

Lecture-2

CS798H: Human Computer Interaction

Logistics

- Slides for last class and FCH are up on Hello IITK
- If you are not added to Hello IITK, email the TAs.
- TAs for the course:
- In general, if you email copy TAs
 - Homeworks, delays, absent, extensions
- Exception: Personal things.
- Questions?

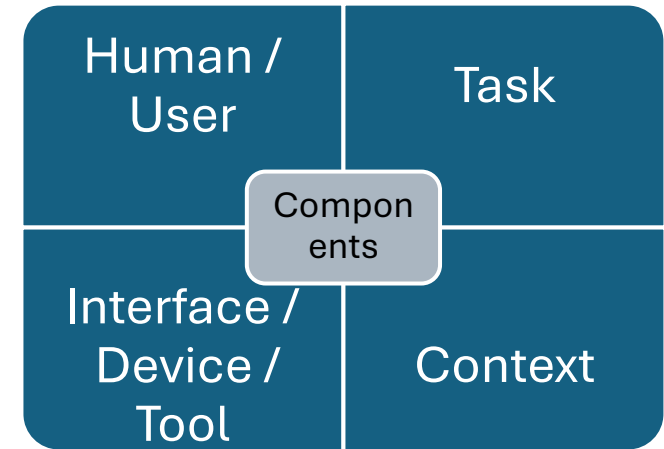
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Recap

- HCI → how humans and computers communicate
 - To accomplish tasks, and in various contexts
- Brief history of HCI
 - Various flavors of research in HCI
 - Size/programming → designing icons/menus → Ethics/collaboration
 - Interdisciplinary → CS, Design, Psychology, Sociology, to name a few.
- In this course:
 - Making useful “computing” stuff that are usable

LATER

TODAY



Today...

- How to make computers / computing systems **usable!**
 - What is usability?
 - What aspect of computer / computing needs to be usable?
 - What makes something usable vs. not?
 - Good vs. Bad Interfaces

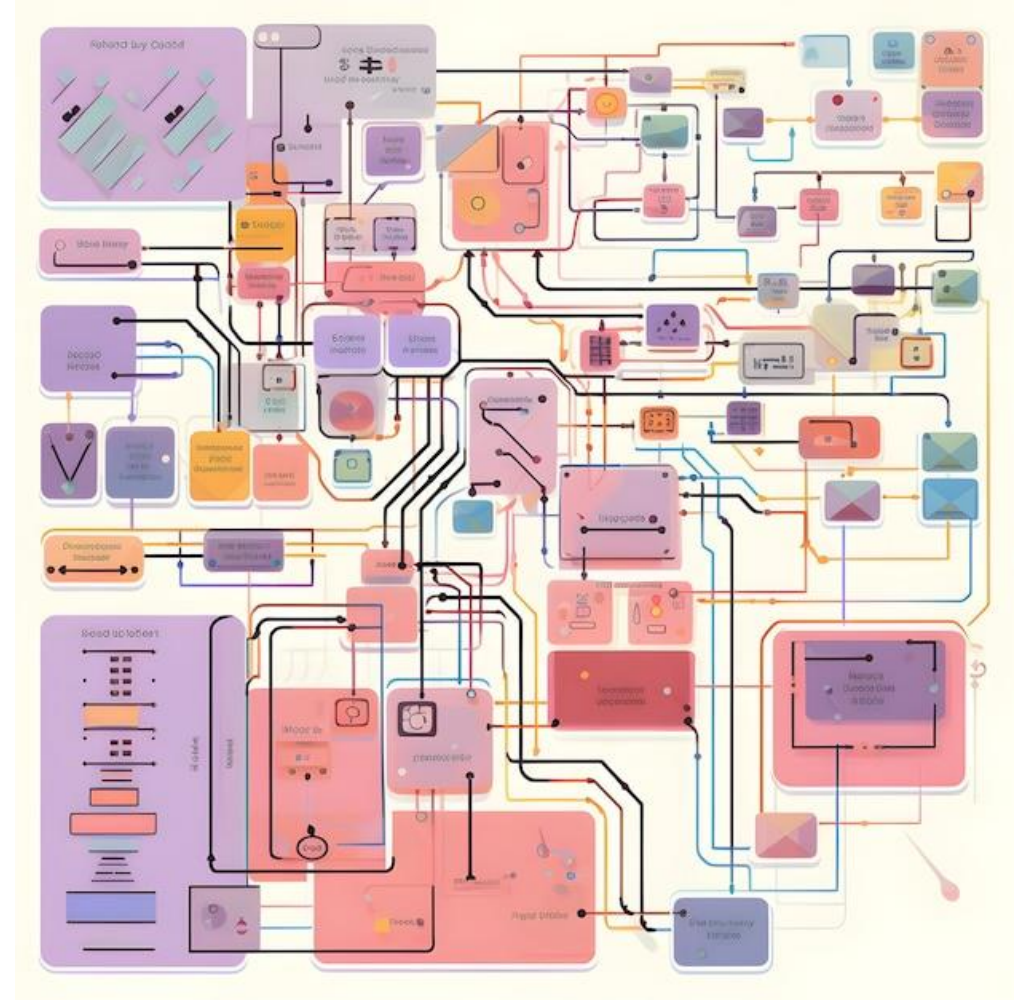
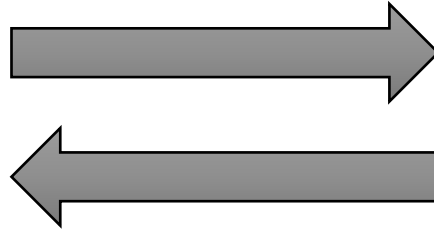
Human Computer Interaction – Revisited

