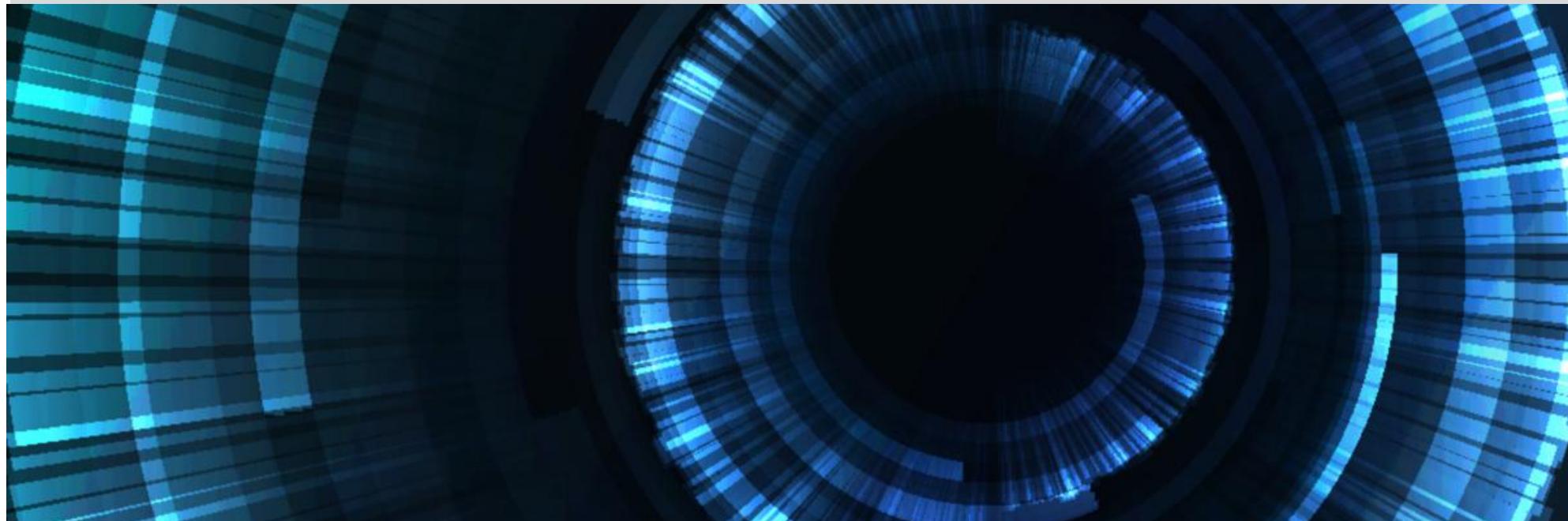


# Human Computer Interaction



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## Agenda – 05 January 2021

- Define user experience design
- Introduce usability goals
- Introduce user experience goals

## Recap

### Core characteristics of Human-Computer Interaction

- *People* should be involved throughout the development of the project
- *Usability and user experience goals need to be identified*, clearly documented, and agreed to at the beginning of the project
- *Iteration* is needed throughout the design process

## Recap

### Why?

- Understand how to design interactive products *that fit with what people want, need, and may desire*
- Appreciate that *one size does not fit all* (different stakeholder groups)
- Identify any incorrect *assumptions* they may have about particular user groups
- Be aware of both people's sensitivities and their capabilities

## Week 1: Introduction

But first,



## Question one

*What is  
‘User Experience’*

## Definition – layer 1

*The overall experience a person has using a product or service.*

- *ease of use*
- *relevance*
- *satisfaction*

## Definition – layer 2

*The result of the interaction between three elements:*

- *the user*
- *the system*
- *and the context*

Question two

*What is  
User Experience  
Design*

## Definition

*The study, design and evaluation of people's experiences with:*

- *interactive digital products*
- *systems*
- *services*

Question three

*What are the **goals** of  
User Experience  
Design*

## Definition

- *Develop usable products*
  - Easy to make sense of its interface – **usability***
  - Practical application in real-world settings and situations – **usefulness***
- *Involve users in the design process*
  - Understanding requirements*
  - Participatory co-design*
  - Evaluation and feedback*

UX professionals in business

## user experience (web) designer

- develop and create visual design and basic coding of websites

## information architect

- develop ideas of how to plan and structure interactive products

## user experience researcher

- gathering requirements & evaluating products using qualitative/quantitative methods

