Assignment-1 Design Diary

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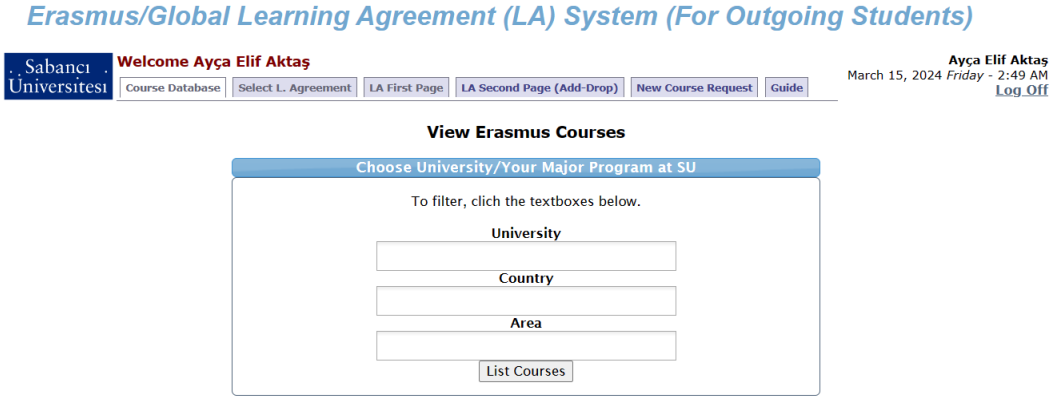
1. Introduction and Association with the Literature

The interactive application I want to analyze is Sabancı University's Erasmus/Global Learning Agreement (LA) System (For Outgoing Students) at https://mysu.sabanciuniv.edu/iro/erasmus/students/index.php?do_list=1

The task that I want to accomplish with this interactive application (the school's Erasmus Exchange Program Website) is identifying which Sabancı courses are the correspondences of offered courses at the partner university. This task will help Sabancı University students to form their Learning Agreements. This process requires accessing a database of previously taken courses by students, understanding the equivalence of courses between institutions, and ensuring the selected courses will be available in the intended semester of exchange.



- The website often crashes and operates slowly, hindering efficient navigation and course selection.
- There is complexity in finding the course equivalences and difficulty in matching courses between Sabancı university and the exchange university. Because there are multiple entries and unclear correspondences for the same course.
- The same course may appear differently due to minor changes like course codes, leading to confusion and causes inconsistent naming of the courses.
- There is no indication about the last semester that this course was offered exchange university and Sabancı students took that course in the exchange university. This may lead to confusion regarding whether the course is an option for the semester the student plans to attend the exchange university or if it is a course that was offered by the exchange university a long time ago

The identified problems are HCI issues because they directly impact the effectiveness, efficiency, and satisfaction with which users can accomplish their goals within system. HCI focuses on optimizing human-computer interactions to make systems more usable and user-friendly. The mentioned problems hinder usability by causing confusion, errors, and inefficiencies in accomplishing the task. These problems can be explained through Norman's and Schneiderman's frameworks and theories.

I can also describe the challenges I encountered while using this application to accomplish my predetermined task with Norman's Seven Stages of Action Model.

Norman et. al.(2013) states that:

The specific actions bridge the gap between what we would like to have done (our goals) and all possible physical actions to achieve those goals. After we specify what actions to make, we must actually do them-the stages of execution. There are three stages of execution that follow from the goal: plan, specify, and perform. Evaluating what happened has three stages: first, perceiving what happened in the world; second, trying to make sense of it (interpreting it); and, finally, comparing what happened with what was wanted. There we have it. Seven stages of action: one for goals, three for execution, and three for evaluation(p.41).

- Goal Formation: Deciding to find course equivalences.
- Plan Formation: Planning to use the website for this purpose.
- Specifying an Action: Attempting to navigate the website to find information.
- Executing an Action (Perform): Clicking on links, entering search queries.
- Perceiving the State of the System: Observing slow response times, crashes, and confusing listings.
- Interpreting the State of the System: Misunderstanding the information presented. Misinterpretation is likely when users encounter multiple entries for the same course or unclear correspondences, leading to errors in course selection.
- Evaluating the Outcome(Compare): Difficulty in achieving the goal leads to dissatisfaction, as users cannot efficiently find and select appropriate courses.