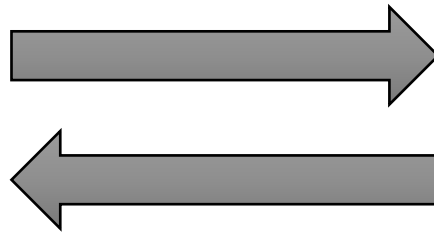
- What does it mean humans talk to computers?
 - Humans talking to some computer application (simple / complex)
 - Humans talking to other entities / humans through computers
 - Humans talking to entire computer (e.g., via OS)
- Humans don't have to interact with entire software/entity/system
 - Only essential parts, needed to accomplish their task
 - This is through an interface

What is an Interface?

- Boundary between two entities, where they both communicate
- E.g., : When interacting with the Union government, we interfaced through an Agent.
- “Point of contact”
- In HCI, the interaction (often) happens through **User Interface**
 - Where the user interfaces with the computing system (for communication)
 - Is it part of the user or the computer?







USER INTERFACE



Lesson #1:

Good Interfaces Hide / Avoid (Needless) Complexity

Another Real World Example

- Customer Withdraws Cash From Bank



What happens to the customer experience?

- Running around desk to desk ?
- One point of contact?

Why?

Lesson #2:

Good user interfaces lead to better User experiences

We know this is a pen.
How would you open it?





