

Usability & Security

INFO2222 – Lecture 01

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Welcome to INFO2222

We also sent an email...

Welcome to INFO2222 - Usability and Security. We are looking forward to working with you this semester to discuss topics on how usability and security go together to develop easy-to-use, secure systems and services.

To get you started, try this link and see if anything is odd. www.google.com . Figure out what is odd about it.

As you get started in this unit of study, log on to [Canvas](#) to access all your learning materials.

Don't forget to visit the [Student Portal](#) for any personal, academic or learning support that you might need throughout the semester. You can also download the [Sydney Uni app](#) to access services and support on your mobile and turn on push notifications to receive important updates.

If you have any questions, please feel free to reach out by replying to this email.

Best wishes,
Teaching team

Usability & Security

Two key words!

Why is making usable systems hard?

Different users have different preferences

Getting it wrong can be terrible...

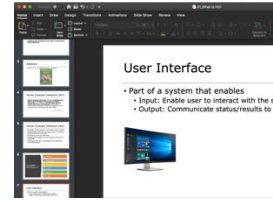


Three Mile Island Disaster

- Control panel light to show the status of the relief valve that prevents the reactor from overheating.
 - Light's on, valve's open;
 - light's off, valve's closed.
- It was designed to operate on user action, not to actually sense the valve condition

User Interface

- Part of a system that enables
 - Input
 - Let user to transfer information to the system
 - Output
 - Present status/results to the user
- Essentially create the inter-communication



Why User Interface is Important?



One of the most critical parts of a system



Directly influence success of a product



Bad user interfaces are costly (time, money, lives, ...)



User interfaces are hard to get right

Usability

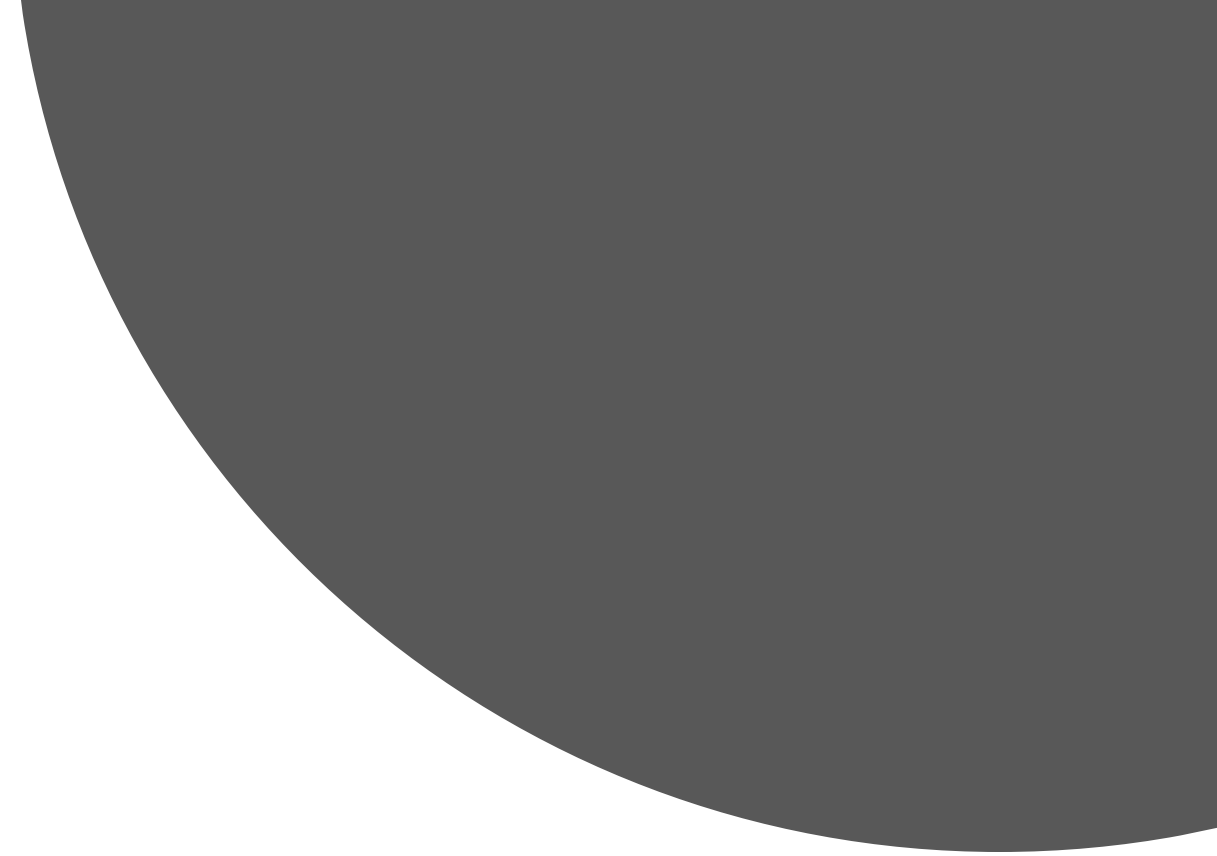
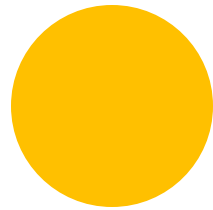
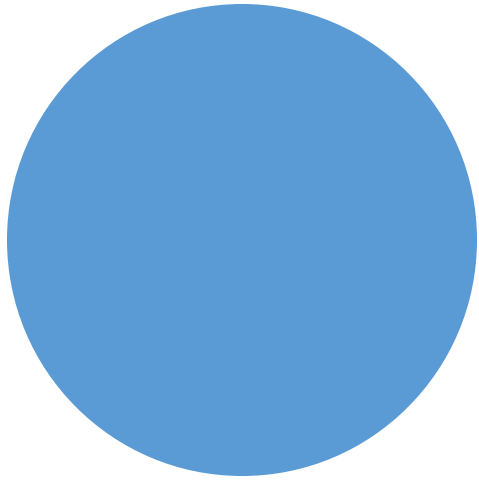
Usability is a **quality attribute** that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process.

