Comp3423 Individual Assignment

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Part 1: User Research

For this project, I analyzed the ordering system from a "Cha Chaan Teng" named [redacted]. The system features a useable user interface but presents numerous UI/UX related issues that will be analyzed in detail from an HCI standpoint in the subsequent paragraphs.

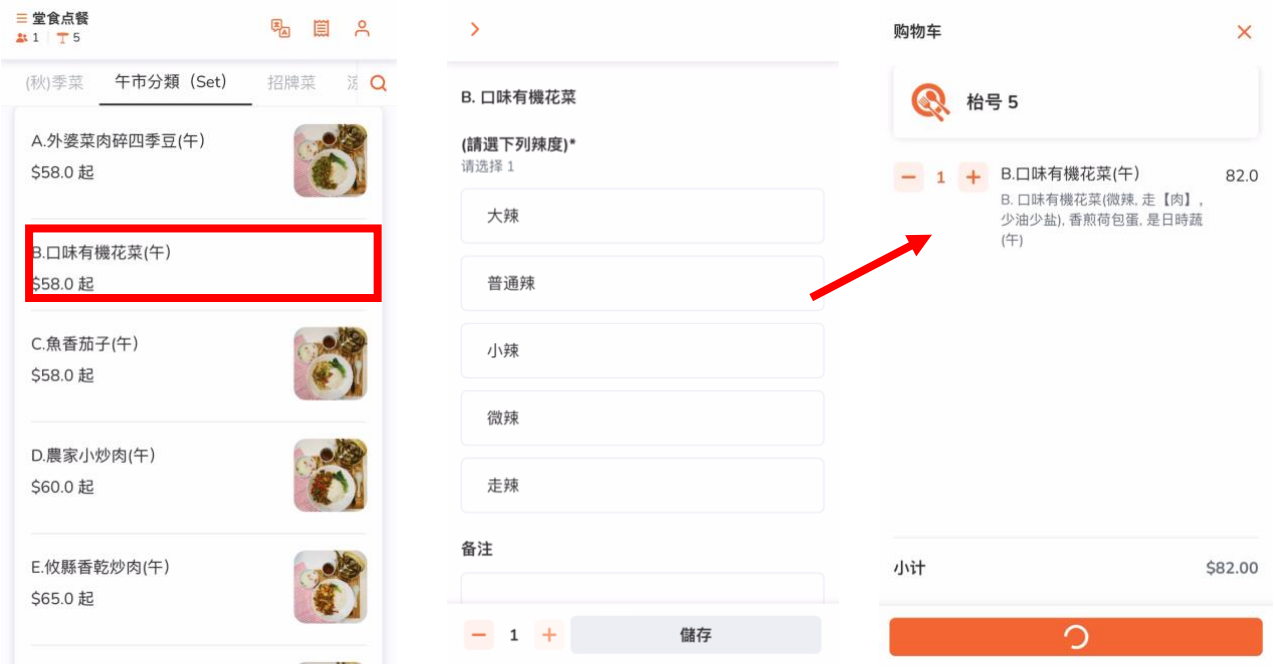


Figure 1: The overall UI/UX of [redacted] 's ordering system

Strength:

The Aesthetic-Usability Effect:
Shown in Figure 1 is the ordering system interface of [redacted], an overall aesthetically pleasing UI. From the Aesthetic-Usability Effect, we know that user tends to perceive attractive designs as more usable. As such, a clean interface like this reduces visual burden and allows for easier comprehension, potentially increasing users' perceived ease of use.

Correct Context Priming:
The system utilizes appropriate icons and texts that match their intended meanings (context priming). As shown in figure 2, the top-right corner receipt icon's implied meaning aligns with its intended functionality, which is to show the user's current ordered items. Such thoughtful use of visual metaphors successfully aids user understanding of the UI elements.

