	UNIVERSITI TEKNOLOGI MALAYSIA

HUMAN COMPUTER INTERACTION (SECV2113)

PROJECT PART 1

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PROJECT PROPOSAL

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1.0 Introduction

Nowadays, food delivery applications have become an important service in today's fast-paced lifestyle, especially for university students who often seek quick and convenient meal options. Thus, this project is inspired by the widely used GrabFood platform. The project's focuses are on analyzing its current user experience issues and proposing an improved solution tailored for the Universiti Teknologi Malaysia (UTM) community.

Several usability challenges have been identified in the GrabFood interface. Users often encounter difficulties in filtering promotional items and locating available vouchers. Moreover, it does not allow users to find food based on specific dietary requirements such as vegetarian or halal options. In addition, the lack of an effective chatbot system limits customer support and delays issue resolution particularly during the ordering process.

In order to address these gaps, the proposed solution focuses on designing a more advanced and user-friendly food delivery platform tailored for UTM students, staff and also restaurant managers. Improvements will include better filtering capabilities, clearer voucher visibility dedicated dietary filters, and an improved chatbot system. The aim is to deliver a seamless, efficient and inclusive food ordering experience within the campus environment.

2.0 Problems

As part of the usability evaluation of the GrabFood application, several recurring issues were identified that hinder the overall user experience. These problems affect various aspects of the app, from searching for deals and filtering preferences to receiving timely support and making informed ordering decisions. The following subsections highlight the most notable usability and user experience concerns observed during the analysis.

2.1 Lack of Detailed Filter for Promotions

First and foremost, the GrabFood application lacks a detailed filter for promotions, which creates a usability issue for customers. While users can filter restaurants by delivery fee, for example, Figure 1 shows "Less than RM1.00" or "Less than RM5.00" and there is no equivalent granularity for promotions. Currently, the app only offers a basic promotion button to show restaurants offering promotions without allowing users to choose the type of promotion they prefer, such as "Buy 1 Free 1," "RM7.00 off with a minimum spend," or other discount categories. This limitation leaves users to manually browse through many listings to find relevant offers. This, without any doubt, decreases efficiency and overall user experience. Adding a particular promo filter, such as the delivery fee filter, would increase efficiency in the search process and customer fulfillment.
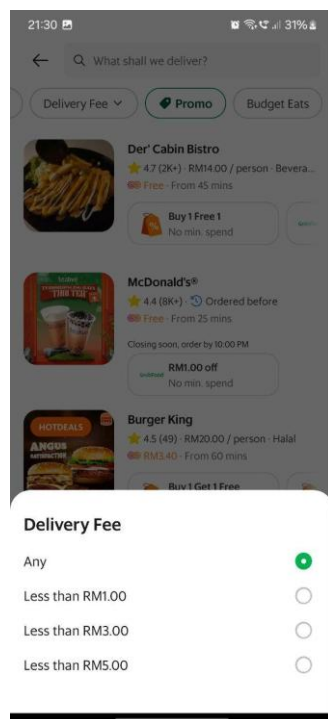

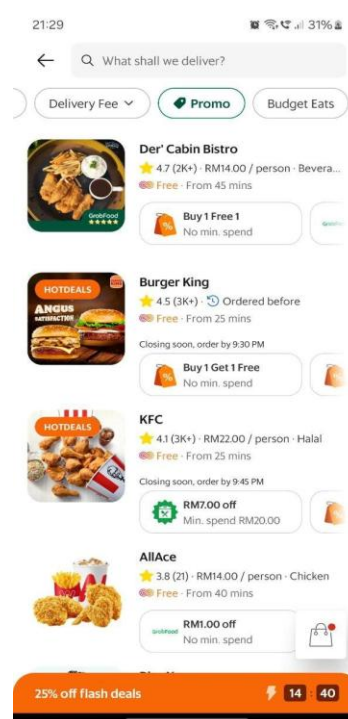
Figure 1: Grab Delivery Fees Filtering System   Figure 2: Grab Promotion Filtering System

Figure 1 illustrates the current filtering system for delivery fees in GrabFood, where users can select specific price ranges such as "Less than RM1.00," "Less than RM3.00," or "Less than RM5.00". Figure 2 demonstrates GrabFood's current promotion filtering system, which only provides a binary toggle to show restaurants with active promotions. While this allows users to see all eateries offering deals, for instance "Buy 1 Free 1," "RM7.00 off," or "25% off flash deals", it lacks the specificity seen in the delivery fee filter.

