TT284-20J EMA

Student: Sharon Glasgow

Student ID: E4627738

Q1: Wireframes

1(a): Navigable wireframes.

Navigable Wireframes are attached in a zip file with this document

1(b): What wireframes are and their role in web development – Word count 500

Wireframes is a design tool used to create a prototype skeleton layout of the potential design of a web site. The wireframes are executed using specialized software tools, like pencil to present “a schematic or blueprint that is useful for helping the user, programmers and designers think and communicate about the structure of the software or website being built” (balsamiq.com 2021).

There are many different wireframe tools, I have chosen to use is Pencil. The wireframes present the design mockups of how a web page will look to the developer and client; what the home page will contain regarding images, text and where the design logo will be placed. What key hyperlink elements will be used that will connect to forwarding web pages related to that link, for example, a log in hyperlink element will take the user to the log in and create account web page. Wireframes are developed using stencil element tools that present basic font styles and shapes to replicate the actual content that will be used. Instead of using an image, wireframes provide a square box with a cross to be used in place of an image or logo. These tools allow the developer to present a skeleton blueprint of a web site as it is in development, giving the client insight into each stage of the design process “before any code is written and before the visual design is finalized” (balsamiq.com 2021).

Wireframes are a useful tool to use during web page developing as they allow you to make as many changes as necessary without added design costs to the client. It also allows the web developer freedom to experiment with page layouts as they are not the final design.

As wireframes are essentially a digital whiteboard the content of the wireframe is constantly in development and in discussion between the web developer, client, and other parties. It is important to note that the presentation of wireframes show no code has been written and therefore the client can see no costs have been made in developing content yet.

Wireframes present a simple design structure of each web page being created for a potential website, by a web developer. Wireframes are easy to use, like a sketchbook but instead of using pencil and paper, you have a menu of different icons of text, image, and hyperlink elements to assist you in your vision of how you want the web page to look and feel for the client. The client gets to see this design process and be involved knowing this is not costing them money or the web developer time and money.

The basic designs of how to create a website begin with wireframe software tools which are easy to use.

Word count – 468

Reference

“What are Wireframes” 2021. Balsamiq wireframing academy. [www.balsamiq.com](http://www.balsamiq.com)

Q2: Responsive design – Explanation and recommendation (30%)

The following information describes the features I used in HTML code and CSS style sheets that supported the design structure for the announcement web page to be responsive to desktop screen size and smartphone mobile screen sizes.

The first feature I used to execute the page design which made it responsive was adding a Form action attribute to the HTML file, in which I implemented an ID and value attributes of that ID to be used to identify admin users, followed by a submit value for the entry to be registered as being entered. As the request is to make the entries hidden from the public, an input attribute with a hidden command was added in order for all the entries made on the page were seen by the admin team and not the public.

To make the web page responsive for an admin user to access the web page on a desktop and smartphone devices, I had to make changes to the CSS style sheet for this to work.

At first I entered code that I thought would make screen size changes on the CSS style sheet by adding the following; @media only screen and (max-width: 620px) { /\* For mobile phones: \*/ .menu, . main, .right { width: 100%; My objective was if I made change to how the content appeared on the screen this will change according to the screen size. I checked my results on the webpage via the developers tools and the action failed to work.

I realized the changes needed to be made in the form textarea and a maximum width, with the margin commands of text-centre and text align needed to be added in order for the page to respond to different screen size requests.

@media (max-width:768px) {

    .text-center{

    text-align: center !important;

    }

    }

Drawing from my experiences of this task, my thoughts on whether the club website and the admin application or both should be responsive to mobile devices for the admin team and club members, in my view, should be allowed. Many of the club members and those working on the admin team may need to fulfil tasks while commuting between places. To prohibit responsive mobile access shuts down a means of communication and can cause delays on the progress of the project.

It is my suggestion the web application be responsive to mobile devices.

**Word count – 400**

Q3: Authentication and authorization (10%)

“Authentication is the process of identifying users and validating who they claim to be. One of the most common and obvious factors to authenticate identity is a password. If the user name matches the password credential, it means the identity is valid, and the system grants access to the user” (lrshivangini 2020).

