TASK ANALYSIS ASSIGNMENT

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BACKGROUND INFORMATION

According to Hackos and Redish (1998), poor design can result in waste of time and cost. Thus, between the **intentional idea** and **deployment** of a product, the design of it should be revised by **analysis loop**. Usability of a product can be analyzed by user, task and situation analysis. As one of them, task analysis mainly focuses on the interaction design by "observing the user on the action" of interacting with it. Observing, describing and decomposition of a task can be used to analyze the user interaction according to behavior of the user, knowledge of the user and environmental (**contextual**) variables that have an impact on user perceptions and decisions during the interaction process. Therefore, task analysis requires both declarative and procedural knowledge. According the results of qualitative task analysis, **current products** can be maintained or improved and design guidelines for a **new product** can be identified (p.11)[1].

Task analysis informs;

- Objects
- Functionalities of objects
- Organizations of these (layout, grouping, navigation)

Task analysis aims;

- To determine what the users *do*
- To determine what things the users *use*
- To determine what things the users must *know*

while performing a task on an object.

According to Paterno (2000), there are some approaches while performing task analysis. In **task decomposition method**, tasks are split into sub (relatively more simple) tasks (ordered). In **knowledge-based techniques**, background knowledge of the user about the task is observed and object-action mapping / taxonomies are used to establish this knowledge basis. And in **entity-object based method**, the relationships between objects, actions and users are observed [2].

THE EXPERIMENT

As a beginning the major goal should be related to tasks and then actions. In fact, in this sense, it can be said that Norman's seven stage cycle in achieving goals by performing actions is used [2]. In the experiment, workflow analysis will be used for two users (me and my friend). For the conclusion part, procedural analysis will be used to generalize the task analysis experiment and to highlight some drawbacks in the work flows of the users to propose better design solutions for the improvement the website.

GOAL

Want to buy "Casio SGW-100-1VDF Erkek Kol Saati" using the online shopping search engine website cimri.com which collects the stock data from various online shopping websites and list the price of the searched product from these websites. To buy the product, the user is redirected to the related website.

Task Decomposition (Sub-Tasks)

Because before focusing on a specific task for procedural analysis, we should understand and draw the big picture by mapping the above goal into tasks to be done. As a task decomposition method, hierarchical task analysis (HTA) is used in this experiment.

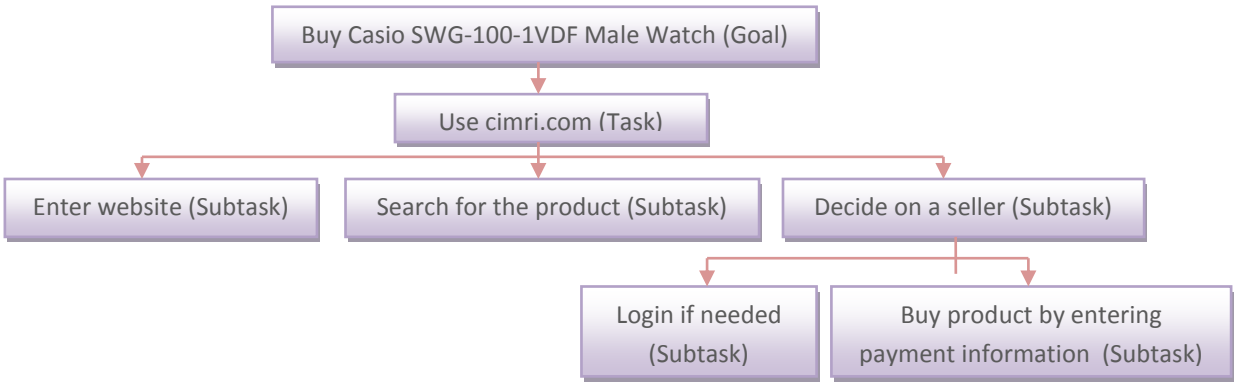

Figure 1 – Hierarchical Task Analysis of Assignment (basic)

User's Work Flows

There will be 2 different user (me and my friend) on whom the task analysis is done. Because the user's background and knowledge related to task has an impact on the task analysis result, to see that impact too, I preferred to include two different user profiles; one of them is novice for the website (my friend), and me who is familiar with the system just in terms of its functionality.