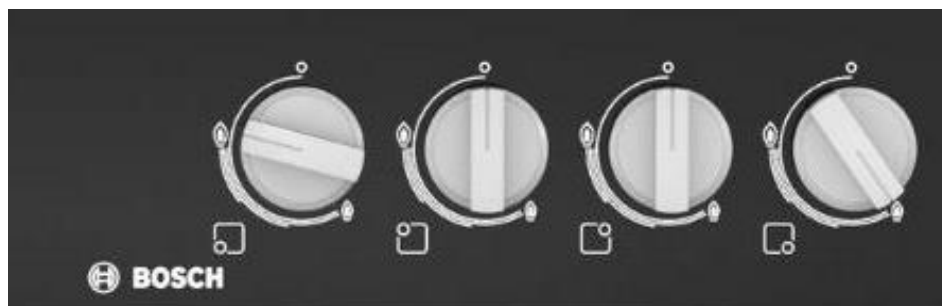
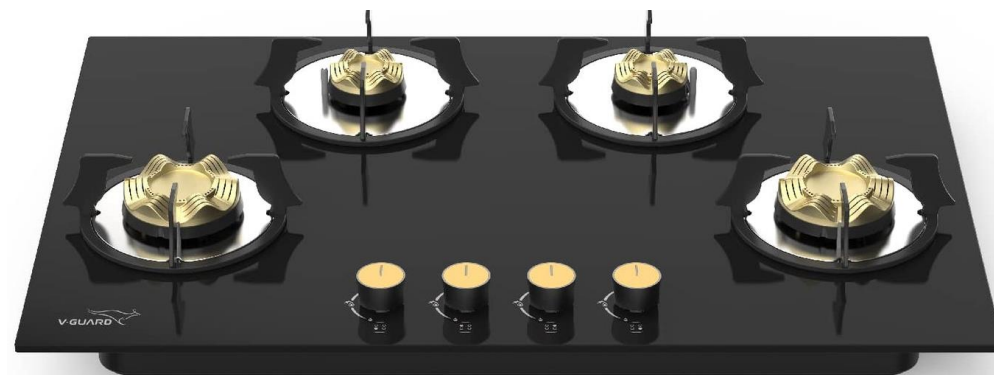
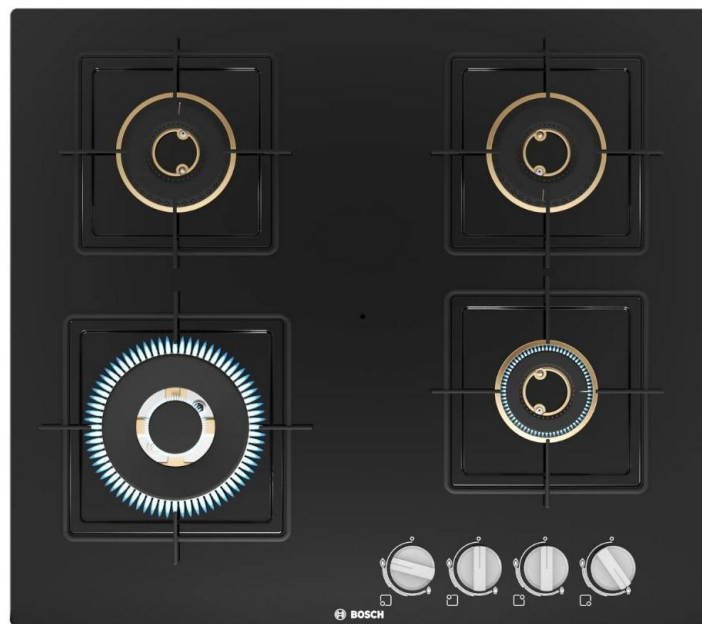
We know this is a fountain pen.
How would you re-fill ink?

Good or Bad?



Other instances of poor design



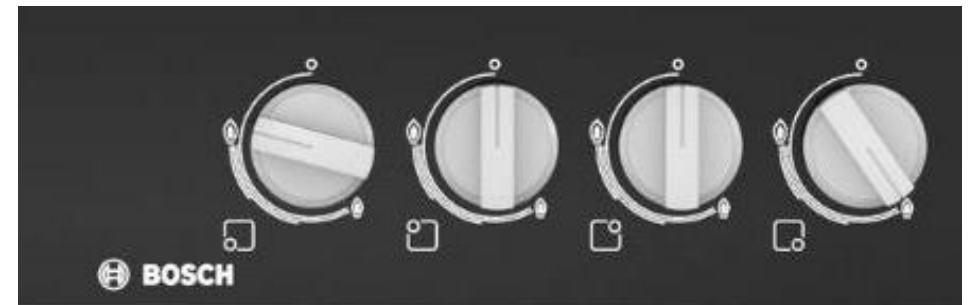


Lesson #3:

