MALAYSIAN FOOD REVIEW PLATFORM

ZHANGHAOYANG

ASSOC. PROF. TS. DR. NURHIZAM SAFIE MOHD SATAR

Fakulti Teknologi & Sains Maklumat, Universiti Kebangsaan Malaysia, 43600 UKM Bangi, Selangor Darul Ehsan, Malaysia

ABSTRAK

While there are many online platforms in the market to help understand and evaluate Malaysian cuisine, few are focused on providing a centralized, user-friendly platform for food reviews and recommendations. In order to improve the user experience, reduce information fragmentation and improve information quality, a Platform called "Malaysian Food Review Platform" is being developed. It is an online platform that aims to provide tourists and Malaysians with food search, rating and sharing functions.

The Malaysian Food Review Platform aims to provide a centralized hub where users can seamlessly explore, select and rate a variety of cuisines by standardising information and implementing user review mechanisms. The platform provides a user-friendly interface to display restaurant pictures, allowing users to intuitively understand restaurant information. The development method adopted is agile development, in which the Flask framework is used. In terms of database, Alibaba Cloud Database is implemented in the platform. Through an intensive research and development process, the end result is a platform that can effectively handle user and administrator interactions while ensuring data security and easy access.

Configure the server environment to use Ubuntu as the Web server. Deploy front-end pages and back-end applications on the server to ensure that the server runs smoothly and responds to requests. Flask and smtplib components are used for real-time email sending. The Flask framework handles the back-end logic and utilizes the smtplib component to integrate the 163 mailbox to allow the system to send verification emails. Database using MySQL

PENGENALAN

Malaysia is a country known for its diverse culinary culture. Due to its multicultural background, Malaysia's cuisine encompasses unique food traditions from neighbouring countries and various indigenous cultures. However, despite such a

wealth of gastronomic resources, users still face many challenges when finding and evaluating these dishes.

According to different research data, many tourists and local residents often encounter information fragmentation, uneven quality of reviews and inefficient search when choosing restaurants and dishes. Therefore, it is particularly important to develop a centralized review platform focusing on Malaysian cuisine. According to a 2023 survey, about 75% of Malaysian residents refer to online reviews when choosing a restaurant (John Doe et al., 2023). In addition, more than 60% of users said they wanted a centralized platform to consolidate all food information, rather than switching between multiple websites and apps (Jane Smith et al., 2023).

The goal of the Malaysian Food Review Platform is to reduce information fragmentation by providing a user-friendly interface, integrating and standardising various food information, and providing reliable information through a user review mechanism. The platform will display restaurant pictures and user reviews to improve users' search efficiency and experience. Unlike the existing food review system, the platform will focus on improving information quality and search efficiency, thus providing users with a better selection and review experience.

For those users who wish to learn about and explore Malaysian cuisine, they need a centralized resource to streamline the information acquisition process. Through the platform, users can easily browse and select restaurants they are interested in and read real reviews from other users. This will not only help them make more informed choices, but also enhance the overall dining experience.

There are currently some food review platforms in the market, such as TripAdvisor and Dianping, but they are mainly aimed at the global or Chinese market and lack a focus on local Malaysian cuisine. Therefore, the Malaysian Food review platform will fill this gap in the market by providing high-quality localised content to help users better explore and enjoy Malaysia's food culture.

The development of the platform will adopt agile development methods and use Flask framework for back-end development. In terms of database, the platform will use Alibaba Cloud Database and MySQL for data storage and management. Through continuous research and optimization, we will eventually achieve an efficient, safe and easy-to-use food review platform to provide users with an excellent user experience.

METODOLOGI KAJIAN

The development project of the Malaysian Food Review platform adopts an agile development method, which is continuously developed and tested throughout the software development lifecycle. This approach was chosen because it allows for

dynamic adjustments and changes at any stage of the development lifecycle, even in the later stages. This approach is ideal for development projects that need to be flexible and user-oriented. By using agile development methods, the high quality of the end product can be ensured.