## service designer

- design of all the interactive aspects (touch points) of a service or product

What is being designed

software design

product design

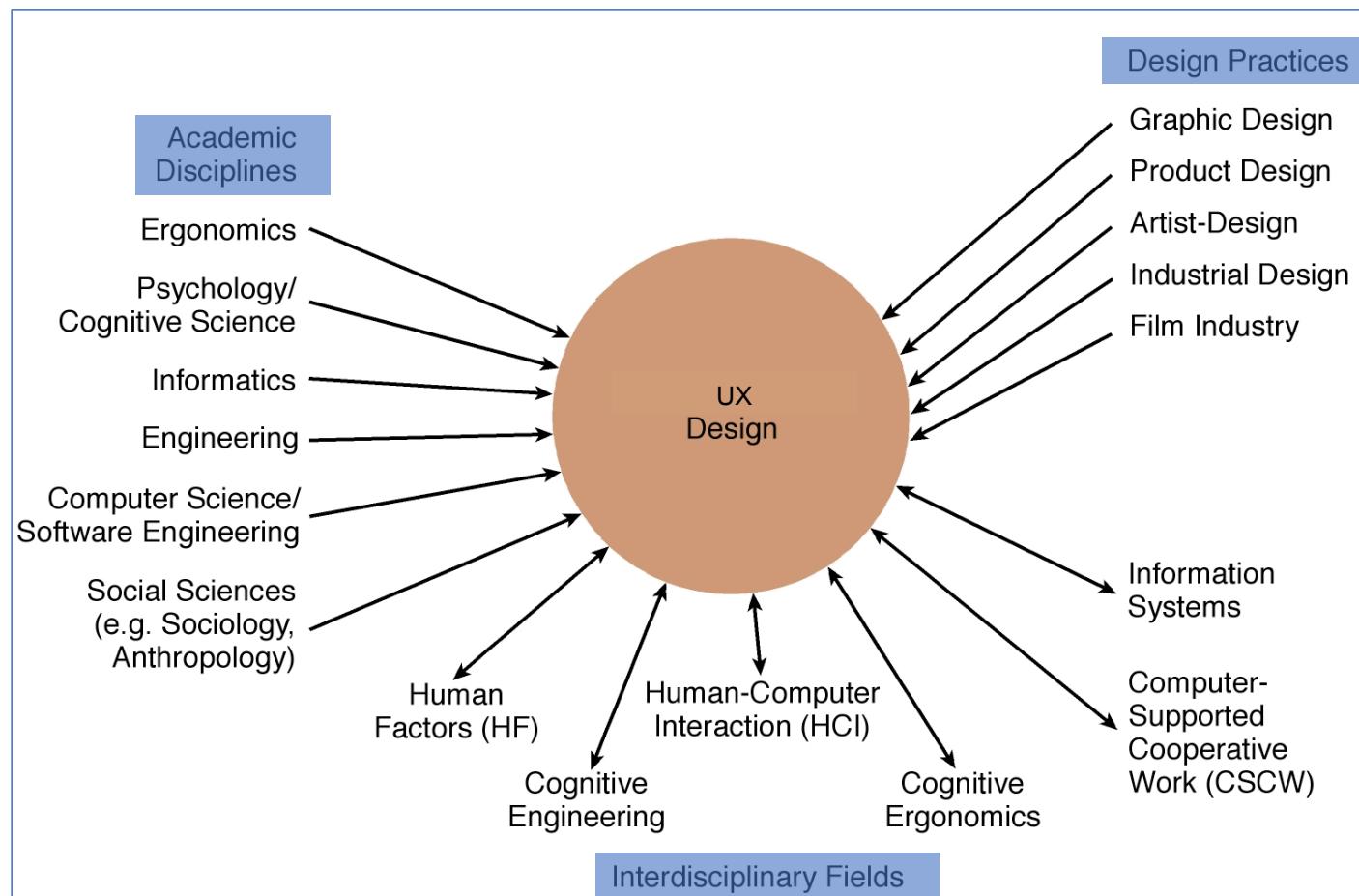
experience design

user interface design

user-centered design

web design

## HCI and user experience design



(Interaction Design: Beyond Human-Computer Interaction, 5th Ed.)

# WHAT IS DESIGN?

## What is design?

*a **plan or drawing** produced to show the **look and function or workings** of an object before it is made*

(<https://www.lexico.com/en/definition/design>)

To design is to ***devise courses of action** aimed at changing existing situations into preferred ones.*

(Attribution: Herbert Simon)

Design as	the process	of devising individual products – both Physical Products and Digital Products
Design as	the process	of devising whole systems or environments such as Airports, Transportation, Hypermarkets, Educational Curricula, Broadcasting Schedules, Welfare Schemes, Banking Systems, Computer Networks.
Design as	the process	as a way of living – without a product.
Design as	participation	the involvement of the public in decision-making / policy making process.
Design as	a multidisciplinary discipline	that unites Arts, Science and Technology
Design as	creativity	which is supposed to be potentially present in everyone.

