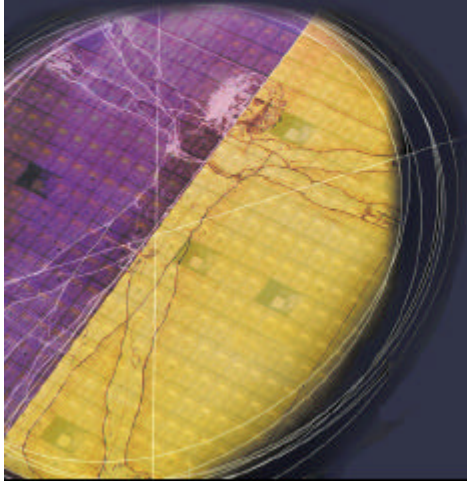


User Centered Design works



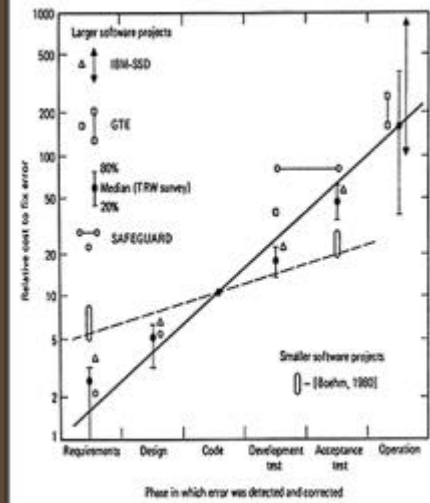
Matthias Rauterberg
Technical University Eindhoven
2003

Cost Justifying Usability

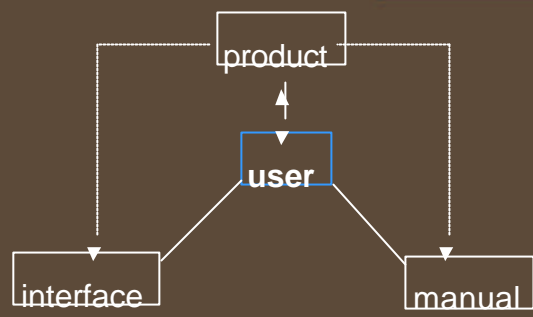
- On IBM's website (1998), the most popular feature was the search function, because the site was difficult to navigate. The second most popular feature was the 'help' button, because the search technology was so ineffective. IBM's solution was a 10-week effort to redesign the site, which involved more than 100 employees at a cost estimated 'in the millions.' The result: In the first week after the redesign, use of the 'help' button decreased 84 %, while sales increased 400 %.
- A report by Creative Good (1999) showed that 39 % of test shoppers failed in their buying attempts because web sites were too difficult to navigate. Additionally, 56 % of search attempts failed.
- To hammer home this point, Creative Good offered the striking revelation that a dollar spent on advertising during the 1998 holiday season produced \$5 in total revenue, while a **dollar spent on customer experience improvements yielded more than \$60.**

Relative Costs to Fix Design Errors

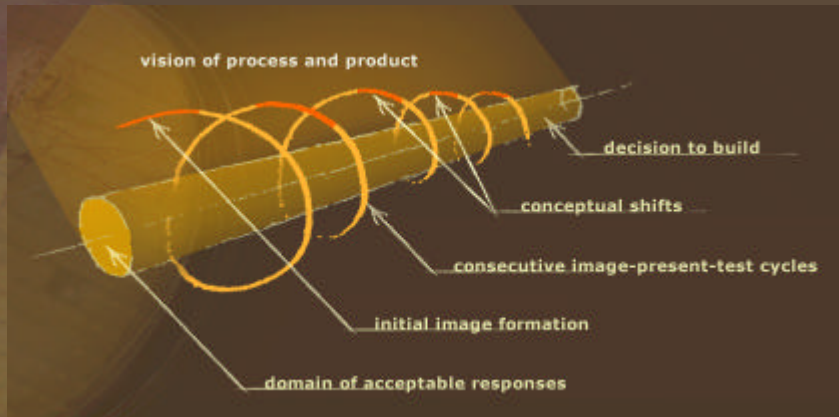
The costs to fix an error increase exponentially with project time!



