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chapter - 08

## Chapter - 09

### evaluation techniques

system analysis

#### Evaluation design

① Cognitive walkthrough

② Heuristic evaluation

③ Review-based evaluation

① → জিব স্টেপ তৈরি করা যাবে,

①.1 এটি evaluate ২০০১ ২০ learning task system

২০ অনুকূল help page,

①.2 user ৩০ শব্দের উপর প্রতিশব্দ কর্মসূলি performed

①.3 CT psychological principle এর উপর ফলো

①.4 forms এবং এটি user এর প্রক্রিয়া analysis

চূলা ২০.

2 hrs → walkthrough or go, then particularly

3rd question about the system.

① does design impact user experience.  
→ visual, audio.

② does cognitive process → type info interact, does it make sense,  
processes etc. does it make sense, does it make sense.

③ if no problems occurs what are  
→ no no mistakes.

Does the design lead the user to  
generate the correct goals?

② → System is usability → comfortable to use  
use good tools, design expert वा उत्तम, main  
focus Design is good, good rules of  
guidelines violate this tool, predictable  
consistent, feedback tool वा कैसे system  
द्वारा Check या तो कौन सी  
→ based on design guidelines. It debugs  
design.

tracking whether system design is following the  
Design guidelines, standards or not.

(3)

Design ms, Plan അണി reason/thought why,  
design എംബു എംബു thought goal achieve  
കുട്ടാംഗമ കിം, Unpectable Result ടി പോരാ  
ക്കാകി, ടി ഫിന് കോരു കീഴെ properly execute  
കുട്ടാംഗമ കാകി, Design Rationale ടി use കാ  
ട്ട്. ഗോത്ര,

3rd Design എംബു expert ഓരു, മുളുക്ക്  
2nd Participates കുട്ടാംഗും ഒരു evaluating  
1st അക്കദ്രൂപ കുട്ടാംഗും it know user ടി  
evaluate എംബു കീഴെ ആവശ്യം (ഗോത്ര),

## Evaluating through user participation

### Advantage and Disadvantage

- ① experts are basically thinking high level of view while evaluating a system, but if a real user is evaluating, he/she can understand what design will actually be comfortable for them in frequently use.
- ② normal users may not be able to find out the bugs, problems, error cause as they are not familiar with the internal implementation of the design.
- ③ the opinion will be versatile coz different people have different opinion.

then, it will be hard to set a uniform  
Design rules that will be used for  
all users.

### Benefits

- ① Save money and time.
- ② can be able to know true expectation.

### Demerits

- ① Since black box testing, problem may occur while finding out bugs.
- ② Different user different opinion, multiple results may occurs.

→ styles of evaluation

\* Laboratory Studies

\* Field Studies.

→ Empirical Methods: experimental Evaluation

→ observational techniques

Users are taken out of their normal work environment.

i) This takes the evaluation into the user's work environment.

## ① Lab

### Advantages:

→ Study of animals is safe, easy to handle, can be controlled  
more easily, easily get them off when  
they are in laboratory etc.

Disadv: actual content may not reflect, behaviour  
lab & field change is difficult to predict,

## ② Field

实地の状況を観察するのに適している。

Ad: (a) cost of naturally, less manipulation  
etc, (b) long time observe etc

dis: distraction, noise, etc

## Experimental Evaluation

factors → ~~age (17)~~ slides (9)

age, gender source  
carries or not,

- ① → participants should be chosen to match the expected user population as closely as possible. → ~~age, (18 - 35)~~, (18 - 35) বয়স মাছিদ,
- ② → variables  
effect → common study of core factor of  
phone use on the effect.
- ③ → Hypothesis  
H<sub>0</sub>: No effect.

## ④ Experimental Design.

- ① Define your variables

|  | Independent variable               | Dependent variable        |
|--|------------------------------------|---------------------------|
| Phone use & sleep                          | minutes of phone use before sleep. | Hours of sleep per night. |
| Evaluate how phone effects sleep patterns. |                                    | use before bed time       |

Negative (Experiment no 650 7/72)  
Hypothesis :- It is a prediction of the outcome of an experiment.

|                      |   |
|----------------------|---|
| Null Hypothesis      | phone use before sleep doesn't correlate with the amount of a sleep a person gets |
| Alternate Hypothesis | Increasing phone use before sleep leads to a decrease in sleep                    |

Experiment 6) Design experiments for 2nd year

- last point 2012, Information  
① Observation technique  
    \* Protocol Analysis → Interviews  
    \* think aloud analysis → Questionnaires.  
Cooperative evaluation. → 2012 (info. - 03 03 03)  
    \* automatic protocol → 2012  
    \* analysis. → audio, video analysis → difficult  
    → So computer vision techniques.