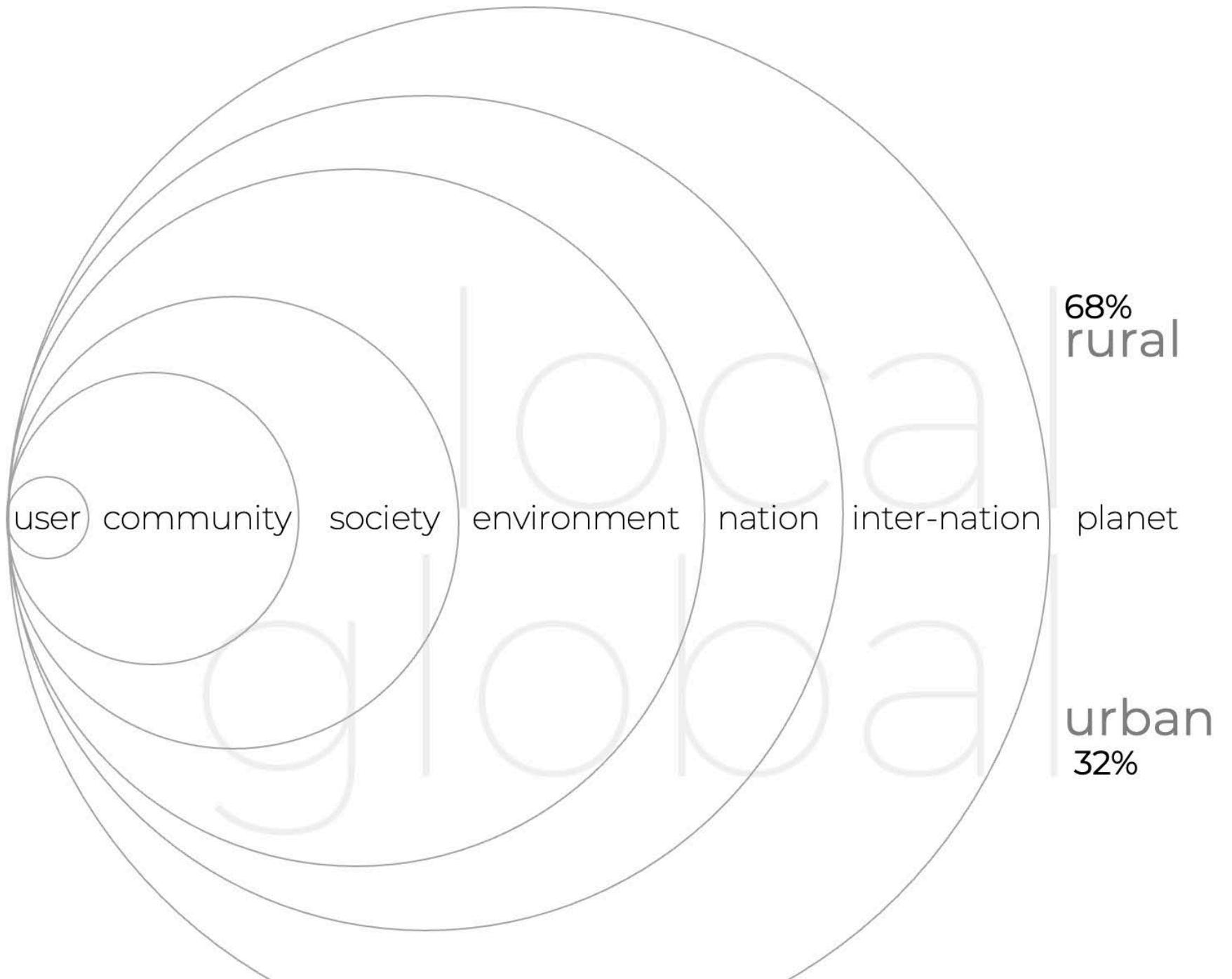
## **Design Disciplines**

Industrial Design, Product Design, Engineering Design, Furniture Design,  
Transportation & Automobile Design,  
Ceramic & Glass Design, Lifestyle Accessory Design, Jewelry Design,  
Footwear Design, Leather Design, Toy & Game Design, Craft (Handicraft) Design  
Communication Design, Graphic Design, Photography Design, Exhibition Design  
Interaction Design, Instructional Design, Information Design, UI & UX Design,  
New Media Design, Web Design, Digital Game Design, Digital Design Software  
Animation Design, Motion Graphics Design, Film & Video  
Textile Design, Apparel Design, Fashion Design  
Interior Design, Design for Retail Experience, Space Design, Experiential Design,  
Sound Design, Lighting Design  
Service Design, Process Design, Systems Design, Business Design,  
Design Management, Strategic Design