Website performance issues can be related to Norman's seven fundamental principles of design. Especially feedback principle and importance of error tolerance emphasized by Norman. According to Norman, "When people understand what has happened, what state the system is in, and what the most appropriate set of actions is, they can perform their activities more effectively" (Norman et. Al., 2013 ,p.67).The system crashes or runs slowly fails to offer appropriate feedback to the user's activities, resulting in frustration and inefficiency. In order to ensure dependability and responsiveness, Norman's work emphasizes the necessity of designs that facilitate user tasks without needless delays or errors. Norman states that, "Feedback provides reassurance, even when it indicates a negative result. A lack of feedback creates a feeling of lack of control which can be unsettling. Feedback is critical to managing expectations, and good design provides this(Norman et. Al., 2013 ,p.52).

The complexity in finding the course equivalences, difficulty in matching courses between Sabancı university and the exchange university due to multiple entries, unclear correspondences and inconsistent naming are violation of Schneiderman's Eight Golden Rules. Rules such as Strive for consistency, Prevent Errors, Reduce Short-term Memory Load. Multiple entries for the same course and a lack of clear equivalences increase the chance of user error. According to Schneiderman, "As much as possible, design the interface so that users cannot make serious errors"(Schneiderman et. al. ,2016,p.96). Inconsistent naming and multiple entries for courses violate the consistency rule, leads users to confusion. The need to remember course codes so that you can find the course you are looking for or navigate back and forth due to the system's inefficiencies such as multiple entries of same courses burdens the user's cognitive load. This violates the Short-term Memory Load rule by Schneiderman.

Schneiderman states that,” Humans' limited capacity for information processing in short-term memory (the rule of thumb is that people can remember "seven plus or minus two chunks" of information) requires that designers avoid interfaces in which users must remember information from one display and then use that information on another display”
(Schneiderman et. al. ,2016,p.97).

ALL	BMEGEPTAGE1 Composites technology	4	Budapest University of Technology and Economics	MAT 307 Composite Materials	3	Spring
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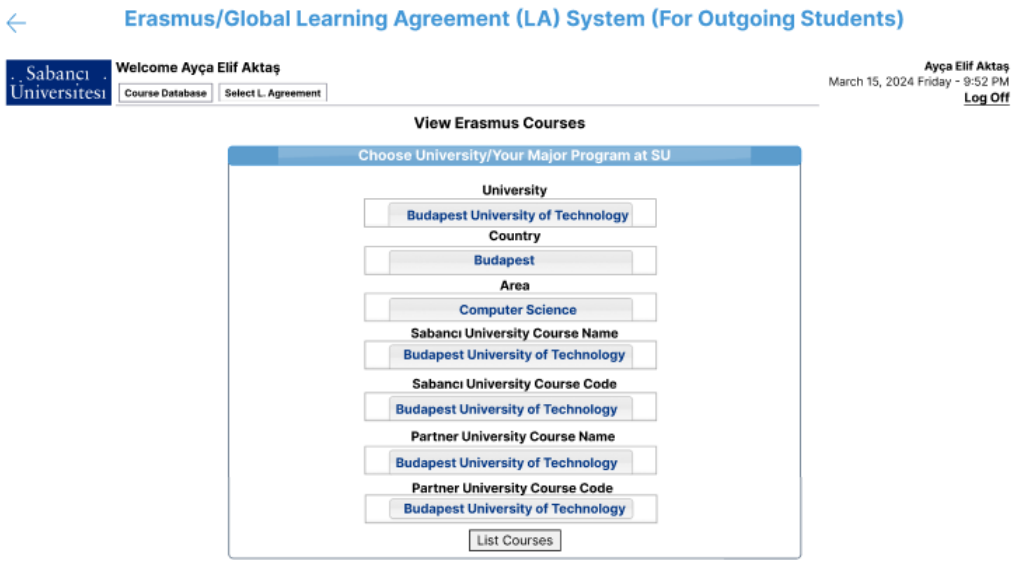
ALL	BMEGEGEAGG1 Machine Elements 1	5	Budapest University of Technology and Economics	ME 301 Mechanical Systems I	3	Fall
ALL	BMETKGSB33	6	Budapest University of Technology and Economics	ME 301 Mechanical Systems I	3	Fall

The lack of information about the last date that the courses was offered and substituted for a Sabancı course violates the Schneiderman’s rule of Design dialogs to yield closure. Because when there is an important lack of information users are left without a clear sense of completion or success in their search for courses, lacking confirmation that their actions have led to meaningful results. Even though they may find a course that might be fit for their search they are not sure if they will be able to get that course in exchange university so their goal is incomplete.

