



The Development of Specialty Food Application for Hat Yai: A Case Study

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Abstract: Hat Yai City is the one district of Songkhla province and is an economic city that consists of a commercial district. There are entrepreneurs in a variety of professions. Unique attractions indicate the way of life. It is ethnically diverse and has to mix food with culture, a valuable cultural heritage that should be passed on. But at present, there is intense economic competition. As a result, many business and restaurant sectors get very little income. Therefore, it is necessary to bring modern applications to help the business. The objectives of this research were 1) to develop a street food application in Hat Yai, 2) to assess the efficiency of a street food application in Hat Yai, and 3) to assess satisfaction with a street food application in Hat Yai. The scope of this research was a restaurant located on Niphath Uthit 1 Road, Hat Yai District, Songkhla Province. The instruments used were the efficiency and satisfaction assessments for the street food application in Hat Yai. The restaurant operators agree to provide restaurant information and food items. The sample group used to assess satisfaction was 150 people. The application performance evaluation results It was found at the highest level ($\bar{X}=4.75$). In terms of design, it was found at the highest level ($\bar{X}=4.80$), which could show the store location correctly and the evaluation results. The app's functional satisfaction was at a high level ($\bar{X}=4.44$), offering restaurant stories and food items via the mobile application conveniently and quickly.

Keywords: Development; Application; Food

1. Introduction

Hat Yai district it is a district of Songkhla Province, which is the largest city in the south and is a city famous for tourism. There are many natural and historical sites. It is also a transportation hub and a center for educational establishments and is a source of income-generating jobs for people in the community and foreigners. Hat Yai is like the capital of the south. In addition, Hat Yai District Songkhla also has borders adjacent to Malaysia, with convenient transportation routes that lead to transportation of goods for export and

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international travel. That generates income, creates jobs, creates careers, and occurs internationally. The economy in the Hat Yai district in the past was very high income from the number of tourists that traveled heavily, causing a huge increase in hotels, shops, restaurants, and other businesses to be sufficient to accommodate tourists. And Niphat Uthit 1 Road, Hat Yai City, Songkhla Province, which is widely known among tourists as Sai 1 Road, is a major tourist attraction of Hat Yai. Crowded with shops, restaurants that prefer a variety of famous food menus, and convenient service to customers who visit all the way. There are tourists, both Thais, foreigners, or from neighboring countries. Such as Malaysia and Singapore, which often travel in Hat Yai on weekends or long consecutive holidays. One of the roads is the main tourist destination. Sai 1 Road, Hat Yai City, Songkhla Province, is the main destination for tourists to respond to their needs on vacation. Currently, the economic problems are intensely competitive, and the coronavirus disease or COVID-19 epidemic has occurred worldwide. Therefore, Thailand has measures to prevent such outbreaks.

Traveling is forbidden to enter/exit internationally, resulting in a rapid economic downturn, no tourist travel, and reduced income. These were affected universally, including the community on Niphat Uthit 1 Road (or Sai 1 Road), Hat Yai District, Songkhon Province, which was ever jolly with tourists and full of businesses, shops, restaurants, etc. Currently, there is a problem with no tourists traveling to this area, causing shops and restaurants in the community to lose income, leading to the eventual closure of the business. Therefore an important problem to be corrected by strengthening food tourism, which is an important tourist attraction of the community—corresponding to the Office of Strategic Management of the Southern Group on the Gulf of Thailand [4] The 12th National Economic and Social Development Plan (February 2018) in Strategy 1. Develop tourism in the southern region to be the world's leading quality destination in developing and supporting food tourism models with unique and different styles in each area. Culture, arts, local food, and lifestyle are unique and interesting, following the three-year development plan of Hat Yai City Municipality (2017-2019) [5] Strategy 3, Economic Development Strategy. There is a way to promote tourism, consumer goods, and consumer prices. Especially in the tourist attractions in the city, there are shops and restaurants to service tourists. To raise the standard of tourism services along with the promotion of service business continually with tourism and food.

