Faculty of Computer Science
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Making the Most of Multimodal Interfaces

By

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3:30 p.m.
ITC317

Refreshments will be served at 3:20 p.m.

In this talk I shall describe my work on a toolkit of multimodal, resource-sensitive widgets and what directions this work could take in the future. The toolkit of resource-sensitive, multimodal widgets allowed for the use of different output modalities by separating the behaviour of the widget from the presentation of the widget with external presentation components providing concrete presentation based upon the widget behaviour's requests. The most novel part of the approach taken was the inclusion of a component, which could adjust the widget's request for presentation according to the availability, and suitability of presentation resources. This is important as the variety of platforms user interfaces are required to run on and the contexts in which these platforms are placed varies greatly as the use of mobile devices becomes more and more prevalent. Thus, whilst a desktop device will typically be used in a quiet, well lit office and have a large screen for display, a mobile device may be used on a busy street or noisy factory environment and only have limited screen space for display.

There are many avenues future research may take. An obvious limitation to the existing work is that it only considers output. The suitability and availability of input mechanisms will also vary according to the platform and its context. The interaction of the different layers of context will also need to be considered. The output of a widget can be considered as part of the context for the input to the widget and vice-versa. If, for example, the output area of the widget is changed this will have a direct effect on the input area of the widget. The concept of resource-sensitivity and availability can be broadened out beyond a single platform. The concept of interaction spaces with associated interaction resources could allow the dynamic use of shared resources. A digital projector could, for example, be considered a presentation resource, which is available to all users in the same room. This raises a further question of having suitable mediation mechanisms to facilitate the sharing of such resources, which will most likely include some form of human intervention.

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GRADUATE STUDENTS ARE ENCOURAGED TO ATTEND

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