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The Planning Process of 'TryEAT' Variety Halal Food E-Commerce System

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***Abstract*— In the present work, this research is a web-based halal system that shall be helping people to ensure and enlighten their food of buying is halal without any doubt. In this modern day, most people have had at least one food e-commerce application handheld, for example, GrabFood, Foodpanda, or ShopeeFood. These applications similarly work wonders by having vendors registered in their system along with the foods sold. Users can swipe through the menu depending on their desire, pay instantly cashless and wait for the food to arrive at their doorstep. It is undoubtedly a very helpful application, especially during this pandemic era when we could avoid being in a crowd for lunch or dinner. However, in these apps, halal status is not being prioritized strictly, and there are times when the users overlook that the vendor is a non-halal restaurant, or the food is. Therefore, this research entitled 'TryEat' Variety Halal Food E-commerce System is meant to overcome the issues, where it aims to monitor every in-process food making, the vendor's halal status, ingredients used, and strictly prohibited any doubting elements throughout the registration phase. Meanwhile, the word 'variety' in the research title is due to the uniqueness of this system, which emphasizes the colors of food from various races. This also explains the chosen name of the web-based application, 'TryEat', which brings a similar sound as 'try it, encouraging people to try something new. The methodology used to develop this research is by Waterfall Model to ensure that the development process runs smoothly, the system works well, and achieves the research's objectives.**

***Keywords*—** Halal, Food, Culture, Web-Based System, User

I. INTRODUCTION

Technological evolution brings obvious changes into today's world where we mostly use artificial intelligence, system-based and cashless. Nowadays, there are uncountable 'e-commerce' or electronic commerce businesses across the globe, where people can sell, buy, or even get information through it, including the food industry. The reason for it to stay relevant is surely it brings ease to people such as saving time, faster and works efficiently where customers can now skip the queue and continue their job while waiting for the food to arrive at their doorstep.

The Arabic term "halal" signifies "permissible" in English which contrasts with the term "haram", forbidden, mentioned in the Quran. Amongst Muslims, halal food is that which is allowed or lawful to eat, unless expressly forbidden by the Quran or Sunna. To be deemed halal, meat products, for

example, must adhere to a variety of standards about their preparation, quality, and composition and go through slaughter which Malaysians have become more aware of. Haram is a phrase for goods that are forbidden. Even though there are Muslims everywhere, there may be variations in how Islamic law is understood and applied, which could affect how different modern cultures understand and interpret the term "halal,", particularly about what is permitted during halal slaughter. The halal certification authority in Malaysia is called Jabatan Kemajuan Islam Malaysia (JAKIM). Numerous dangers could jeopardise the integrity of the chain that supplies halal food. One of the issues is the cross-contamination of halal and non-halal food products and hygiene and slaughtering standards.

Food buying systems consist of two different categories: the delivery services by the restaurant itself, such as KFC or McDonald's, and third-party intermediary platforms such as Foodpanda and GrabFood which are popular applications nowadays, as most people have one of them. These apps are very convenient and helpful during our busy days as we can choose virtually and make instant payments. Though, some of the features available in these apps did not include the verification status of halal, either for the vendor, food, or both. Therefore, this 'TryEat' web-based system will serve verification to the users to avoid n or doubt while ordering by monitoring every in-process, list of ingredients used, and the vendor's status and activities.

Furthermore, living in such a beautiful world, full of multiple races, cultures, and traditions, unites people into one, especially in a multi-race country like Malaysia. Food is one of the main topics to be spoken of, along with the word 'culture'. Hence, this 'TryEat' Variety Halal Food E-commerce System project is developed to also bring awareness to their users regarding global cultures, where in this system, foods will be categorized by races names such as Malay, Indian, Chinese, Korean, and Japanese as every culture pride itself on different dishes. Thus, the customers can be open to new meals and try something new, complying with the chosen system name of 'TryEat' which brings a similar sound to 'try it', encouraging people to try something new, worry-free.

Satisfying the objective of this research's field of halal, every food registered must be listed along with the ingredients, and any doubting or prohibited ingredients must be replaced by any halal dupes during the registration phase. Vendors also need to submit the food's making process video to be reviewed by the system's administrator. By this, the admin can ensure the food's verification and wipe off any doubt for users. Ingredients that are prohibited will be highlighted, for example in red, to clarify the vendor's reason for being unapproved.

The research questions of this research are as follows. (1) What are the gaps in the existing halal food system? (2) How to ensure this 'TryEat' Variety Halal Food E-commerce System is protected from any threat? (3) How to ensure that this 'TryEat' Variety Halal Food E-commerce System is working well?

The research objectives of this research are as follows. (1) To investigate the gaps in the existing halal food system. (2) To develop a secure halal food system. (3) To perform user acceptance testing to ensure the system is working.

Current existing systems did not provide strict notifications or alerts regarding the halal status in any food or vendor. Therefore, users might sometimes overlook while ordering, especially when in rush. Moreover, some products contain a doubting name, for example, a complete halal cafe in Temerloh, named 'Kopi dan Bunga' sells a drink called 'butter beer' which is a caramelized coffee containing not any beer, but brings confusion to customers. An article in New Strait Times stated that under the Food Act, the law on food labeling needs to be amended to ensure that Haram ingredients are mentioned on the label. If a substance can be obtained from several sources, then the producer should be required to the state from which source it was obtained [1]. Therefore, it is a must for the vendor to always keep their products doubt-free.

Some people were not exposed to other races' cultures and eventually have been forgotten. This statement goes along with the traditional foods of other cultures, where we tend to only know ours, despite any others. This might also happen to people who grow up befriending only among the same race, culture, or religion, as has been stated by [2]. All this means there is an increasing number of Malaysians who are growing up with little or no interaction with people of other races, said the news.

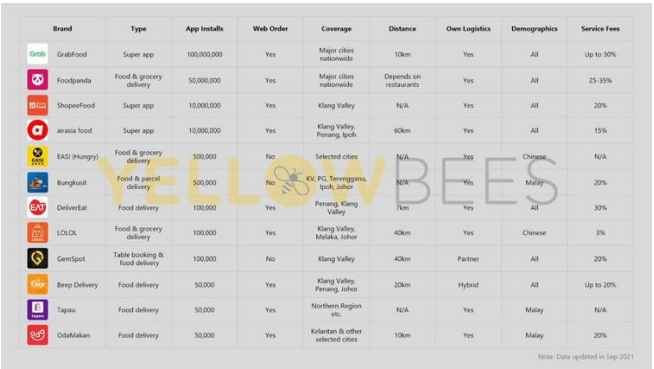
Next, people need to do a self-survey on online platforms such as Instagram, Facebook, or Twitter to look up available related accounts regarding their desired craves, which surely takes up some time. Furthermore, sometimes the account they found is located miles away, closed, or even inactive anymore. By having a website, they can browse it all at the same time, along with the food availability near their location. In an article entitled 20 E-Commerce Advantages and Disadvantages You Need to Know written by [3], most businesses experience a delay in responding to customer inquiries. As in food matters, surely customers do want a quick response during their lunch or dinner time where replies within hours surely swipe off their desires to eat. Slow responses will highly bring anger in them and shop somewhere else instead, which the only option the seller had is to be online 24/7. Nevertheless, [4], have also mentioned in their writing of The Emergence of Online Halal Food Delivery Services in Brunei Darussalam Amidst Covid-19 where 84.5 percent of Brunei's online food ordering system consumers order their food online willingly as it is convenient and saving up their time and they do not have to leave the house.