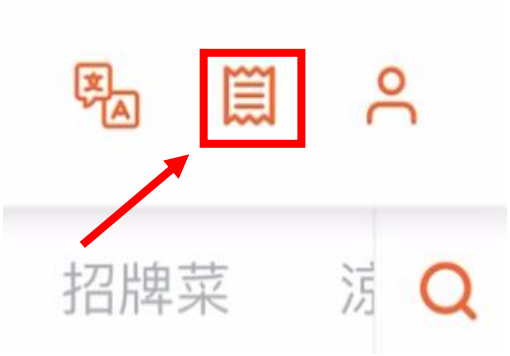


Figure 2: Top-right corner icons

Figure 3: Grouping of dishes

Gestalt Principle of Proximity:
Shown in Figure 3, dishes of the same category are organized in proximity, with drop-shadows outlining each group. This design choice aligns with the Gestalt Principle of Proximity, which states that *items close together are likely to be perceived as part of the same group*.

Weaknesses:

Violation of Norman's Principle of Mapping:
As shown in Figure 4, the "可自定选项" ("Customize") text presents itself as a checkbox but acts as a navigation button, a clear violation of Norman's Principle of Mapping, which states that there should be a *clear relationship between controls and their effects* for creating intuitive and user-friendly experience. This inconsistency between visual cues and their actual functionality is undoubtedly confusing to the user.

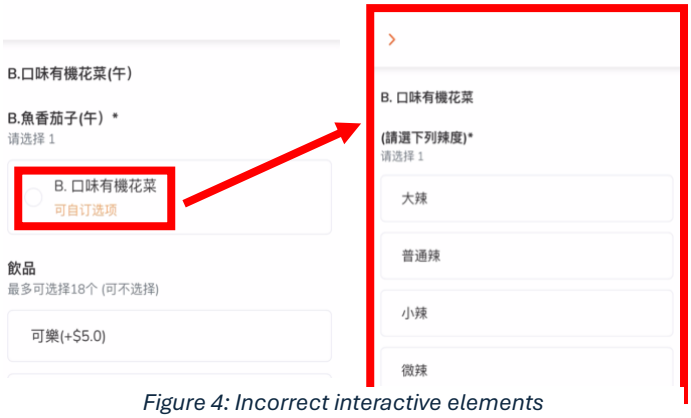


Figure 4: Incorrect interactive elements

In the same image, notice how in the top-left corner, the “return button” points right, conflicting with the widely accepted norm of having a left-pointing arrow for “return”. This is yet another example of poor mapping between controls and their effects that violates Norman’s Principle. It introduces ambiguity in the sense that it could either be interpreted as a back button or as an icon to open a hamburger menu.

Deep Navigation Hierarchy:
The ordering system features an overly complex page hierachy. It is supposedly three levels deep:

1. dish categories at the top level.
2. main dishes at the second level.
3. side dishes at the third level.

Figure 5: Unexpected 4th level submenu

However, each side dish at the 3rd level unexpectedly opens yet a **fourth level submenu** (illustrated in Figure 5), a questionable design choice conflicting one of Shneiderman's Eight Golden Rules of Interface Design—the rule of “Reduce Short-Term Memory Load.”

This complexity became even more problematic with the absence of transition animation between page navigations. Each button, upon click, abruptly displays their subpages, disorienting the user. Without smooth transitions (e.g., slide-in animation) as visual feedback to help users maintain their sense of place within the page hierarchy, they will lose sense of direction navigating between the nested submenus.

Interview Results

To better understand real user needs, I conducted interviews with two users of the system: Frank [redacted] and Sanzhar [redacted]. The following are key takeaways from the interviews (the full transcript can be found in the Appendix).

Frank pointed out two main issues: namely, overly complex design and poor categorization. When it comes to their design, Frank believes that they have too many pages; even a small order requires users to navigate through more than 10 pages just to complete the ordering process. Regarding categorization, they are usually cluttered and in pure text; such lack of grouping and homogeneous appearance makes them hard to distinguish at first glance. Sanzhar, on a similar note, also highlighted the often cluttered menus and overwhelming number of options that led to confusing navigation.