User 1 (my friend-Novice) Feedbacks:

- **How the user use his background knowledge?**

He used no background information about the website but used computer and web page usage skills.

- **What roles the user plays while accomplishing tasks?**

He both tried to familiar with the **functionality (service) of the website** and to reach the product to buy at the same time. So he is in role (situation) of **puzzled customer instead of stingy** which the targeted customer profile of cimri.com is in fact.

- **What is user's language (terminology & jargon)?**

He used "puzzled", "time consuming", "inefficient" types of terms to represent his inability in accessing purchase page for the watch and deciding all about the websites.

- **What does the user see?**

At first, he expected to buy the watch from this website itself, but when redirection to other websites is occurred he figured its usage. He **opened a lot of tabs to observe** the product in these websites.

- **What decisions does a user make?**

He tried to decide on which website is much more known in terms of their selling data of this product. At some point he decided to give up to searching all those and **being familiar with the interfaces of redirected shopping websites**.

- **What must a user know?**

He said, at first I had to know the idea behind cimri.com. If the user "want to buy" a product, he should know that cimri.com is not the one. It just shows the web sites which sell them. After that, the user should have heard about the websites to trust their price-quality service.

- **How does a user get help?**

He asked me about the system and websites.

- How does a user recover from errors?

He encountered a problem that, when clicking on "İlk 3 mağazaya git" opens only the first website.

- What physical acts must be accomplished?

He used a laptop which has an access to the Internet and some input devices like mouse.

User 2 (me-Advance Beginner) Feedbacks:

- How the user use his background knowledge?

Because I have heard about the web site, when I open the web site, I was not surprised when instead of the product; I saw the **list of online shopping websites** redirected from cimri.com not the products to buy when clicked. I am familiar with using search bar and hyperlink redirection addresses when hovering over it to guess the next page that I will encounter.

- What roles the user plays while accomplishing tasks?

I was a customer who will buy a product but I also use my comparison skills as a **little mean customer** to use the web site effectively. So I **should spend some time making my decision** between options.

- What is user's language (terminology & jargon)?

I used just "flow" to represent the easy navigation flow of the site and "proportional merchandising" to represent the lack of quality or rating comparison between the sellers, the online shopping websites.

- What does the user see?

Simple interface but because the advertising area is appeared on the near (on the left) to the search result area, it little distracted me. I couldn't see any detailed information about the product and comments related to it when navigating on related tabs.

- What decisions does a user make?

The main decision on the task is deciding on the appropriate seller website according to **financial situation, quality and delivery time expectations**. In fact, from the list, the **user is expected to trust** a firstly encountered website.

- What must a user know?

The user firstly should know that cimri.com is not a shopping website. So, a list of shopping websites with prices are listed which sell the searched product. At this point, there is **no comparison for the services** of the suggested websites. The user is responsible for the opening all of the web sites and compare them himself according to price, shipment&delivery time&price and requirement for login&sign up . So the **user is expected to know the websites** offered and put into a little bit **frustration if his time is limited** to buy a product.

- How does a user get help?

There is no clear help button around the page. The main point that I felt I need help is **getting reliable information about the listed websites**. At least the comments of the cimri.com users would be something, but there were no comments. I have to ask my friends in the current environment to get information if they were familiar with any of them.

- How does a user recover from errors?

I have realized that the price shown on the search result is not the same as the one when I opened the website itself. It is deceptive.

- What physical acts must be accomplished?

Actually there is no real physical act, but using mouse and keyboard and of course preparing credit card to enter the necessary information at the purchase stage is needed.