Based on the above scenarios, online platforms have recorded numerous cases of scamming over the years. It is due to the usual procedure of buying where payment will be made directly to the owner before the delivery. Therefore, some irresponsible people will lie to their customers and block them afterward, to keep their activities untracked. Reference [5] in his writing said e-commerce transactions are mostly faceless and paperless without any due proof. Most organizations do not have a physical existence and customers are hesitant to make card payments beforehand. Therefore, a verified e-commerce platform could bring up confidence as it is official and recognized.

Online food delivery services involve three parties, which are the platform, customers, and riders who play a huge role respectively during the process. Halal supply chain process

involves the production, processing, distribution, retail, and consumer which could be said as farm-to-fork. Therefore, the food's halal status needs to be sustained throughout the process, including the way of handling it. Otherwise, the halal status could be at stake. One of the issues during this ensuring process is the cross-contamination issue, where the food might be in physical contact with non-halal substances or containers. Some e-commerce platforms did not provide halal logistics practices which include the lack of the separation of halal and non-halal products' delivery bags. In Singapore for instance, they had already added a protection layer when it comes to halal food orders to maintain the halal status of the food [6].

Ever since the outbreak of COVID-19 in 2020, the statistics of food e-commerce usage show an incremental trend as it has been a new norm and vital option globally. This pandemic has broken the brick-and-mortar where nowadays, people were introduced best to not be in a crowd. Therefore, it is highly likely to affect the logistic system and bring obstacles to the food supply field to operate smoothly, especially for urban locals. E-commerce platforms offer a variety of joys including the variation of vendors, discounts, and instant payments while steering clear the person-to-person contact thus the infection risk. The chosen applications for this project's research are GrabFood, Foodpanda, ShopeeFood, and AirAsia Food, due to the statistics from YellowBees in Fig. 1, where these applications are the top and most used amongst Malaysians, where they reached 10,000,000 installations.



Brand	Type	App Installs	Web Order	Coverage	Distance	Own Logistics	Demographics	Service Fees
GrabFood	Super app	100,000,000	Yes	Major cities nationwide	10km	Yes	All	Up to 30%
Foodpanda	Food & grocery delivery	50,000,000	Yes	Major cities nationwide	Depends on restaurants	Yes	All	25-35%
ShopeeFood	Super app	10,000,000	Yes	Klang Valley	N/A	Yes	All	20%
airasia food	Super app	10,000,000	Yes	Klang Valley, Penang, Ipoh	60km	Yes	All	15%
EASI (Hungry)	Food & grocery delivery	500,000	No	Selected cities	N/A	Yes	Chinese	N/A
Bungkusit	Food & parcel delivery	500,000	No	KV, PG, Terengganu, Ipoh, Johor	N/A	Yes	Malay	20%
DeliverEat	Food delivery	100,000	Yes	Penang, Klang Valley	7km	Yes	All	30%
LOLOL	Food & grocery delivery	100,000	Yes	Klang Valley, Melaka, Johor	40km	Yes	Chinese	3%
GemSpot	Table booking & food delivery	100,000	No	Klang Valley	40km	Partner	All	20%
Beep Delivery	Food delivery	50,000	Yes	Klang Valley, Penang, Johor	20km	Hybrid	All	Up to 20%
Tapau	Food delivery	50,000	Yes	Northern Region etc.	N/A	Yes	Malay	N/A
OdaMakan	Food delivery	50,000	Yes	Kelantan & other selected cities	10km	Yes	Malay	20%

Note: Data updated in Sep 2021

Fig. 1: Top Food E-commerce Application in Malaysia [7]

Foodpanda is one of the earliest leading online food delivery services and has widened its market value over time. The name Foodpanda is no longer new to Asian and European countries, and it works in Africa, Latin America, and the Middle East under the name of HelloFood [8]. It allows customers to purchase online and track their orders. Foodpanda provides unique features such as:

i) **Orders & Reordering:** Customer can view their past orders and allow them to reorder the same item again. By this, they do not have to go through all the restaurants or menus available to find the same item.

ii) **Challenges & rewards:** Features that differentiate their apps from others where users can collect points while ordering, depending on the challenges offered, and redeem their points or badges later as a reward.

Fig. 2 is the interface of the Foodpanda Official Website accessed on 20 April 2022.

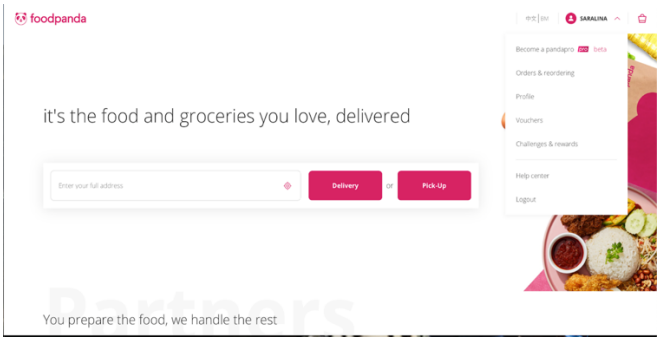


Fig. 2: Foodpanda Web System [9]

Grab was first developed in 2012 by Anthony Tan & Hooi Ling Tan in Singapore, initially as a taxi-hailing service. Over time, this application changed its name from GrabTaxi to Grab in 2016 as it has gone beyond the original ride-hailing service while broadening its usage in Southeast Asia countries. Shifting from its early objective, Grab nowadays provides numerous services such as GrabFood, GrabCar, and GrabExpress. In GrabFood, they offer similar enjoyment as Foodpanda, where some of the features are:

i) **Favourite:** Users can keep their favorite restaurants or shops in the Favourite tab. Inside this love icon of favorite, it is categorized by 'Delivery' and 'Pick-Up' to ease the users even more.

ii) **E-wallet payment:** Grab or GrabFood itself offers its payment method which is an e-wallet. By this, it is much easier as it is instant where users don't need to login into their online banking account to make payment and at the same time, points could be collected as membership.

Fig. 3 shows the interface of the GrabFood Official Website accessed on 20 April 2022.