Another common issue, according to Sanzhar, is the use of poor color schemes and typography that lead to reduced readability. Sanzhar, as a foreigner, also highlighted the frequent lack of proper English translation that makes these system difficult to use for English speakers.

Sanzhar's and Frank's feedback can be distilled into these key pain points, ranked by importance:

1. Complex UI with overwhelming navigation
2. Poor color schemes and typography
3. Lack of translation
4. Visual clutter

These, together with issues discussed in previous sections, necessistates the following redesign improvements on the ordering system of [redacted]

1. Simpler navigation logic: reduce number of levels & minimize page counts
2. Revise UI control mapping: align controls and functions & standardize iconography
3. Enhance visual cues and transition
4. Better English support: display language selection menu at the start.

User Persona

Name: Bob
Gender: Male
Location: Hong Kong, China
Occupation: Undergraduate Student
Language: Fluent in Mandarin, Cantonese, and English
Background: Bob is an undergraduate student living in the PolyU Students' Halls of Residence in Hung Hom. He is a fan of Hunan cuisine and often dine at [redacted] which is just

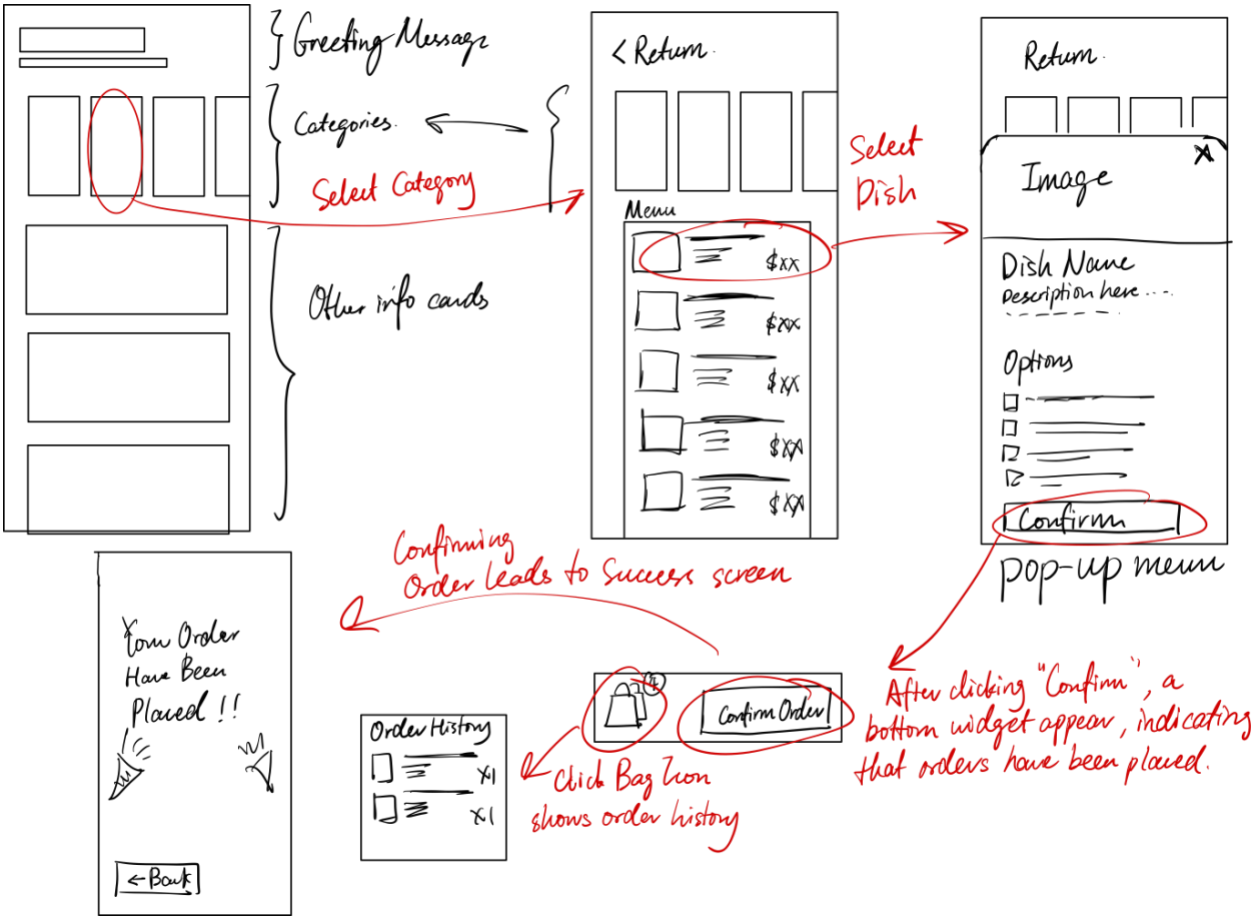
one block away from the student halls. However, he's frequently frustrated by the poorly designed ordering system and hopes for some improvements.