For the above reasons, the researchers surveyed the area to assess the needs of municipal authorities and restaurant operators. It was found that there was a great need to upgrade tourism to stimulate the internal economy on Niphat Uthit 1 Road (Sai 1), Hat Yai District, Songkhla Province, which is unique in diverse food culture. The selection criteria must be a restaurant located in the area of Niphat Uthit 1 Road, to consent the information of restaurant history and food items provided. The information systems for presenting reach tourists quickly [7]. Nowadays, smartphones are another channel like a portable computer for searching for information and promoting important tourist attractions and local food. Can show the location to travel accurately Sripol, 2021. [12] Currently, the application is used to encourage food businesses, facilitate customer groups, and add channels to promote the restaurant business through online channels for continuous income. They are responding to customers who want to search for restaurants and food items with distinctive local flavors or a restaurant with a flavor that combines with culture—presenting restaurant information and food menus to tourists. Show the restaurant's old history. The story tells and informs of the restaurant coordinates, which is how to promote the restaurant. As well as being aware of the food festivals, including the location of famous restaurants nearby to receive tourists. To stimulate the economy to support the tourists who love the taste of food, help to promote tourism, and make more income for the community in the form of street food (Hatyai Gastronomy City). The objectives of this research were 1) to develop an application for street food in Hat Yai. Niphat Uthit 1 Road, Hat Yai District, Songkhla Province 2) To assess the efficiency of Hat Yai street food application development 3) To assess the satisfaction of using the Hat Yai street food application. Niphat Uthit 1 Road, Hat Yai District, Songkhla Province.

2. Materials and Methods

The researcher proceeded to the research area to study the needs of people in the community and make an application design for the street food of Hat Yai at Niphat Uthit 1 Road, Hat Yai District, Songkhla Province, is classified into 6 steps as follows:

1. During the data study stage, the researcher went to the research area to interview the restaurant business along the Niphat Uthit 1 Road, Hat Yai District, Songkhla Province. These have a length of 3 kilometers to inquire about the condition of the business performance since January 2020, which had significantly reduced revenue because no tourists are traveling in the area. Some restaurants have only been open for two months. But was affected and unable to bear the cost incurred; therefore, they had to close the business. Then the research team organized a meeting with those who participated in community development, namely, The Municipal authorities, Hat Yai Municipality Council members of district 2, community leaders, Songkhla Community Foundation, Songkhla Chamber of Commerce, and Songkhla Provincial Tourism Council. Small and Medium Enterprises (SME) foundation and restaurant operators on Niphat Uthit 1. To inquire about problems, including community needs for application development to gain access to promotional information for restaurants with outstanding good food items and directions to the restaurant (Figure 1)

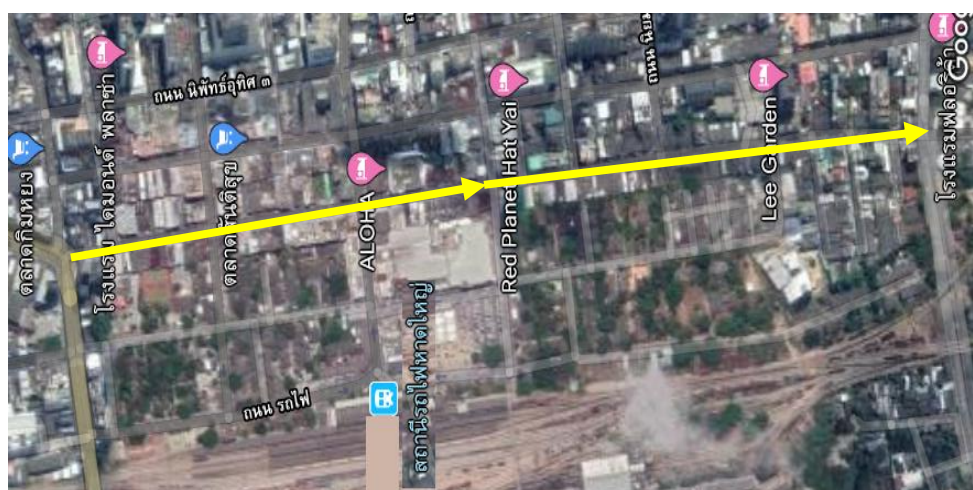


Figure 1. Niphat Uthit 1 Road Map, Hat Yai District, Songkhla Province

2. Analysis stage Data were collected from interviews to study the needs of community stakeholders and restaurant operators to promote food-based tourism. Which has the following issues

2.1 Problems with the publicity of information, which has no channel to present information about the community on Niphat Uthit 1 Road, including a lack of story presentation of the important place to encourage tourists to travel in the food of tourism.

2.2 Problems with the publicity of restaurant information. There is no restaurant database, such as the restaurant's location on Niphat Uthit 1 Road, for both Thai and foreign tourists. It also lists food items that are only shown in Thai, which does not cater to tourists with a variety of languages for communication.

