

# Task Analysis



- Methods to analyse people's job
  - What people do
  - What they work with
  - What they must know
- TA describes the behaviour of a system

# Task analysis

- Insight into the nature of a task as it is performed in the field.
  - What is being done?
  - How are tasks accomplished?
  - There is no judgment as to the appropriateness or efficiency of those procedures.
  - TA addresses what is done, not what should be done.

# Elements

- 3 level concept structure
  - Goals
  - Tasks
  - Actions

# Goals

- Overall objective of the actions
- Something the user wish to achieve
  - write a letter - make an order – call a friend
- To reach a goal the user usually needs a **plan** which involves a set of tasks to be performed in order to reach the goal

# Tasks

- Structured set of activities required to achieve a goal.
- Involve problem solving or selecting between alternative actions (or sub tasks)

# Actions

- A 'simple task' which requires no problem solving
- An action has no structure
- Atomic element performed
- Task analysis steps Goal -> What to do  
SeDevice or Method lect the ->  
Determines the task in concrete terms  
Task -> activities to achieve the goals  

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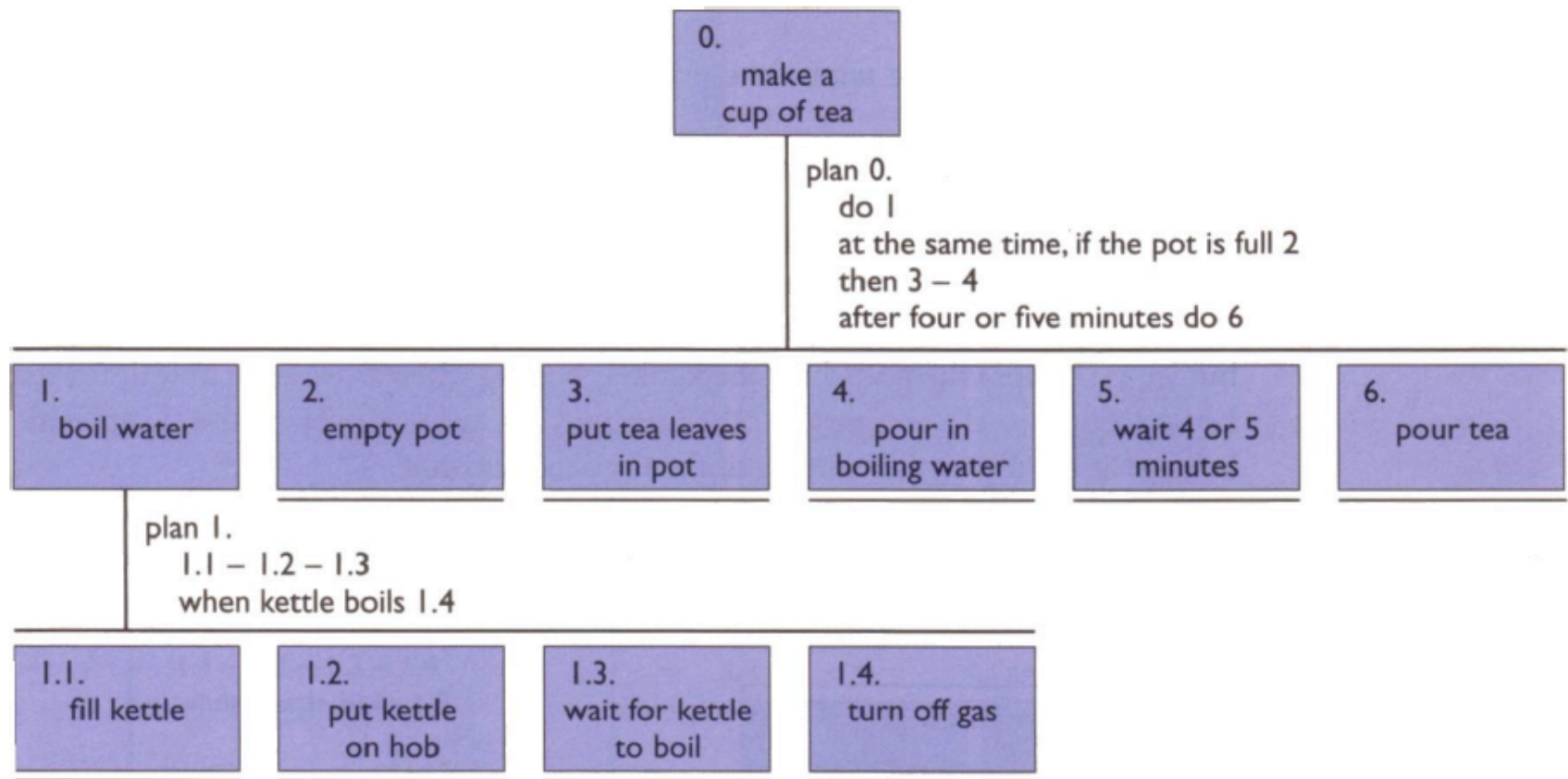
using the device Subtask - components of  
a task Actions - simple tasks

- The tasks can be described as hierarchies.
- E.g., the use of a word processing system can be described as a hierarchy of subtasks which can be taken alternatively or after each others in order to reach the overall goal.



