Challenges in Developing Personal Navigational Devices for the Urban Pedestrian

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Abstract
We expect Smartphone Apps designed for pedestrian explorers of urban environments to be: calming in the way that they support urban tasks, rewarding and pleasing to use, concealed, and personalised. 'calming' requires that they anticipate our ambitions and provide the right amount, of timely and relevant information. Calm technology also requires us to consider the balance of decision making between the user and the device, and to acknowledge the dynamics of a changing mix of pedestrian activities. 'concealed' means they are hidden from view, which in turn raises issues of how to interact with such devices. 'personalised' requires the device to be familiar with the user’s use and perception of the city. Familiarity of past activity raises issues of privacy. For all of these issues, the success of such devices is only as good as its weakest link. It reflects a compromise, and requires us to build upon the synergy between human and device.

So how near are we to having such calm, rewarding, concealed, and personalised technology?

Bio
Broadly my research is concerned with the application of statistical and visualisation techniques to geographical problem solving (including the use of exploratory data analysis). Beyond application, my interests are focused on theories of scale, and the characterisation of geographic space. There are significant challenges in modeling geographic space at multiple scales, in storing
that information in a meaningful way such that it can support intuitive exploration of geographic pattern and process at multiple levels of detail. These ideas have relevance in real and virtual worlds, and present additional challenges when applied to the domain of location based services, and wayfinding services - two areas I am particularly interested in researching.

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