2.2 Lack of Voucher Visibility

Next, one of the major usability issues in GrabFood is the lack of voucher visibility before checkout. Currently, users cannot view their available vouchers unless they add items to their cart and proceed to the payment page. This causes a frustrating experience since customers are unable to plan their orders ahead of time, compare offers, or view voucher conditions such as minimum spend. Additionally, this poor discoverability also means missed opportunities as customers might choose other restaurants or order more if they knew about promotions. This lack of clarity makes users' decision-making more complicated and creates unnecessary hassle. Thus, a better solution that makes vouchers visible during browsing is necessary. This would make the ordering process smoother and improve users' overall satisfaction.
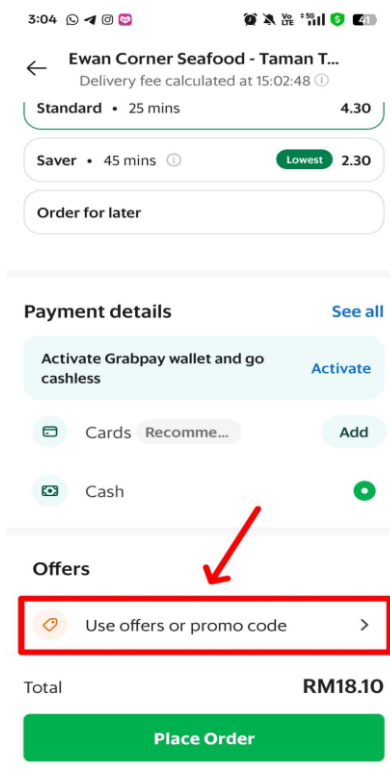

Figure 3: Last-stage voucher visibility in GrabFood

Figure 3 shows that the "Use offers or promo code" section only appears at this checkout page of GrabFood, indicating that users must reach the final payment stage to view the available discounts or vouchers. If the discount condition does not meet what users want, they can only leave the page and reselect the items.

2.3 Ineffective Chatbot Accessibility and Responsiveness in User Support

Another major usability and user experience issue observed in GrabFood is the less effective of chatbot system which is used to assist users while using the application. Although GrabFood currently incorporates a chatbot feature, its location is not very prominent. Customers need to navigate through a sequence of menus (Account → Support → Help Centre → Chat to get help) which makes it inconvenient especially when instant help is needed. Moreover, the chatbot is limited to the set of predefined issue categories. Although it allows users to enter custom queries, it frequently fails to understand when the questions deviate from these standard categories, making it unable to handle tricky or situational issues. As a result, users often feel frustrated when their issues fall outside the given categories. This simple user experience problem reduces overall satisfaction and faith in the support system.
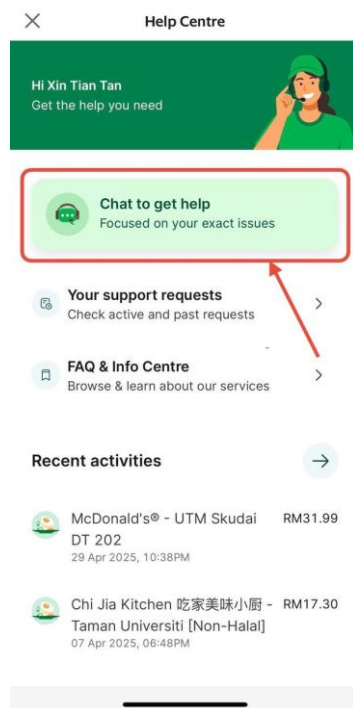