2. Recommendations, Proposed Solution

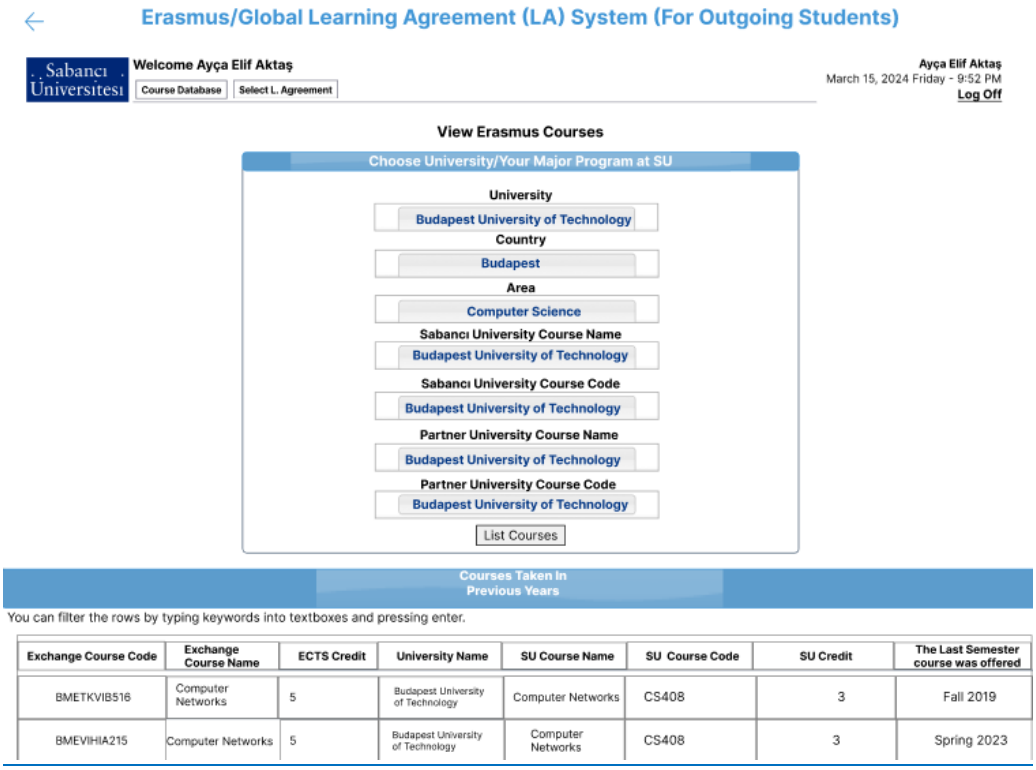
In my proposed solution I added few more filtering options for the users. I also separated the course names from the course codes for both Sabancı university courses and Exchange university courses. I took these measures so that Schneiderman’s Eight Golden Rules would be satisfied. Rules such as Prevent Errors, Reduce Short-term Memory Load. With more filtering options users will be able to find the course that they are looking for far more easily and they won't have to remember the course codes or names because of the system’s inefficiencies. They will also be less unlikely to make mistakes while deciding which course is the correspondence of the course they want.



In order to ensure consistent entries for all courses I organized the columns by their specific purposes in the "Courses Taken In Previous Years" chart. This way Schneiderman's Strive for consistency rule would be satisfied. I also added the information about the last date that the courses was offered so that the Schneiderman's Design dialogs to yield closure rule wouldn't be violated. Now users can get all information that they need, to decide which courses they can take from the exchange university. In the end they will feel a sense of success, and their goal will be complete.

Here is the link to my Figma Project and pictures from my proposed solution:

https://www.figma.com/file/sShQRDhJSFIXJNrgdNlMnG/CS449-HOMEWORK?type=design&node-id=0%3A1&mode=design&t=wuUgiSQ7FWjEpf1s-1



References

Norman, D. (2013). *Design of Everyday Things*. Basic Books.

Shneiderman, B. et.al. (2016*). Designing the User Interface: Strategies for Effective Human-Computer Interaction*. Pearson.