Personal Traces

Details

Advisor

Pierre Dragicevic
http://dragice.fr
pierre.dragicevic@inria.fr

Internship Location

Bat 660, Digiteo Moulon, Université Paris Sud, 91190 Gif Sur Yvette

Topic

Robert Grant , 2019

We constantly leave traces in the world around us. Sometimes these traces give us insights into the activities of other people (e.g, wear traces on doors or on the ground), and sometimes our own traces are useful to ourselves, as tools for self-reflection and memorization.

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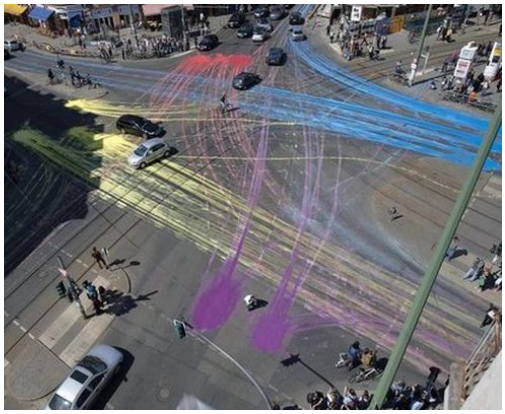
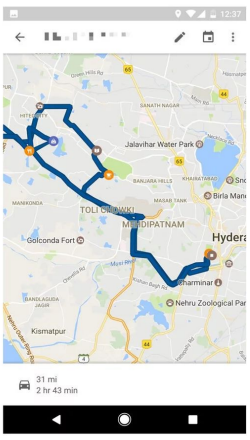
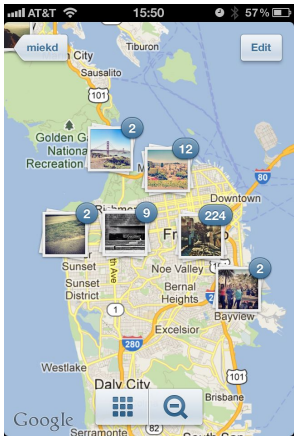
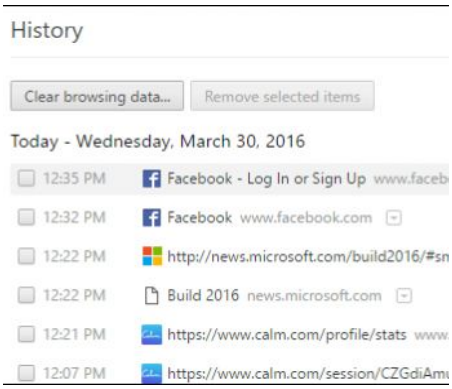


Akiz (2011) Painting reality

Although many traces appear spontaneously, a lot of information would remain invisible if not for technology. For example, fluorescent paint is used to track animals for doing research or for pest control purposes. Scientists and artists have been playing with various techniques to surface invisible traces in the physical world.







The focus of this internship topic is on digital traces. We now leave digital traces behind us, for example when we walk around with our phone, when we generate geolocated events (e.g., taking a photo), or simply when we browse the Internet. Energy and resource suppliers also increasingly offer technology for tracking our own consumption. Digital traces almost never appear spontaneously. Some of them are made partly visible through phone apps and other applications, but many of digital traces remain invisible to the user who generated them. Furthermore, inspecting digital traces is often a cumbersome activity, which requires explicitly launching applications and navigating in

interfaces that are divorced from the physical world. The goal of this internship will be to study how digital traces can be surfaced in the world around us, and how doing so could help support users in useful everyday activities.

This is a broad topic that may eventually become a full PhD topic, so the goal of this internship will be to explore a well-defined subset of the problem space. It will involve a survey of the literature, the laying out of a design space of situated visualizations of digital traces, a prototype of a system, and an evaluation if time allows. The choice of prototype and application domain will depend on the interests of the intern and will be discussed with the advisor. The focus will be on a prototype that does not involve a technology that is too time-consuming to master, this being an internship with limited time. The goal will be to illustrate an idea rather than to develop a finalized system. Furthermore, a big part of the Master thesis will be on conceptual aspects: a structured review of previous work, a design space, and possibly a terminology and conceptual framework that can help researchers think about digital traces.

The student for this topic should ideally have good analytical and conceptual thinking skills, good programming skills, good English skills, and have a deep curiosity for science and for topics related to this internship. For more about the context of this internship, see the page on the Ember project: https://ember.inria.fr.

Bibliography

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