Nomatic

Everyday we make countless decisions based on the social context we are embedded. In Nomatic, we have been exploring sharing our social context to enhance interactions. Nomatic figures out where we are and what we do from the sensors, uses machine learning to develop a semantic translation, and then visualizes and shares the information to our social relationships and communities. The picture on the right shows a visual interface of an early prototype; a group of three people (curves) share their recent whereabouts (dots) with the most recent locations emerging from the center and gradually fading away to the edge.

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undersound

undersound is a new type of experience, an interface that is on your mobile phone and in the Underground stations you pass through every day, part personal, part public and all about the Tube. It is a way of listening to, distributing and affecting the flow of music in the Underground which allows you to see your journeys, the people around you, and the Tube itself in a new light. A mobile phone client allows emerging musicians and audiophiles alike to wirelessly upload their tracks at points inside the ticket halls. This application also allows users to download tracks from points on the train platforms as well as from other users in proximity. Finally, metadata gathered during each exchange is collected by the access points and used to drive large visualizations in the ticket halls which reflect the movement of the music through the network.

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RhythMs

RhythMs is an interactive display that presents patterns of online presence. When we interact with others, much of our interaction is built around the convergence of each other's rhythms. Just as temporality is central to our experience of the world, it is also central to collaboration and our interactions with other people. By designing informa- tion visualization for use away from the desktop environment, we explore how technology can be used to support social presence and coordination.

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nimio

Nimio is a system comprised of a series of physical objects designed as individual playthings, but wirelessly networked via RF to act as both input and output devices for a collective visualization of distributed activity. These hand-held, translucent silicone toys have embedded sensors (for input) and 3 colors of LEDs (for output) which allow them to be reactive to both sound and touch. Action around one of the Nimios will cause the others to glow in different patterns and colors. The interaction design is deliberately open-ended, in order to allow the emergence of distinctive patterns of collaborative engagement in real groups.

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SALi

SALi, short for Sensor Abstraction Layer, is a unique sensor framework written in Java that acts as a nervous system for sensor based computation, filling the gap of responsibility between sensors and the applications that use them. It provides services such as graceful degradation in the event of sensor failure, end user transparency, and a dashboard view of sensor activity, so that users can deal with privacy and security issues while in the context of the situation at hand. The intent of SALi is to ease the development of sensor based applications by abstracting away both technical and social sensor management issues.

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Nomatic*Aid

Nomatic*Aid consists of a handheld geo-tagging photo device and delay-tolerant network infrastruc- ture that enables coordination between human relief workers during, and in the weeks and months after, crises. For an effective crisis response, spatial and temporal information about resources (e.g. water, arable land, vaccines) and displaced people has to be collected and collated. In practice, however, there may not be any network infrastructure. To compensate we leverage parasitic data transport by encouraging nodes to physically carry data for each other. Since the devices have limited transmission range, unpredictable mobility, and limited battery power, routing algorithms that exploit knowledge of the social relationships and physical context are central to the design.

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mopix

Mopix is a system that engages spatial and contex- tual annotation, media sharing and interaction with strangers and acquaintances and is designed for mobile and stationary use. Set up in large public spaces but also accessible through private and semi-private interfaces, it establishes a link between a physically perceived world and a virtual playground. By annotating a public space with camera phone pictures, users leave digital traces behind that are linked to their physical locations, which can then be retrieved by other passersby with their mobile phones or via public displays that are distributed throughout the spatial environment.

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HotSpot Clocks

The HotSpot Clocks project explores repetition across space and time in ambient displays. It attempts to render visible not only the presence of a nearby wireless access point, but the current amount of activity on it, and the long-term temporal patterns of use of that access point. In an office building containing several access points, it can provide spatially distributed clues to human activity in different portions of the building. Resistance wire attached to clock hands, along with thermochromic dye on the clock face, display both current time and current level of wireless internet activity based on the number of MAC addresses signed on to the local access point. Repeated warming and cooling over time degrades the dye, leaving worn out areas that display long term patterns of wireless internet use.

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