Analysis phase

This phase focuses on analyzing system requirements. At this stage, functional and non-functional requirements are identified from the project stakeholders. This stage also aims to ensure that the platform being developed can meet the stated goals. In addition, a literature review of existing food review platforms was conducted to improve understanding of the platforms and aid development efforts.

Design phase

The design phase determines the architecture of the system. At this stage, the system architecture, database, algorithms and interface design are completed in order to simplify the development process and ensure that the research objectives can be achieved.

Implementation phase

This is the most time consuming phase because it involves all the major development work, such as programming, etc. In this phase, all requirements gathered during the analysis phase are developed and implemented, and these requirements are integrated into a complete platform. In the process, platform defects can also be discovered and corrected.

Test phase

The test phase is a crucial stage in platform development. The purpose of testing is to find defects, bugs, and weaknesses in the platform. Once errors are found, they can be fixed and adjusted to ensure the smooth operation of the platform and provide the best experience for users. The method of data collection and user demand acquisition is through a questionnaire survey of 15 respondents. These respondents are mainly potential users of the food review platform, including tourists and local residents. After the questionnaire is completed, the questionnaire link is posted through the Google form and the data is collected. By analyzing the questionnaire data, charts or graphs can be generated for data analysis.

The same methodology was used for usability testing, in which 25 questionnaires were created covering some Likert scale questions and an open-ended question about platform improvements. The purpose of the questionnaire is to collect feedback from respondents and evaluate the usability of the platform. The questionnaire is distributed through platforms such as Whatsapp, Facebook and Reddit to get as much relevant user feedback as possible.

The data obtained from the usability assessment is analyzed through a data analysis

method called descriptive statistics, and various aspects are evaluated using average scores. Table 1 shows an explanation of the scoring scale.
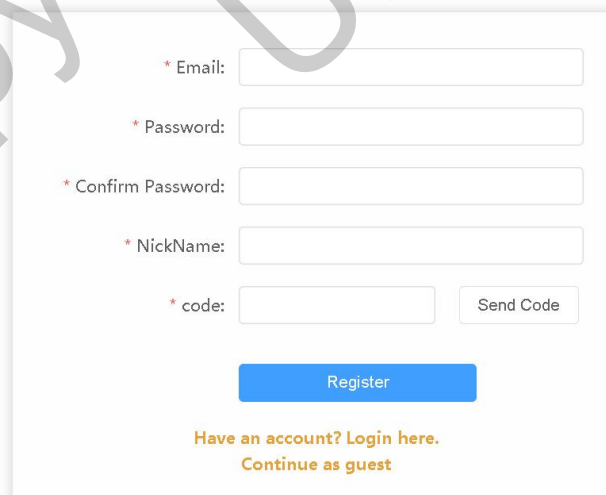
Table 1 explains the scoring scale

Mean score	Interpretation
0-33	Low
34-66	Range
67-100	High

KEPUTUSAN DAN PERBINCANGAN

The Malaysian Food review platform has successfully developed and completed all documentation. During the development process, the platform uses the Flask framework and MySQL database to ensure that the platform can run smoothly on every computer. All interface design and front-end development uses the online editor Piskel to create and animate all the ICONS and visual elements in the platform.