USER1 & USER2 WORK FLOW

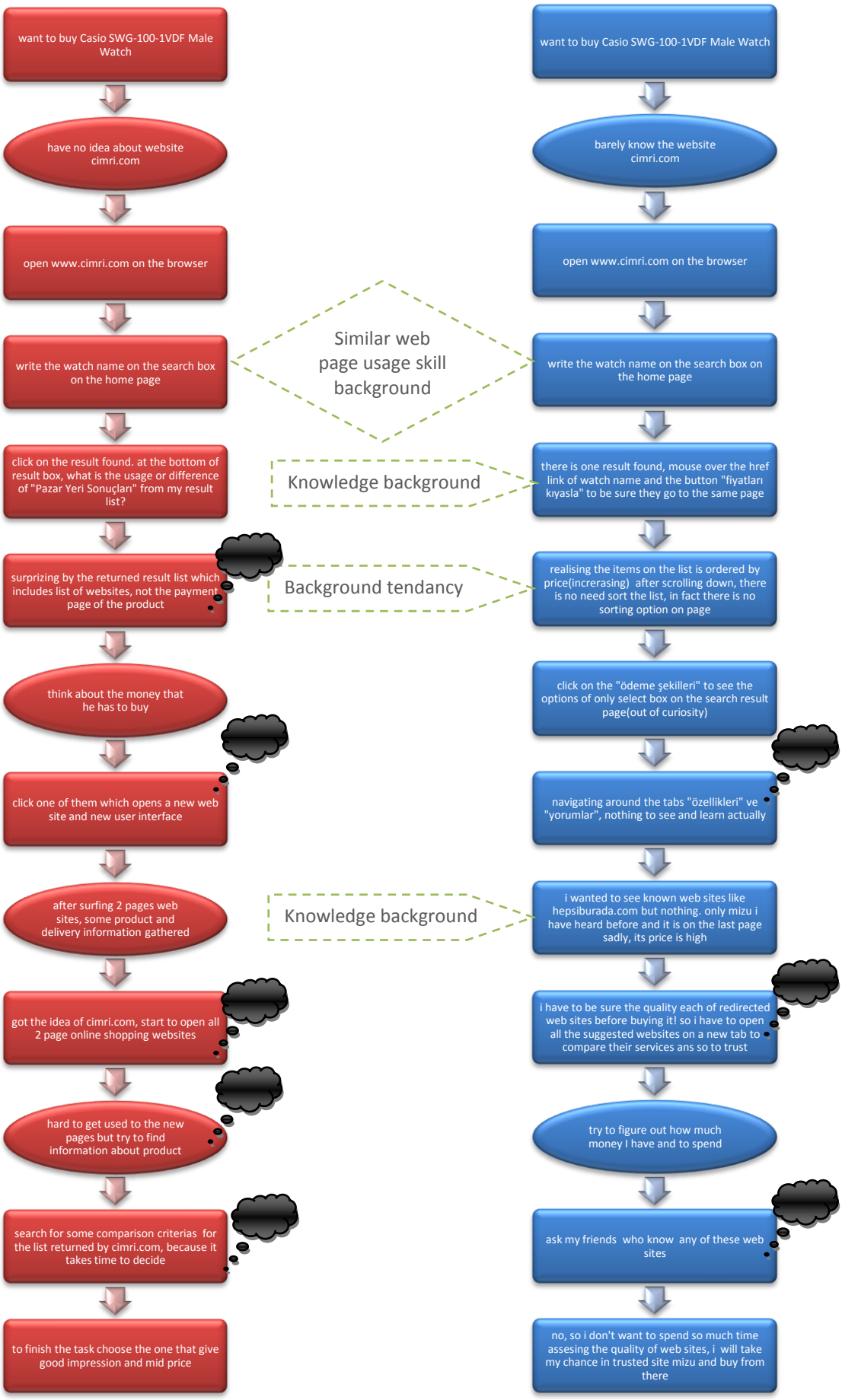

FIGURE 2 – USER1 (ON THE LEFT) AND USER2 (ON THE RIGHT) WORK FLOWS (BLACK SMOKES MEANS FAILURES)

