Design Review

**How does it minimise kinematic and cognitive load?**

There are many features in our website that are designed to reduce the physical and mental energy exerted by the user, this in turn will minimise kinematic and cognitive load. An intuitive user interface and experience will also ensure that users will enjoy our website and find it extremely easy to navigate.

One method of minimising kinematic load is ensuring that all related objects are in close proximity to each other. For example, in our user landing page, we have implemented a nav-menu on the top of the page, which allows users to view their location history, see current hotspots and contact a health professional. The Home menu also takes users back to the landing page. The benefit of multiple options in close proximity to each other is that it limits excessive hand motion when navigating the site. According to Fitt’s Law, websites that are easily navigable have large, close controls that are close to screen edges. Our header nav-bar follows Fitt’s Law, as the menu options are extremely clear and visible to the user and they are in the middle and at the top of the screen. Additionally, our menu design is effective as the user can quickly navigate to the content they are interested in, without navigating to content that is multiple layers deep within the website.

Similarly, prompting the user to scan their QR code upon clicking on the ‘Scan QR code’ button on the user landing page is much simpler than having to type a check-in code in a text box then check that it was correct. Once the user scans the QR code using their device, the check-in will be confirmed and a summary of information will appear about the location. This is much more effective in reducing kinematic load; an alternative would require extensive scrolling and input boxes to enter a check-in code and information about the location manually. This would require extra time and effort for the user; therefore, the QR code scan is highly favoured over the alternative approach.

Cognitive load is related to the efforts the users put into using the features in the website. We can minimise this by making the webpage more intuitive and consistent. To minimise cognitive load, we can use familiar features such as icons that are easily recognisable (for example, a home page that uses a home icon, our website logo that is instinctively linked to redirecting to home page), common navigation structures, and common placements in the website. Accessing my profile details using a button located at the top-right is intuitive for users since it is consistent for most other websites. Using a menu bar at the top of the page iis intuitive as the users will directly understand that they can click on the different links, allowing them to navigate to different parts of the website.

Another method we can use to reduce cognitive load is by presenting succinct yet complete information to the users. We can implement this by using a choice of words that caters to different users (for example, we can use medical terms when users are logged in as health officials and common terms when users logged in as visitors/customers), using spacing effectively (for example, we can use more spacing between one piece of information and another piece of information to distinguish between them) and highlighting certain information using different colours or font sizes, as well as using images to prevent users from reading large blocks of text. We will also make the webpage design consistent for all pages and subpages, ensuring that the style and layout of the page remains consistent even when the user is navigating from one page to another page within the website. As users/venue managers/health officials are all users of the website as well, we will make the website accessible for different kinds of users so that they will not need much time to learn how to use the website when logging in as different users.

**Does it meet standards and heuristics?**

The Web Content Accessibility Guidelines (WCAG) provide a way to quantify the quality of the user interface and experience. These guidelines are designed to make websites more accessible for users with visual, physical, auditory, cognitive or psychological impairments. The WCAG are built on four principles: perceivability, operability, understandability, and robustness. Our website will cater to these requirements in its design. Furthermore, our website will meet the Level A compliance with the WCAG 2.0 guidelines, which provide the simplest web accessibility features. The four principles of these guidelines are discussed in more detail below.

Principle 1 - Perceivable

This guideline is useful to assist users in making sure that everyone, specifically those with a limited range of sensory or comprehension ability, are able to use and access the website to its full extent. Alternate text will be provided for text-based media or the text will be accessible for those using the text-to-speech function. Sections will also be created to be easily recognisable and different links will be able to be distinguished from each other.

Principle 2 - Operable

This guideline is in place to make sure the website and all its components are actually operable. The website should be keyboard-accessible and touch-accessible (the website must be as operable for phone users as PC users). Timed inputs will be kept to a minimum and only used if necessary. The website will keep in mind users who suffer from seizures and provide a warning if any page contains flashing lights or any other seizure-inducing attributes. The page will also be easily navigable through the use of pictures and text.

Principle 3 - Understandable

This guideline is to help the website and its user interface be understandable. This will be accomplished by keeping text at a readable size and using fonts that are easily readable. The webpage will be predictable and follow the same structure commonly used for other websites.

