Interaction Techniques for Using Handhelds and PCs Together in a Clinical Setting Alsos and Svanæs 2006

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Specialized elements of hardware and software connected by wires, radio waves and infrared, will be so ubiquitous that no one will notice their presence

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- Alsos and Svanæs suggests hospitals



Most systems require tailored software. However the Pebbles project[1] resulted in software for off the shelf hardware. Alsos and Svnæs compare themselves with this project using standard hardware.



As shown there is quite a lot of interesting research being done on experimental systems, but Alsos and Svans claim that very little is known about how these systems compare with regards to usability. This is the main drive behind their research.

department of informatics

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Several interesting ideas. The rest of the research was based on the idea of using the patient terminal and PDA to show patient x-rays and ct-scans as part of pre-op briefing. 8 prototypes were created based on this idea.







Windows, Icons, Menus and Pointing device



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- Traditional touch screen solution
- Doctors didn't have any trouble
- Patients found it a good way to receive information

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Alsos and Svanæs 06









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- Wanted to focus only on patient and one object of common interest







• Menu on PDA





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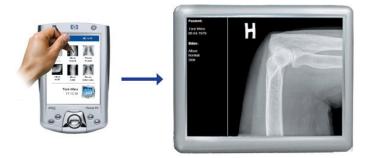
- Menu on PDA
- To show image click on menu, move PDA towards patient terminal
- Simulated by operators
- Very awkward
- Didn't see the point
- Nobody guessed it was simulated

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Alsos and Svanæs 06

Prototype 4: Drag and Drop

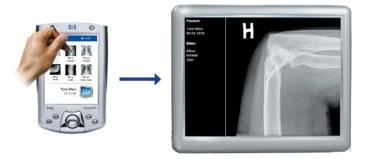




• Drag image to icon representing screen

Prototype 4: Drag and Drop

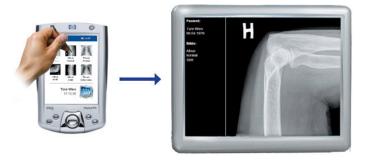




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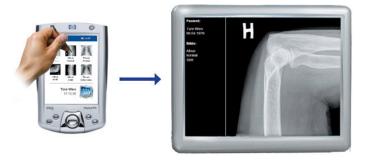




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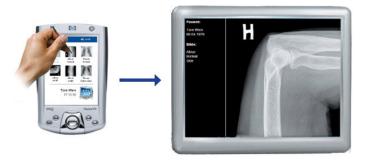




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- Some doctors expected image to appear as soon as it was clicked
- Commented on that icon representing terminal didn't look the same as terminal
- Some tried to drag the image back after use, believing they had "transfered" it to the terminal
- Satisfied with system after they had learned to use it





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- PDAs screen extended to the terminal
- Some thought it a different type of drag and drop
- Others thought it a type of shared desktop
- Claimed this was a fault with the prototype
- Didn't say anything else about it

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Prototype 6: PDA as input device





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- Pointed out it would be easier just to touch the terminal

Prototype 7: Remote control





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Prototype 7: Remote control





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- Again the doctors complained about the many focus shifts
- Took the focus away from the patients





• Copy of the terminals screen on the PDA





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- Image on PDA to small





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- Image on PDA to small
- Menu to small to see at all





- Copy of the terminals screen on the PDA
- Image on PDA to small
- Menu to small to see at all
- Doctors ended up using the terminal directly instead



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- The PDA however removed some of the focus from the patient. Doctors wanted to only focus on the patient, and one object in common.
- No agreement on if doctors should be allowed to have "secret" information on PDA



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- The results of the different prototypes weren't exactly surprising
- Can one really come to any conclusions with only 4 test subjects?
- What did they actually test? There is a big difference in usability and self learn-ability.



Neuroscientists have discovered a link between the activity in, and the size of the brains hippocampus and our ability to navigate maps[2]. Modern navigational systems, including the world wide web, the way we use our cellphones, and also the techniques presented in this article are moving towards mapping methods. Hugo Spiers has speculated that as we now rely more and more on the web to tell us how to navigate we might be reducing the growth of cells in our hippocampus[3]. If this turns out to be a problem, it might easily affect the way we choose to rely on the type of technologies Alsos and Svans present in their article. Even more so since the setting presented is a clinical setting.



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John Markoff.

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