Usability Evaluation of Different E-Shopping Websites

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Abstract
The area of online shopping has emerged extensively in the recent times due to internet revolution and the ease of accessibility. What is not available in the local market can be purchased online with prices at par or below market rates. With more and more people joining the bandwagon each day it has become the second best option for people off late. Also one or more websites have a very similar web interface. In this project we survey the usability options on three of the online shopping websites and review their capability towards a good shopping experience for the visually impaired people. We also suggest a design that can well accommodate the requirements of the visually disabled and those having relatively less or no knowledge of computers.

Introduction

We have analyzed the usability of different E-Shopping websites for people with different visual disabilities. We have collected data from multiple websites (https://infibeam.com, https://snapdeal.com, https://myntra.com) and have compared the interfaces of each to formulate a design that gives ease of use and clarity of information. More often the internet websites have less in mind for people having difficulty in vision. Since online shopping is getting popular each day it must also cater to those who are not experts at computing. The aim of this project is to initiate a design that is compatible with the vision and computational limitation of people. By making use of this particular project both, the user as well as the owner of the website, can benefit.

Method

- **Participants**
  Three websites mainly catering to e-shopping were surveyed are as follows
  1. https://infibeam.com
  2. https://snapdeal.com
  3. https://myntra.com

- **Materials**
  Following materials were used
  1. Microsoft Visual Basic 6.0
  2. Cambridge Simulator
  3. Design Bed

- **Design & Procedure**
  Following are screen shots of surveyed websites
  1. Infibeam(Fig 1), Snapdeal(Fig 2) & Myntra(Fig 3)
Fig 1

Fig 2

Fig 3
2. The criterion for vision test was set by using a Cambridge Simulator. Since our objective was to survey the websites for impaired vision we used variation in the parameters such as Blurred Vision, Color Blindness and coverage of sample. Each of the parameter was varied within the options or range (on the above website images) and the screen shots were recorded for further analysis (example fig 4).

![Fig 4](image1)

The following is one of the samples of vision that was reported on testing these sites using the simulator.

![Fig 5](image2)

3. Based upon our survey we found that apart from the website logo and the banner in the center most of the controls were fairly blurred for most users. As an example, in the above Fig5 the logo of website and the central banners showing offers is relatively clear in comparison with the other controls such as the products menu on the left side of the page. Also, the controls on top of the page giving site information, account, and tracking and navigation assistance are too small to be visible for a visually impaired and less noticeable for users with less proficiency in computing.

We therefore designed a layout that would cater to all kinds of users especially the visually impaired and less proficient users. The concept used here is the enlargement of controls that form the core of a shopping website. The navigation buttons on the left of the page concerned with various classifications such as computers; mobiles, clothing etc are designed to get enlarged when the cursor is moved upon them.
Similarly the controls on top of the design layout are highlighted in color that again is not only enlarged (fig 7), but it also uses the color classification that best suits the vision of a person suffering from color blindness (fig 6). A sample design of our layout of the web interface is given below.

![Fig 6](image)

![Fig 7](image)

- **Results**
  The results of our survey suggested that the common controls on the e-shopping websites must be enlarged enough for people having vision problems such as blurred vision and color blindness. Also for people less acquainted with web and computational abilities the main controls such as items menu, tracking order or account details should be clearly visible instead of minimized icons. Magnification of certain controls on the interface would add to user convenience.
• **Discussion**

As evident from above the interface must use essential controls in such a way that is convenient to view and access for all users. However a skilled user without any disabilities may not prefer magnification of all entities. Also the merchandise owner may find it difficult to make all the controls visible in such a manner so that the site navigation is not in jeopardy. Since the stress in consumer market is over design interfaces that cater to a normal human being, the use of touch surfaces may act as a boon to the visually impaired. Devices that are capable of magnifying controls upon touch will certainly be preferred. However a switch in website visibility upon certain control or command on the site shall work better for now especially in places where touch surfaces have not been able to make it into day to day lives of people.