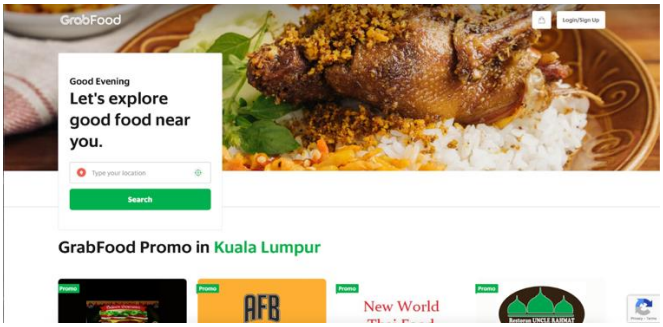


Fig. 3: GrabFood Web System [10]

Shopee is no longer new or unusual for people worldwide. It is a huge online shopping platform where it gathers shops from various countries in various categories of goods and has expanded to many more services such as bill payment, Shopee Supermarket, and ShopeeFood. The best offers that users could get in Shopee are:

i) Vouchers: Shopee is well-known for its abundance of vouchers and discounts for shipping, delivery, and price-off, especially during special occasions.

ii) In-app e-wallet: According to [11], Shopee has come up with its e-wallet in 2019 which was originally called Shopee Wallet but has changed its name to ShopeePay. This e-wallet is undoubtedly beneficial for the users as they can top up and store money for anytime usage via Shopee or even offline merchant deals. More discounts and promotions were also given for some special times when using ShopeePay. It is also convenient as it could be withdrawn, has strong security such as using fingerprints or Face ID during transaction approval and users could also transfer the money to another ShopeePay account.

ShopeeFood interface is as shown in Fig. 4 which has been accessed on 18 May 2022.

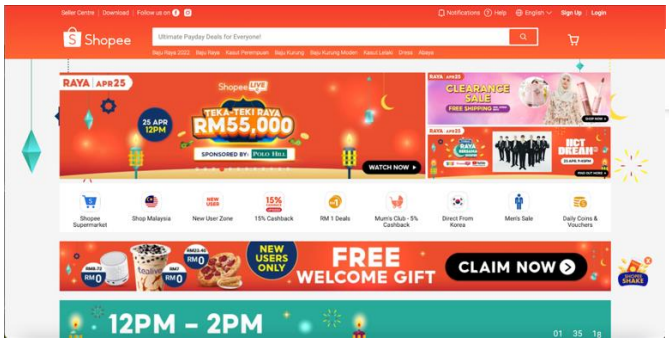


Fig. 4: Shopee Web System [12] (Shopee, 2022)

Another online food retailer in the marketplace is AirAsia Food, developed in May 2020 and first operated starting in Klang Valley, Kuala Lumpur. It widened its service nationwide in March, starting with Johor and Penang. The benefits that AirAsia has offered to their customers are unlimited free delivery up to a 15 km delivery radius with a minimum purchase of RM15 and a 10% commission rate [13]. Other than that, signed-up merchants were also offered with 0% commission for their delivery services [14]. The concept that differentiates AirAsia from any other applications is it originally offers a variety of payments such as BigPay, credit card, or by redeeming AirAsia BIG Points whilst getting some price-off. However, as time changes, it has changed to credit or debit cards, online banking, and UnionPay. This application however did not support any cash-on-delivery payment method.

AirAsia Food interface is shown in Fig. 5 which has been accessed on 18 May 2022.

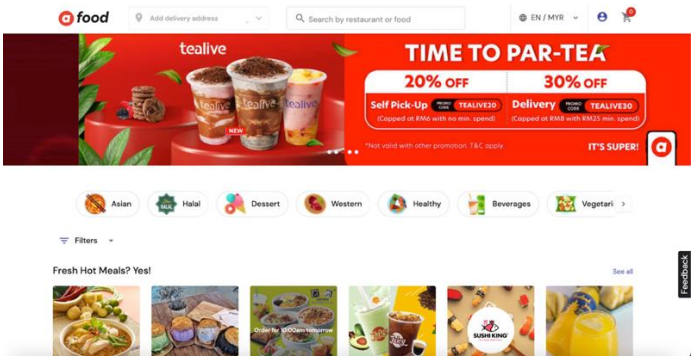


Fig. 5: AirAsia Website System [15]

Furthermore, in AirAsia, there are several uniqueness compared to the other systems which are:

i) AVA Helpline: AVA, AirAsia's Virtual Allstar is a computerized bot that answers any customer's queries, instantly in eleven universal languages (AirAsia, 2020). It is available 24 hours and offers answers for every possible problem as shown in Fig. 6.

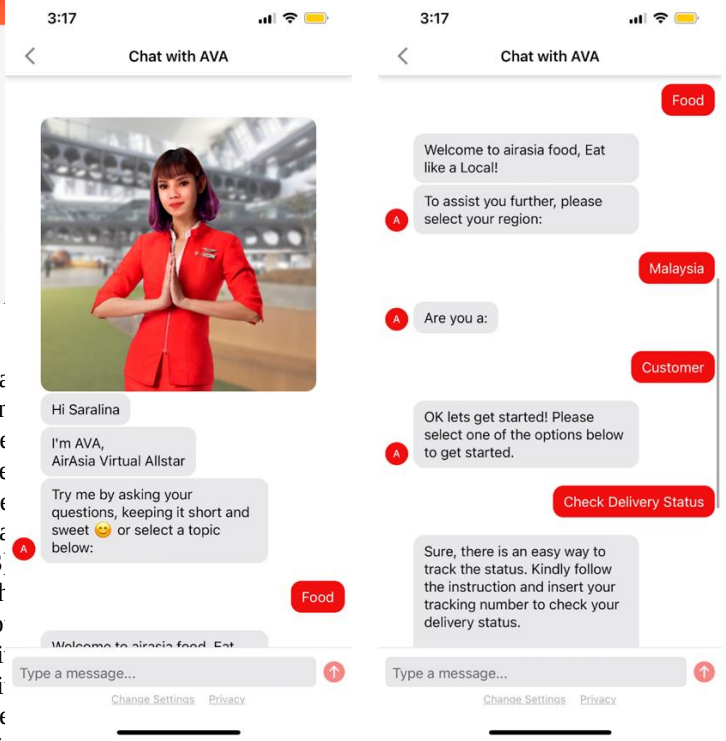


Fig. 6: AirAsia AVA Helpline [16]

ii) Location Tracking: In this app, the real-time location of the rider is not displayed as in other applications. However, they can get the update by using the feature of AVA by pasting the given tracking number as shown in Fig. 7.

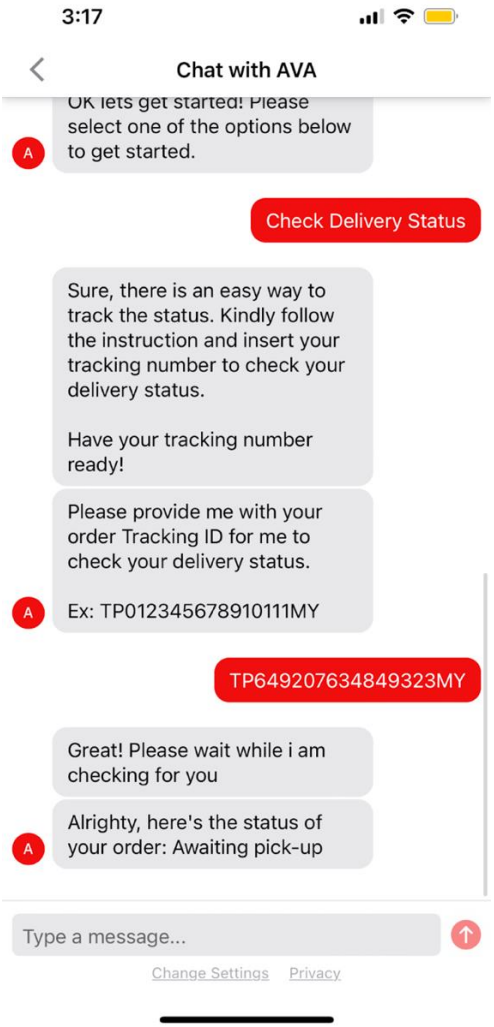


Fig. 7: AirAsia Food Location Tracking [16]

