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SUBJECT NAME: HUMAN COMPUTER
INTERACTION

Question 1:

Consider the chair given below. Your Employees want to use it as a computer chair. Your task is to write any As HCI Specialist, your job is point out any Five issues in the design of this chair.

Answer:

1: Lower Back Pain

Whether it's an occasional twinge or an ongoing ache, back pain can keep you from performing at your best. Sitting chained to your desk for hours at a time can lead to lower back pain, the most common work-related back problem. So what exactly is going on back there? Slumping back in your desk chair or slouching forward means your spine is out of alignment. That puts a strain on the ligaments and muscles in your back.

2: Wrist Strain

Spending your days and nights pounding away at your keyboard responding to emails or writing reports can cause injuries that can become a serious health issue.

A combination of overuse and how you're positioning your wrists at your keyboard are to blame. "Whenever you operate a keyboard or mouse, the tendons in your wrists go back and forth," Aguilar says. "These tendons are parallel to each other, so they glide back and forth and create friction, which [is called] a microtrauma. That repetitive motion causes fatigue, and the tendons may become inflamed."

A less obvious factor that plays a role in wrist pain: Poor posture, in particular having your shoulders hunched forward. That's because the position decreases the blood flow downstream, including to your hands, causing soreness or in some cases, a tingling sensation or numbness.

3: Neck and Shoulder Pain

You never realize just how much you move your neck and shoulders until they're injured—and then you feel every single shift and twist. These aches and pains may come from placing your keyboard or computer monitor too far away on your desk, causing you to jut your neck and shoulders forward, throwing them out of alignment with the spine and straining the muscles and soft tissue.

4: Eye Strain

Staring at your computer for hours at a time can cause eye fatigue, as can having a computer monitor that's too far away (making your eyes strain to read the small print) or too close (making your eyes work harder to focus). People also tend to blink less often while staring at their computer, which leads to dry eyes and fatigue.

5: Tight Hips

Over time, being stuck sitting in a bent position on a daily basis—from your desk at work to your couch at home—shortens your hip flexors, a group of muscles located at the front of your hips, causing pain. Tight hip flexors also contribute to lower back soreness, another common complaint.

QUESTION#2:

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

Ans:

Paradigm:

Paradigms are generally defined as a framework that has unwritten rules and that directs actions. A paradigm shift occurs when one paradigm loses its influence, and another takes over. The concept defines paradigm and paradigm shift and explains how it can relate to company strategies and industry cycles.

paradigm shift:

A paradigm shift is a major change in the concepts and practices of how something works or is accomplished. A paradigm shift can happen within a wide variety of contexts. They very often happen when new technology is introduced that radically alters the production process of a good or service. For example, the assembly line created a substantial paradigm shift, not only in the auto industry but in all other areas of manufacturing as well.

Question3:

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

Ans:

A design rationale is the explicit listing of decisions made during a design process, and the reasons why those decisions were made.^[2] Its primary goal is to support designers by providing a means to record and communicate the argumentation and reasoning behind the design process.^[3] It should therefore include:^[4]

- the reasons behind a design decision,
- the justification for it,
- the other alternatives considered,
- the tradeoffs evaluated, and
- the argumentation that led to the decision.

Types of rationale:

1. Process oriented:

Preserves order of the deliberation and decision making

2. Structure oriented:

Emphasizes post hoc structuring of considered design alternative

Question 4:

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.

Answer

Ghost Blogging.com

The screenshot displays the Ghost Blogging.com website. At the top, there is a navigation bar with the Ghost logo, links for Product, Developers, Resources, and Pricing, a search icon, a Sign in button, and a Start free trial button. Below the navigation, a banner features a notification for Ghost 3.0 and a main headline: "Publish online, build a business, work from home". Underneath the headline, it states that last week, 9,439 writers, podcasters, and video creators set up sites with Ghost. At the bottom of the banner, there are buttons for "Get started now" and "Learn more", along with three checkmarks indicating "Free 14-day trial", "Easy setup", and "Open source". To the right, a preview of the Ghost dashboard is shown, featuring a sidebar with navigation options like Posts, Pages, Tags, Members, and Staff, and a main content area with a table of posts.

TITLE	STATUS	LAST UPDATED	AI
Writing posts with Ghost	SCHEDULED	6 hours ago	01
Welcome to Ghost	DRAFT	6 hours ago	01
Said no business to tell it to me, or to any other...	PUBLISHED	3 minutes ago	01
Self-empowerment around and about the school, I feel...	PUBLISHED	5 minutes ago	01
ip you need to fully optimize your content. This is...	PUBLISHED	9 days ago	01
o do not, while you're getting set up making your...	PUBLISHED	13 days ago	01
Small business called tags which can be used to co...	PUBLISHED	9 days ago	01
to work with third-party services in Ghost using Z...	PUBLISHED	13 days ago	01
default theme called Casper, which is designed to b...	PUBLISHED	6 hours ago	01

ADVANTAGES:

1. Simple Yet Elegant:

The most noticeable thing about Ghost, i.e. the blogs hosted on it, is their design. These are extremely appealing to the eye due to their simple, clean, clutter less design and layout. There is no possibility of getting distracted, neither for the blogger nor for the readers

2. Built-in SEO:

Ghost has built-in Search Engine Optimization features. From XML Sitemaps to Canonical Tags, Meta Data to AMP Pages, everything is in-built in Ghost. You don't need any additional plugin.

3. Built-in Social Sharing:

Social sharing options are in-built in Ghost. You don't have to install any plugin for social sharing buttons.