## Analysis of data

→ data പേര്, analysis അക്കദാത ഫോറ്മാറ്റ്

Data ഒരു (93%) user Backup ഫോർമ, Main

Data ഒരു clone ഫോർമ, type of data എന്തെന്ന്

യും ഒരു ഏജ, numerical, text based,

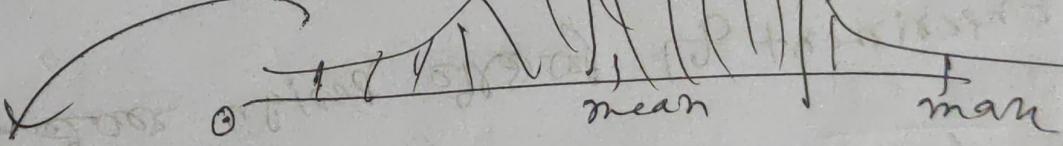
continuous, discrete.

main type

80%

100%

mean



parametric analysis :- Information about the

distribution of the population is known.

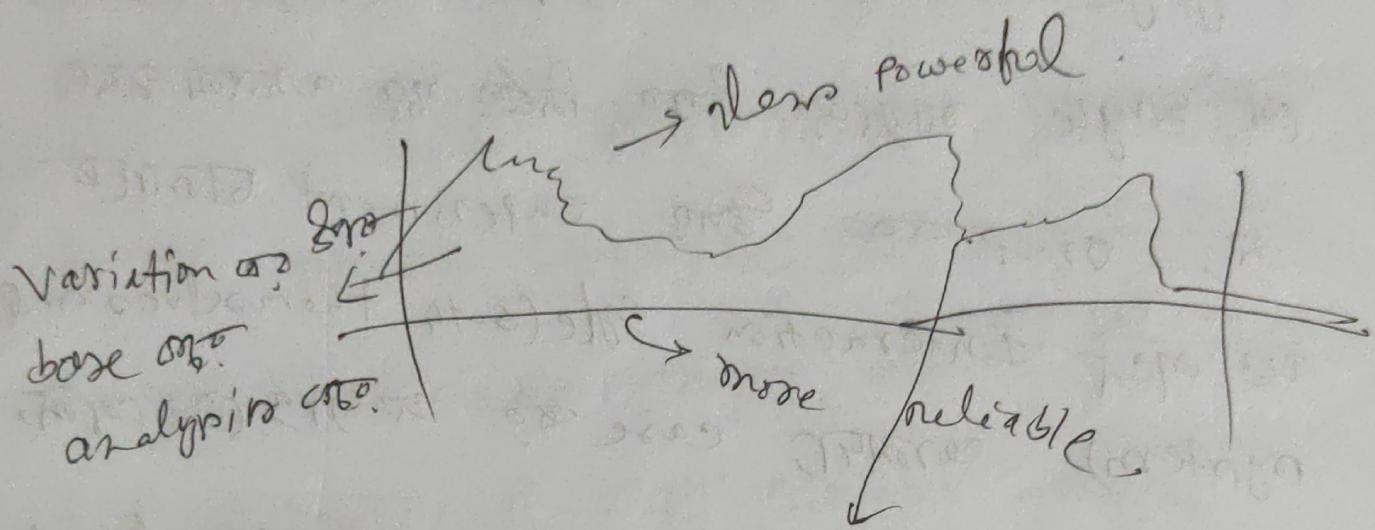
more Statistical Powers., normal distribution follows 80%, lie in same range (95% CI).

non-parametric, Information about the

distribution of a population is unknown.

An parameters are not known, it is

necessary to test the hypothesis for the population. ~~and~~ distributed ~~and~~ off ~~it~~,



### Contingency table

|           |         |
|-----------|---------|
| 3.1 - 3.2 | 149 107 |
| 3.3 - 3.4 | 149 5   |
| :         |         |

①

②

### main theme / 3 questions

What is evaluation by means, true value of answer and match of difference in ~~the~~ case not, finally most accurate ~~one~~?