Table 1 shows the comparison between the chosen existing system's features and functionality. The process of purchasing non-halal products was not restricted. For instance, the vendor is only labeled as 'non-halal' but did not come with any pop-out confirmation for the customer for their orders. Thus, some people have overlooked and accidentally bought non-halal foods. Therefore, in this project's system, the strictness for halal status is ruled during the registration of the vendor and food ingredient list. The administrator will sort out and ensure no prohibited or doubted substances are used in every food. Furthermore, foods were usually sorted by their type only thus causing the customer to not know or be exposed to the existence of other races' culture foods. This differs from the concept of the 'TryEat' system where foods are categorized by name of race such as 'Malay', 'Chinese' and 'Indian' along with the type of foods, to acknowledge society the variety option of foods and encourage them to try something new, rather than their basics. Fig. 8 proves the successful order of non-halal food through Foodpanda. During the ordering process, there was no notification, confirmation, or warning to the customer for its non-halal status, which allowed everyone including Muslims to purchase intentionally or not.

Table 1. Table of Comparisons for Each Existing System

System	Foodpanda	GrabFood
Log In	Yes	Yes
User	Seller / Buyer	Seller / Buyer
The focus of the System	1) View products 2) Place an order(s) with payment 3) Vary options of delivery or pick-up 4) Order tracking	1) View products 2) Place an order(s) with payment 3) Vary options of delivery or pick-up 4) Order tracking
Real-location Tracking	Yes	No
Notification	Yes	Yes
Specified Time and Date Booking	Yes	Yes
Payment	1) Online banking 2) Cash on Delivery	1) Online banking 2) Cash on Delivery 3) In-apps E-wallet
Log In	Yes	Yes
User	Seller / Buyer	Seller / Buyer
The focus of the System	1) View products 2) Place an order(s) with payment 3) Order tracking	1) View products 2) Place an order(s) with payment 3) Vary options of delivery or pick-up 4) Order tracking
Real-location Tracking	Yes	No
Notification	Yes	Yes
Specified Time and Date Booking	No	Yes
Payment	1) Online banking 2) Cash on Delivery 3) In-apps E-wallet	Online banking

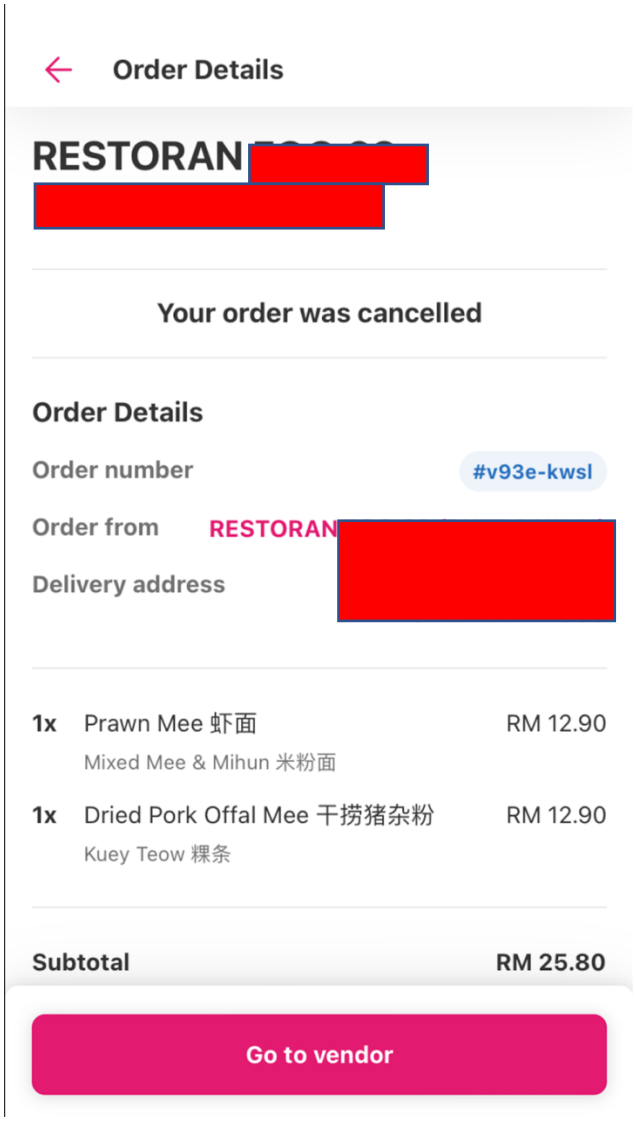


Fig. 8: Successful non-halal order [9]

A web-based system is an online system powered by a web browser, accessed by HTTP, and could be accessed throughout the Internet or local server. With the existence of this web-based application, all work could be done in only one single platform, anywhere, along with entertainment [17]. It is built up with web technologies to portray and deliver messages and functionality to the users. Over time, papers were replaced by web-focused systems as it is more convenient, systematic, and safe, in terms of the information stored, avoiding data loss [18].

In any computer-based system, data protection is a must as we pass by so much sensitive and private information such as phone numbers, addresses, and bank card details which should only be handled by trusted platforms. User data is the utmost important element to be taken care of, whilst building up trust and reputation in the world's eye. The login feature, for example, is an authentication mechanism to ensure the user's identity and is highly said that the entire system is not reliable and unsafe if the login page itself is already unsecured [19]. However, no web technology could guarantee full invulnerability as threats could come in any way, but the least to do is to have secure protection it.

Passwords are a common yet practical approach when it comes to security. Usually, passwords will be secured by converting them into hash values throughout the databases by using a hashing mechanism [20]. By this, users' passwords will be unreadable, avoiding being eavesdropped on, spied on, or data breached. The password itself should not be 'cliche or common, as it will be easy to guess and result in very weak protection. A good password criterion is depending on the length and combination of characters used, such as alphabets, symbols, and capitalization. Thus, one of the utterly important elements in the 'TryEat' system is to apply the restriction of passwords as the first line of defense to ensure the system's security is at best, complying with this project's research question and objective.

According to [21], despite the rise of Covid-19, the demand for halal foods such as chicken, fresh fruits and canned tuna has also increased along with the outbreaks. Thus, the key gap in this research is first, the strictness of halal status is being prioritized. The problem of successful non-halal orders is one of the obstacles observed and shall be overcome in this research. Furthermore, this project is highlighting the awareness of global cultures, thus including the concept of cultural foods and races in the system. It aims to give as much awareness and knowledge to society, indirectly through the ordering process.

