

## Chapter 2 – The Psychology of Everyday Actions; End-end experiences, not features

### ENSE – Lecture 2 – January 14<sup>th</sup> 2025

- When facing an objective people face two gulfs
  - Gulf of execution – When folks are trying to figure out if technology or something works.
  - Gulf of evaluation – Folks trying to figure out what happens when they do a thing.

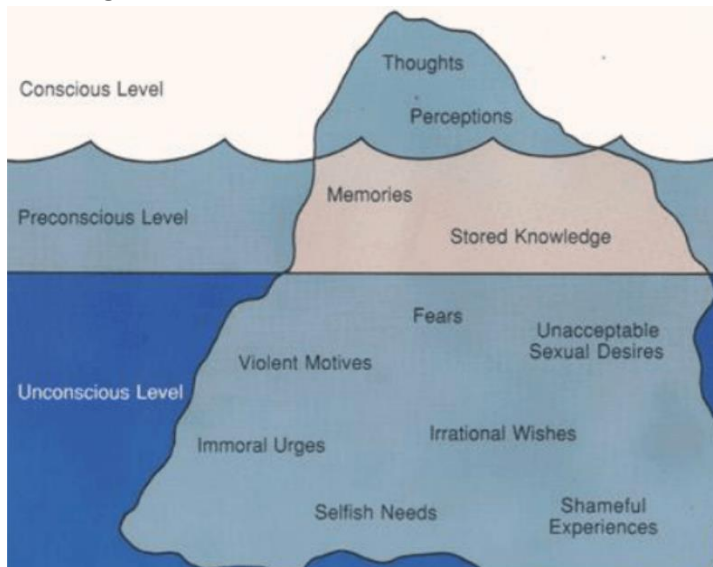
Designers goal is to bridge these gulfs and reduce user difficulty by creating a valued experience which affects our emotional state through discoverability and understanding.

- A large misconception in designers is the assumption that they are the users, not creating it for the client. [(“You are not the user”) “What is right for you is not right for them”]
  - False-Consensus Effect:
    - Others share your beliefs
    - They will behave similarly
  - Learning interactions vs. Habits:
    - Learning = conscious process
    - Sub0conscious process = habits
- 7 Stages of Action Cycle
  - Goal formation:
    1. What is it we wish to achieve
  - Stage (bridge) of execution:
    2. Plan (the action)
    3. Specify (an action sequence)
    4. Perform (an action sequence)
  - Stage (bridge) of evaluation:
    5. Perceive (the state of the world)
    6. Interpret (the perception)
    7. Compare (the outcome with the goal)

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- Sigmund Freud's view of the mind:



Most behavior is subconscious (habitual) process

Conscious reflection is important for learning

- Over learning (practice) causes performance to appear effortless
- Understanding memory will help us be better developers/designers

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#### Systems of Cognition:

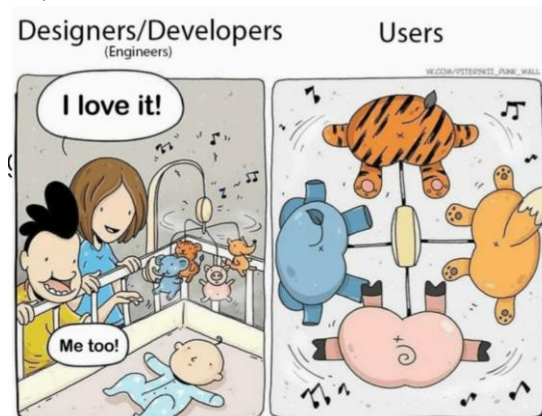
##### 1. *Subconscious:*

- Fast
- Automatic
- Multiple resources
- Controls skilled behavior
- Complex
  - Enabling constraints
  - Probe-sense-respond
  - Emergent practice
- Complicated:
  - Governing constraints
  - Sense-analyse-respond
  - Good practice
- Chaotic
  - Lacking constraint de-coupled
  - Act-sense-respond
  - Novel practice
- Obvious
  - Tightly constrained- No degrees of freedom
  - Sense-categorize-respond
  - Best practice

1. *Conscious:*

- Slow
  - Controlled
  - Limited resources
  - Invoke for novel situations:  
when learning, when in  
danger, when things go  
wrong
    - Complex
      - Enabling constraints- loosely  
coupled
      - Probe-sense-respond
      - Emergent practice
    - Complicated:
      - Governing constraints – tightly  
coupled
      - Sense-analyse-respond
      - Good practice
    - Chaotic
      - Lacking constraint de-coupled
      - Act-sense-respond
      - Novel practice
    - Obvious
      - Tightly constrained- No degrees of  
freedom
      - Sense-categorize-respond
      - Best practice
- Levels of Processing (Design at all levels):
    - Reflection (Reasoning and decision making, conscious)
      - Design implications
    - Behavioral (Learnt skills and pattern matching, subconscious)
      - Design implications
    - Visceral (Lizard brain, most basic level)
      - Design implications
  - Cognition (Describes out customers attempts at viewing the world), emotion & flow:
    - Linkage between action, cognition and emotion
    - Design goal
      - The invisible computer – Flow makes client at one with their task,  
engaged and not even conscious that they are using the  
technology
    - Flow & interaction

- Design Advice
  - We often blame ourselves for technology difficulty
  - Learnt helplessness = repeated failure at task
  - When something doesn't work as expected, it is a challenge, plus a learning experience and not a failure
  - Lean manufacturing – Fail-forward fast through PDCA
  - Do not blame people when using your products properly (Signifiers to improve)
  - Guidance, not error messages
- 7 Fundamental Design Principles
  1. Big user question – What can they accomplish using this technology that makes my world better
  2. Feedforward – What provides answers/enables for customers to execute things
  3. Feedback – Are we providing clients to know what is okay
  4. 7 Stages of action cycle (listed above) as a model for design
  5. Discoverability
  6. Affordance and Signifiers
  7. Our focus in all of this
    - Conceptual models and mapping (Harmony with users and designers)



- Constraints
- Error messages have been known to provide inadequate information
- Software engineers should not focus primarily on features of user interaction