

Design Review

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1. How does it minimize kinematic and cognitive load?

After actively learning related knowledge and researching multiple websites, our group have come to a truth: a successful website needs to minimize the cognitive burden of users. This is taken as the **core idea** and a guide of the design scheme for the website. Kinematic and cognitive burden of the website will be reduced by reducing the cognitive burden of users.

Based on a comprehensive consideration, the "most likely to be used" functions are put into places where users can easily find them. For example, map icons, hotspot icons, login functions, etc. will all **appear in the most obvious position** (i.e., around header) of the homepage. In this way, users only need to observe a little after opening the webpage, and then they can find the information they want with a simple click. This allows users to reduce unnecessary searching (scrolling up and down, switch back and forth) and effectively reduces the user's kinematic load.

Besides, **the efficiency of each individual elements** has been improved. For example, the map applied can directly display the location of the hotspot and provide the necessary information of the location. When a user enters the homepage, that user can either choose to simply click the map button on the header or scroll down a little bit, the map will then appear, and it will then provide the user with necessary locational information. All of the "primary" tasks are designed in the similar idea as the map — that is to reduce unnecessary kinematic load and improve the efficiency of the web page.

The map search guidelines have also been considered. Users are prompted to search for location information during the search process, and then listing some effective locations (current location or the location of the most recent/nearby hotspot) may help users save unnecessary time and actions, reducing the user's continuous interaction time, kinematic load is therefore reduced. Also, it is necessary to ensure that the interaction distance complies with Fitts's law, which can also effectively reduce the user's basic sliding or finger kinematic load.

In addition, while achieving the above efficient functions, the entire web page layout will remain **concise and clear** to reduce the cognitive burden of users on the use and understanding of the entire web page. As mentioned earlier, one of the main ways to effectively reduce the cognitive burden of users is to place important information in an **obvious location** for easy search. For example, place the hotspot map required by the user in the header to make it easy for the user to find it. The main information is placed in an eye-catching position to better attract the user's attention, thereby **reducing unnecessary search time**, and by placing different images and pages to avoid the need for confusing the space interval, it can also effectively **prevent information overload problem**. In the same way, the necessary interactive functions can be displayed by using different keys, so that users can easily find the interactive functions they want to use. In addition, by using the same page layout and similar color background, users can **effectively reduce cognitive fatigue** during interaction.

Furthermore, as using a **common web page structure and layout** can also reduce the cognitive burden of users. Related ideas are sourced from the official webpage of Airbnb, Red cross, Royal Hospital, and **the University of Adelaide**. Similarly, **familiar features** (such as using common search navigation structures and recognizable image tags) can **significantly reduce cognitive burden**.

Overall, the entire web page is **concise, clear, efficient and practical**, with a dark theme and a simple logo, bringing people a sense of solemnity. Users will be attracted by the nicely presented interface first, and then fall in love with the efficiency and the practicality of our website.

2. Does it meet standards and heuristics?

The 10-usability heuristic of user interface design is a way to measure the effectiveness and user experience of a website. The guidelines are highly usable, although not necessarily applicable to all users. Here are 10 heuristics for user interface design usability. Although not all usability heuristics are applicable to the site, they were implemented within the allowed time frame.

#1: Visibility of system status

The design should always enable users to understand what is happening and provide appropriate feedback and information within a reasonable time.

- Lazy load applied, planning to add a loading mark.

#2: Match between the system and the real world

The design should also use easy-to-understand language. Use words, phrases, and concepts that users are familiar with, instead of internal terminology and idioms. Follow the conventions of the real world and make information flow in a natural and logical sequence.

- Words used are easy-to-understand, **common web page structure and layout applied.**

#3: User control and freedom

Users often perform operations incorrectly. Therefore, they need a clear, easy-to-understand and easy-to-find "emergency exit" to successfully exit unnecessary operations without having to go through the expansion process that may cause product frustration.

- By simply click the "Home" button or the logo, users can jump back to the initial page.

#4: Consistency and standards

For different words, events or actions to indicate different things or the same thing, users should not be confused. Always follow standard platforms and industry practices, so there is no confusion.

- Every single element is clear and practical, cognitive load minimized.

#5: Error prevention

Good error messages are important, but the best design must first carefully prevent problems from occurring. Either eliminate error-prone conditions, or check for any potential error conditions, and provide users with confirmation options before performing any error-type operations.

- Problem prevention is considered as the foundation. The project is split into multiple parts separated, with service section, fronted section etc..... Components like source images are stored in a specific folder. Everything is nice and clear.

#6: Recognition rather than recollection

By making the elements, operations and options visible and clearly visible, the stress that the user must remember is minimized. The user does not have to remember information from one part of the interface to another. The information needed to use the design (such as field labels or menu items) should be visible or easy to retrieve and be especially eager to find when needed.

- As this is a check-in system and the webpage has been made concise, understandable and practical, user won't need to remember anything except of their own information.

#7: Use flexibility and efficiency

Shortcuts that are not well known to novice users can speed up the interaction of expert users, so that the design can satisfy both inexperienced users and users who need it. Allow users to customize frequent operations and create their own shortcuts as needed.