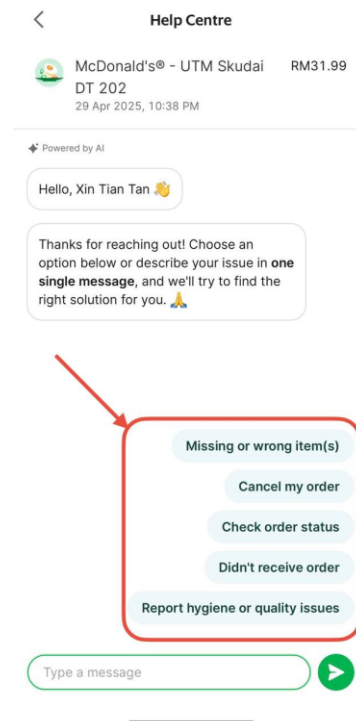Figure 4: Grab Current Chatbot Feature

Figure 5: Grab Chatbot Interface

Figure 4 shows "Chat to get help" appears at the Help Centre, which is not directly accessible from the main interface and requires users to navigate through several layers. This multi-step process generates unnecessary friction. When users finally reach the chatbot interface, as shown in Figure 5, they are presented with a list of pre-defined issue categories. Even though the chatbot does permit free-text input, it tends to fail to interpret user questions or provide useful assistance when the question deviates from these standard categories.

2.4 Lack of Dietary Filtering Options

Other than that, a significant issue with the current GrabFood system is the lack of filtering options based on dietary preferences such as vegetarian, halal, just to name a few. Users with specific dietary needs must manually browse through each restaurant's menu, which is time-consuming and frustrating. Users might also select the inappropriate meals accidentally and lead to user dissatisfaction. For the diverse UTM community including students, staff and international users, the absence of such filters violates the usability goal of efficiency and the user experience goal of satisfaction.

3.0 Proposed Solution

To resolve the usability and user experience issues highlighted earlier in the previous section, a series of targeted design and interface enhancements is proposed. These improvements aim to enhance system efficiency, improve accessibility and increase user satisfaction across key areas of the GrabFood platform. Each solution focuses on a specific challenge and is designed in alignment with Human-Computer Interaction (HCI) principles to deliver a more intuitive, responsive and user-friendly experience.

3.1 Detailed Promotion Filter

The first proposed solution is introduceing a detailed promotion filter to GrabFood's UI, which replaces the current restriction of a binary toggle with the ability to selectively filter promotions by type such as "Buy 1 Free 1," "RM7.00 off" and minimum spend conditions, for example "No min spend," "Min spend RM30.00". This improvement mirrors the functionality of the existing delivery fee filter, ensuring consistency in user experience while significantly improving efficiency. This solution saves manual browsing time, enhances decision-making visibility and increases the order conversion rate by allowing the customer to quickly locate offers of interest. Including an organized "Promo Type" dropdown, similar to the filter for the delivery charge, creates a seamless and simple navigation scheme, in line with customer expectations and optimizing the platform's usability. This improvement not only resolves an instant pain point, but also supplements GrabFood's existing strengths to bring a more end-to-end and customer-centric experience.

Figure 6: Enhanced Promotion Filtering Feature

Figure 6 shows an example of GrabFood's enhanced promotion filtering feature, which enables users to explicitly filter by promotion type and minimum spend requirement. This solution significantly improves the user experience by reducing browsing time through targeted filtering and helping customers quickly find their preferred deals.