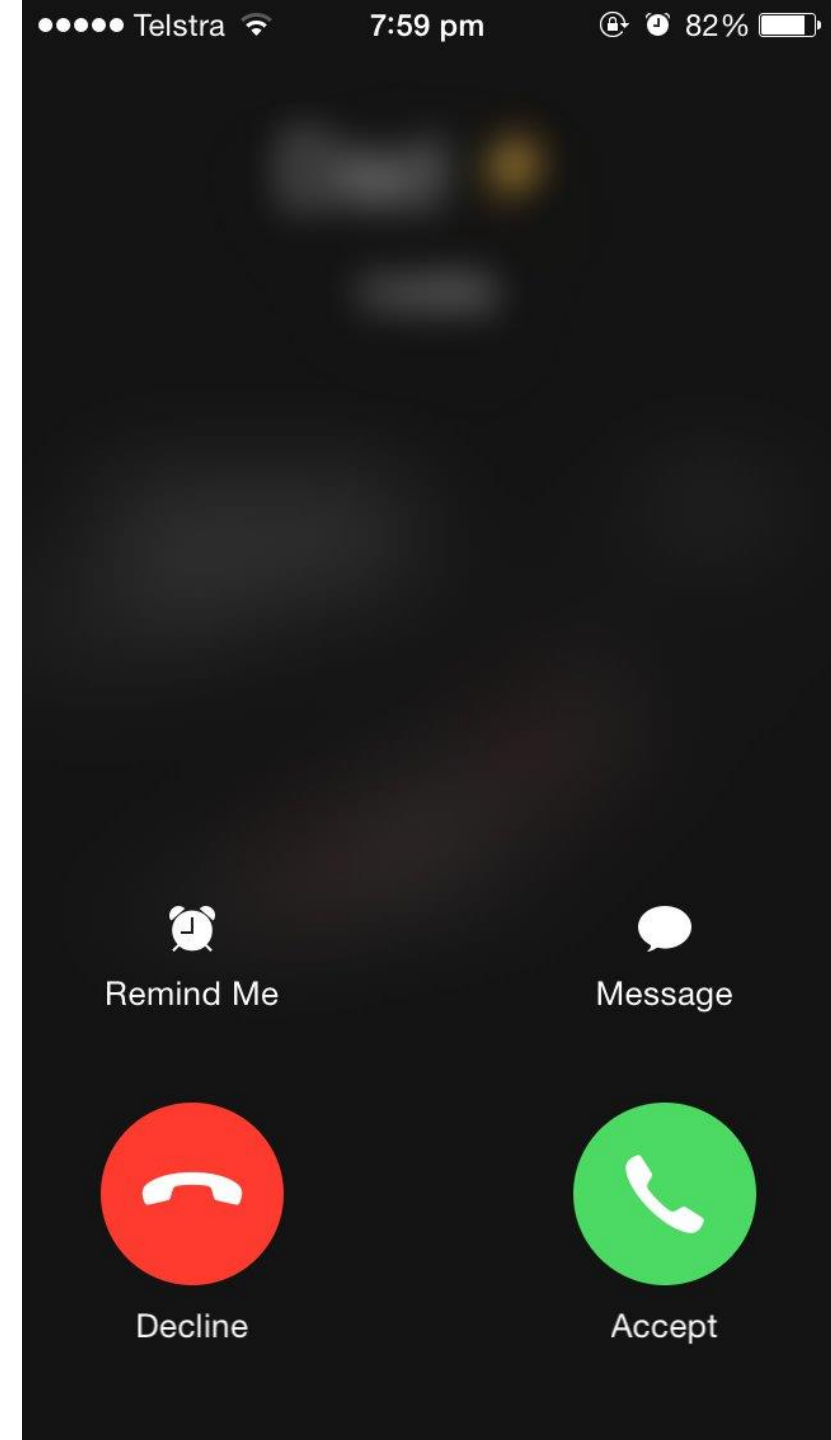
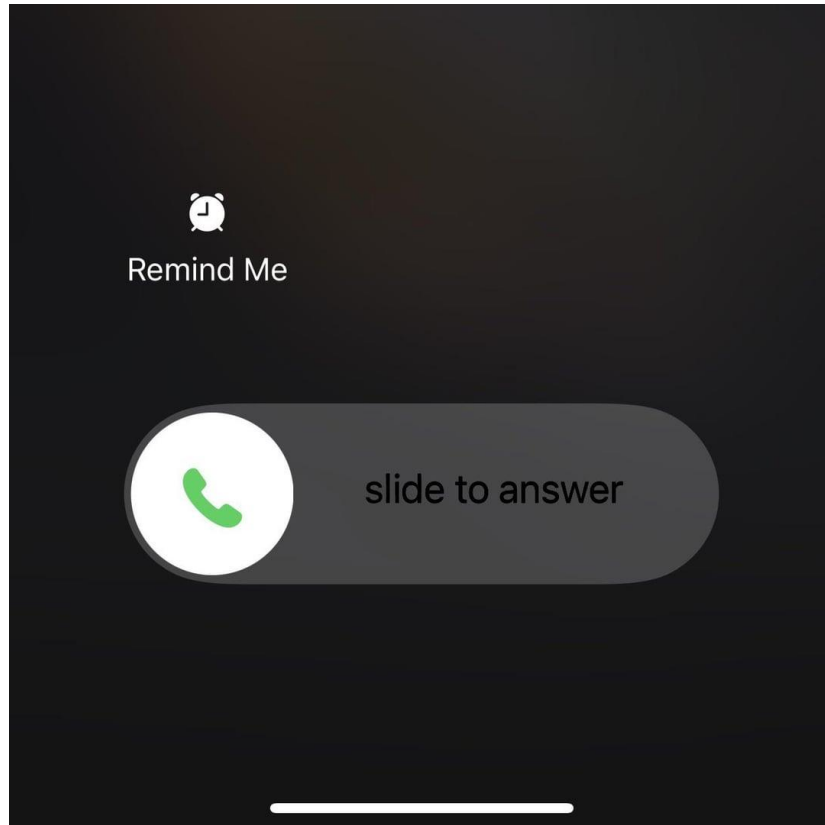
Good design makes what to do/how/not to do obvious.
Leaves little room for confusion (and so errors).