II. METHODOLOGY

In developing a good system, thorough research and planning are effective to ensure a well-working system. There are several popular SDLC methodologies or concept frameworks such as waterfall, agile or spiral models where the proposed methodology chosen is the waterfall model after considering the project scale and developer's knowledge. Fig. 9 is the illustration of the waterfall model.

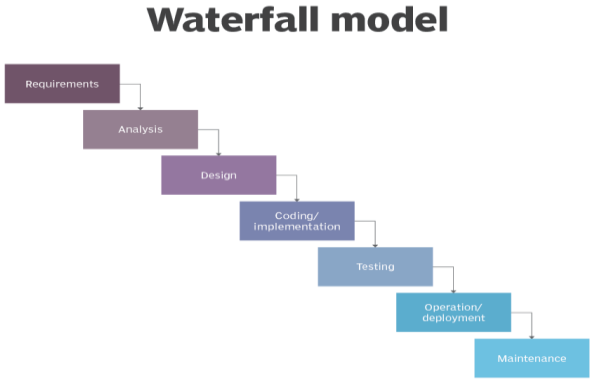


Fig. 9: Waterfall SDLC Model

Waterfall model benefits in clearing the developer's vision and understanding by defining the entire project's goal and scope, resulting in a good outcome on time. This model was first established in 1970 by Winston W. Royce and has resulted in a good impact as it flows up every process smoothly since the beginning. Fig. 9 shows the flow introduced in this model including requirement, analysis, design, implementation, testing, operation, and maintenance. Therefore, it is considered an easy and understandable method.

System requirements are the utmost vital thing to be taken care of as they will be used until the end of the process. Research from journals, articles, news, and the Internet has been referred to gain information to fulfill all the project's goals. All possible difficulties will be listed during the analysis process to prevent any bugs, or errors in the future, during the development process.

It is surely best to have a prototype outline of the system to acquaint the upcoming phases. There are at best two subphase designs which are logical and physical design where in the logical phase, all data will be specified into conceptual and theoretical and will then be converted into the physical design to show solid specifications.

This project's outcome shall be described in this phase regarding how the system should be designed and implemented [22] including the system structure and diagrams. The potential obstacles and early designs could be sketched out to discover and decide on any additional features. The particulars that were outlined are as follows (Table 2).

Table 2. System's User and Role

User	Role Description
Administrator	• Monitor all activities • Update system • Check users' registration • Access databases
Seller or Vendor	• Register and log in • Update product • Update order status
Buyer	• Register and log in • View catalogue • Order food • Update order status

Fig. 10 is the Use Case Diagram illustrating the users and their tasks throughout the system. Fig. 11 is the diagram for system database design that describes all attributes and entities and the relationship between entities. A flowchart is a simple visual representation of the system's algorithm which helps in the decision-making process and a better understanding of the flow.

The flowcharts were drawn according to the users in the system along with their processes throughout the system. Therefore, three flowcharts were created consisting of the customer (Fig. 12), vendor, and administrator and appear as follows:

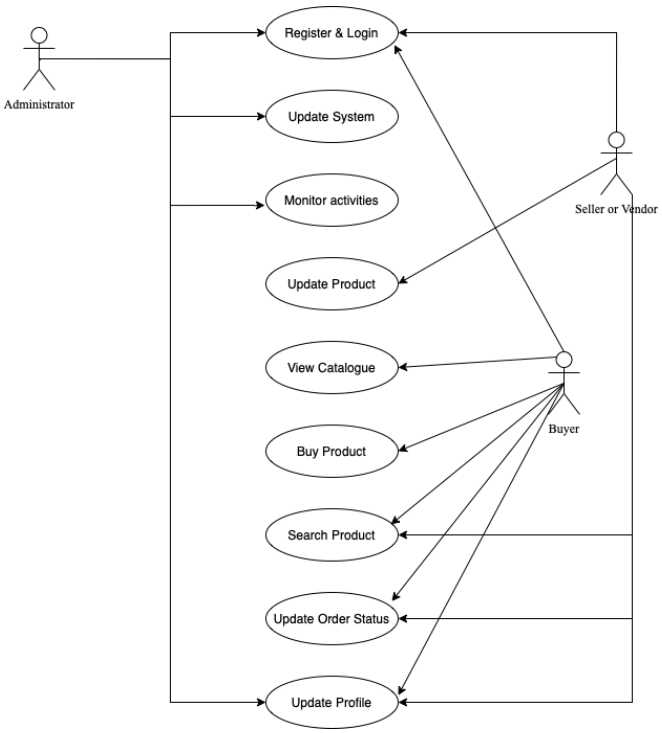


Fig. 10: Use Case Diagram

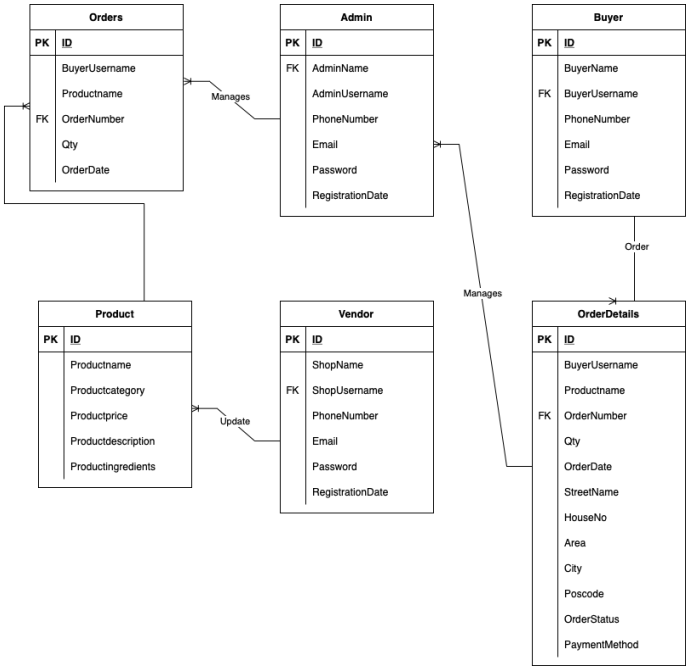


Fig. 11: System Database Design

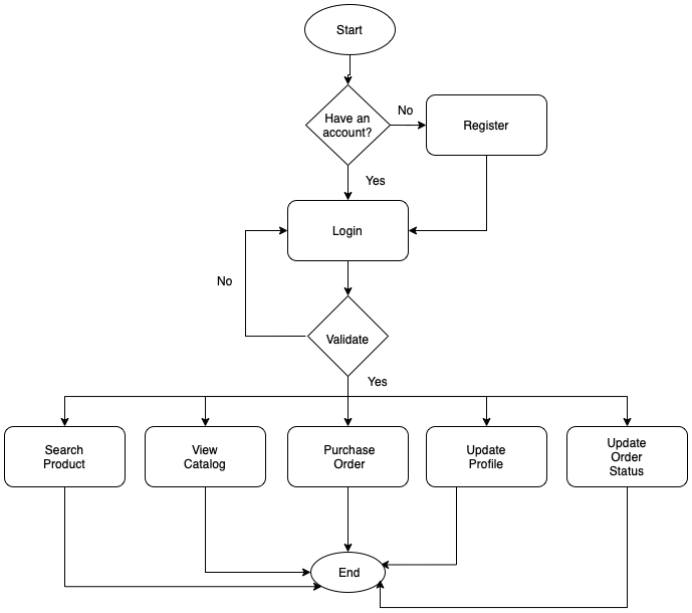


Fig. 12: Customer Flowchart

i. **Search Product** – Feature to cut-off unnecessary time by helping customers to find their desired products quickly.
ii. **View Catalog** – Customers can go through and view all the menus within the system.
iii. **Purchasing Order** – Customers can purchase any product and choose any payment method.
iv. **Update Profile** – Customers can update their information details such as name or address and change the password if needed.
v. **Update Order Status** – Order confirmation whether it is delivered successfully or not.

