

IQRA National University, Peshawar

Department of Computer Science

Summer Semester / Examination, Date: 23rd Sep, 2020

Final – Semester Examination

Instructor: Mr. Shahab Ul Islam

Total Marks: 50



HUMAN COMPUTER INTERACTION

Instructions:

- All questions are compulsory.
 - Marks of each question are mentioned with it.
 - **Marks will be given as per the DEPTH of the answer, not LENGTH. (Kindly don't write lengthy stories, just to the point)**
 - No *Out sourcing* please (Save that to IT Companies).
 - For this paper, you'll not be required to borrow anything from anyone.
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PROGRAM : BS(SE)

Question No.1

Write and explain the main goals of HCI?

Ans:

The goals of HCI are to produce usable and safe systems, as well as functional systems. Usability is concerned with making systems easy to learn and easy to use.

In order to produce computer systems with good usability developers must attempt to:

- Understand the factors that determine how people use technology.
- Develop tools and techniques to enable building suitable systems.
- Achieve efficient, effective and safe interaction.
- Put user first.

Underlying the whole theme of HCI is the belief that people using a computer system should come first. Their needs, capabilities and preferences for conducting various tasks should direct developers in the way that they design systems. People need not change themselves in order to fit in within the system. Instead, the system should be designed to match their requirements.

Question No.2

Write and explain the terms of interaction?

Ans:

Domain:The area of work under study.

E.g Graphic Design

Task:How you go about doing it.
Ultimately in terms of operation or action.
E.g Select fill tool, click over triangle.

Goal:What you want to archive
e.g Create a solid red triangle.

Note: Traditional interaction.
Use of terms differs a lot especially task goals.

Question No.3

Write the 8 Golden Rules of Shneiderman.

Ans:

- Strive for consistency.
- Enable frequent users to use shortcuts.
- Design dialog to yield closure.
- Offer simple error handling.
- Offer informative feedback.
- Permit easy reversal of actions.
- Support internal locus of control.
- Reduce short-term memory load.

Question No.4

What is Paradigm, and what do you mean by paradigm shift?

Ans:

PARADIGM:

A Constellation of concepts, values, Perception, and practices shared by a community which from a particular vision of reality and a collective mood that is the basis of the way the community organizes itself.

PARADIGM SHIFT:

A Change from one way of thinking to another with a profound and irreversible change to a different mode of behavior or perception.

Question No.5

Explain Design Rationale. Write and explain the types of design rationale.

Ans:

Design Rationale:

Design rationales include not only the reasons behind a design decision but also the justification for it, the other alternatives considered, the trade offs evaluated, and the argumentation that led to the decision.

Types of Design Rationale

Process-Oriented:

Preserves order of deliberation and decision-making.

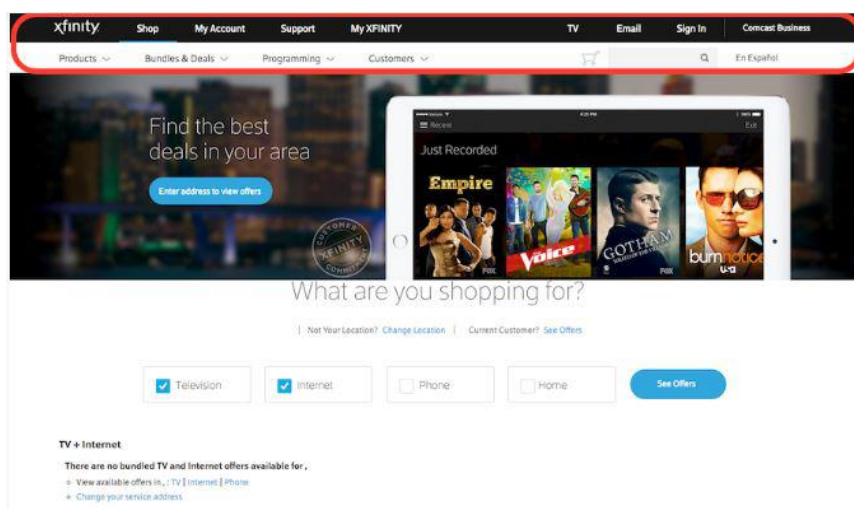
Structure-Oriented:

Emphasizes post hoc structuring of considered design alternatives.

