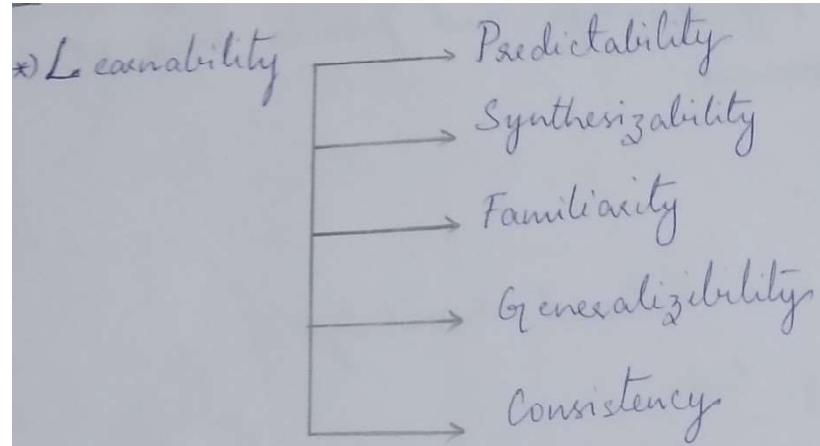
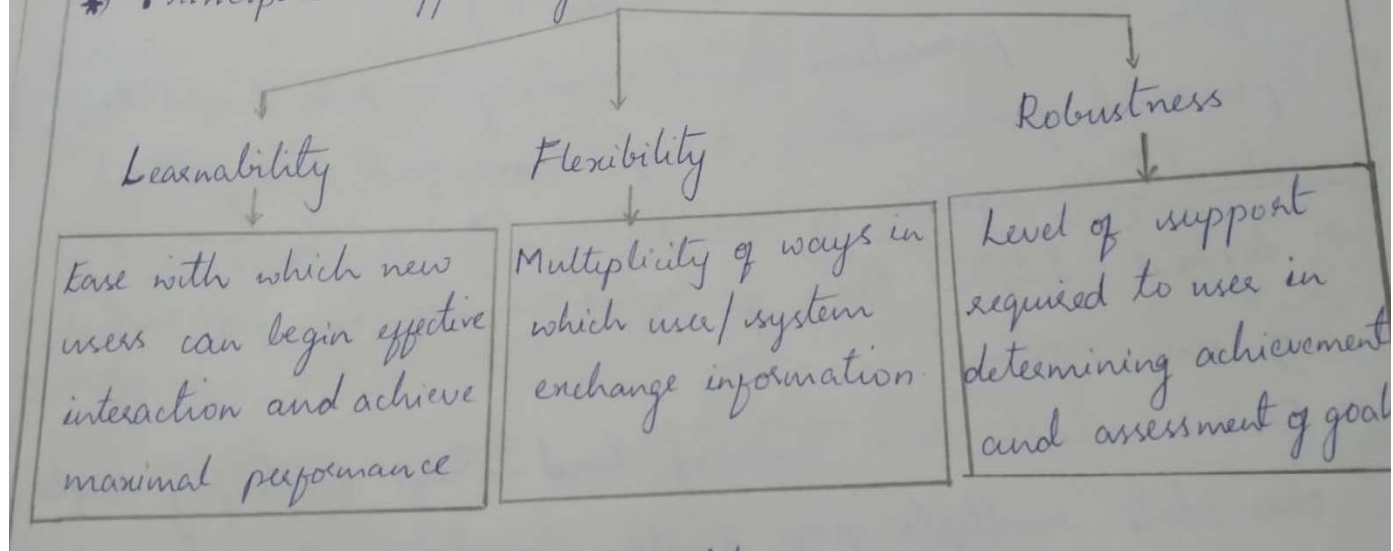