However, a failed combination of credentials checked on the database will be brought to the login page again for retry.

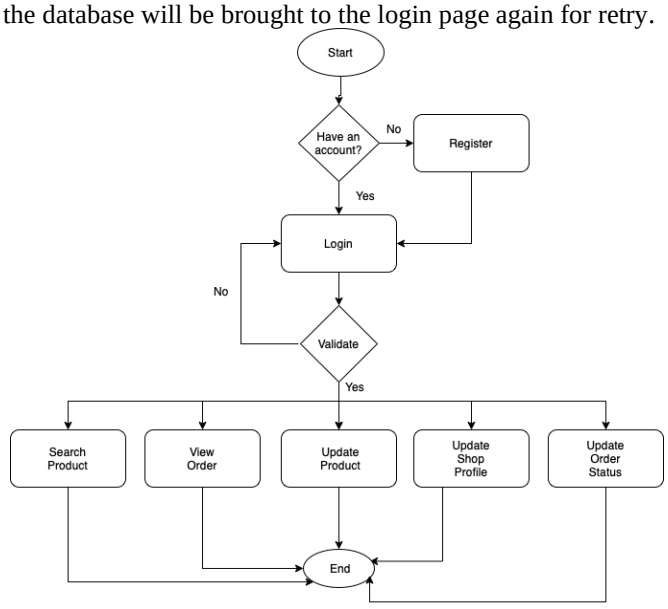


Fig. 13: Vendor Flowchart

Fig. 13 describes the vendor tasks which it is like the customer's flow in some parts but differs in several operations which are:

i. **View Order –** Seller can view the incoming orders to be processed.
ii. **Update Product –** Sellers can update their product's availability.
iii. **Update Order Status –** Order status confirmation, whether being processed or ready to deliver.

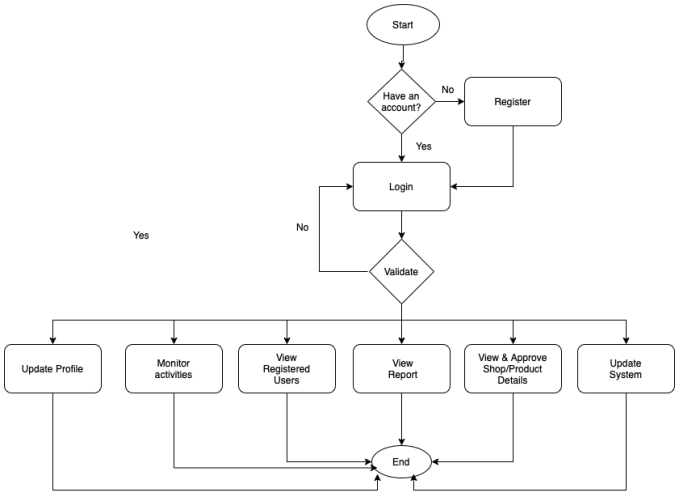


Fig. 14: Administrator Flowchart

Lastly, the flow for admin tasks is illustrated in Fig. 14 which plays a major role in the system as they run most operations such as:

i. **Monitor Activities** – All processes throughout the system were monitored by the admin.
ii. **View Registered Users** – All registered users will be analyzed in the databases.
iii. **View Report** – All reports will be checked and take suitable action.
iv. **View and Approve Shop/Product Details** – The administrator will verify the shop and food details to approve, considering the status of halal.
v. **Update System** – All new updates or maintenance will be made, suiting users' comfort.

The implementation process translates all gathered information and designed it into implementable form to develop the system. Some of the main focuses that will be included are:

1. Registration
2. Log In
3. Categories and Catalogue
4. Order Status
5. Payment method
6. Database management

Table 3 explains the project software requirement that shall be used.

Table 3. Software Requirements

Language/Tool	Description
HTML	Standard language to structure a web page and its content.
CSS	Language for web page look and layout styling
phpMyAdmin	System database
PHP	Language embedded with HTML to produce an interactive website
XAMPP	Used to test the system before being launched
JavaScript	The language used by both parties, the client, and server, to make the website interactive (Hack, 2021)
Visual Studio Code	A fast platform for code-build-debug cycle
Apache	The free, open-source software acts as an intermediary within client and server communication using TCP/IP protocol.

Testing is the crucial phase as it requires actual testing to ensure the system works as expected and satisfies all the requirements. All vulnerabilities shall be observed, detected, and controlled for them to run smoothly and bug-free. Consequently, the tests that will be done in this phase are User Acceptance Testing and Functional Testing. All testing will continue to be executed until it satisfies the project's goals completely.

Maintenance is the last phase to be considered to ensure the functionality of the system. The system may later need modifications or corrections after being launched or when the users asked the developers for changes. Software maintenance will as well be done when technical vulnerabilities occur.

III. EXPECTED RESULTS

Graphic User Interface (GUI) or System Interface Design where all the expected results of the system development shall be illustrated. The implementation will be done based on these interfaces to create a working system. The designs however came except for changes as it evolves during the development process.

Fig. 15 is the system's main page which is the first page users will encounter. Users can choose between two options which are 'Join Now' to register or 'Login' if they are existing users.

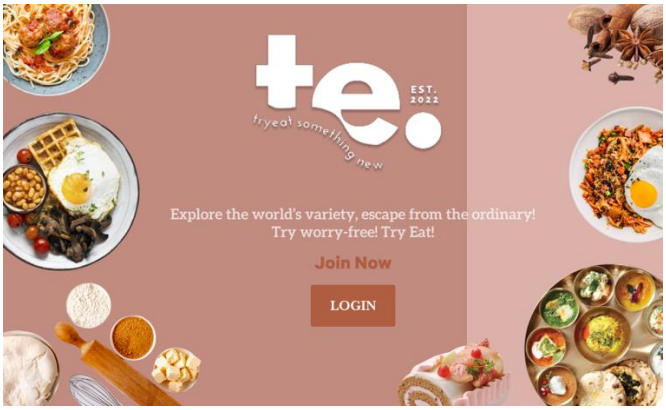


Fig. 15: Main page

Next, upon clicking any button on the previous page, the system will redirect to the user's group page as shown in Fig. 16, where users need to declare themselves as the customer, vendor, or admin. This is due to the different operations that could be done in the system and thus need to be registered and logged in accordingly.