Authentication is a tool used to identify a user, like a key to a door in an office block, the key allows the user to enter through a specific door (a password) in order to gain access to their personal files and data. Through the process of login and password, this key allows the user access through a door, and only that door, in a building full of different doors.

The club website is the administrator of these keys, this task is performed in a number of ways; login form, Http authentication, certificates, custom authentication method, for example.

### ****“Popular authentication techniques****

* **Password-based authentication** is a simple [method of authentication](https://www.loginradius.com/blog/2019/06/what-is-multi-factor-authentication/) that requires a password to verify the user’s identity.
* **Passwordless authentication**is [where a user is verified](https://www.loginradius.com/blog/2019/10/passwordless-authentication-the-future-of-identity-and-security/) through OTP or a magic link delivered to the registered email or phone number.
* **2FA/MFA**requires [more than one security level](https://www.loginradius.com/blog/2019/06/what-is-multi-factor-authentication/), like an additional PIN or security question, to identify a user and grant access to a system.
* **Single sign-on** (SSO) allows users to access multiple applications with a single set of credentials.
* **Social authentication**verifies and [authenticates users](https://www.loginradius.com/social-login/) with existing credentials from social networking platforms.”

**(Irshivangini 2021).**

For the club website I recommend the members to use password control authentication. It is straight forward and easy to set up. Many of the users will be familiar with password authentication and will have used this tool for various other purposes, therefore the user will be familiar with the process and the risks.

“Authorization happens after a user’s identity has been successfully authenticated. It is about offering full or partial access rights to resources like database, funds, and other critical information to get the job done. In an organization, for example, after an employee is verified and confirmed via ID and password authentication, the next step would be defining what resources the employee would have access to” (lrshivangini 2020).

Authorisation follows authentication, in that the user has been granted authorised access by the key they have been given through the door in which the key has opened. Authorisation gives the user access to the space they have entered, and the user is only authorised to access the data, files, or other personal data the key has given authorisation to.

“Popular authorisation techniques

* **Role-based access controls** (RBAC) can be implemented for system-to-system and user-to-system privilege management.
* **JSON web token** (JWT) is an open standard for securely transmitting data between parties, and users are authorized using a public/private key pair.
* **SAML**is a standard Single Sign-On format (SSO) where authentication information is exchanged through XML documents that are digitally signed.
* **OpenID authorization** verifies user identity based on an authorization server’s authentication.
* **OAuth**allows the API to authenticate and access the requested system or resource”

(Irshivangini 2021)

**Word count – 511**

Question 4: Acceptance tests

**Question 5(a) Advice on version control**

Version control is a management system used in software engineering to manage changes to files and documentation, computer programs, web sites and other computer software engineering tasks. The process in which version control operates is when changes to a file have been made by a person, the first file change is allocated a number; file1. The second file change made by a different person is called file2. All files are logged with a time and the name of the person making the change.

“Version control, also known as source control, is the practice of tracking and managing changes to software code. Version control systems are software tools that help software teams manage changes to their source code over time” (Atlassian 2021).

Version control uses a database to collect and store all the changes made in a source code, with a timestamp and a persons ID. This allows all changes to the code on any system traceable at all times.

“Software teams that do not use any form of version control often run into problems like not knowing which changes that have been made are available to users or the creation of incompatible changes between two unrelated pieces of work that must then be painstakingly untangled and reworked” (Atlassian 2021).

**Word count - 209**

**References**

Irshivangini. 2020. “Authentication vs. Authorisation Defined: What’s the Difference?”. Security Boulevard. [www.securityboulevard.com](http://www.securityboulevard.com)

Open university. 2013. Milton Keynes. UK

“What is version control?” 2020. Atlassian. [www.atlassian.com](http://www.atlassian.com)

“What are Wireframes” 2021. Balsamiq wireframing academy. [www.balsamiq.com](http://www.balsamiq.com)