When entering the platform, the user will see the platform user interface. To start using the platform, users need to register an account first and enter the login interface by clicking the "Login" button, as shown in Figure 1. In the login screen, users can directly log in to the account or create an account. After entering the account creation page, the user needs to complete all the required information, at the same time, the platform will send the registration verification code to the mailbox filled by the user, and finally the user successfully registered the account and began to use the platform.
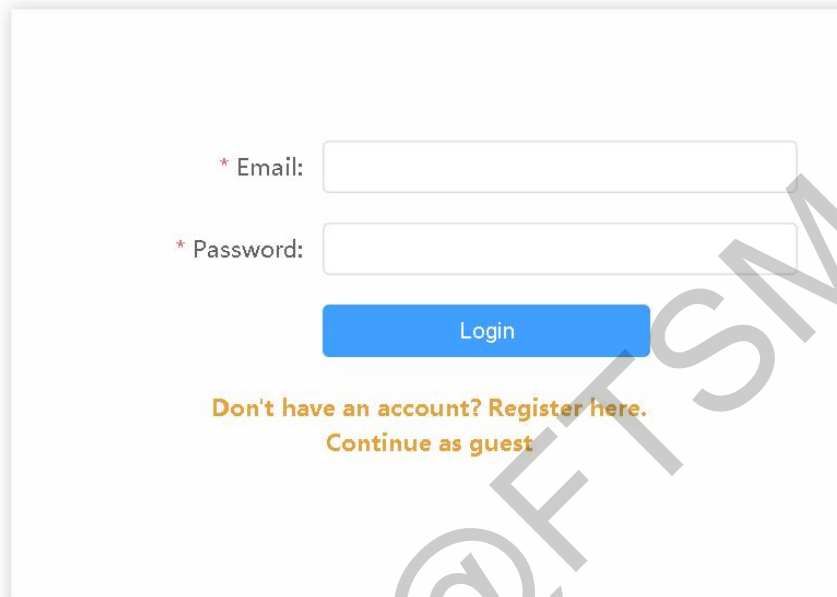

Figure 1 Registration Interface

Once the user has registered an account, the user will need to return to the login page.

The login interface, shown in Figure 2, allows users to log in to the platform using the email address and password they registered with.

Figure 2 Login Interface

The platform will display the home page after the user successfully logs in. As shown in Figure 3, the home page contains several buttons that represent different features and modules that the user can choose to use. There are two main buttons on the interface, which are "Select region" and "Restaurant List". When the user clicks the "Select Region" button, they can select a different region to see the restaurants in that area. When the user clicks the "Restaurant List" button, a list of all restaurants in the area will be displayed.

Figure 3 Homepage Interface

On the homepage of the Malaysian Food review platform, users can select the region they are interested in by clicking the "Select region" button. As shown in Figure 4, when the user clicks the button, a drop-down menu with all the optional regions is displayed. Users can select their location or region of interest.

The Select Region feature is designed to help users quickly find food and restaurant information in a specific region. After the user selects a region, the platform will display a list of all the restaurants in that region, which the user can further browse and filter. The feature also supports automatic recommendations of nearby restaurants based on the user's current location, providing a more convenient user experience.

For example, if a user selects the Kuala Lumpur region, the platform will display details of all restaurants in the region, including restaurant names, addresses, ratings, and user reviews. In this way, users can easily find restaurants that match their tastes and needs.
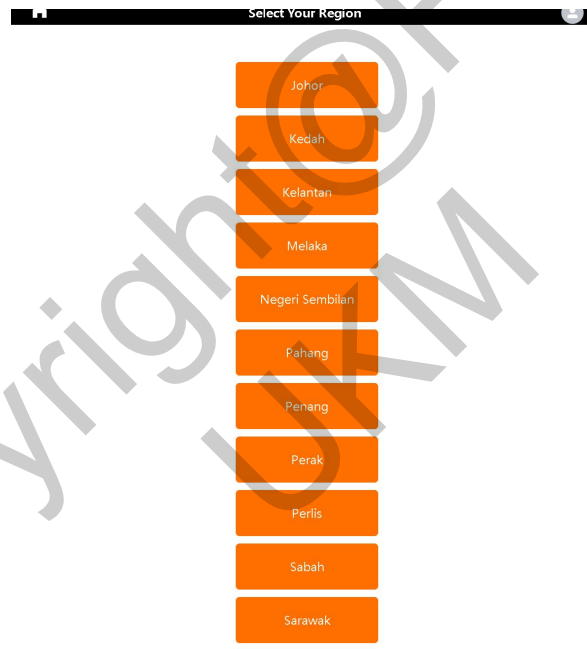

Figure 4 Selecting a region

When the user selects a region, the platform will display a list of restaurants in that region. As shown in Figure 5, the restaurant list contains detailed information about each restaurant, including restaurant name, address, rating, and user reviews. Users can click on the restaurant name and go to the restaurant's details page to see more detailed information and reviews from other users.