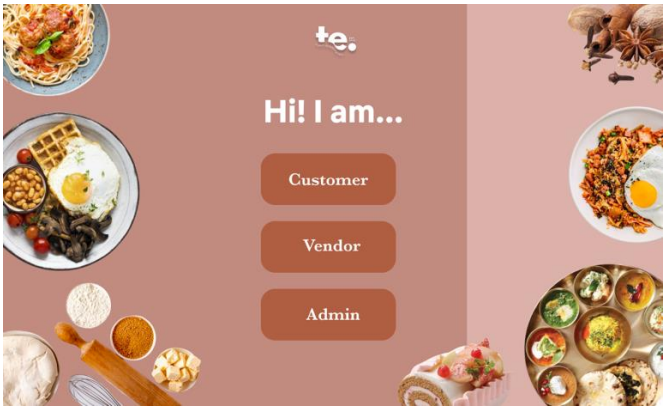


Fig. 16: User's Group

Login is the main phase of this system as no one can browse through the system until logged in. Fig. 17 explains that users need to fill in their existing username and password with the right combination kept in the database. Otherwise, the system will not allow the users to log in. A feature of forgotten passwords will also be included where users can reset their passwords if needed.

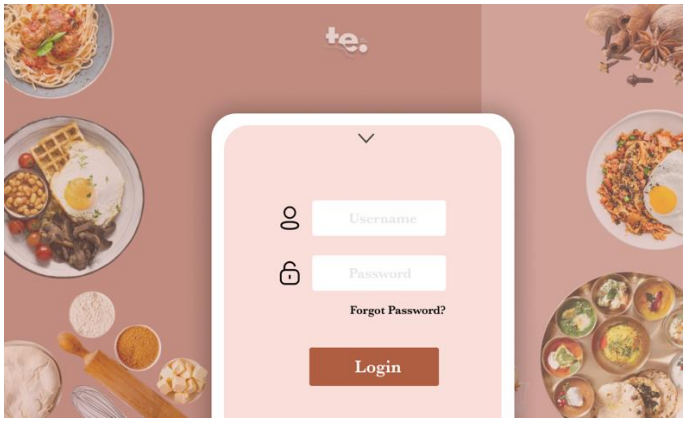


Fig. 17: Login

Users will be asked to have at least one account to be part of the system. Therefore, the page as illustrated in Fig. 18 will appear to keep all the user's information in the databases. New registered users' credentials will be kept in the databases.

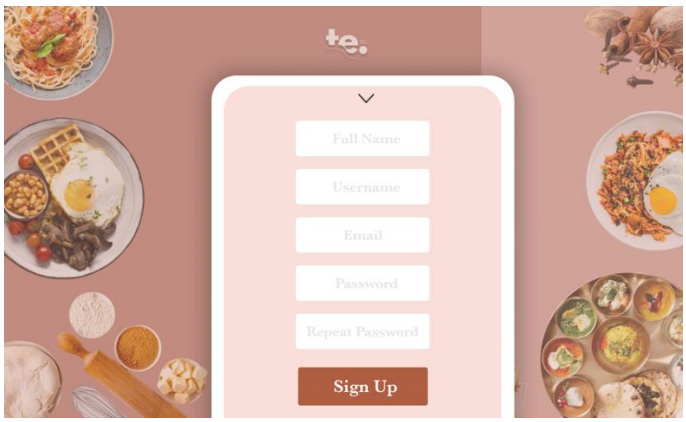


Fig. 18: Sign Up

All successful log-in users will next be brought to the homepage of the system as per shown in Fig. 19. Here, users can search the food or shop, and view the user menu and catalogue. The list of races' names will be listed in categories, along with the type of foods, encouraging customers to try all races' foods.

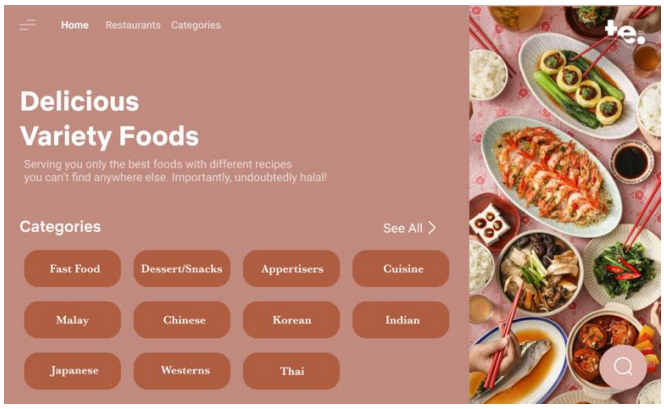


Fig. 19: Homepage

Another feature in this system is the menu dropdown list on the top left of the interface. Upon clicking the triple line icon as per shown in Fig. 19, the carousel of a dropdown list menu will be opened, listing all available options to the users such as Order History, Settings, and Log Out. The menu interface is shown in Fig. 20.

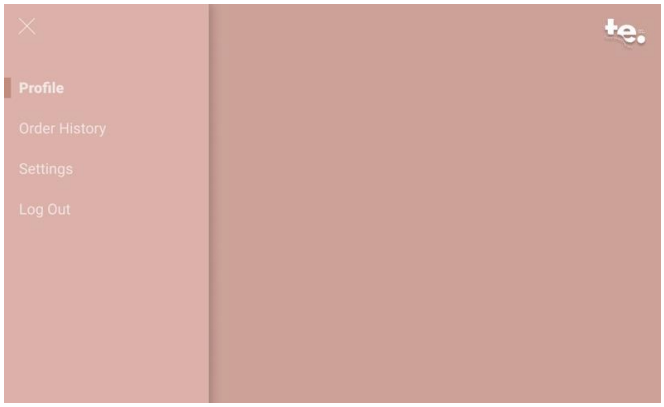


Fig. 20: Menu

The most interesting part of this system is the cultural awareness provided indirectly to the users. As we can see in Fig. 21 until Fig. 25, the name of the races will be shown, along with one of their signature traditional cuisines for illustration purposes. Next, the list of the shops available will also be listed with the name and their signature menu on it. The number of pages available for all shops will also be written for example in '01/03', showing the total number of pages is three and they are viewing the first page. This eases the users to know if they had viewed all catalogues or even gone to the previous pages.

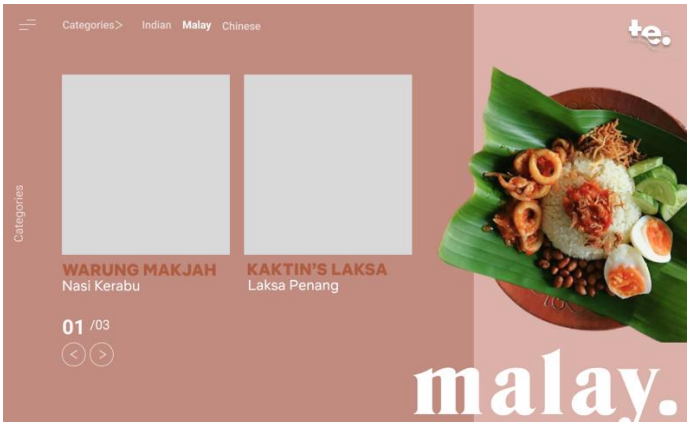


Fig. 21: Categories (Malay)

Fig. 22: Categories (Chinese)

Fig. 23: Categories (Chinese) (cont.)