## **Emerging Areas & Approaches of Design**

Environmental Design, Spatial Design, Emotional Design, Urban Design, Social  
Design, Participatory Design, Inclusive Design, Universal Design  
Design Research, Integrated Design, Design-Led Ventures  
Transformation Design, Transition Design, Decolonizing Design  
Smart Cities, Sustainable Cities, Sustainable Communities,  
Sustainable Development Goals

## Where is design?



## Factors Influencing Design - Context



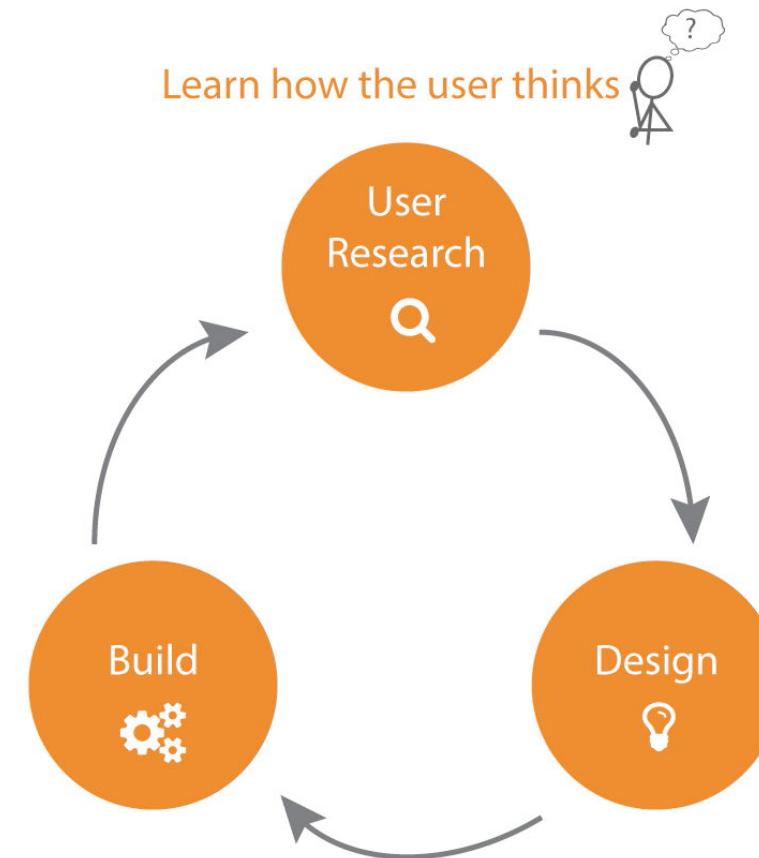
## Interface and user experience

- Interface is one aspect of user experience
- Linked to 'service design'
  - Focuses on the entire 'customer experience'

## Multidisciplinary teams

- Many people from different backgrounds involved
- Different perspectives and ways of seeing and talking about things
- Benefits
  - more diverse ideas and designs generated
- Disadvantages
  - difficult to communicate and choose designs

## User-Centered Design



## Recap

- User experience (easy-to-use and relevant)
- Design (as a plan)
- Types of UX job titles and what they do
- Working together: academic disciplines and design practices
- The interface is only one aspect of design
- Multi-disciplinary teams
- User-Centered Design process

## Accessibility and inclusiveness

### *Accessibility:*

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### *Inclusiveness*

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## Disabilities

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## Understanding disability

Disabilities can be **classified** as:

- **Sensory** impairment (such as loss of vision or hearing)
- **Physical** impairment (having loss of functions to one or more parts of the body after a stroke or spinal cord injury)
- **Cognitive** (including learning impairment or loss of memory/cognitive function due to old age)

Each type can be further defined in terms of **capability**:

- For example, someone might have only peripheral vision, be color blind, or have no light perception

Impairment can be **categorized**:

- **Permanent** (for instance, long-term wheelchair user)
- **Temporary** (that is, after an accident or illness)
- **Situational** (for example, a noisy environment means that a person can't hear)

## Cultural differences

5/21/2015 versus 21/5/2015?

- Which should be used for international services and online forms?
- Recognition of icons, labels, preferred interactions

# UX vs. Usability

## Usability

Effectiveness  
Efficiency  
Learnability  
Error prevention  
Memorability



USABILITY

## User Experience

Satisfaction  
Enjoyment  
Pleasure  
Fun  
Value



USER  
EXPERIENCE

Where usability is narrow and focused,  
UX is broad and holistic.