- As a **common web page structure and layout is applied**, the design can satisfy both inexperienced users and users. For example, by clicking the logo, user can go back to initial page, as usual.

#8: Aesthetics and minimalist design

The interface should not contain irrelevant or rarely needed information. Information should be kept simple and relevant. Each additional information unit in the interface will compete with the related information unit, thereby reducing its relative visibility.

- The entire web page is **concise, clear, efficient and practical**, with a dark theme and a simple logo, bringing people a sense of solemnity.

#9: Help users identify, diagnose and recover from errors

A1 and any error message should be given and displayed in easy-to-understand language (no error code), accurately indicate the problem and propose a solution constructively.

- Error cases (e.g., 404, image cannot load properly) have been considered and alt, lazy load and some error-guideline are applied to deal with the situation.

#10: Help and documentation

It is best if the system does not require any other instructions or information. However, it may be necessary to provide documentation to help users understand how to accomplish their tasks.

- Guideline are imported when necessary. For example, when prompting users' check in code, password, name, etc.
- While achieving these instructions, the entire web page layout will remain **concise and clear** to reduce the cognitive burden of users on the use and understanding of the entire web page.

3. Group review

Home page

Comment from Tom's group:

- *"concise and clear, looks pretty good and I love the style. Your logo is pretty cool as well, who designed this?"*
- *"The space on the home page may be added by adding some sections. "*
- *"The LOGO blocks too many spaces. It should automatically return to the top of the interface when you click the LOGO. "*
- *"The size of the sections should be kept uniform, not one full screen and one-half screen."*

Comment from Hanwen's group:

- *"Generally good. The image slider is very cool, and we are considering steal your idea ha-ha"*
- *"Should be able to switch the slide and view the slides that I want to see."*
- *"How does user check-in through your webpage? Though QR Code or a check-in number"*
- *"Terms and conditions should be involved in the home page"*

Changes made:

Done:

- Three more section added. The interface looks a lot fuller.
- Enabled the logo to shrink when scrolling down.
- Enabled the "jump back" function, that is go back to the top of the home page when the logo is clicked.
- Size of sections are normalized. Full-screen blocks all adjusted.
- A switch button added for the slide.
- Implemented a text input area that prompts users to enter check-in code.
- Terms and conditions involved in the footer.

About us

Comment from Tom's group:

- *"Clear statement. Nice formatting"*
- *"The content is too little. "*
- *"When clicking on map and home from this interface, there is no response. You need to realize the jump function in these two pages."*
- *"In addition, the switching action cartoon of the page from the home page to the entire page is not smooth, you only need to change the position of the colored background ensures smooth movement when switching pages."*

Comment from Hanwen's group:

- *"You can include some images instead of only text."*
- *" The color of the title is similar to the background, maybe change the color"*
- *"The layout of the text can be improved. If it is displayed as it is now, the user will need to spend more effort to find which part represents what information. I think you should add some instruction for the contact number, email and office hours. In addition, you can add an office address."*

Changes made:

Done:

- More content added.
- "Jump" function implemented, enabled home and map button in that page.
- Background color changed, now look smooth.
- 2 nice images included in the page, now looks fancier.
- Changed the color of the title into white, which formed a sharp contrast with the background.
- Layout updated, now looks nice and clear.
- Instructions added, e.g., "Phone number: 123546" instead of "123456"
- The idea of office address denied.

Hot Spot

Comment from Tom's group:

- *"Look nice but..."*
- *"Logo too big and it blocks the LHS menu"*
- *"Header should also fade away as scrolling down the LHS menu"*
- *"A search area might be more useful"*

Comment from Hanwen's group:

- *"LHS padding is smaller than RHS padding, might look better if use identical size."*
- *"Logo too big"*
- *"What is the point to have such a big map there again? You can do much more with that big space"*
- *"A news area may help"*

Changes made:

Done:

- Fix the header issue (processing)
- LHS padding adjusted
- LHS padding adjusted

Progressing:

- Planning to use a smaller map instead and put some more functions, for example searching section, into that space.
- Planning to set up a search box, however what should be in the search box is a issue.
- News area considered, but it won't be able update the latest news like a real news company. Thinking of to make it a "important information" section. User would then be able to see some breaking news there (not the latest).

Log in

Comment from Tom's group:

- *"Logo too big, it blocks the back-ground image"*
- *"The size of LHS image is different from the RHS login menu."*
- *"As the login button is not a tab in your header, the header displays that you are still in the home page even if you are already in the login page"*
- *"No respond when click cancel"*

Changes made:

Done:

- Logo issue fixed, made it an icon.
- Size changed into identical.
- When the button "cancel" is clicked, enable it to jump back to the page.

Progressing:

- Still discussing on the button issue, it is not a big deal.

Sign up

Comment from Tom's group:

- *"Too similar to the Login page."*
- *"Same issue, logo too big and should be symmetrical"*
- *"You can use different image for login and signup menu."*

Changes made:

Done:

- (Logo issue fixed)
- Considering making it symmetrical.

Progressing:

- Still working on this, looking for a better image.