Analysis

Procedural analysis Flowchart

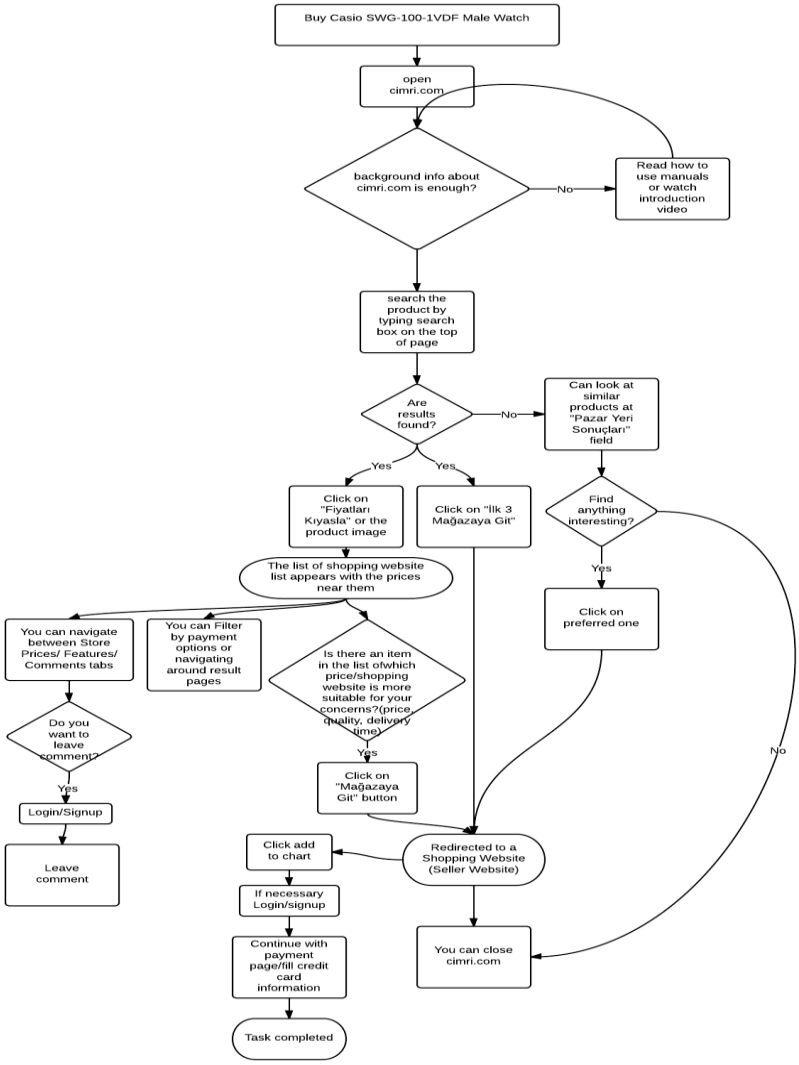

Figure 3 - Procedural Analysis Flowchart of the Assignment

There are 2 main problems to deal with first in cimri.com. First one is not **giving some background information about the sellers** (online shopping websites), or not showing their ratings by users to help the users decide faster. So some additional data retrieval from the websites besides of the price should be done, or ratings/comments can be used/improved to give opinion to the user. The second one is beside of price; some comparison options could be added in terms of other features of the product. By these solutions, unnecessary redirections/wasting time/unnecessary information and interfaces of different web sites can be prevented. **The user can reach his goal in a short time with more confidence.**

The procedural analysis flowchart can be reconstructed after balancing the tasks according to their difficulties or generalizing the main task as “want to buy a watch” in the improved version of HTA.

References

[1] Hackos, J.T., Redish, J.C. *User and Task Analysis for Interface Design.* Wiley Computer Publishing, New York, 1998.

[2] Paternò, F. *Model-Based Design and Evaluation of Interactive Applications*. Springer-Verlag, London, 2000.