3.2 Proposed Interface Improvements for Voucher Visibility

Apart from that, in order to solve the voucher discovery issue of GrabFood, two radical interface improvements are suggested. The first one is the addition of a "My Vouchers" tab in GrabFood's homepage. This can make all promotions visible to users without having to load the checkout page. Inside this navigation tab, it will show voucher terms in advance such as minimum spend and expiry. Second, voucher promotions have to be displayed on restaurant pages in real time, along with the minimum spend, for example, "RM7 off (min. spend RM20)," right under restaurant information. This in-position presentation allows individuals to compare offers as they surf, aligning with HCI principles of proactive information disclosure and contextual relevance. These alterations thus make vouchers overt features and not covert ones so that they can become prominent decision-making variables to enrich the overall user experience.
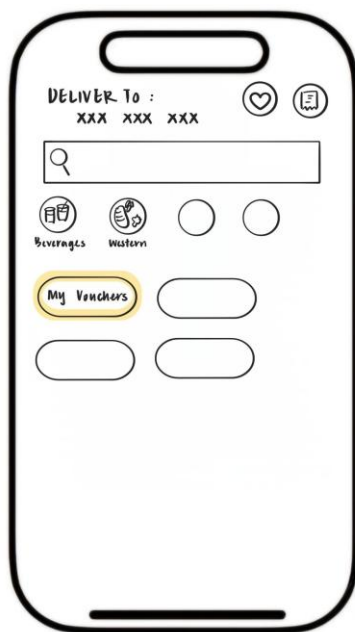

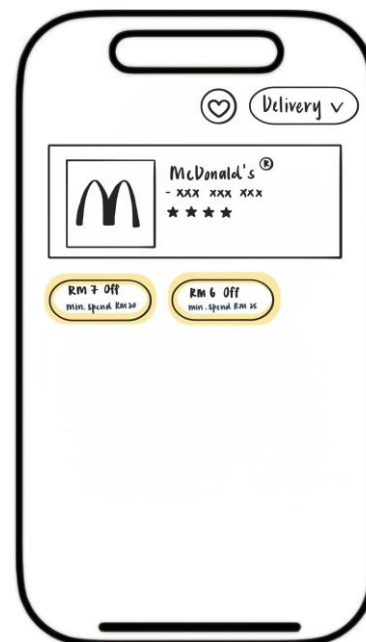Figure 7: "MyVoucher" tab on the main page   Figure 8: Voucher list on the restaurant page

Figure 7 shows the "MyVoucher" tab on the main page while Figure 8 shows the available voucher list below the restaurant information that is applicable to the restaurant. These two interface improvements can enhance users' experience as they do not need to add something into the cart and visit the checkout page to know what voucher they have.

3.3 Enhanced Chatbot Accessibility and Intelligent Support Interface

To address the usability and user experience issues identified in GrabFood's chatbot system, two of the interface-level improvements are introduced as part of the new food delivery platform. Firstly, a clearly visible chatbot icon will be permanently placed at the bottom-right corner of the main interface (see Figure 9). This change eliminates the need for users to navigate a sequence of menus to obtain assistance, thereby significantly improving accessibility and interaction efficiency. With a tap, users can easily activate the chatbot in an instant, making the support system more reactive in situations of a time-sensitive nature such as delayed or canceled orders. Secondly, the chatbot interface itself will be redesigned to provide a smarter and more user-friendly experience. The new interface will include context-aware smart suggestions that adapt dynamically based on the user's current activity in the app. For instance, if a user is tracking an ongoing order, the chatbot will automatically offer suggestions like "Where is my rider? or "Report missing item.". The interface will also be divided into a multi-tab layout where users can easily navigate to common issues, live order support, and general FAQs. These solutions operate towards enhancing usability targets such as observability and feedback from the system, as well as improving user experience targets with reduced frustration rates and the feeling of being able to help better and be cleverer by the chatbot.
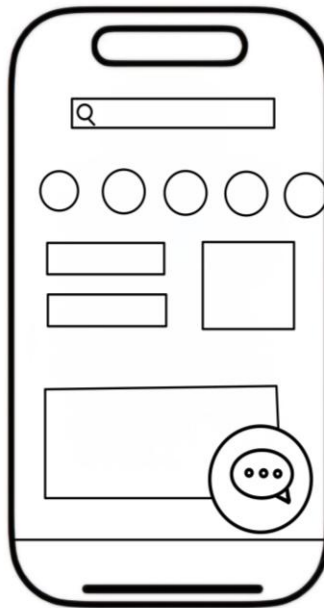