Fig. 24: Categories (Indian)

Fig. 25: Categories (Japanese)

Another feature included in this system is order status updates, due to the limitation of rider services and real-time location tracking. Both vendor and customer will be asked to update the order status, before proceeding with any other operation within the system. Fig. 26 until 29 illustrates the process of updating order status.

i. **Fig. 26** – A pop-up notification for vendors whenever they received a new order. The seller needs to confirm whether they could fulfill the order or vice versa.
ii. **Fig. 27** – Upon completing the order, the seller needs to click on the button 'Order Ready for Delivery' where the customer will then be notified that the food is nearly reaching them.
iii. **Fig. 28** – Customers will next be asked to confirm their order whether it is successfully delivered or if any problem occurred.
iv. **Fig. 29** – Upon clicking 'No' on the previous page, customers need to provide the reason for the order's problem in the report. The reasons were stated in a dropdown list option.

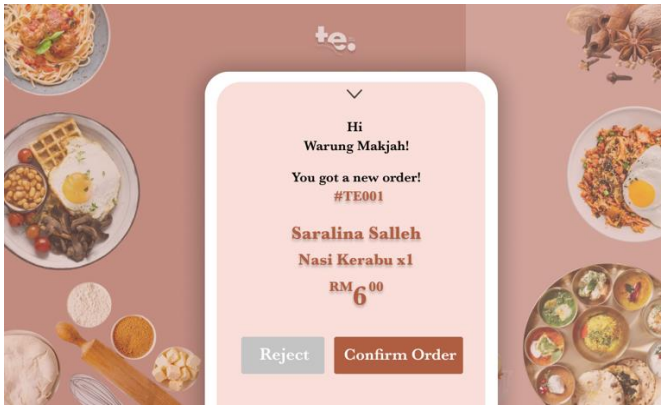


Fig. 26: Vendor Order Confirmation

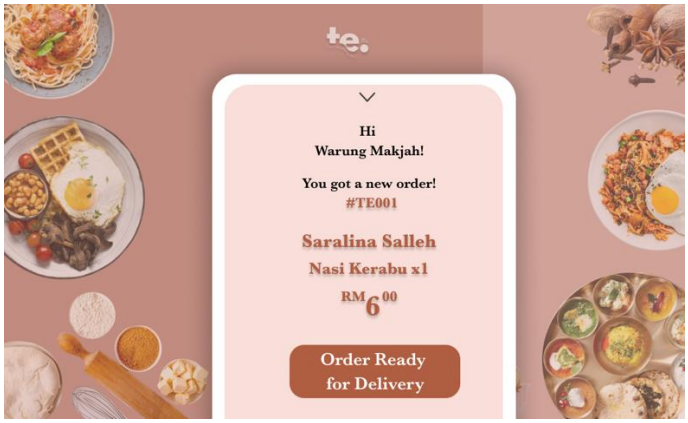


Fig. 27: Vendor Order Update

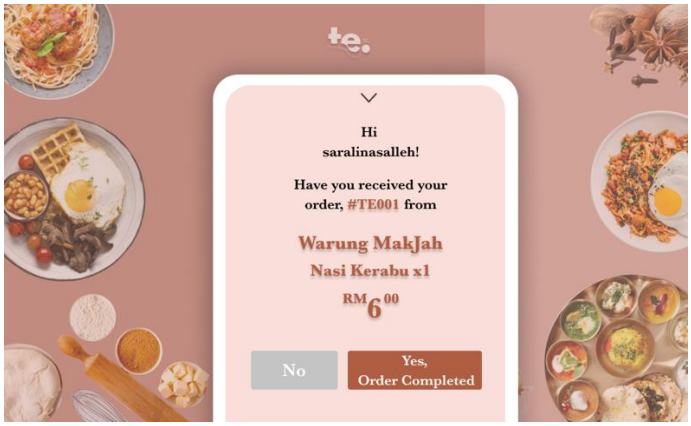


Fig. 28: Customer Order Completed Confirmation

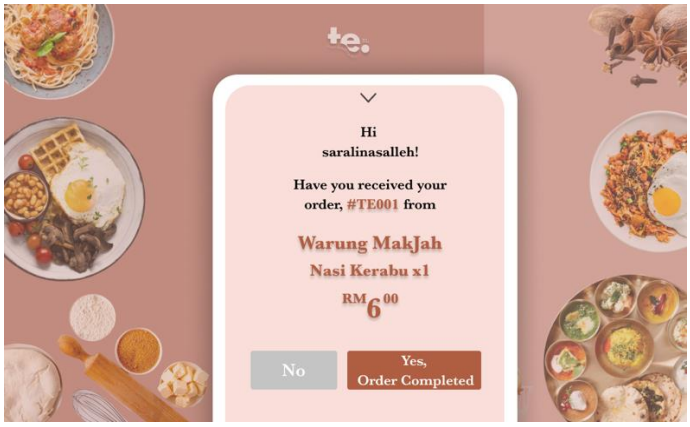


Fig. 29: Customer Order Report

IV. CONCLUSION

This project is mainly web-based food e-commerce or online business which contains security assurance for users, such as personal data, online purchasing, and databases.

The first essentials in this system are the common login and signup form, allowing users to browse the system. Foods will be categorized by the names of races and types of foods, where customers can view vendors' and foods' names along with the price. Vendors will be able to edit, add, or delete their menus within the system. A search bar will also be included throughout the system. Next, payment could be made by customers through several methods such as Online Banking or Cash on Delivery (COD). Both customer and vendor will be assigned to retrieve the order information such as preparing the food and the order has been received. Admin will be monitoring all processes in the system such as user registration, order process, and customer services.

Though, due to the limited time for the project's development, this project will not imply any coupons, memberships, or vouchers for price-off. Delivery and order status will be updated by both vendor and customer throughout the system thus excluding any rider's services and real-time location during delivery. Rating and review features will also not be included. Next, though the payment option for online banking is listed in the system, it will not be using a third-party platform such as FPX, but an alternative option which is uploading transaction receipts as proof.

This system shall emphasize and prioritize the importance of halal through every food sold on this website, along with the uniqueness of various global cultures' foods. Killing birds with one stone, users will not only get to know other races' pride dishes but taste something new, worry-free as well. The system will also shorten users' time of ordering by providing fast and trusted features like search and online payment. Furthermore, by tackling all the current problems that have been mentioned, the efficiency of one restaurant could be developed if the time usage has been lowered, human mistakes were eliminated and high-quality customer services were delivered [23] (Muhammad & Firkhan, 2022).

CONSENT TO PARTICIPATE

Written informed consent was obtained from the participant for the anonymized information to be published in this article.

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