4. Incredibly Fast

Ghost blogs are faster than your usual blogs. This is probably due to the use of CDN.

5. Free SSL

Ghost sites come with free SSL certificate.

6. Free to users: -- Ghost is somewhat same as WordPress and provides a free downloadable file to build a blog. You can also make a free blog on their platform but you would have to pay for hosting your blog.

7. Simple and flexible: -- Ghost is very simple and flexible to use for beginners. You can easily make an elegant looking blog on this platform without facing any conundrums.

8. Easy for content creation: -- The user interface of Ghost is very flexible and intuitive. There is a separate screen for your content creation and preview. Whatever you type on the content creation page will reflect on the preview page of your blog thereby making your blogging experience easier.

9. Apps and Integrations

Ghost comes with the option to use various third-party services. There are more than 1000 third-party services that can be integrated with your Ghost site using Zapier. You can also connect various third-party apps and services by editing/customizing the theme or using the Ghost Public API.

10. Affordable

Many people won't agree that Ghost is affordable. After all, their paid plans, Ghost (Pro) start at \$29 per month. But we have to keep in mind that with \$29 per month, you are basically getting Managed Hosting with a CDN (Content Delivery Network).

DISADVANTAGES:

- Ghost is not the kind of platform to build a complete business website or e-commerce site.
- It doesn't support plugins to have custom features.
- To have better control over your Ghost site, you need to have knowledge of coding.
- There is a limited number of themes.
- Ghost (Pro) is expensive for beginners.
- Ghost does not provide free hosting service.
- **Beta-testing phase**
- **No feedback from real users**
- **Lacks plugins**
- Missing some essential Security features like custom HTTP headers in the hosted version

Usability Factors:

- The pictures in the page is given are user friendly.
- The color scheming of the website is also good.
- The website is little bit complex for the user and everyone cannot use it properly.
- Some of the content is available, if you have paid for it and to continue getting access to it, we have to pay monthly fees.
- The search bar is good since it provides the user with related searches giving the user wider options to look at.

So, the conclusion is that the ghost.org is a good website, user friendly, every content in the website is useful and interface made by the system is better than many websites. But the website is little bit complex and not easy to use for every user.

Link:

www.ghostblogging.com

Question 5:

Write the Shneiderman's 8 Golden Rules.

Answer:

Shneiderman's 8 Golden Rules are:

1. Strive for consistency
2. Enable frequent users to use shortcuts.
3. Offer informative feedback
4. Design dialog to yield closure
5. Offer error prevention and simple error handling
6. Permit easy reversal of action
7. Support internal locus of control
8. Reduce short-term memory load

Question 6:

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

Ans:

Usability:

1. IE6 is Not Compliant:

The World Wide Web Consortium (W3C) is the nonprofit body that brings member organizations, a full time staff, and the world's web community together to develop web standards. These standards seek to improve user experience and make it easy to create consistent web pages. Unfortunately, Microsoft and IE have a history of not complying with W3C standards. Instead, IE6 sought backward compatibility, rendering web pages as earlier IE versions had instead of meeting a mutually agreed upon standard.

Example

Imagine if bookstores did that. An author writes a book using all the normal rules of grammar. The book's editor makes sure that every punctuation mark is used properly in accordance with the agreed to standards. But then the clerk at the bookstore decides that we should be capitalizing the last word in the sentence instead of the first and sets to marking up the book.

2. E6 Cannot Handle PNGs:

E 6 makes transparent PNGs ugly. Portable Network Graphics or PNGs allow web developers the greatest amount of creativity and flexibility available. This powerful graphics format is smaller than GIF, has better fidelity than JPG, and offers alpha-channel transparency that is second to none. PNGs are the best graphic format for many web sites and increasing web designers are willing to tell IE6 users to go packing rather than surrender the ease of implementation that PNGs offer.

Example

Unfortunately, the 22.3 percent of web surfers who used IE6 in September 2008, did not see properly rendered PNGs. Again, consider the Future of Web Design website. Rendered in IE6, many of the site's graphics are surrounded by gray boxes—a result of IE6's feeble image support.

3. E6 Has More Bugs than New York City:

Example

New York City with its famously large cockroaches has nothing on IE6 where bugs are concerned. In particular, IE6 mangles positioning. The folks at Positioniseverything.net have cataloged many of these quirks, including “the Peekaboo Bug” that causes text adjacent to floating boxes to vanish and reappear; “the Expanding Box Problem” wherein IE6 ignores dimensional restrictions; and “the Double Float-Margin Bug” that has IE6 multiplying margins around floating elements.

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4. IE7 Has Fast, Effective Tabbed Browsing

Example

In IE7, Microsoft adopted tabbed browsing or the concept that new web pages would open inside of tabs not windows. Tabs are considerably more effective and easier to navigate.

Although, IE was very late to the tab game, its “new tab” button was perhaps the best user interface to date. The “new tab” rests just to the right of a user’s open tabs and offers a one-click way to open a new blank tab. The feature is so easy and so popular, that developers have created a copycat “New Tab Button” plug-in for the competing Firefox browser. You’ll hear more about tabs and various tab features throughout this series since these are now a de facto standard for web browsing.

5. Avoid IE6 and Get IE7 as a Second Browser:

Example

E6 is inferior to virtually every other leading browser available today, and no one should use IE6 unless they’re forced. IE7 is a very capable browser and the best to use if you watch a lot of video on demand from sites like Netflix.com or if you use Microsoft SharePoint for work. But for general browsing, IE7 is no match for Google Chrome or Mozilla Firefox, making it a great second choice.