- Jacob Nielsen, <https://www.nngroup.com/articles/usability-101-introduction-to-usability/>

Studied in the discipline of HCI

Human-computer interaction (HCI) ***is a multidisciplinary field of study focusing on the design of computer technology*** and, in particular, ***the interaction between humans (the users) and computers***. While initially concerned with computers, HCI has since expanded to cover almost all forms of information technology design.

From: interaction-design.org



Good vs. Poor Design

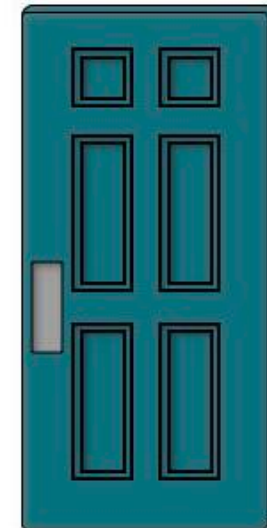
Good vs. Poor Design



Vs

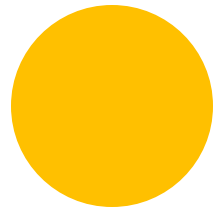
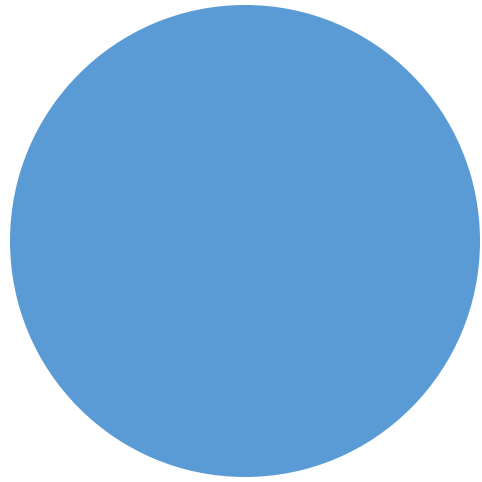


↓ PULL



↑ PUSH

Function is Clear and Intuitive
"Norman Doors"



Design Goals

Helps us to make good
user interfaces

Design Goals: Usability Goals



- Effective to use (effectiveness)
- Efficient to use (efficiency)
- Safe to use (safety)
- Having good utility (utility)
- Easy to learn (learnability)
- Easy to remember how to use (memorability)

Design Goals: User Experience (UX)



A core component in HCI



Focus on what we feel and emotions



Pleasure & satisfaction when using a product

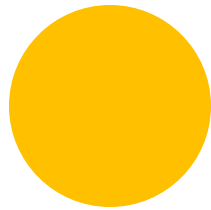
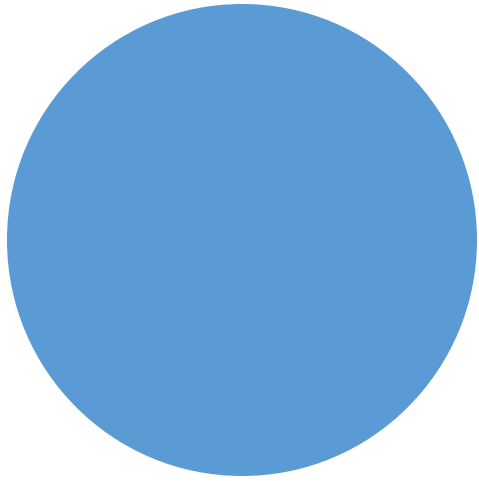


Subjective qualities

Design Goals: User Experience

- User experience can change the success of a product





User Centered Design

Focus on the end user

User Interface Design

- A user centered design approach
 - The user is at the center of all design activities
 - Focuses on the needs & desires of users!

Who will be involved?



Interaction / user
experience
designers



Software and test
engineers



Graphic designers



Technical writers



Marketing people



Customers / end-
users

What to Design?

3Ws



Who?

Who are we designing for?



What?

What activities are involved?



Where?

Where is the interaction happening?

User Centered Design Process



REQUIREMENTS

Identification of usability and user experience goals with the user in the centre.



DESIGN

Designing interfaces and interactions according to the requirements. Use conceptual models, wireframes, etc.



PROTOTYPING

Implementation of prototypes. Includes low-fidelity (lo-fi) and high-fidelity (hi-fi) prototypes.



EVALUATION

Evaluating the prototypes with real users.





TED



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LONGBEACHCALIFORNIA

Usability & Security

Sometimes they are at odds

How can we make it usable?

More than one way...



Summary

- Why caring about usability is important?
- Why making usable systems is hard?
- Definition of usability and user experience
- Good vs. Poor design
 - Usability vs User experience
- User centered design (UCD)