How to make things obvious?

- **NOT BY WRITING MANUALS / DOCUMENTATION**
- Add signifiers to the object, for each affordance.
- **Affordance** is what the object lets a person do.
 - Push a switch up/down, Turn a knob, Screw/Pop a pen cap.
- **Signifier** tells the user what the affordance is for.
 - Switch up for ON/OFF, Turn right/left for what

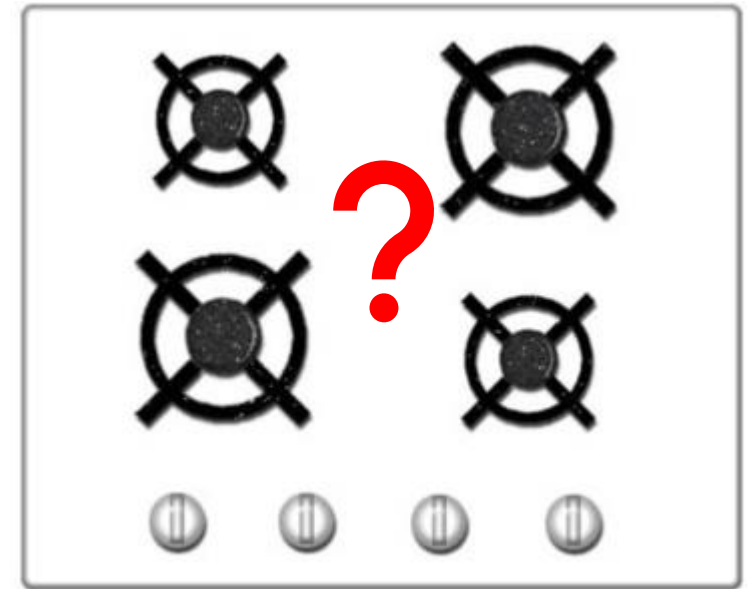
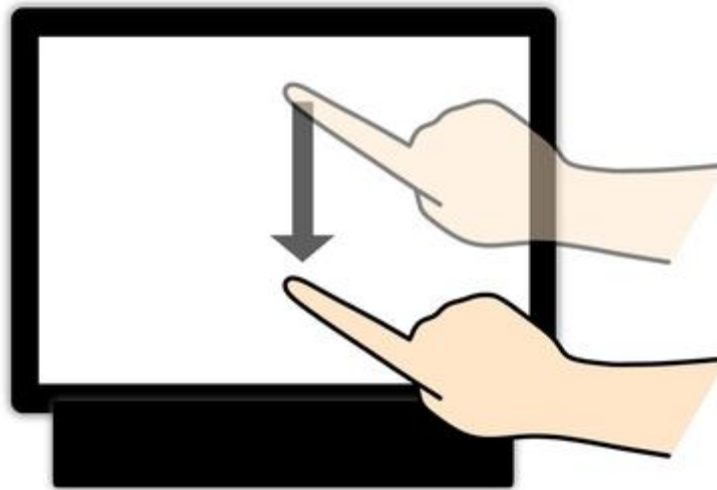


Some more examples



Making things obvious

- Affordances and their signifiers
- Use direct / natural mappings



Other (anti-) affordances and signifiers



HCI examples: Affordances, Signifiers, Metaphors

- Button enable, disable, grey (show only when allowed)
- Labels and Icons
- Tooltips
- Changing Mouse Pointers (On hover)

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				Wait	Accept	Auto	Reject	Meet	Total	Wait	Accept	Reject	Meet	Total				
1	CS798H		None	0	36	0	3	0	39	0	35	0	0	35	10	136	136	0
		<button>Set Note</button>		<button>Grade</button>					<button>Grade</button>									
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1 - 1 of 1

Previous1Next

Summary:

- What is Interface?
- Good UI design is important for Good UX
 - UX is more than just UI, though.
- Good UI design is not rocket science
 - Hide complexity
 - Make things obvious (add affordances, signifiers, disafford mistakes)
- Next class:
 - More along the lines => basics of humans

Exercise for the weekend

- Read “Design of Everyday Things” – Chapter 1 & 2.
- Observe around you, look for common design mistakes.
 - Is it a design problem?