3. Analysis and design stage, the researchers categorized the street food applications into command categories within the application to provide a complete overview of the use of commands from the operating system (Application Program Interface (API)).

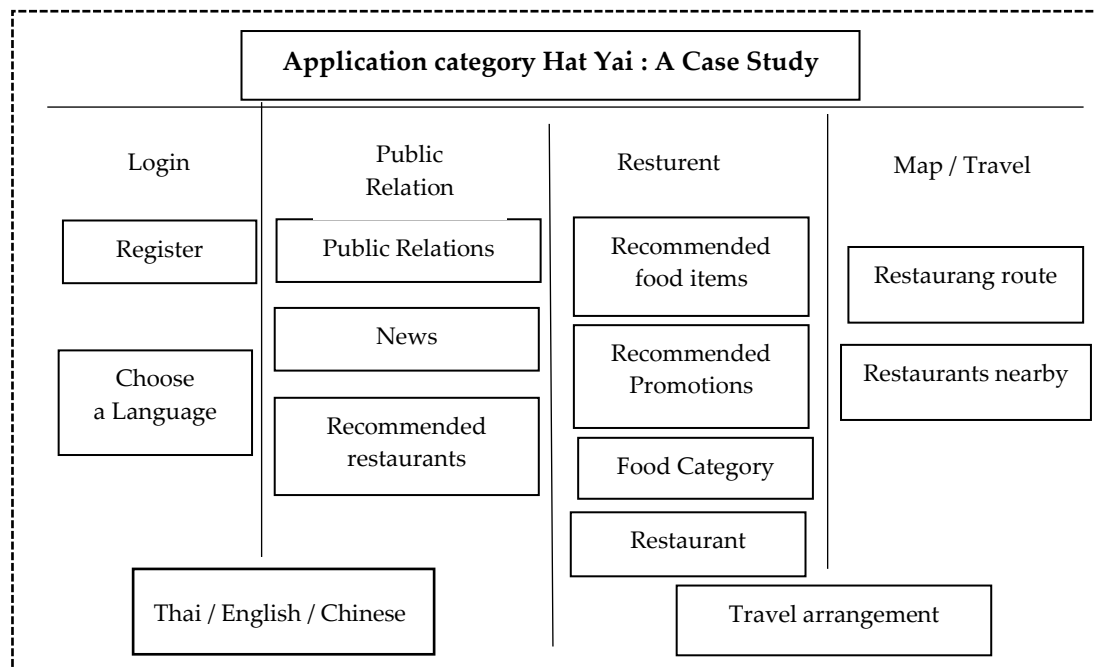


Figure 2. Hat Yai Gastronomy City Application Classification

4. The development process of the Hat Yai street food application consists of a program for developing applications, Glide Application and control commands with Apps Scripts, which can be displayed on the operating system on Android and iOS smartphones [15]. Access to full functionality and flexibility Choice of mobile devices is an important mechanism that enables users to use mobile applications. There is flexible to work on various devices and supports all smartphone operating systems [9]. It is gathering restaurant and food items and displaying them through the application. Able to define the relationship rules information acquired to manage food items to respond to customers' needs and further develop the restaurant business to generate more income.

5. Trial stage and evaluation of efficiency and satisfaction with Hat Yai street food application. This is the prototype application for the design and working system by sending a questionnaire to 7 experts with expertise in information technology and application system development. The satisfaction assessment by the sample group was the general public. A random sample of 150 application installers and trials was used.

6. Conclusion of the research results The efficacy evaluation tool was used to inquire about content integrity with the Index of Item-objective Congruence: IOC and to assess satisfaction with the Hat Yai street food application. The statistics used for data analysis were percentage, \bar{X} And standard deviation (S.D.).

3. Results and Discussion

The research results consisted of 3 parts as follows:

Part 1 Hat Yai Gastronomy City application development in Hat Yai District, Niphat Uthit 1 Road, Hat Yai District, Songkhla Province. Researchers have defined the category of applications for the food streets of Hat Yai. To show a data flow diagram (Data Flow Diagram) to see the overall data delivery process of the application, the data transmission and recording process is divided into two levels: Level 0 and Level 1, as shown in figure 3.

