1.       List three typical user interface requirements for dynamic website design.

Answer: 1. Need some good interface, need a lot of interaction, there are many ways to interact, such as clicking, pulling, better interaction than static, to avoid user confusion

2. Responsiveness is the most crucial aspect, and without it, the whole user experience falls apart.

The main aim of responsiveness is to ensure that a user has a seamless experience across multiple devices. This means that they can access the web application no matter their screen size. So the information must be displayed regarding the device they are using.

3. This means that different parts of the web application should **use the same elements.**When users are familiar with one part of the user interface, they can easily interact with other features with the initial understanding.When users detect similar patterns and become familiar with them, it helps them navigate the interface with ease.

2.       Explain the concept of website architecture.

Answer: Site architecture is prepared during the planning phase before designing and developing a website. The architecture of a site contains the logical layout of the site. A complete website has many different elements that are required and must be properly defined according to business and user requirements. It wraps the structure, hierarchy

, outline, functionality, technology, deployment procedures

For example, designers work on website design (visuals, graphics, typography), developers are responsible for the back-end stuff, but architecture is the stuff that puts all these things together and makes a website work.

3.       Explain considerations relating to data storage when building a dynamic website.

Answer: Data storage is usually the backend, and dynamic website is the foreground usually using PHP. The erection of the front desk and the erection of the backstage are very important. To achieve these relationships, you need an interface, which mainly has DAO, POD. In Web testing, the server-side interface should be tested. This is done by verifying that the communication is done correctly. You should test your server's compatibility with software, hardware, network, and databases.

4.       Describe the testing process for a dynamic website.

Answer: We will ask customers to test the website in 5 steps

The first step is the functional test: testing all links in the web page, database connections, forms for submitting or obtaining user information in the web page, cookie testing, etc. Includes 1. Test outgoing links from all pages to the specific domain under test. 2. Test all internal links. 3. Test the links that jump on the same page

The second step is compatibility testing, we will let customers test web applications on different browsers, such as Internet Explorer, Firefox, Netscape Navigator, AOL, Safari, Opera Browser with different versions

The third step is performance testing, in which Web performance checks website functionality for software and hardware memory leak errors across operating systems and on different hardware platforms. We mainly do web load testing – we let customers test whether many users are visiting or requesting the same page. Can the system sustain during peak load times? The site should handle many simultaneous user requests, large amounts of input data from users, simultaneous connections to databases, heavy load on specific pages, and so on

The fourth step is security testing. Some scenarios include 1. Try some invalid inputs in the input field, such as login username, password, input text box, etc. Check the system's reaction to all invalid inputs. 2. Test by pasting the internal URL directly into the browser address bar without logging in. Internal pages should not open. 3. All transactions, error messages, security breach attempts should be recorded in a log file somewhere on the web server.

The fifth step is usability testing, which is the process of measuring the human-computer interaction characteristics of a system and identifying weaknesses to correct them. Usability testing includes: 1. The website should be easy to use 2.Navigation 3.Subjective user satisfaction

Finally, get user feedback

5.       List two methods that can be used for debugging a dynamic website.

Answer:

6.       Document one cyber security procedure and one protocol that should be followed to ensure a secure dynamic website.

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| --- | --- |
| Cyber security procedure/protocol | Description |
| Apache web server software | This server is fast, reliable, secure, and customizable to meet the needs of different environments |
| FTP: File Transfer Protocol | FTP applications can be used to transfer files to and from a web server |