Figure 9: Enhanced Main Interface with Chabot Icon

Figure 9 shows the redesigned main interface of the food delivery application, where a persistent chatbot icon is placed at the bottom-right corner of the screen. This icon remains visible across all major screens, allowing users to access help immediately with a single tap, without navigating through multiple menus.
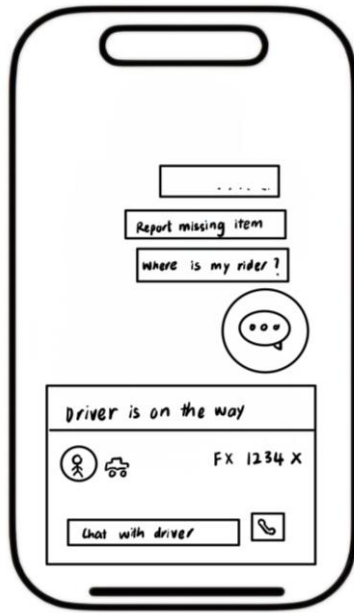
Figure 10: Enhanced Order Tracking Interface   Figure 11: Reconfigured Chatbot Window

Figure 10 displays the enhanced order tracking interface, where the chatbot icon remains visible and contextual smart suggestions appear automatically based on the user's activity. In this scenario, since the user is tracking a delivery, suggestions such as "Where is my rider?", "Report missing item" and "Contact rider" are offered. These one-tap shortcuts enhance system responsiveness and relevance, causing users to spend fewer minutes searching for help and value-added to the user experience with timely support. Figure 11 is the reconfigured chatbot window after the user clicked "Where is my rider?" from the tracking page. The chatbot window opens with a simple, organized design with tab-based navigation at the top (e.g., Live Order, Common Issues, General Inquiries) and a set of context-dependent predefined options below.

3.4 Dedicated dietary filters

To address the usability and user experience related to dietary requirements, the proposed system will incorporate dedicated dietary filters, allowing users to easily select food based on their preferences or restrictions such as vegetarian or halal. Currently, GrabFood does not offer clear and reliable filtering for dietary categories, which results in frustration and inefficiency, especially for users who must adhere to specific diets. The enhanced platform will implement a dietary filter option on the right side of the search bar to allow users to check boxes for dietary types such as:
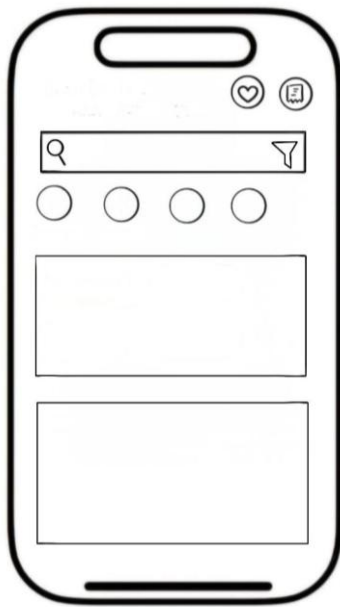
- Vegetarian
- Halal
- No Beef

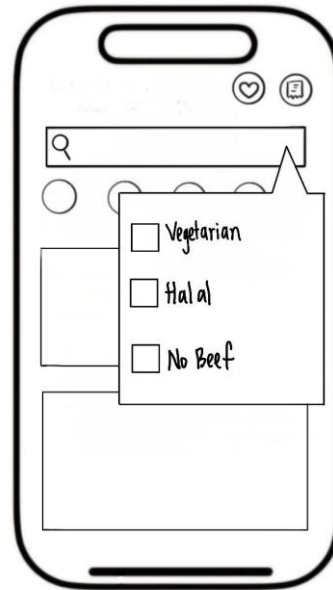Figure 10: "Filter"button beside the search bar

Figure 11: Selection page for filter

Users can select multiple filters when searching for food. Only restaurants and menu items tagged with the selected dietary requirements will appear. Restaurant owners will be prompted during menu setup to classify each dish under dietary tags such as vegetarian-friendly and halal-certified.

