Evaluation and improvement of Interface

Course: HCI- Human Computer Interface

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What is the catch?

Nowadays people in higher population countries like India are in a verge of directing themselves more towards the new technologies, as the demand and approachability is increasing day after day. People are more connected to technologies, now, than their own family and surroundings. As everything is easily available, the only viable option is to optimize time-consuming.

Online banking is catching a big hit nowadays. Everyone who has easy accessibility to internet seeks for it. So as long as it provides better experience and solutions to the customers, more and more customers will be attracted to opt for it. Domain of this customers starts from kids to elders, athletes to cripples, and healthy people to diseased. People of each different category have their own perspectives for deciding what kind of interface suits them the most. For example, faster working people might have difficulty in reading due to color blindness or blurred vision.

So Time-consuming, better experience and better solutions, whole as bundle, over websites can be optimized by implementing and improving interface and software designing. Interface, as the word suggests, is connected to the end users and it demands for clear visibility, understandability, completeness, concise formation of objects, etc.

Considering the fact above, we will be demonstrating the interface manipulation of three Indian bank sites.
What is the project all about?

Out of many Banks operating in India, we picked three banks which provides a facility for the customers to open up a saving-bank account just by sitting home next to their computer, with access for internet of course. These banks provide an online application to fill out the required information that proceeds further to customers own saving account, yayy.

It’s the interface of the forms that we are considering. Because it is one of the important aspects that needs to be considered for better customer experience and thus better response form them.

We have three banks, providing online application for SB account opening.

*Bank-1: SBI* (State Bank of India)

*Bank-2: ICICI* Bank

*Bank-3: HDFC* Bank

We will understand the interface designed for each application and will do the required manipulations.
How will we manipulate interface?

We are using two tools.

**CambridgeSimulator**: designed by Dr. Pradipta Biswas: it’s one of the feature is, it has visual, motor and hearing impairment simulator, which helps in deciding how different type of users go through different experiences over the same interface.

**Designbed**: used for basic implementation of proposed interface.

*Step-1:*

Take a snap shot of the online-application form for every banks. Save them as 24-bitmap and size of 1280pixle x 800pixle.

*Step-2:*

Use cambridgeSimulator and run visual impairment simulator and Motor impairment simulator for all the snapshots taken in step-1.

*Step-3*

Analyze the simulated interfaces and propose own your interface.
Step-1

Image-1,2,3 shows the Snap shots taken from respective bank sites. And they also represent the interface observed by normal people with no impairment at all, I know this will hurt the people with some impairments.
Image-5,6,7 represents the simulated outputs of snapshots taken in step-1. We have ran the visual impairment simulator using CambridgeSimulator. We have put two constraints, that user operating on a particular interface will have mild blurred vision and color blindness.

(Img.4 CambridgeSimulator, Visual simulator constraint interface)
Visual Simulated output for HDFC Bank Online account opening form

Review: This simulated output suggests that THIS is the interface that visually impaired person would see. So as long as words and objects are separated it would not be much of the confusion. But a problem will be occurred with smaller font size in it. Even though a customer is able to identify different objects he/she might not be able to identify the content a particular object has in it.
Visual Simulated output for ICICI Bank Online account opening form

Review: This interface is exposing too much of congestion. It has smaller font size as well as each objects are too close for a visually impaired person to identify. Due to a linearity in colors of the objects, it is making even harder for color blind people to separate objects by its color.
Visual Simulated output for SBI Bank Online account opening form

Review: Even though it has a clear blend of white and blue color, the font size and object congestion is making harder for the visually impaired person to identify objects. In addition to congested objects, those objects seem to have placed randomly within whole interface. So a person with blurred will not easily be able to identify and separate objects.
Review: As observed from the simulated output of the movement of pointer by a person with severe motor impairment on such interface is much convenient. He/she suffers from some minor initial impulses but due to sophisticated and separate design he/she will easily be able to locate the Continue button right in the center of the age. And it will take him/her only 823 ms.
Review: A person with motor impairment will experience a lot of trouble working on such congested interface. The submission, initially starting with some minor impulses ends with some severe turbulence.
Motor Simulation on HDFC Bank Online account opening form

(Img.10 Motor Simulation on SBI Bank Online account opening form)

**Review**: Submission in such an interface seems most convenient and least disturbing for a person with severe motor impairment. It takes only 902 ms from a field much above to the Proceed button.

**Analysis**: Considering the result of both simulations the interface used by ICICI bank is least feasible for the people with medical impairments. So we should optimize the interface to make it more easy handling.
Step-3

Self-proposal: we have proposed our own interface for the interface of ICICI bank online form application.

We divided one page in four clearly visible parts. An impaired person would easily identify which one of the four parts he is currently working on right now.

Review: As seen from the interface, an impaired person would easily identify each object separately and fonts of the contents are also easy to understand. He/she can even SEE which particular part he/she is working on at the moment. So it’s the optimum solution (of ICICI’s own application interface) mainly for visually impaired people.
Review: output suggests that there might be some disturbance in the beginning but a motor impaired person will gradually pick up the pace and will cover relatively longer distance in lesser time with accurate final submission. So it is an optimized solution for the interface experience of motor impaired person.