

⇒ Constraints

logical

Cultural

Physical

Semantic

What is spatial layout?  
lego toys example

→ Semantic web area of research

Semantic → meaning

What is general knowledge about things.

⇒ Conventions

Basically cultural constraints, arbitrary initially  
but accepted over time.

Principle of causality (B)

→ cause and effect, second one is  
consequence of first.  
computer stuck example.

→ coincidental effects lead to superstition  
→ Invisible effects lead to confusion.

Lec

UX



Cognition factors

→ attention, perception, recognition, problem solving,  
photogenic (Analyzing)

when we interact with technology, it is interaction cognition.

Attention → to focus on one thing.

which we use visual, audio, feel

Think out of the Box

[www.idbook.com](http://www.idbook.com)

Activity

Design implications

Any function that provides easiness and

OTP example. if it was 15 digits.

♥ 7 1 2 7 2

\*

Memory short term memory. fast memorizable materials

MAC → GUI, first made

Processing in Memory

→ We encode the info

→ We attention and focus things.

→ Imp, Context in different places.

Ex: what will be more likely to find  
at hospital website.



9/11

Recognition vs recall  
↳ visual cues      ↳ textual recall

GUI

$7 \pm 2$  rule / better option

7 options in menu bar, 7 bullets etc. 7 tabs.

Personal Information Management  
by both kinds of recognition and recall

Mental Models

How it will work by our perception.  
machine

⇒ Calculator, TV remote, mobile, button by over pressing when does not work acc. to our mental model.

Thermostat 18, cooling until reaches 18.

What we say that jina towa no ga utra  
jldi cool no ga (mental model wrong).

## Noorman Theory of Action

- 1 → Establish a Goal → check latest news
- 2 → Intention (BBC.com)
- 3 → To do
- 4 → Action
- 5 → Response

Gulfs ⇒ gaps      User → System

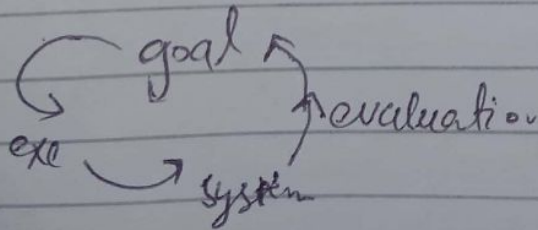
→ Gulf of execution → hmari perception

↓ Gulf of system evaluation → hm evaluate kya kr  
why hain hm evaluate kuch aur kr  
why main aur wo kam kuch aur faste kr  
ky kr rha hy. (System → user)

after execution - evaluation is processed!

Human psychology

interaction → mouse, screen, keyboard, speakers etc





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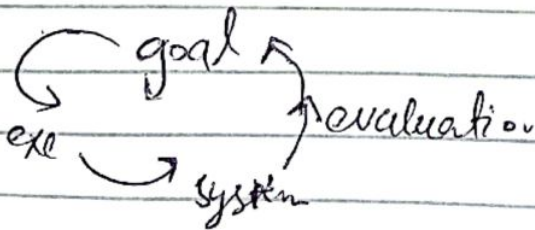
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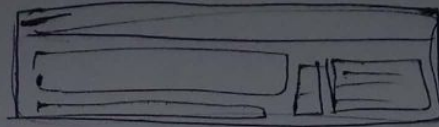
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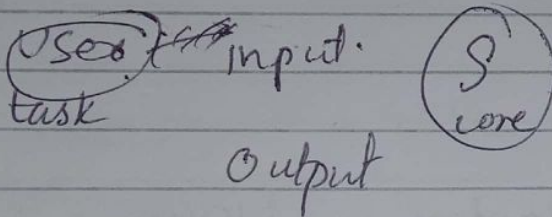


## Human Error

Intentionally mistake  
unintentional

when you ~~will~~ design interface  
we can avoid

slip - better interface design  
mistake - better understanding of system.  
chances of mistake -



Abowd and Beale's model

## Ergonomics

physical aspects of interfaces  
industrial interfaces

keyboard example

## Reason

Every time you need a reason to perform  
a action -

Traffic, sellable, popular.

## Dw. apps network administrator

Web server → Front end (React)  
App server → Python  
DB server → MySQL  
DDNS

### Menus

Speech recognition / typed natural language  
problems & vague, ambitious, hard to do well  
menu types

→ pull down, drop-down, full down  
contextual menu (environment, surrounding)  
→ pop-up  
→ pie-menus

Cascading menus  
hierarchical menu  
menu selection

Ctrl + u, z, y shortcut key → keyboard accelerator

Icon si option, grouping (file → save etc) edit me  
diff grps,

radio buttons, checks etc.

instead of drop down use radio buttons for  
O male ☒ female



Toolbar

Paradigm

Toolbar

Long

long lines of icons---

(⇒) line select kr

↳ bold kr skty,

Large size,

W select kr

options

contextual show

toolbar

paradigm

way of doing things

Speech-driven interfaces  
natural language

Experience, Engagement and Fun

YouTube

psychology of experience

# First ession

LMS user: Somehow understanding rhta ho.  
user's want, need, chta kya hy.

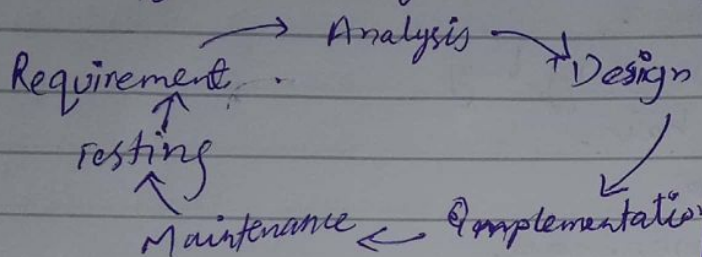
User Kya use kry ga.

→ Persona → Personality bnaty hain.

→ Analysis Krty hain scenarios ka

→ Travel agency, for Umrah ticket, he needs ticket, he visits Website.

LMS, py course register krna hy, scenario



Dataz.pk

popular

24 years old Ali, live in City,  
know how to use computer,  
educated, Love to sowings, mostly  
for education purposes, have  
bank account.

personality k bary me btana hy  
Housemakers, women's family, don't make  
purchasing on shop mostly, how  
they will be using computers

mistakes

don't make it mix  
with scenario.

Main focus : Around User  
First Understand Users :

Design Persona:

Real user nhi hota but Imaginative

Description about person.

scenario is a story.

Why these are helpful?

Bus scenario, how was your bus  
travel/journey. To  
communicate, to have  
requirements, these are  
helpful.

Name

age, education, living, children/family, don't  
like to work, online edu little bit, right  
handed, font chandliray





Different scenarios, different stories,  
2 cheizn

New movies with his friend

but want to preview

① Download, bluetooth & rriye chl skty hain

② Illegal copies run



On the basis of scenarios.  
several scenarios ko use krty huy  
software develop krty hain.

Youtube kids, Youtube  
Both have different personass.

Situations Blaty hain.