4.0 Target Users

The proposed system is designed to cater to the needs of various target users within the university environment, namely students, staff and restaurant operators in Arked UTM. Each of these groups faces specific challenges when using GrabFood. By understanding their unique requirements, these proposed solutions aim to provide a more efficient and user-friendly experience. The following sections detail how each user group will benefit from the improved system.

4.1 UTM Students

Students are one of the primary target groups for the proposed food delivery system. Their busy academic schedules often leave them with limited time for meal preparation or searching for food. Thus, there is a need for a quick and efficient ordering system or even more critical. The proposed system will significantly benefit students in several ways.

Many students are on tight budgets so food discounts or vouchers can make a big difference. The improved system will feature better visibility of available coupons and promotional offers. Furthermore, automated reminders and notifications will alert students to available discounts. Consequently, they would never miss an opportunity to save money on meals.

Moreover, students often have specific dietary needs, namely vegetarian or halal options. The improved platform will introduce dedicated dietary filters, making it much easier for students to find meals that meet their requirements. This tailored approach will save time and make food ordering more convenient.

4.2 UTM Staff

University staff, including lecturers, administrative personnel and other university employees, also face their own unique challenges when ordering food on GrabFood. Their demanding schedules require a quick and efficient meal ordering without unnecessary delays. The proposed solution will cater to these needs in the following ways.

Staff members often have limited time between meetings, lectures or office hours. The introduction of advanced search filters will help staff members quickly find suitable meals without scrolling through countless options. Thus, this minimizes disruption to their busy workday. By the same token, many staff members may have specific dietary requirements or preferences. With these advanced filters, such as vegetarian and halal, staff can easily find meals that meet their needs without having to waste time searching through irrelevant options.

Most importantly, the proposed integrated chatbot will be a game-changer for staff. If there are any issues with an order, namely delivery delay, wrong item or payment problem, staff can quickly resolve them via the chatbot. This can avoid time-consuming calls or waiting for customer service. Instant issue resolution allows staff to continue with their duties without unnecessary distractions.

4.3 Restaurant Owners in Arked UTM

Restaurant owners in Arked UTM will also benefit significantly from the proposed solution. The introduction of specialized search and filtering functions will allow restaurant owners to optimize their menu items for better discoverability. Because of this, restaurant staff can ensure that their offerings appear prominently in relevant searches with clearer organization, such as vegetarian, halal or promotional categories. Accordingly, this attracts more customers who have specific dietary preferences.

Moreover, the improved visibility of promotional items and vouchers will help restaurant owners leverage discounts and offers more effectively especially during peak hours. The integrated chatbot system will also streamline communication between restaurant staff and customers. This allows quick responses to inquiries, order updates and resolution of any issues. Undoubtedly, it reduces the chances of dissatisfaction.

5.0 Conclusion

In conclusion, the usability evaluation of the GrabFood application has identified several key areas. These areas need to be improved so the overall user experience will be better. Issues such as the lack of detailed promotional filters, limited voucher visibility, ineffective chatbot accessibility and absence of dietary filtering options hinder user satisfaction and system efficiency. To address these challenges, this report has proposed a range of user-centered interface enhancements. These include more specific filtering options, improved voucher integration, a smarter accessible chatbot system and dedicated dietary preference filters. By implementing these solutions, the food delivery platform can better serve the diverse needs of its users, particularly students, staff and restaurant owners in the UTM community. Ultimately, these improvements aim to create a more and satisfying food delivery experience.