Faculty of Design

2023

Geospatial Mapping: Spatialising habitus in the studies of psychogeography lived experience

Wacta, Christine, Dickson, Kya, Liu, Xinyi and Kieu, Gia

Relating Systems Thinking and Design
(RSD12) Symposium | October 6–20, 2023

Geospatial Mapping: Spatialising habitus in the studies of the psychogeography lived experience

Christine Wacta, Kya Dickson, Xinyi Liu, and Gia Kieu

A virtual experience platform as a service (PAAS)

This workshop explores a hands-on systemic model-builder approach through users' engagement and participation in developing a cross-collaborative platform celebrating users' differences. The session engages participants in user-centred design research and urban analytics featuring enhanced integration of geoscience, machine learning and automated sensors in making efficient urban systems.

Activities include presenting the App, using it to capture emotions, and visualising the results through infographics, data analytics for geospatial assessments and discussions to help understand how intangible data can support urban planning. Capture activities are deployed into the cloud and visualised on dashboards and other forms of interactive infographics. Participants are encouraged to explore all intangible emotion buttons and tangible point captures.

Participants contribute to the cloud-based geo-info-hub that houses the collective effort; however, the data capture is anonymous, revealing only the location and feedback provided (no other user information is collected). A smartphone and QR code are used to download the Geo Emotions application

(the App). Participants select an area of interest, indoor or outdoor, and spend 30 minutes experiencing and recording their emotions.

This is a transdisciplinary, cross-cultural and transgenerational initiative that weaves similarities and contradictions to emerge novel ideas in systemic design.

KEYWORDS: AI, PAAS Platform As A Service, Geo Capture, Participatory Design

RSD TOPIC(S): Synergy between Sciences, Technological Entanglements, systemic-codesign

---

About Geo Emotions

We are weaving the design process into a system of emotional networks that are invisible and often omitted via Geo Emotions (the App), designed to spatialise ephemeral human habitus. This approach has been successfully tested in a human-centred design course, an undergraduate entry-level class at a community scale. The facilitators previously worked on testing the App. We aim to expand the App to meet a global scale; such an approach promises to leverage many challenges and reconnect systems by stitching back together human geography, urban sociology with urban ecology in a synchronous and healthy whole.

Our pedagogical approach uses geo-survey and advanced geospatial diagnostics in a system thinking approach to solve spatial problems as they emerge in three-dimensional spatial experiences. The work addresses spatial reasoning skills necessary to develop collective thinking for solving complex problems. The intangible is spatialised in a three-dimensional form, visualisable in the workshop using an interactive software application that depicts and creates three-dimensional emotion capital.

Workshop description

This workshop is suitable for online or on-site participation. Facilitators support with step-by-step instructions on how to use and push data into the cloud. Geo Emotions is

an app that works at any location. Participants are welcome and encouraged to test the app before the workshop. We noticed that users continue to use the App after the session, finding capturing geo-emotions fun and enjoyable.

Purpose and approach

The essence of this workshop is to capture non-tangible user data that complement existing automated environment/human data capture for use in systemic urban design that augments the user's lived experience in an urban context.

Existing methods of data capture with the integration of SLAM (Simultaneous-Localization and Mapping) seem strongly dependent on technology-specific solutions to improve automation and process efficiency. Although they provide highly-precise scans of indoor/outdoor environments and digital traces of the actions/activities of the inhabitants (constituents of virtually signified personal and/or collective territories), they use objective data mostly from homogeneous sources. They fail to capture the citizen's point of view and live feedback on the quality of experience (subjective data), which often presents a conflicting viewpoint from that suggested by the massive capture.

We are witnessing in our cities increasingly complex stages of transformations (spatial-physical-social-social, and environmental), which directly affect the user's experience. These changes often result from the emergence of new forms and functions that surface, compromise or hamper previous urban dynamics. Moreover, the predictions of a sharp increase in urban population in the coming decades will cause drastic changes that will generate enormous challenges in terms of cities' capacity to welcome and manage new inflows of people with needs for housing, work, entertainment, and other demands that cannot be satisfied with existing industries or infrastructures. This new urban population will form new social diversities, new inequalities, and new patterns of urban spatial segregation and differentiation.

Therefore, new systemic urban methods are required to fuse objective/heterogeneous human data with subjective (perceptual/non-tangible/emotional) data into a homogenous whole that epitomises the complexity and contradictions of human

emotions' vulnerable, fragile, volatile, and ethereal nature. Hence, the importance of developing a design strategy that uses systemic approaches to help predict and resolve potential problems before they even arise.

Overview

- The session is 120 minutes, consisting of four phases totalling 120 minutes.
- Interested participants use the App Instructions and download the App through the QR code provided.
- Facilitators support participant groups.
- The geo-emotions mapping requires an environment with WIFI or cellular service.
- The workshop can be online or in-person. Participants, on-site or online, have similar outcomes.

Agenda

Opening (20 minutes)

The introduction consists of an overview/ outlining of the methods; participants are introduced to the processes and internal architecture of the Capture-APP and exposed to the limitations and possibilities.

Workshop core (40 minutes)

Participants use the app to capture and track their experiences in an environmental context, preferably urban. This is an experimental geo-capturing mode of behaviour linked to the conditions of the urban context, a journey through the urban landscape, where the participants capture emotions of their relationships, attractions of the field and their encounters. It involves playful-constructive behaviour and awareness. This experience is distinct from the classic notions of travel or walks—it embodies all social contradictions with complex values, cultures, and trends.

Externalisation & connections (40 minutes)

We discuss geospatial analysis techniques focusing on detecting knowledge and data artefacts and how that influences creative thinking/idea sharing. The learning/sharing is augmented by the power of collectivity to articulate ideas that spark a feedback loop for idea evolution. Connections-disconnects between captures engage discussions.

Workshop closing (20 minutes)

We conclude with a reflection on the participants' experiences and validation of efforts/feedback.

- What it really means to be a human in the urban environment?
- What data about our minds-bodies-health should be shared?
- What code are we creating for future generations with different experiences?

Facilitators/organisers

Christine Wacta, Assistant Professor in the School of Human Ecology. Georgia Southern University, PhD in Architecture/Urban, Design/Heritage/Landscape with a focus in Geospatial Information Science. Researcher at EVCAU Lab. (Espace Virtuel de Conception, Architecturale et Urbaine) Paris, France. Founder @GeoEdugaming.Inc, Email: cwacta@georgiasouthern.edu..
https://www.paris-valdeseine.archi.fr/recherche/laboratoire-evcau.html

Kya Dickson, Undergraduate Research Assistant, President of GSC@GSU, kd16226@georgiasouthern.edu, https://geo-design-student-chapter-at-georgia-southern-ga-southern.hub.arcgis.com/

Gia Kieu, Undergraduate Research Assistant, Treasurer of GSC@GSU, pk03933@georgiasouthern.edu, https://geo-design-student-chapter-at-georgia-southern-ga-southern.hub.arcgis.com/

Xinyi Liu, Intern Architect, xylethereal@gmail.com