<https://hackernoon.com/the-ultimate-guide-difference-between-usability-and-user-experience-e926c11eac7a>

## Usability Goals

1. Effective to use (*effectiveness*)
  - How well does it do what it is supposed to
2. Efficient to use (*efficiency*)
  - Does it support productivity
3. Safe to use (*safety*)
  - How can users recognize and recover from errors
4. Have good utility (*utility*)
  - Does it provide the right functionality
5. Easy to learn (*learnability*)
  - Is it easy to understand how to use
6. Easy to remember how to use (*memorability*)
  - Is there support for infrequent use

## User Experience Goals

### Desirable aspects

satisfying	helpful	fun
enjoyable	motivating	provocative
engaging	challenging	surprising
pleasurable	enhancing sociability	rewarding
exciting	supporting creativity	emotionally fulfilling
entertaining	cognitively stimulating	

### Undesirable aspects

boring	unpleasant
frustrating	patronizing
making one feel guilty	making one feel stupid
annoying	cutesy
childish	gimmicky

(Interaction Design: Beyond Human-Computer Interaction, 4th Ed.)

## Reading

**Read chapter one:**

Pages 16 - 36

**Interaction Design: beyond human-computer interaction (5th edition)**

Course book

## Assignment 2: Thinking about design - II

Upload a PDF file or Google Slide with a **PHOTO** and **DESCRIPTION** of something you use that you think is poorly designed.

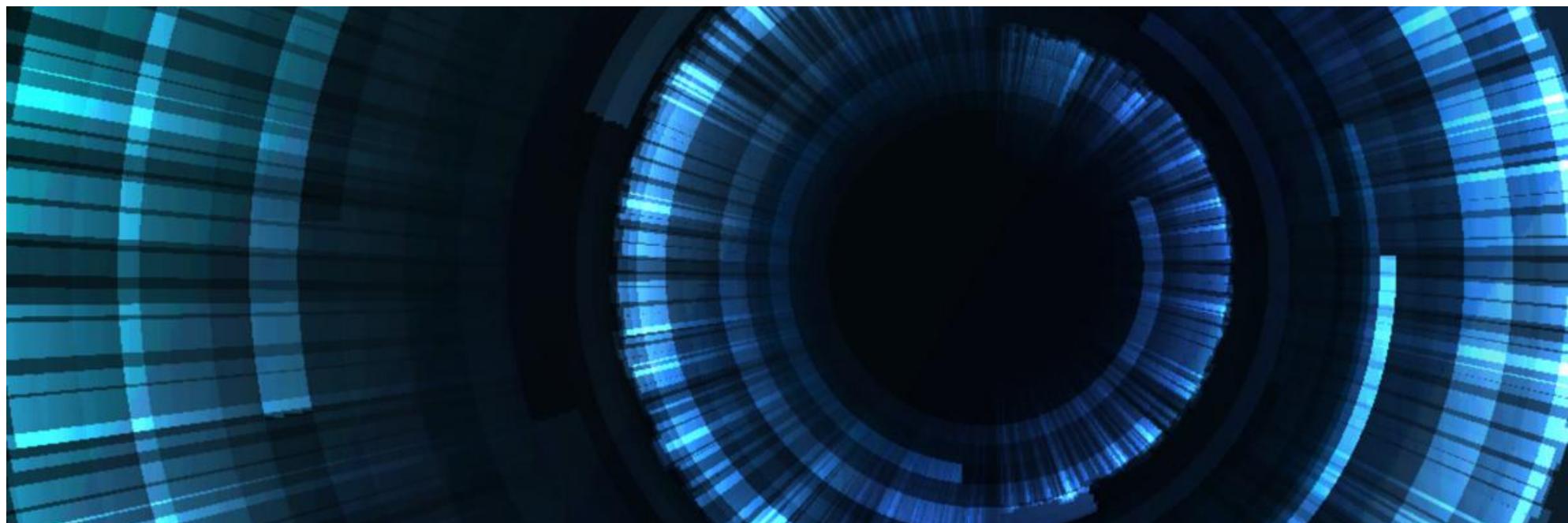
It can be any object, hardware, software, or anything else.

Tell us the name of the object and explain makes it ineffective as its design -why do you like the design?

Be sure to include your name and student roll number at the top of the file.

Please submit in the PDF format.

# Human Computer Interaction



Original PPT: Dr Grace Eden  
[grace@iiitd.ac.in](mailto:grace@iiitd.ac.in)

Presented by Dr Indrani De Parker  
[indrani@iiitd.ac.in](mailto:indrani@iiitd.ac.in)