The Interactive Product



The Cyclic Process



The Cyclic Approach



What is User Centered Design?

User Centered Design (UCD) puts a special emphasis on the need to develop software and products that are usable - i.e. effective, efficient, and satisfying. To arrive at such qualities, a user-centered approach to product design and development should be practiced throughout the development of the product. The UCD approach concerns a number of key activities such as involving the users, obtaining their feedback on the design and usability of the system, providing them with prototypes to try out the system, and to re-design the system in view of the feedback and comments that the users supplied. The benefits of this approach are, among others, an increased productivity, enhanced quality of work, reductions in support and training costs, and improved user health and safety.

The Three Levels of UCD



The UCD Cycle



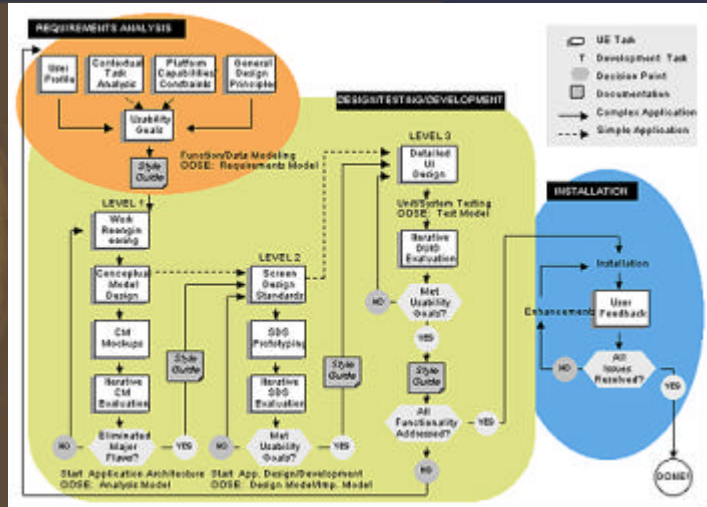
Three Main Iterations



The Usability Engineering Lifecycle

Deborah J. Mayhew

This scheme indicates all lifecycle tasks, and approximately where each one should be applied, etc.



Push and Pull Strategy



UCD maximize success!

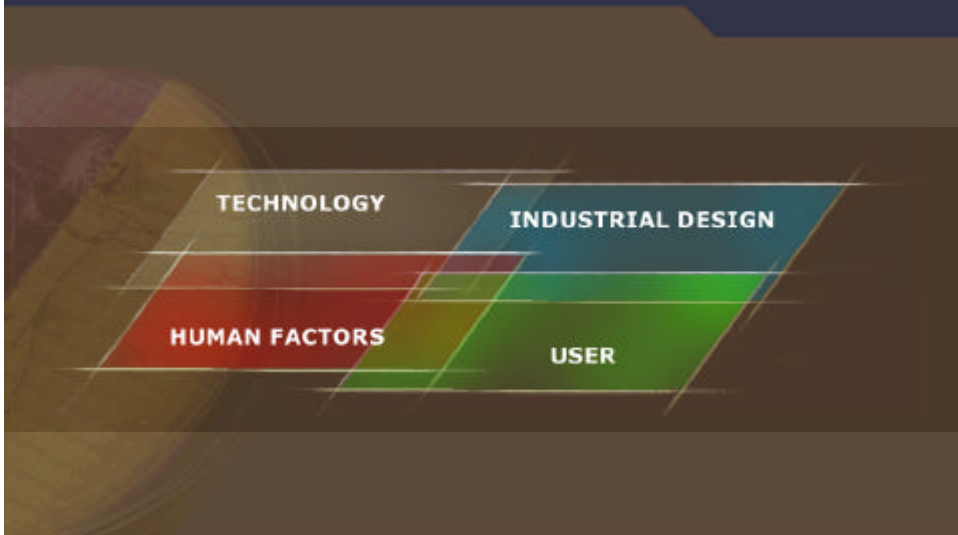
Without UCD



With UCD

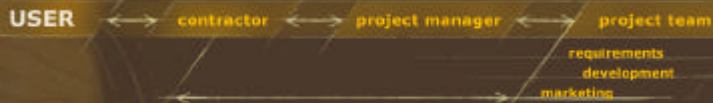


The Four UCD Stakeholders

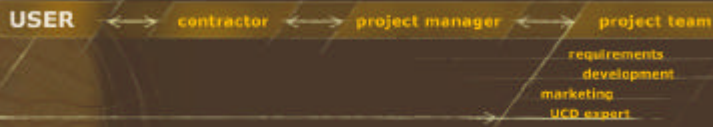


How to get the user into the loop?!