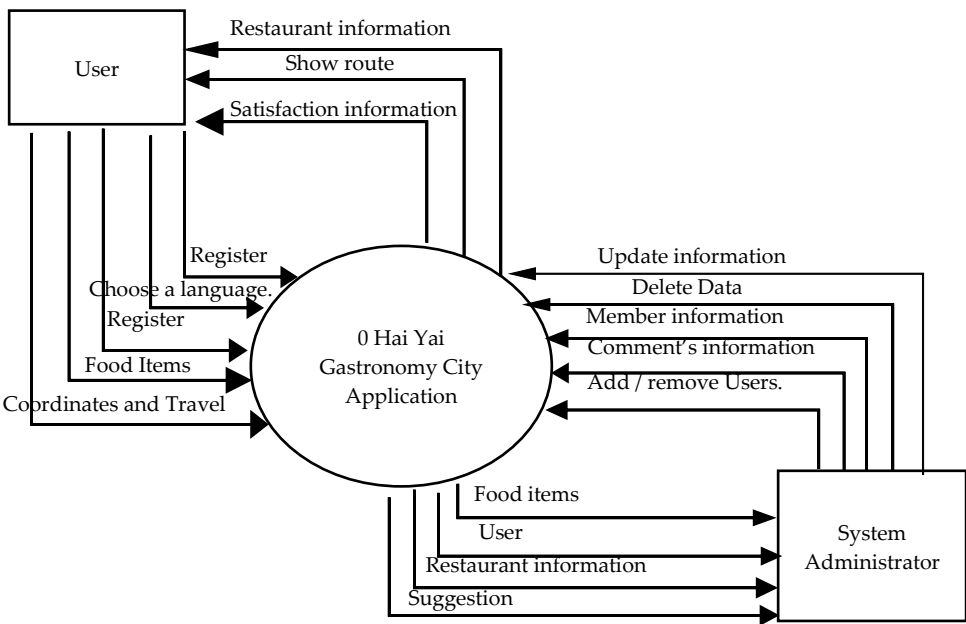


Figure 3. Data Flow Diagram Level 0

Figure 4. DFD Level 1 data stream diagram shows the storage system and workflow. Therefore, it is written as a Data Flow Diagram Level 1 by classifying tables. Storage and data delivery routes within the application. Executing various user commands, including admin rights

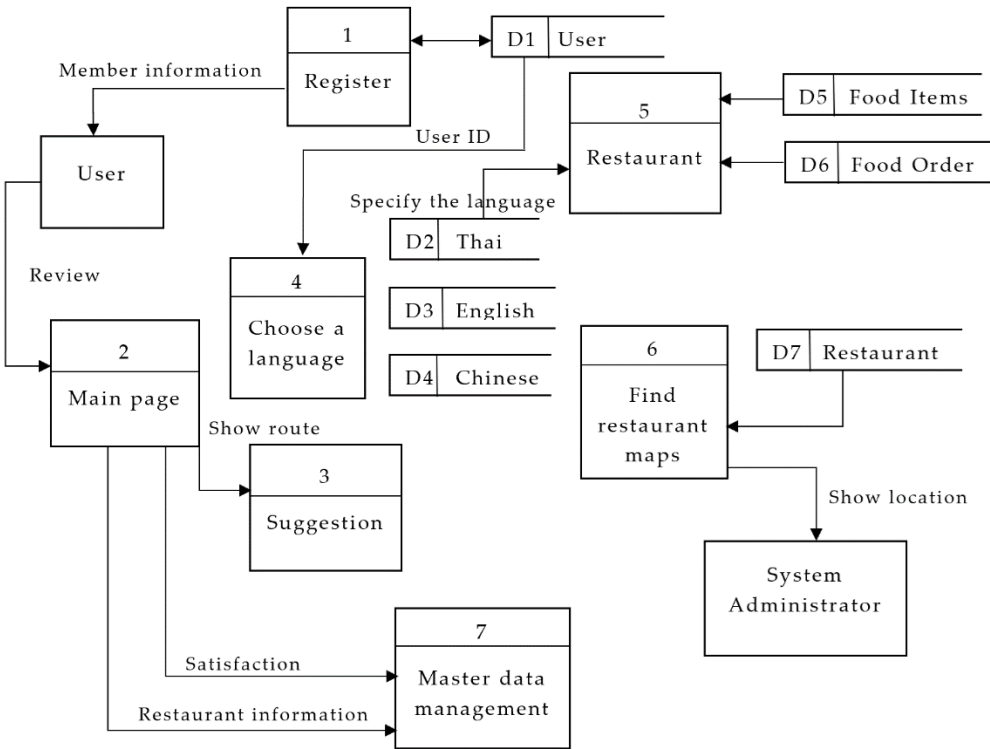


Figure 4. Data Flow Diagram Level 1

The results of the development of the application of street food in Hat Yai Niphat Uthit 1 Road, Hat Yai District, Songkhla Province, the researcher designed the main page and toolbar classified by the restaurant.