For example, after the user selects the Kuala Lumpur region, the platform will display a list of all restaurants in Kuala Lumpur. Users can browse the list, click on the restaurant of interest, and view the details of the restaurant, including the menu,

opening hours, contact information, and specific reviews and ratings of the restaurant by users.

In this way, users can easily find restaurants that match their tastes and needs and make more informed choices based on reviews from other users.
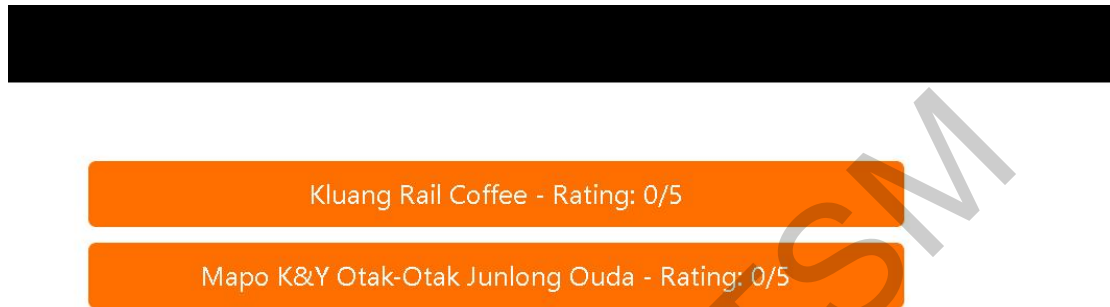

Figure 5 Selecting a restaurants

On the restaurant's detailed page, users can not only view relevant information about the restaurant, but also make reviews and make online reservations. As shown in Figure 6, users can select the "Leave a comment" button to enter their dining experience, ratings, photos, and more. Once completed, click the "Submit Comment" button to post the comment.

In addition, users can use the reservation function. The user can select the scheduled date and time and enter the number of people booked. After completing the filling, the user can click the "Book" button to complete the booking. The system will send the user a confirmation email and remind the user before the scheduled time.

For example, when viewing the details of a restaurant, a user can select the date and time of the reservation, enter the number of people (such as 2 or 4 people), and submit a reservation request. Users can also choose to "comment" after a meal to share their dining experience and ratings to help other users make better choices.

In this way, users can easily book restaurants in advance to ensure that the dining experience goes smoothly, while also sharing their dining experience to provide references for other users on the platform.

Figure 6 Comment and Book

All user-submitted comments and reservation requests will enter the administrator review process to ensure the authenticity and reliability of the platform content. As Figure 7 shows, administrators can view and review all new comments and reservation requests in the background management system. Administrators have the right to approve, modify, or remove comments that do not comply with the Platform's regulations.
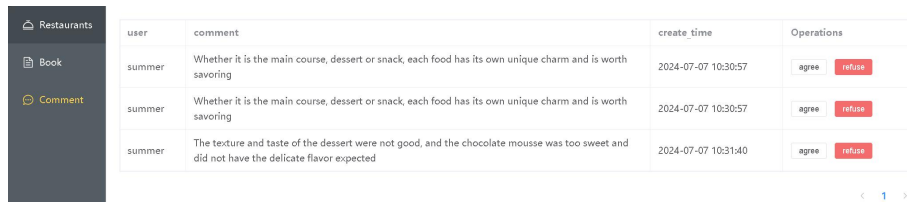
During the review process, the administrator will check the authenticity and appropriateness of the review content to ensure that there is no false information or inappropriate content. Once a review is approved, it will be posted to the platform for other users to view.

During the reservation review process, the manager will confirm the accuracy of the reservation information and verify the reservation status with the restaurant to ensure that the reservation is successful. After the confirmation is completed, the system will send the user a booking confirmation email and remind the user before the scheduled time.