Part 2: Wireframing

Based on my user research, three major design objectives can be confirmed:

1. Simplify navigation flow.
2. Improve visual cues (including better control and effect mapping & transition animation)
3. Better English support

Wireframe Sketch:



Navigation Flow:

The original [redacted] ordering system had an overly complex navigation logic. To address this, I completely redesigned the navigation flow. Instead of abruptly displaying a full-screen submenu at each button click, which introduced a four-level deep page hierarchy, I placed the “Category Menu” and the “Dish Menu” under the same page, successfully mitigating one

hierarchy. Then, I went even further, creating a pop-up menu that overlays only half of the dish menu. This approach maintains context and clearly illustrates the relationship between the dish menu and the option menus.

My improvements dramatically simplified the navigation flow. As shown in Figure 6, the once confusing four-level hierarchy, have been elegantly reduced to a more manageable two-level system.

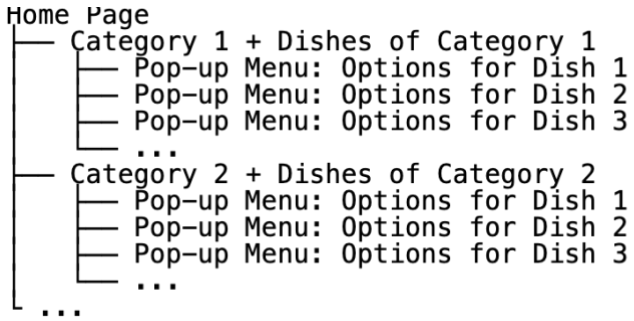


Figure 6: New Page Hierachy

Part 3: Visual Design and Prototyping

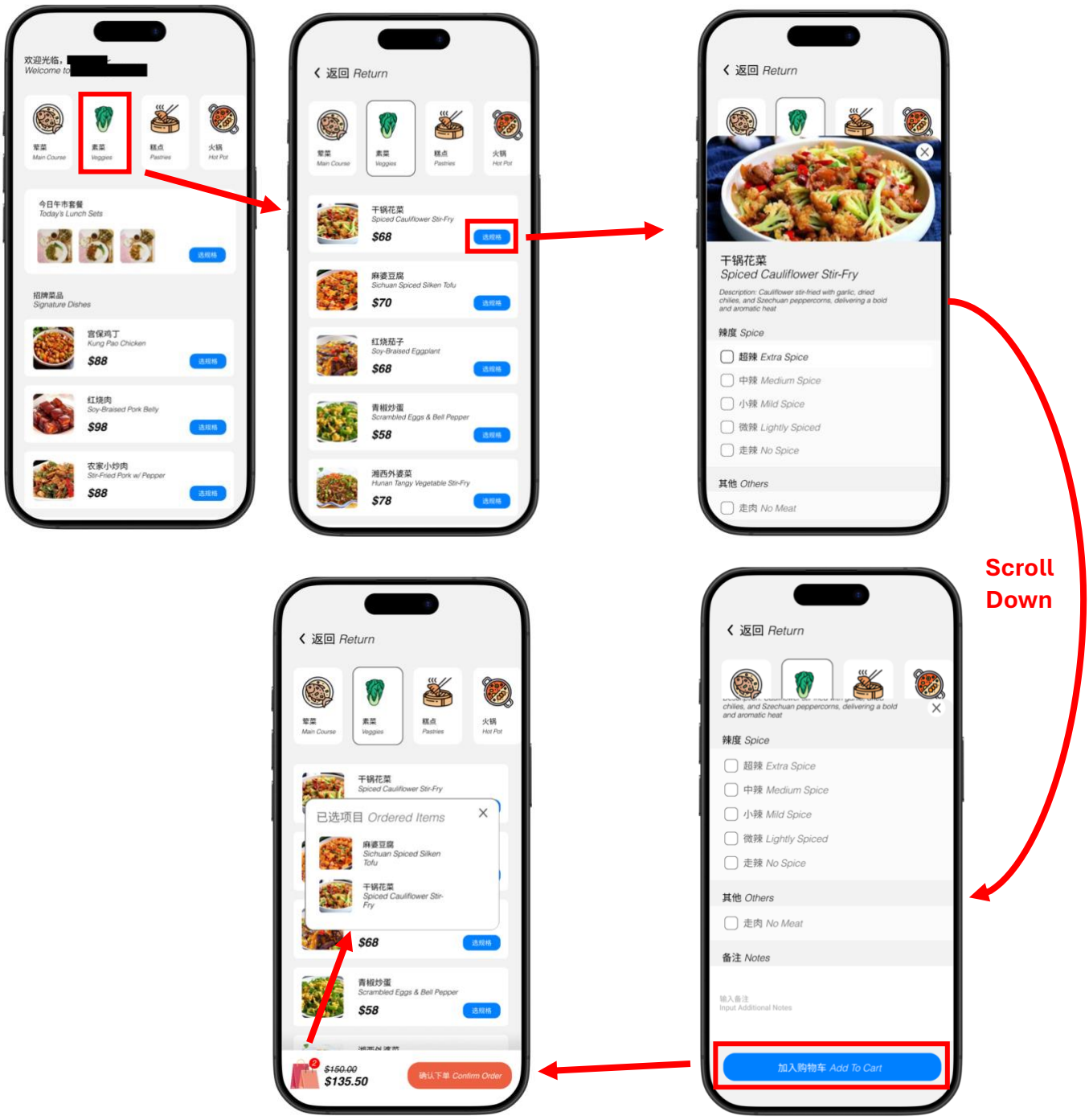
Color Scheme:

Typography:

- Font: Helvetica Font Family
- Chinese: Oblique & Light Oblique
- English: Light Oblique

Iconography:

- Icons for “Dish Category”.
    - These icons were chosen due to their visual consistency



Figma Prototype Link:

https://www.figma.com/proto/[redacted]

Part 4: Testing *(Feedback Analysis)*

To examine the usability of my newly designed system, I conducted a test with two real users, Sanzar and Frank, who were also the interviewees from the "User Research" section.

Frank highly praised the newly designed system. In particular, he spoke highly of the much simpler navigation logic. What was originally a deeply nested page hierarchy that easily got users lost is now much more manageable. Frank especially appreciated the choice of a pop-up menu for selecting side dishes and options, stating that such a design is much less intrusive than a complete page transition, which can easily disorient the user.

Moreover, Frank believed that the introduction of an eye-catching "选规格" ("Choose Options") button effectively solves the original mismatch between controls and effects, making the process much less confusing.

As for Sanzar, he felt that the newly designed system was much friendlier towards English speakers. Each dish and interactive component was labeled with English captions, eliminating the need for language switching.

On the other hand, Sanzar also pointed out some room for improvement. He told me that when navigating through the check-out menu, he instinctively pressed "Confirm Order," expecting a confirmation page to pop up first. It was thus a surprise to him that the "Confirm Order" button would directly submitted his order. A potential solution for this issue would be to add an extra confirmation page after clicking "Confirm Order," instead of requiring users to press the "Shopping Bag" icon to review ordered items. This would prevent users from accidentally confirming orders without double-checking.