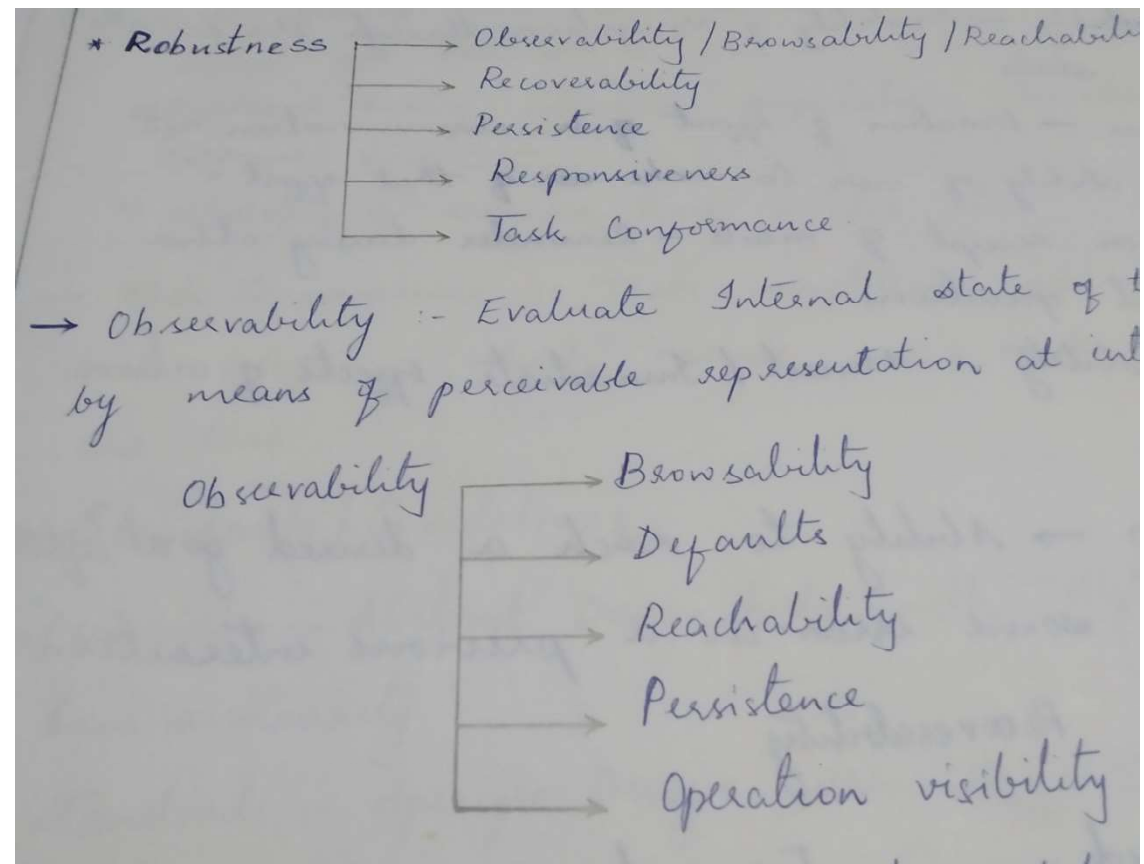
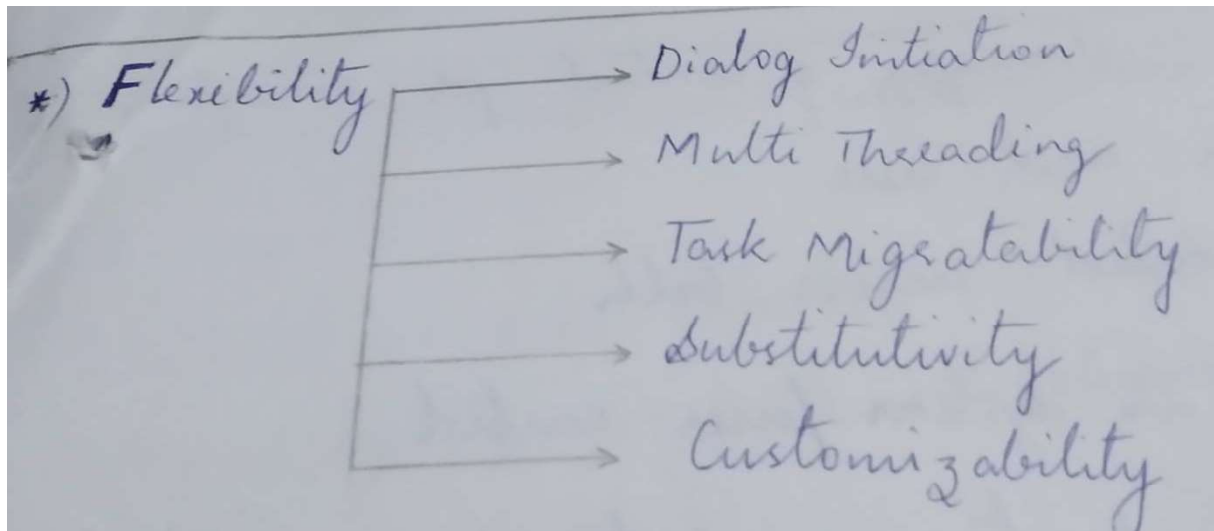


