ Retrospective Think Alouds based on recorded videos

- Subjective emotional experience of park situation
- Subjective emotional experience of digital triggers
- Comparison of walks

State of the Project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State of the Project

Project set-up

- Kick-off: **International Symposium**, Webpage, Twitter Account
- **Consultation** of SAB, ethics expert, eye tracking experts
- Approval by **Board f. Ethical Questions in Science**, Innsbruck University

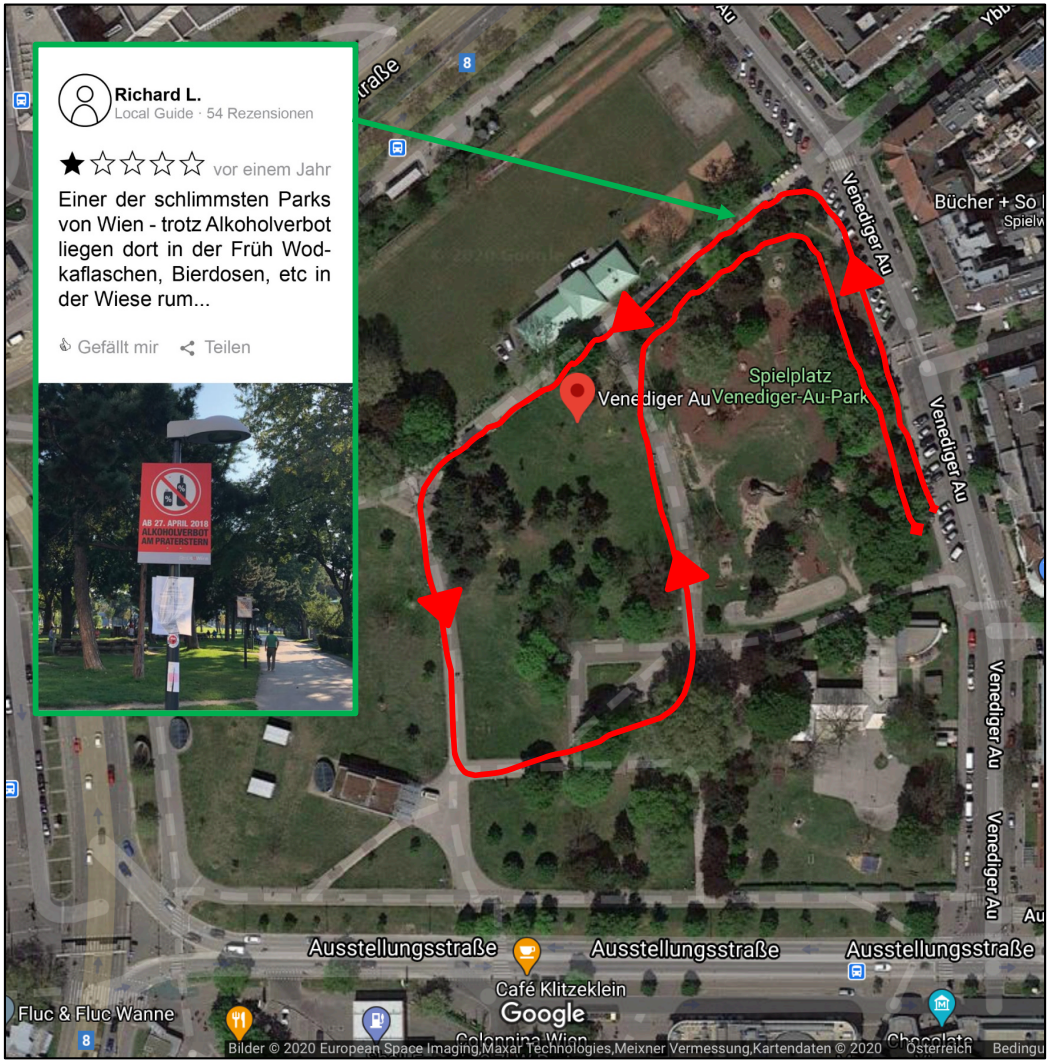
Study design

- **Choice** of instruments + **purchase** of mobile eye tracking equipment
- **Trainings** on eye tracking hardware + software
- **Testing and refinement** of study design, collection of social media
- Adjustments due to **COVID-19** (postponement, disinfection, taking fever...)

Data collection

- Inclusion of **student researchers** through final theses
- **Pre-tests** of instruments, paths; selection, production and test of stimuli
- **Recruitment** and screening of participants (Vienna)
- **Mixed methods data collection I**: Venediger Au park in Vienna

Research Site 1: Venediger Au park, Vienna



Mobile Data collection:

- Repeated walks along fixed path:

1) without smartphone
2) with smartphone: social media posts as stimuli

- Ongoing **eye-tracking, ambient video recording** with Tobii Pro Glasses 2

- Directly after walks: **Retrospective Think Alouds** on videos of walks

Next Project Steps

(Continued) Data collection

- Recruiting and screening of **participants** (Innsbruck)
- Mixed Methods **data collection II**: Rapoldi park in Innsbruck

Analysis, interpre-tation

- **Data analysis and interpretation**
- Development of **3D Visualization** of georeferenced eye tracking data
- **Preparation of results** for scenario workshops

Outreach

- **Scenario workshops** with stakeholders on implications of DigitAS findings incl. development of **policy recommendations**
- Development of **meta data concept**
- Continued **int. publications, presentations**, **science communication**

Aims and Expected Outcomes

- **Mixed methods innovation** and **method comparison,** development of best practices guidelines for mixed mobile data collection
- **Improved understanding** of effects of digital media and thus augmented reality on emotional-affective experience of public places
- Development of **3D Visualization of georeferenced eye tracking**
- **Metadata concept** for data management of mixed data sets
- **Policy implications** incl. recommendations for augmented reality governance produced in **two scenario workshops**

Thank You

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The Digital, Affects and Space (DigitAS)
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