

# THESIS DEFENSE

## PERSONAL INFORMATICS & CONTEXT

### USING CONTEXT TO REVEAL FACTORS THAT AFFECT BEHAVIOR

Friday, Aug 19  
2:00 PM  
GHC 6115

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Personal informatics systems help people collect and reflect on behavioral information to better understand their own behavior. Because most systems only show one type of behavioral information, finding factors that affect one's behavior is difficult. Supporting exploration of multiple types of contextual and behavioral information in a single interface may help.

To explore this, I developed prototypes of *IMPACT*, which supports reflection on physical activity and multiple types of contextual information. I conducted field studies of the prototypes, which showed that such a system can increase people's awareness of opportunities for physical activity. However, several limitations affected the usage and value of these prototypes. To improve support for such systems, I conducted a series of interviews and field studies. First, I interviewed people about their experiences using personal informatics systems resulting in the *Stage-Based Model of Personal Informatics Systems*, which describes the different stages that systems need to support, and a list of problems that people experience in each of the stages. Second, I identified the kinds of questions people ask about their personal data and found that the importance of these questions differed between two phases: *Discovery* and *Maintenance*. Third, I evaluated different visualization features to improve support for reflection on multiple kinds of data. Finally, based on this evaluation, I developed a personal informatics dashboard called *Innertube* to help people reflect on multiple kinds of data in a single interface using a *visualization integration* approach that makes it easier to build such tools compared to the more common *data integration* approach.

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