

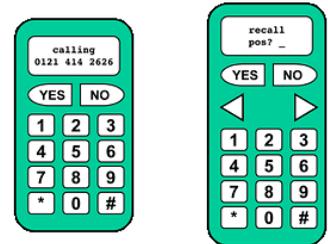
SW 1 : HCI Design Methodologies

Exercise 1

Iyed has an old mobile phone (a) as shown below. It has no capability beyond dialing a number.

Write a **scenario** for the following cases :

- **Case 1:** Iyed decides to call a friend whose number is in his **paper** address book.
- **Case 2:** Iyed decides to call a friend but does **not** have the number (he calls **directory assistance** to obtain it).



Iyed then gets his new phone (b) which offers a set of menus accessible using the **cursor keys**. These include a “**directory**” of phone numbers.

- **Case 3:** Iyed decides to call a friend **from the phone’s directory** (the number is already stored).
- **Case 4:** Iyed decides to **save a number** to his directory.

Exercise 2

A sports-goods **sales management system** allows the user to **add, modify, and delete** an item as well as all of its attributes.

1. Design the interface of a **DOS** program that performs this task.
2. Design the interface of a **Windows** program.

Exercise 3

The purpose of **Hierarchical Task Analysis (HTA)** is to detail the actions required for proper task execution.

Analyze the following passage and help the **grandmother** by producing an **HTA tree** and a **plan** so that she takes her **daily medicines**:

“The grandmother keeps the four medicines she takes every morning in their original bottles on the **breadbox** in the kitchen. Each **evening** she moves these bottles to the **coffee table** in the living room so she won’t forget them the next **morning**. After **lunch**, she puts them back on the breadbox.”

Exercise 4

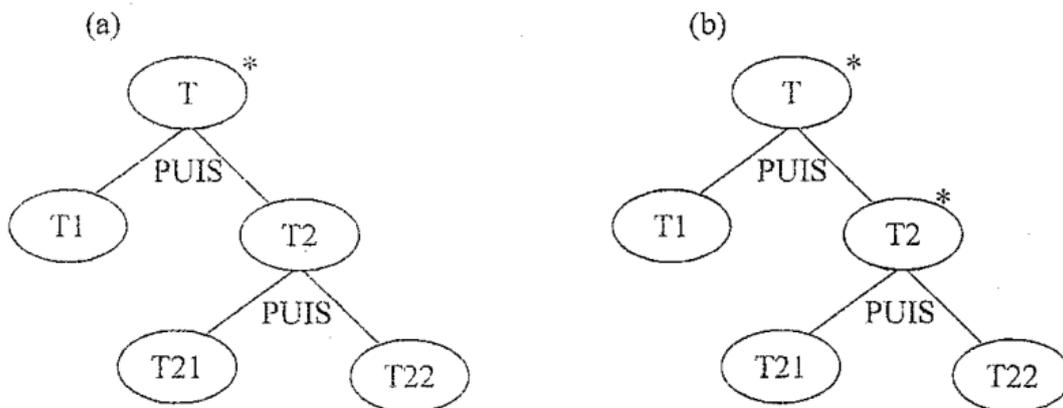
Let there be a task **T** to perform:

- **T** is refined into two tasks: **T1** and **T2**.

- Task **T1** must be completed **before** task **T2**.
- **T1** will be considered achieved when both subtasks **T11** and **T12** are completed.
- **T11** and **T12** may be carried out **in any order**, each being **interruptible**. **T11 must be performed at least once**.
- **T2** is achieved when its two subtasks **T21** and **T22** are completed. **T21** and **T22** may be carried out **in parallel**.

Tasks:

- Provide a **task tree** modeling **T**.
- Draw a **possible mock-up/sketch** for the tree.
- Are the **following task models** equivalent? **Justify** your answer.



PUIS: Exprime l'enchaînement séquentiel de plusieurs tâches.
 * : Exprime une répétition (une tâche itérative).

Exercise 5

Conduct an HTA and a plan for pizza delivery, from the point where the customer places an order to the point where the delivery person returns with the payment.

Exercise 6

A modern hotel has installed a **sandwich-making robot** to provide in-room sandwiches at any time of day. The hotel also has an **automated delivery system** that will take the finished sandwich to a specified room.

You are asked to **design/program a software interface** that customers use to **call and order** sandwiches.

- **Q1:** Write a short **scenario** describing how a guest would order a sandwich using your interface.
- **Q2:** Provide the **hierarchical task description** of the sandwich-ordering process. Specify the **tasks and subtasks**.

- **Q3:** Give a **state diagram** describing the **dialogue** between the system and the user. Note any **additional design questions** that must be resolved.
- **Q4:** Would you use **voice identification/recognition** or ask the user to **press telephone keypad buttons** to enter responses? Explain the **advantages and disadvantages** of each for this situation.
- **Q5:** Do you think the agent should be programmed with a **distinct personality**? **Yes or no? Why?**

Exercise 7

Figure 1 shows the **Algeria Post** homepage. You are asked to design a **version of the page** that can be viewed on **small screens** such as a mobile phone or PDA.

- **Q1:** How would you **identify the needs of mobile users** accessing the page? Note that the page you provide must keep the **same functionality and content** as the current page.
- **Q2:** How would you **evaluate** your new design?



Figure 1 – Algeria Post homepage