Without UCD



With UCD



Two different and complementary design strategies



UCD: the four major activities



client panels



multidisciplinary
development team

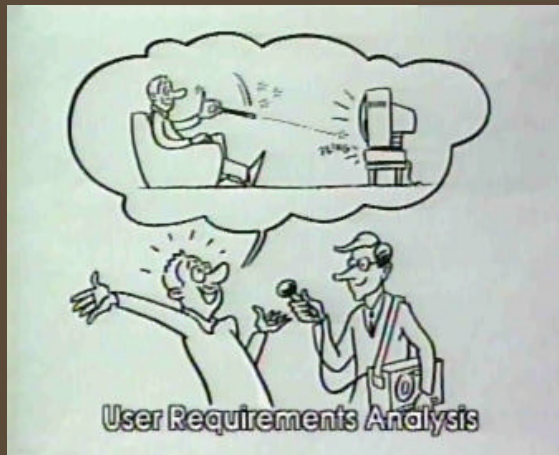


usability test



coding and
introduction

UCD step 1: user requirements



UCD step 2: concept development



UCD step 3: evaluation



Ideal Design Case: system objectives

Define the system objectives

Getaway Holidays decided to try evaluation to test the usability of such a system. Miss Simkins a systems analyst has been selected by her boss to take charge of the evaluation.

- Attractive & technically impressive.
- Easy to use for most customers.
- Capable for providing the information customers would like.



Ideal Design Case: problem identification

Define the problem

Break everything into simple elements:

- Who is going to use the system, how, what for:
 - Mostly young couples ...?
 - How about older customers and those scared of computers?

User definition & Task requirements:

- What is in the brochures?
- Ask the customers?
- Analyze the current context. What information is needed, and in what form? So go to some real users and ask about the current situation & ideas for improvement.



Ideal Design Case: prototyping

Build a prototype

Before a full interface specification, the first step is to develop a prototype

Imitate only those aspects that the customer will use, and use rapid prototyping techniques.

Simulate the network connections.

Define the dialogue and presentation:

No resizable windows, some people cannot even program their own video recorder at home. Use only some video type buttons.



Ideal Design Case: evaluation-1

Plan the evaluation

Define realistic evaluation tasks from the interview data, like browsing and searching for specific holidays.

Identify appropriate measures by looking at the original goals. E.g. time and error rate to measure ease of use, and subjective rating scales to a certain attractiveness.

Carry out a pilot study

To assess the evaluation procedures, do a pilot study before trying it out on the target users. Use colleagues first, and find out flaws in the design and refine it before releasing it on the public. Use some non-experts too, and only after that try out the full procedure with some real customers.

Ideal Design Case: evaluation-2

Run the evaluation

Define the evaluation sample.

In this case, a travel agency with a typical cross section of types of customers.



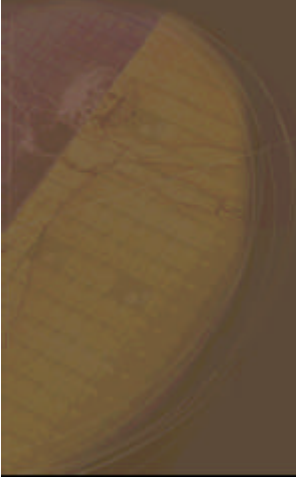
Design Case: re-design

Make recommendations for design

The evaluation confirms that a significant proportion of users would be happy to use the interactive product under (re)design.

The prototype proved to be effective, efficient, and satisfactory.

This final prototype could be easily implemented into a full system.



Thank you for your attention!