Principle 4 - Robust

This guideline is put in place to help the website be easily interpreted by a wide range of agents. To achieve this we will check the compatibility of our website amongst the most popular web browsers and on multiple platforms, particularly on both phones and PC’s. Semantic tags and elements will be used to add additional information about the web pages and website. This will help the website be interpreted by search engines and browsers more easily and fully. It will also help those looking at the html code understand it quicker and more simply.

**Group Review**

**User Landing Page**

*The interface is simple and clear, with all the important elements easily visible and obvious which makes the page easy to navigate. Common elements are located in similar locations to other websites (nav bar and profile menu are in the expected locations conforming with standards). The grey highlights around the relevant information for the current page does a good job of drawing the user’s attention to the important parts of the page. One drawback is that the main page does not have a footer which makes the page feel slightly empty and trail off the bottom a bit. Font choices and sizes are good and easy to read however the light grey text chosen for the navigation aid is slightly difficult to read against the white background. Also, it is not clear at first what the QR code section on the check in page is doing since the QR code displayed cannot be scanned with the same device loading the page.*

Changes made:

* Add a footer to our landing page
* Choose a different colour text for navigation aid e.g. black
* In our user landing page, make it clear to the user that they will use their smartphone to scan the venue’s QR code

**Layout of Text**

*Text alignments might be worth taking a look at, the title looks a bit strange pushed to the one side with the icons in either corner. The main body of the page I think looks better to be aligned with itself and not the title, buttons might also look better centrally aligned.*

Changes made:

* Title placed in centre of page
* Centre-align buttons

**Login page**

*The login page is very clear and colouration is used well to draw the user to important controls. All the buttons are clearly and descriptively labeled so it is obvious what their purpose is. The left align of the main elements looks slightly odd as typically the login of a web page is centered.*

* Centre align all login elements

**Sign up page**

*The form information is very clearly laid out and the spacing between boxes makes it very easy to locate relevant information. Input position and order are similar to the standard layout of many other web pages which makes it easy to navigate.*

* No changes made

**Sign up page (venue manager)**

*Previous feedback for sign up page still applies.One thing that the current design could cause is if a user wanted to sign up as a venue manager for a venue that already exists in the database they would still have to fill out the form information for the venue since it doesn’t look like there is a way to sign up as a venue manager without filling out the venue form.*

* Insert a radio button to ask if user is a venue manager
* If user answers ‘Yes’, more information will be displayed for the venue manager to fill out

**Mobile view of landing page**

*It is obvious consideration has been taken for users viewing the page from mobile, the layout and button sizes have been adapted to be more accessible on a mobile screen. The only downside of this simplified design is the pages look more empty since the interface has been condensed.*

* No changes made, as the condensed layout is intentional

**Check in history page**

*The check in history page is well organised with the user’s check in history sorted according to recent check-ins which allows the user to easily keep track of where they have been. The simple design is good but this information is not extremely useful in its current form, it could benefit from more info for each check in such as warnings for if a case has been confirmed at a venue or if a venue is in proximity to a detected case.*

* This idea will be taken into consideration, but we will more likely implement an extra column for whether the location visited was a hotspot

**Admin landing page**

*The admin landing page has been designed to be well laid out and informative with many useful statistics displayed on the page. The current active cases section is a particularly nice addition as it allows admins/health officials to easily track and manage active cases and update the service information as necessary. One downside of this page is that the statistics on the top half of the page would also be a nice overview for non administrator users, but it is good that sensitive user info (name and location) for the active cases is only available to administrators. Another thing that is not quite consistent is the ‘Manage users/venues’ button is inside the profile drop down menu which does not seem intuitive, it would likely make more sense to be in the main navigation bar.*

* Remove the ‘Manage Users/Venues’ button from the profile tab - put it in the main nav bar

**Map of hotspots/check in history**

*The simple layout of this page makes it easy to navigate and having the ability to toggle between viewed information on the map keeps the display clear. The controls layout feels slightly unusual however, it feels like there should be more controls on the bottom of the map/they should be aligned more closely to the map.*

* No changes made - can evaluate map controls once the MapBox API is in operation

**View check in history (manager)**

*See previous response for user check in history page (same applies). It is good that the venue manager can access the volume and frequency of check ins at their location but the ability to view all of the users names seems like a minor privacy issue, probably only admins should be able to view that.*

* Venue managers should only be able to access the usernames of those who have visited the venue, and not all users of the system