Military Education Website - Tanta University

1. Introduction

For our HCI course project, we chose to redesign the Military Education Portal of Tanta University. This website is used by thousands of students every year to register for military education courses, upload their research papers, take online exams, and check their results.

We picked this website because we noticed that many students complain about it. Some students fail to complete their registration because they get confused. Others upload wrong file formats because instructions are not clear. The website has many usability problems that make simple tasks difficult.

Our goal was to analyze the current website, find HCI problems, and create a new design that fixes these problems. We focused on 5 main pages: Homepage, Registration, Upload Research, Results, and Exam.

2. Why This Website Needs Redesign

When we first looked at the website, we noticed several issues that affect user experience:

- **The homepage is overwhelming.** There are more than 14 items in the navigation menu. According to Miller's Law, our short-term memory can only hold about 7 items (plus or minus 2). Having 14+ items causes cognitive overload, and users struggle to find what they need.
- **There is no feedback when users interact with forms.** For example, when a student types their National ID, they don't know if the format is correct until they submit the form. This violates the feedback principle we learned in class.
- **The design is inconsistent.** Each page looks different - different colors, different button styles, different layouts. This makes it hard for users to learn the system because they can't predict how things will work.

- **The file upload doesn't match user expectations.** Modern users expect drag-and-drop for uploading files because they use Gmail and Google Drive. But this website has a plain text field. This is what we call a Mental Model mismatch - the system's conceptual model doesn't match what users expect.

3. Our Design Approach

We followed the design process we learned in class: first understand the problems, then design solutions, then build a prototype.

For each page, we asked ourselves:

- What task is the user trying to complete?
- What HCI principles are being violated?
- How can we fix this while keeping the same functionality?

We decided to keep things simple. We used only two main colors (green and gold) to create consistency. Green represents trust and institution, while gold represents military prestige. We used the same header, footer, buttons, and card styles across all pages.

For forms, we added real-time validation. Now when users type their National ID, they immediately see a green checkmark if it's correct or a red X if it's wrong. This provides instant feedback and helps prevent errors before they happen.

We also applied constraints to prevent errors. For example, the National ID field only accepts numbers - if you try to type a letter, it won't appear. This way, users cannot make format mistakes.

4. Key Changes We Made

Homepage:

We reduced the navigation from 14+ items to 6. We added a hero section with two big buttons for the most important actions (Register and Check Results). The services are now displayed in a slider showing 4 cards at a time, which respects Miller's Law.

Registration:

We changed it from a confusing single page to a step-by-step wizard with 4 clear steps. Users can see their progress with a visual indicator showing which step they're on. Instructions are in a side panel so users can reference them while filling out the form.

Upload Research:

We replaced the plain text field with a drag-and-drop zone. The dashed border and cloud icon make it obvious that you can drop files there. We also added a requirements checklist that users can check off as they verify their document meets all requirements.

Results:

We removed the confusing progress bars that had no meaning. Now there's a simple search form, and results appear in clear cards - green for pass, red for fail. The page also shows helpful notes about when results are available.

Exam:

We displayed exam information (50 questions, 50 minutes, 50% to pass) as visual stat cards instead of burying them in text. We added a pre-exam checklist to help students prepare before starting.

5. What We Learned

This project taught us that HCI principles are not just theory - they are practical tools that can really improve how people use websites. Small changes like adding validation icons or reducing menu items can make a big difference in user experience.

We also learned that consistency is very important. When everything follows the same design patterns, users only need to learn once and they can use the whole system easily.

The most interesting lesson was about Mental Models. Users come to a website with expectations based on other websites they use. If our design matches those expectations, the website feels intuitive. If it doesn't match, users get confused even if the functionality is there.

Finally, we learned that good design is not about making things look pretty. It's about making things work well for people who use them. Norman's Emotional Design model helped us understand that users have reactions at three levels - their first impression (visceral), how well it works (behavioral), and what it means to them (reflective). A good design should work at all three levels.