5.1. DIRECT MANIPULATION

HOW MIGHT WE IMPROVE THE MEASURING CUP ?

SIMPLY ASKING PEOPLE WHAT THEY WANT – YOU CAN MISS OPPORTUNITY

I. ACTION

II. EVALUATION OF OUTCOME

PRINCIPLES

CONSISTENCY

FEEDBACK

RELIABILITY (WORK!)

VISIBILITY

DISCOVERABILITY (MENU)

NON-DESTRUCTIVE (UNDO) OPERATIONS

DON NORMAN,
- THE DESIGN OF EVERYDAY THINGS
- HUTCHINS, NORMAN, DIRECT MANIPULATION INTERFACES, 1985

5.2 MENTAL MODELS

1. What makes UI learnable?
2. What leads to errors?

DIFFERENT MENTAL MODELS

THE SOURCE OF MENTAL MODELS

Experience, metaphor analogical reasoning

HOW THE USER KNOW
- WHAT TO DO
- WHAT HAPPEN

HOW EASILY CAN SOMEONE
- DETERMINE THE FUNCTION
- PERFORM THE ACTION
- WHAT ACTIONS ARE POSSIBLE

TELL WHAT STATE THE SYSTEM IS IN?

SLIPS
- try to prevent

vs.

MISTAKE
- provide better feedback

DIRECT MANIPULATION

- real world metaphors
- phisical UI disclosure it's functionality

CURRENT PRACTICE

MINIMIZE gap

NEW TECH

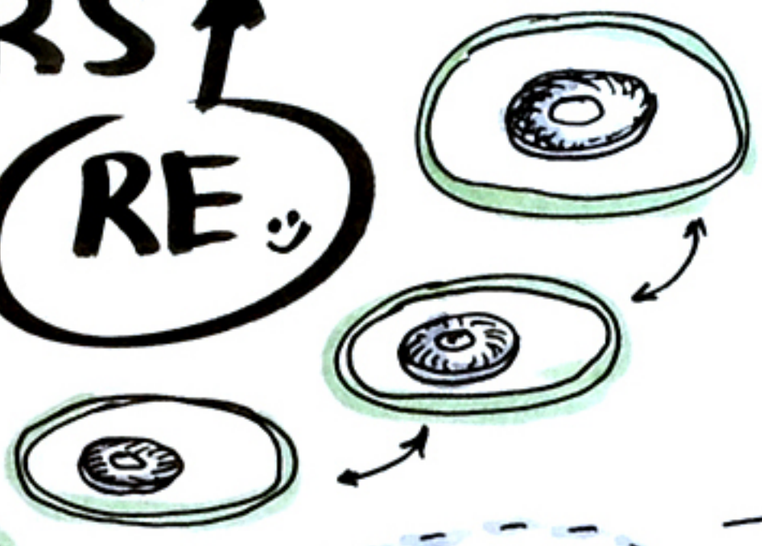
!

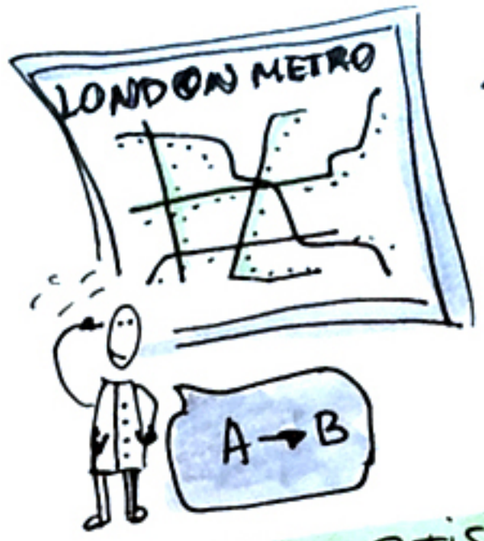
COURSERA

SKETCHNOTE BY ANNA IURCHENKO
SKETCHNOTESPACE.COM

5.3 PRESENTATION MATTERS

RE :)





TASK SPECIFIC (LANDSCAPE, DISTANCES)

GOOD REPRESENTAT. IS TIED TO THE TASK THE USER WANTS TO PERFORM

THE DIFFICULTY OF SOLVING A PROBLEM DEPENDS ON THE WAY YOU REPRESENT IT

TIC TAC TOE

THE WAY YOU REPRESENT THE PROBLEM HAS DRASTIC INFLUENCES ON OUR ABILITY TO SOLVE IT

DONT REQUIRE USER TO KEEP ANYTHING IN MIND THAT YOU CAN PUT ON THE SCREEN

EXPERTISE OF USER

VS 10⁸ WORDS

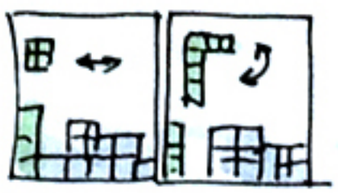
informational equivalent ≠ computation equivalent

5.4 DISTRI-BUTING COGNITION

OFFLOAD WORKING MEMORY (2±2)

WHAT IF ?

SCENARIO



the power of providing a visual ophisical instantiation of abstract ideas

DIALOG BOXES SHOULD BE ACTION ORIENTED AND GUIDE USER TOWARDS NEXT STEP IS TO BE + INFO TO ACCOMPLISH THAT STEP

UI HELPS DISTRIB. COGNITION WHEN:

- encourage experem. (TETRIS)
- SHOW ONLY DIFF. THAT MATTER (LONDON)
- CONVERT CALCULATION INTO FAST PERCEPTION (MAP COLORING)
- INCREACE EFFICIENCY

- HERB SIMON "THE SCIENCE OF THE ARTIFICIAL"
- Edward Tufte VISUAL DESIGN
- DON NORMAN THINGS THAT MAKE US SMART