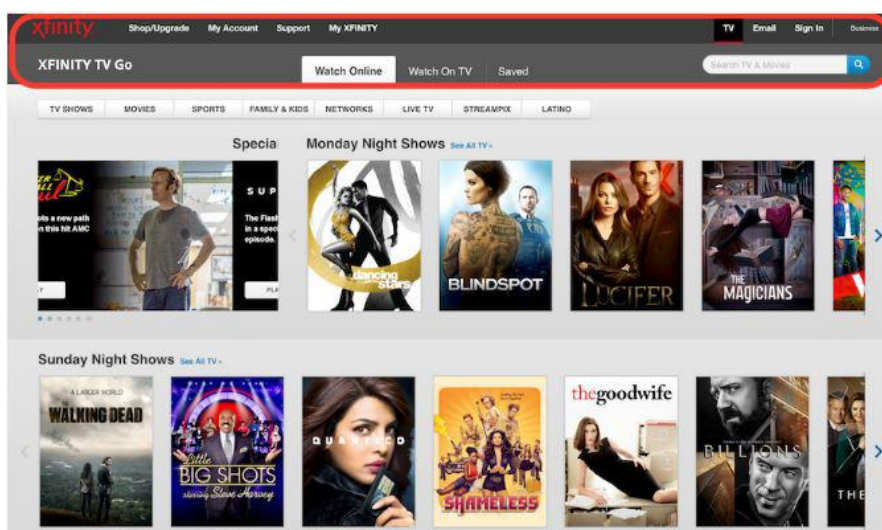
Question No.6

Find the web pages that illustrate the principle of consistency. You must provide on good and one bad example of consistency. You must provide the screen shot of web pages along with URL and the written explanation justifying your good and bad example in your answer. To provide the relevant examples browse the internet.

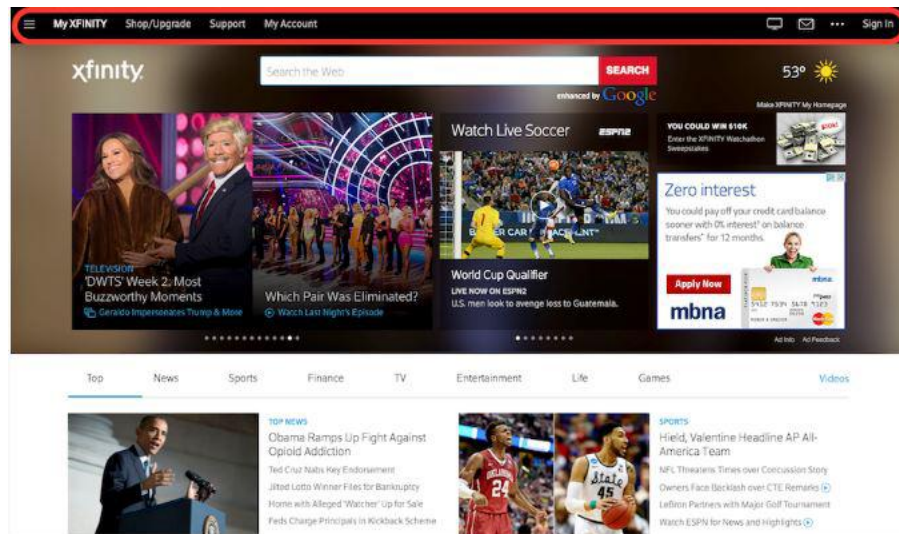
Ans:



This is the homepage of the Xfinity website. Notice how the annotated area highlighting both the primary and secondary menu bars will differ as the user clicks into other pages.



This is the TV page of the Xfinity website. What makes it confusing for the user is how the colors, layout, and font-styles look different from the home page.



This is the My Xfinity page of the Xfinity website. All three pages examined above have very different colors, layout, and font-styles in their navigation menu. These differences make it confusing and disorienting for the user as it no longer feels like one website, as if they are three different companies.

Question No.7

You are familiar with Google Chrome. Explain any five usability goals in terms of Google Chrome. Justify each goal with example.

Ans:

One box for everything:

There's evidence that many people don't know the difference between the search box and the URL bar. Chrome avoids this problem by getting rid of the separate search bar altogether:

URLs and keyword searches are typed into the same text box. They call this box the omnibox, and it works a lot like Firefox 3's awesome bar.

This is a small feature, but a nice one. I've never understood why it was necessary to have a separate search bar and URL bar in Firefox, especially since you can type keywords into the URL bar and it will do a search for those terms. And now that I'm used to the awesomebar, I find myself typing search keywords into the URL bar all the time.

Application shortcuts:

Another idea that's been floating around in various forms for a while now: Chrome lets you create an "application shortcut" from any site that you visit. Basically, it's a quick and easy way to create site-specific browsers for your favourite web applications. It puts a shortcut on your desktop to launch the site in a separate window, with none of the usual web browser controls. You can get similar functionality in Firefox by installing the Prism extension.

Personally, this is a feature I could take or leave. I'm not yet convinced that site-specific browsers are the way to go. I gave Prism a quick try with my G Mail, and I found that I missed having the regular browser features at my fingertips.

Dynamic tabs

This is a feature I love: you can drag tabs out of their window to create a new window, and drag tabs between windows. I know Safari has supports this to some extent (don't have my Mac handy to check) but I can guarantee it's not as snappy as it is in Chrome.

Safe browsing and Instant bookmarks

Again, nothing too exciting here — Firefox 3 has very similar features, which probably greatly influenced Chrome.

Simpler downloads

Another little bit of UI polish that I think Google got right. Last year, I wrote a post about how uploading and downloading are seams in the web experience. With Chrome, Google has made a few small tweaks that make things better. Instead of a separate Downloads window (which constantly annoys me in other browsers), downloaded items appear in the tab they were downloaded from.