# Hierarchical Task Analysis

- Involves breaking a task down into subtasks, then sub-sub-tasks and so on. These are grouped as plans which specify how the tasks might be performed in practice
- HTA focuses on physical and observable actions of the users, and includes looking at actions not only related to software or an interaction device
- Start with a user goal which is examined and the main tasks for achieving it are identified
- Tasks are sub-divided into sub-tasks



[Dix et al, p. 515]

# Example HTA

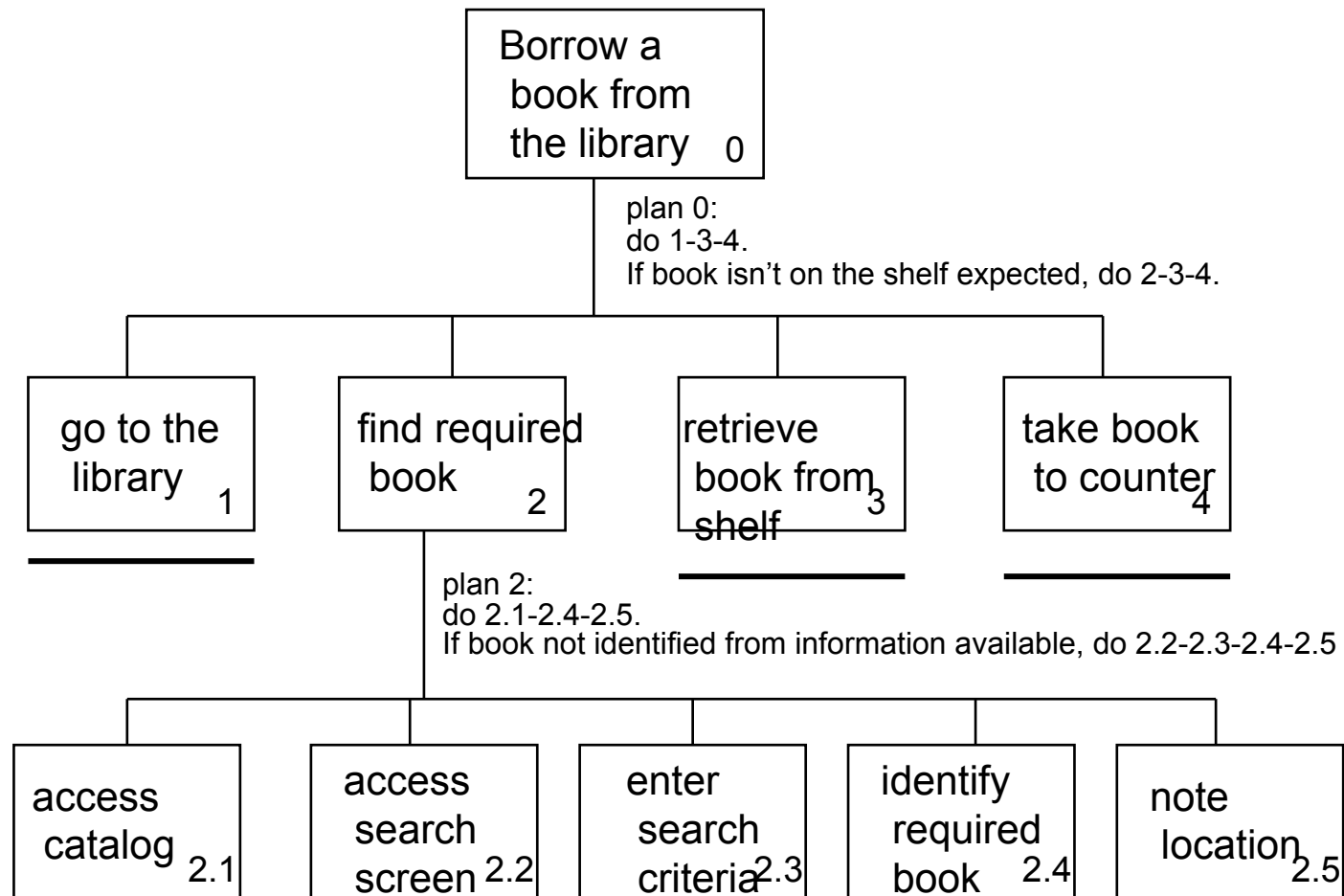
0. In order to borrow a book from the library
  1. go to the library
  2. find the required book
    - 2.1 access library catalogue
    - 2.2 access the search screen
    - 2.3 enter search criteria
    - 2.4 identify required book
    - 2.5 note location
  3. go to correct shelf and retrieve book
  4. take book to checkout counter

## *Example HTA (plans)*

plan 0: do 1-3-4. If book isn't on the shelf expected, do 2-3-4.

plan 2: do 2.1-2.4-2.5. If book not identified do 2.2-2.3-2.4.

# Example HTA - graphical



# Collecting data

- *Observation of subjects performing a task is the central data-source for task analysis*
- Data for task analysis comes from actual observation of the task being analyzed and interaction with experts in the field
- Instructional guides, operational manuals, and other procedural material can provide supplementary information.

# Practice versus Model

- The purpose of task analysis is to describe the actual practice, not to construct an 'ideal' model
- Documentation may not provide a sufficient base of information
- Observation of subjects performing the task to be analyzed is the central method of data collection for task analysis.
- Think-aloud

# Interviews with expert

- *Good data sources, but experts may take certain steps for granted.*
    - Useful to resolve questions which grew out of an observational session
    - Caution because experts may not be aware of all of the steps they take when performing a task –
    - Some details drop below the level of conscious thought
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# Summary

- Task analysis techniques such as HTA help to investigate existing systems and practices