## Experimental Studies on groups

Google docx හා මුදල පෙනෙයුව මිත්‍ර, මුත්,  
or single මාතුම් නො පිහිටු නේ මෙහෙ 25°

වි, group හෝ තො. experiment එකක්  
වේ මැන් තිබූ නිශ්චිත සියලුම තුළු හෝ ප්‍රාග්ධන ප්‍රාග්ධන  
සියලුම interaction style (both themselves and  
වේ මැන් තිබූ නිශ්චිත සියලුම තුළු හෝ ප්‍රාග්ධන ප්‍රාග්ධන  
system) නො ඇතිවා

problems      ↗ 3/4 groups නැත් වූ standards,  
timetable හා තැක්සි,  
→ තැක්සි නො ඇතිවා

① Subject group → 6/8/9/10, group මාතිලදී නැත්,  
group හා මේවා මාතිලදී,

② Choice of task — → experiment හා ප්‍රාග්ධන,  
variation නැති,

③ data gathering — → variation නැති,

④ analysis — → ප්‍රාග්ධන නැති, multiple channel හා

multiple channel හා, creative task,

decision games (ත්‍රිඛල හා,

feature voice, control task)

Controlling feature voice,

Groupwise camera task study മുച്ചലക്ഷ്യ പഠനത്തിൽ,

③ video camera ഒരു നിഭേദ അംഗീകാരിക്കുന്നത്, problems — വൈദിക സംശയം, ഏക ദിവസിക്ക് നിബന്ധന കൂടുതലും, ആരോഗ്യ പരിപാലനം, Solution — synchronisation സമാഖ്യം, camera alignment

ഒക്കെ പിഡി അംഗീകാരിക്കുന്നത്

camera alignment analysis.

④ analysis — micron (ഒരുക്ക എക്സാഹിത് സ്ഥിരത്വാർത്ഥി നില വരു), single group, min groups, human behaviour change എങ്ങും.

## Field Studies with Groups

Amst vñ group ñay field study കൂട്ടാനുള്ള ഒരു  
effective ആണ് അതും ഒരു,

### Question :-

അപ്പോൾ Group Study കൂട്ടാനുള്ള ശാഖ - Single user  
Study എന്നും, Subjective എന്നും Objective എന്നും  
അല്ലെങ്കിൽ decision എന്നും മിക്ക അവസ്ഥ,

## Choosing an evaluation method

When in process      design vs implementation

→ areas of error,

design - early detection, conform

implementation:- Correctness cost, difference cost

②

Style of evaluation - laboratory vs field

Field observation

Experimentation

③

how subjective

Subjective vs objective

X

variations

operator

subjective

↓

Person to

Person variation

error

④

type of measures.

Qualitative

Quantitative

→ ~~design~~ high level study of the effects low  
level factors,

④ Level of information, high level vs low level  
product assessment techniques

⑤ Level of interference.

→ ~~design~~ interfere with & control  
obtrusive → direction from diff or  
unobtrusive - for ex. ~~experiments~~ (current)

⑥ Resources available: time, subjects

equipment, expertise → constraints

priority ~~versus~~ experiment ~~versus~~ goal

do some ~~versus~~ change ~~versus~~ decision

Spreadsheet package.

- ① <sup>subroutine</sup> → typical all user groups: students, home users, academics
- ② Heuristic evaluation (objective) → function to function.
- ③ Representative task — <sup>copy & paste</sup> technical. Storing date, printing <sup>organizational</sup> spreadsheet, formatting cells, adding functions, producing graph → <sup>the more</sup> out <sup>start</sup> icon one <sup>the</sup>
- ④ measurement → basic <sup>one</sup>, speed of recognition <sup>second</sup>, accuracy of recognition <sup>third</sup>. Before icon <sup>is</sup> on the board, unperceived clarity.
- ⑤ outline plan → overall evaluation steps <sup>one</sup>, noting responses, test with examples. for each icon in various style. → group icon <sup>one</sup> <sup>two</sup> <sup>three</sup> <sup>four</sup>.