In this way, the platform is able to maintain high quality user content and services, providing users with a safe, reliable and enjoyable food review and booking experience.

Figure 7 Administrator audit

To ensure that the restaurant information on the platform is complete and up-to-date, administrators can add new restaurants to the platform. As shown in Figure 8, the administrator can fill in the details of the restaurant through the "Add restaurant" function in the background management system, including the restaurant name, address, contact number, opening hours, menu and pictures.

Administrators need to ensure that the restaurant information added is accurate and as detailed as possible so that users can get comprehensive restaurant descriptions and reviews. After a restaurant is added, administrators can choose to publish the restaurant information immediately or after verification.

In this way, the platform can constantly update and expand the restaurant database, ensuring that users can find the latest and most comprehensive restaurant information.

Figure 8 Admin add restaurant

The platform also provides a user center function, where users can view their reservation and review history and can change their password. As shown in Figure 9, once a user is logged in, they can go to the "User Center" page, where they can see all past bookings and reviews, making it easy for users to manage and track their activity.

Users can also choose the "Change Password" feature to update their account password by entering the old password and the new password to ensure the security of their account.

In this way, the platform not only provides users with rich food information and services, but also provides users with convenient account management functions, improving the overall user experience.
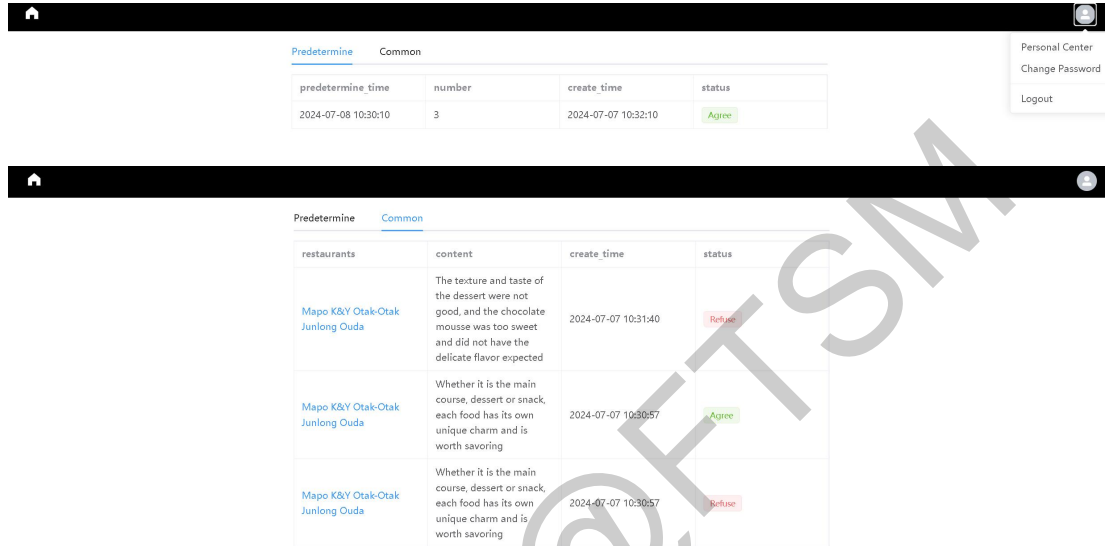

Figure 9 User center

Pengujian Kebolehgunaan

Usability testing is a final testing process conducted by user representatives and stakeholders to ensure that the developed food review platform provides the required functionality before it is released to the public. The purpose of usability testing is to evaluate the usability of the system, collect quantitative data, and assess user satisfaction.

Table 2 shows the average score for each user satisfaction item. Items 1, 2, 8 and 9 scored the highest with an average score of 87, while item 4 scored the lowest with an average score of 60. However, the overall average score was 77, which according to Table 1 is considered high as it falls within the range of 67-100.

