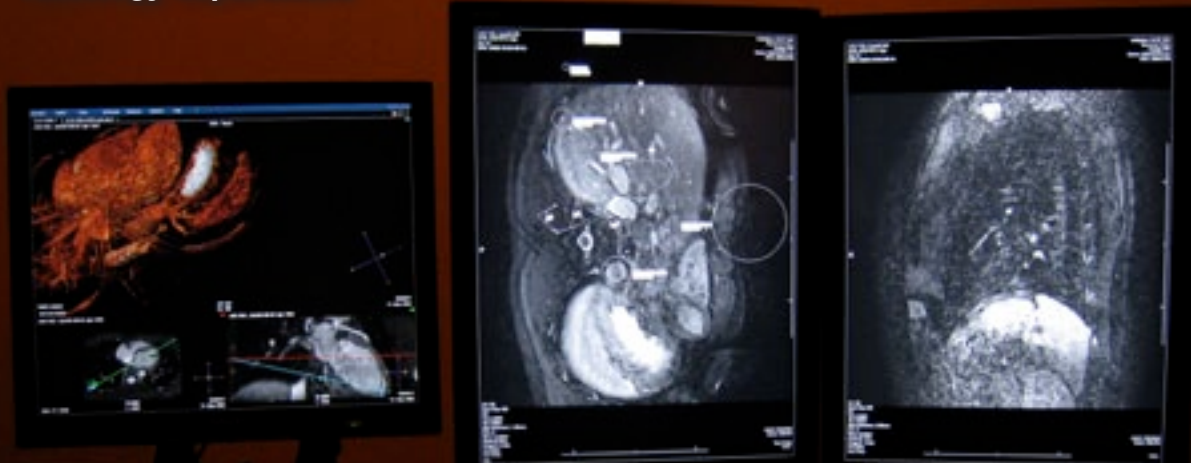


Natural Interactions for Medical Image Analysis

adapting new human-computer-interaction technologies to the radiology department



How could the radiology department look like in the near future?

Body scanning techniques, our healthcare systems and human-computer-interaction technologies are developing fast. This project suggest a solution to bring these trends together in the radiology department.

Goal of this project is to develop a natural and intelligent interface for radiologists. The individual workspace of a radiologist should be the main focus of this work. How does the radiologist interact with data? And how is the individual work connected to collaborations and other people?



Natural Interfaces

the future of human-computer-
interaction

Recently touchscreens have become widely accepted by users and they are becoming more popular in a lot of different products. Projects and products like the iPhone, Microsoft Surface or Jeff Hans multitouch-wall gained a lot of media attention and started the popularity of touchscreens. I think touchscreens will become even more popular in near future and will change designs of other products. Today they are mainly used in public kiosks (e.g. ATM machines), on mobile devices and as installations (e.g. for exhibitions).

Touchscreens are already a more natural user interface (NUI) than mouse and keyboard, because the interaction with the graphical user interface (GUI) on a touchscreen is direct. Natural gestures like swiping and flipping are easier translated into touchscreen gestures than with the mouse. In my degree project I want to ask the question: what natural user interfaces will follow after the touchscreen? What opportunities do non-GUIs have?

My approach to this questions would be a more tangible interface. Interaction with objects is more natural than with icons and graphics. I am also aware that there are several advantages in GUIs and keyboard & mouse interactions. My goal is to find an appropriate combination of tangible and digital interfaces.

As a result I call for an entirely different approach. Augmentation, not automation.

Facilitation, not intelligence. We need devices that have a natural interaction with people, not a machine interaction. Devices that do not pretend to communicate, but face up to the fact that they do not and cannot. It is time for the science of natural interaction between people and machines, an interaction very different than what we have today.

Don Norman: the Design of Future Things [2007]