* Principles Supporting USABILITY :-



→ **Predictability** :- User's knowledge of interaction history should be sufficient to determine the result of future interactions.



Principles to Support Usability (continued)

Synthesizability :- Ability of the user to assess the effects of past operations on current state

↳ "Honesty" → Ability of user interface to provide an observable / Informative account of change

↳ "Immediate" → Notifications can occur without delay ↳ or at least eventually

eg: Command language / visual desktop interfaces

"file move from one directory to another" (Immediately Honest)

↳ visual setup → Honest → Immediately

↳ Command line → " → Eventually

(Unix) → "mv" command and then "ls" in

in both directories

↳ Apple Mac m/c's (Earlier versions) → creation of

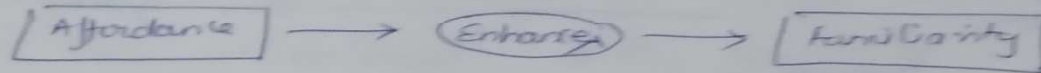
new folder within a folder → visual effects

were not immediately honest.

↳ global search / replace fns of word processor

③ Familiarity - Correlation b/w Existing Knowledge and knowledge required for Effective interaction. "Guessability of the system" (2)

↳ Typewriter to word processor Transition
"Affordances" → how objects can be manipulated



④ Generalizability :- ↳ Form of consistency
↳ specific to general cases transition support
↳ Principle of Mathematical Induction / Inductive Reasoning

↳ Graphical Appln → circle → Constrained ellipse
Square → " Rectangle

↳ cut/copy/paste operations → Same Effect on Multiple windows / Applications

⑤ Consistency → Likeness in Behavior arising from similar situations / task objectives

↳ Consistent Keyboard Layout

↳ QWERTY / Dvorak Keyboard Layouts

↳ Color coded warning panel in aircrafts

"red → Immediate Recovery Reqd

amber → Eventually " "

green → " "

Flexibility :- end user and Multiplicity of ways in which system exchange information

(1) ↳ Dialog Initiations → system / user metaphor.

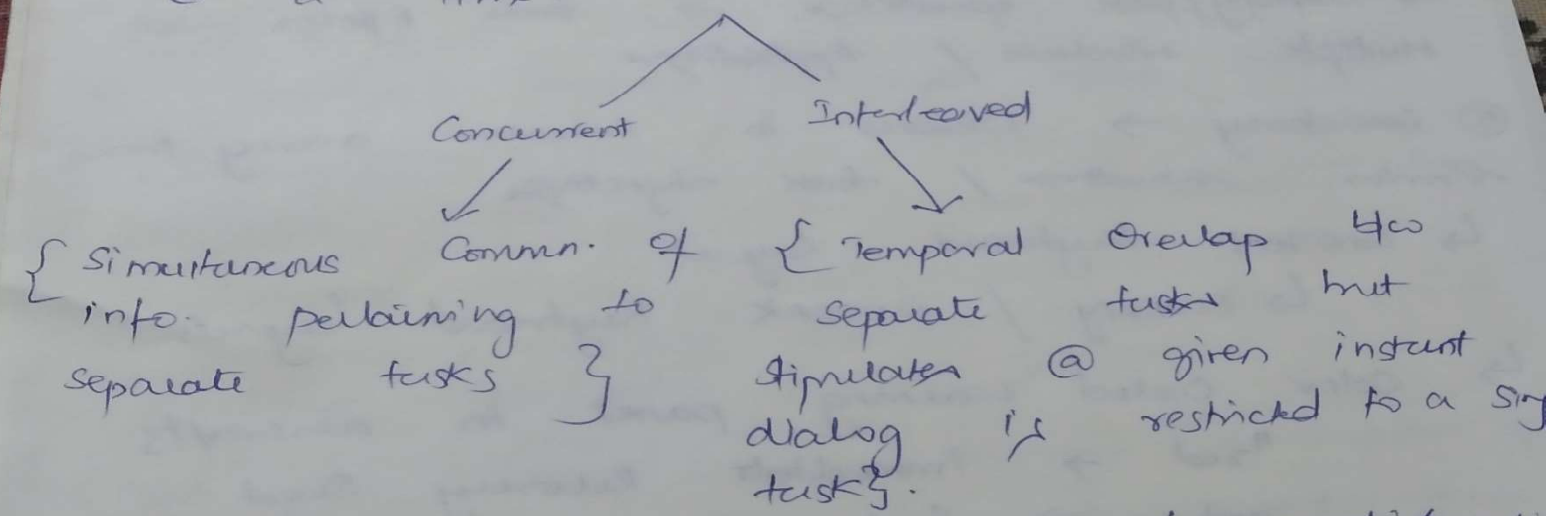
(a) system initiates actions towards the user
(b) user → system

↳ Balanced tradeoff

↳ shared documents (Google Docs) → multiple users editing documents — "consistent feature" → system preemptive dialogs.

(2) Multithreading → Thread of a dialog → subset.

↳ Interaction to support more than 1 task @ a time.



↳ Multimodality of is related to multi-threading dialog

Windowing system → Multi threaded dialog (3)
→ Interleaved amongst # of overlapping tasks

↳ Text editing / File management in multiple windows

Concurrent Multithreading → Beep when editing file
(Arrival of New Message in Inbox)

Beep "Interleaves" Edit operations

(3) Task Migrateability :- Transfer of control for execution of tasks b/w system and user

↳ Transfer of control across both

↳ spell checking → system / user control

↳ safety critical Applications → " " } Essential

→ Matter of life / death.

(4) substitutivity → Alternate forms for action sequences

↳ Margin setting in ms word / Multiple ways

• Representation Multiplicity → Flexibility for state rendering

* temperature graph → / Digital thermometer
(trends) (values)

• Equal opportunity - input / output levels

↳ "system/user Not preemptive"

⇒ Excel - Spreadsheet → Formula.