No	Item	Min
1	I really like to play this game with my child.	87
2	My child is friendly towards me during the game.	87
3	I felt close to my child.	73
4	I was bonding with my child during the game.	60
5	I cared about what happens to my child's character.	67
6	What my child did in the game had an impact on my actions.	67
7	I had to adapt my actions to my child's actions.	80
8	I was paying attention to my child's actions.	87

9	I felt confident that playing the game strengthened my bond with my child.	87
10	I enjoyed spending quality time with my child while playing the game.	73
	Overall Average Score	77

Table 3 shows the average scores for other factors influencing user comments. Item 9 scored the highest with an average score of 93, while Items 1 and 3 scored the lowest with an average score of 60. However, the overall average score was 73, which according to Table 1 is considered high as it falls within the range of 67-100.

No	Item	Min
1	The platform can effectively attract and retain users' attention.	60
2	The platform is interactive and can be used for several hours without boredom or distraction.	67
3	Over time, users become better at using the platform.	60
4	Users' abilities to use the platform have improved since the beginning.	80
5	Users' mastery of the platform improved with practice.	73
6	Users feel competent using the platform.	67
7	The platform allows users to approach it in their own way.	73
8	Users feel very capable and effective when using the platform.	80
9	I am confident that users can practice getting better at using the platform.	93
10	I am confident that users can stay calm and keep trying to succeed even when our plan doesn't work.	73
	Overall Average Score	73

Based on the respondents' answers and the analysis done, it can be concluded that the usability of this food review platform is within the range of positive reviews. The average score on all Likert scale questions is considered high because they all exceed 67 and are close to 100. At the same time, it can be concluded that the evaluation objectives of the project have been achieved

Cadangan Penambahbaikan

After thorough research, a future improvement proposal for this food review platform is to expand it to other platforms, including smartphones. The platform needs to be developed on smartphones, as this can bring some advantages. First, the growing popularity of smartphones among people of all ages provides a convenient and easily accessible platform. By making the platform available on smartphones, it will be able to reach a broader user base and increase user engagement.

KESIMPULAN

Sum up

Overall, this food review platform has been successfully developed and uses data that has been researched and obtained. The objectives of the study and the previously set requirements have been successfully met. Although some obstacles were encountered along the way, they were overcome in various ways. Hopefully, this platform will serve as a basis for other research in the future.

System advantage

The advantage of the platform is that it provides the ability to continue to be used on other devices. This also means that if a user deletes the platform from their device and downloads it again, as long as they remember the account's email and password, they can continue the previous process. In terms of development, the project has the advantage of having enough hardware equipment, including the equipment needed for testing.

System disadvantage

The ability to continue use on different devices also brings with it a limitation of the platform that it relies on an Internet connection, even when used locally. On the development side, there are also some disadvantages, such as lack of expert guidance. In addition, comprehensive tutorials or learning resources are limited, making it difficult to acquire the knowledge and skills needed for development. Finally, integrating a cloud database into the platform also brings some technical issues. This feature is essential to ensure that users can continue to use their processes across different devices. However, all the limitations mentioned have been overcome.

PENGHARGAAN

RUJUKAN

The effect of electronic word of mouth on restaurant online awareness: a comparison of consumer reviews and editorial reviews
https://www.sciencedirect.com/science/article/pii/S0278431910000198

[2010,12]

Process vs. outcome: Effects of food photo types in online restaurant reviews on consumers' purchase intention

https://www.sciencedirect.com/science/article/pii/S027843192200041X

[2022,04]

What are customers commenting on, and how is their satisfaction affected? Examining online reviews in the on-demand food service context

https://www.sciencedirect.com/science/article/pii/S0167923620302220

[2021,03]

The impact of social media reviews on restaurant performance: The moderating role of excellence certificate

https://www.sciencedirect.com/science/article/pii/S0278431916300184

[2016,05]

ZHANG HAOYANG (A184848)

ASSOC. PROF. TS. DR. NURHIZAM SAFIE MOHD SATAR

Fakulti Teknologi & Sains Maklumat

Universiti Kebangsaan Malaysia