

Project Id	92
Project Title	No Mouse, No Keyboard: No Big Deal?
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Additional Faculty	
Faculty Department	Computer Science
Project Description	<p>For the last twenty years or so, mouse and keyboard have been essential devices for the interaction between humans and computers. More recently, devices with significant computational capabilities (such as PDAs, smart phones, tablet PCs), but without mice or keyboards, have become more and more popular.</p> <p>The purpose of this project is to investigate the impact of not having a mouse or keyboard for the interaction between humans and computers. The project will include the following aspects:</p> <ul style="list-style-type: none"> * An overview of the basic communication channels and interaction methods between humans and computers (e.g. speech/natural language, visual communication, tactile communication). * An analysis of the loss of functionality as a consequence of not using a particular method or device (e.g. mouse/keyboard) * Case studies that examine specific devices, tasks and contexts * Usability evaluations of the devices used in the case studies, based on experiments, user surveys, or focus groups. <p>Most of the above activities require a combination of literature search for related activities and approaches, some hands-on work to perform experiments, significant communication with team members, user communities, and possibly domain experts, and writing skills to produce professional-quality documentation of the project.</p>
Interdisciplinary Nature Description	<p>The use of computers is common in many disciplines, and this project benefits from a team consisting of members with different backgrounds. Ideally, some members would have specific interest or backgrounds with areas and tasks that could greatly benefit from better interaction with mouse- and keyboardless computers. Examples are tasks that require the use of the hands such as assembling or working on complex devices (e.g. maintenance of complex machinery like airplanes), or users that have limited abilities for using a mouse/keyboard.</p>
Links	
Number of Honors Students Requested	3
Applicable Majors	CSC, IME, KINE, COMS, ANT, ARCE, ART, BUS, CD
desired_res	<p>The students should have an interest in technology and how it influences human behavior. They should be able and willing to perform research on existing approaches, evaluate them, and extract essential aspects for this project. Ideally, they should have a background or interest in the use of surveys and focus groups for the usability evaluation of devices.</p> <p>However, the most important factor is interest in the topic.</p> <p>Please note that the suggestions for majors are not mandatory, but just examples of fields that I find are particularly relevant.</p>

Date Added	2008-10-15 12:09:33
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