When entering the Hat Yai street food application, the main page will display four tools: home page, map, press release, and discussion. The restaurant information supporting the data is displayed in Thai, English, and Chinese. Show restaurant history information with a story (Story Telling) for Thai and foreign tourists, as shown in Figure 5.

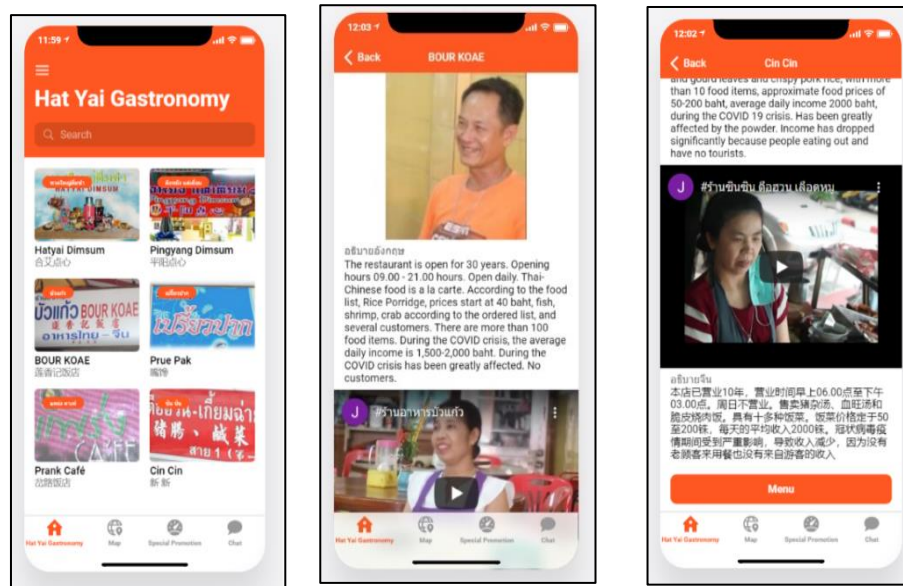


Figure 5. Main page and restaurant information

The menu bar on the top left corner shows the menus in 3 languages, classified by restaurant name, and will offer a large image via the application channel for promoting tourism in various distinctive cuisines and recommended food for tourists, as shown in Figure 6.

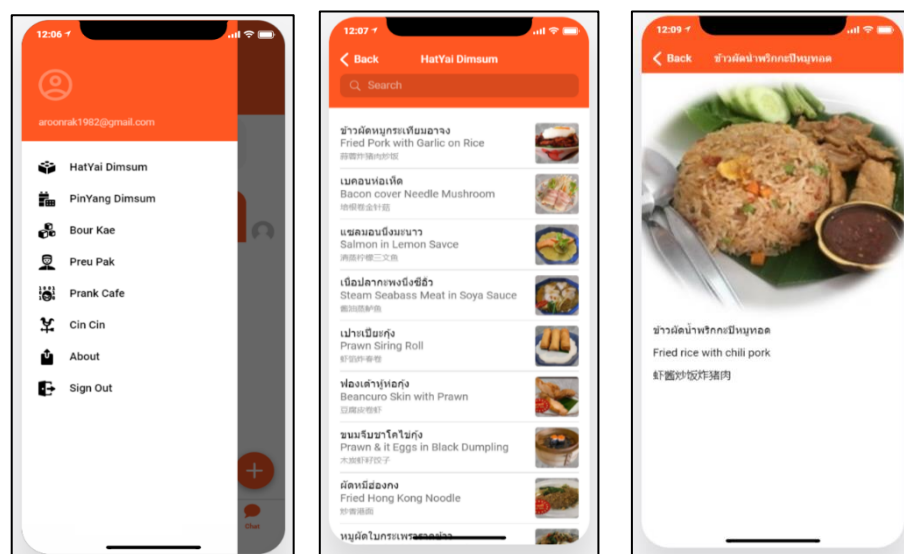


Figure 6. Restaurant and food items

The notification is the coordinates of the restaurant to support tourism in the form of food. Tourists can travel along the route to have delicious food and show news to publicize restaurant activities and be aware

of information and festivals, including chatting with the administrator to inquire about the location of famous restaurants nearby. To stimulate the economy to support tourism and tourists who love the taste of food to promote tourism and income to communities in the area, as shown in Figure 7.

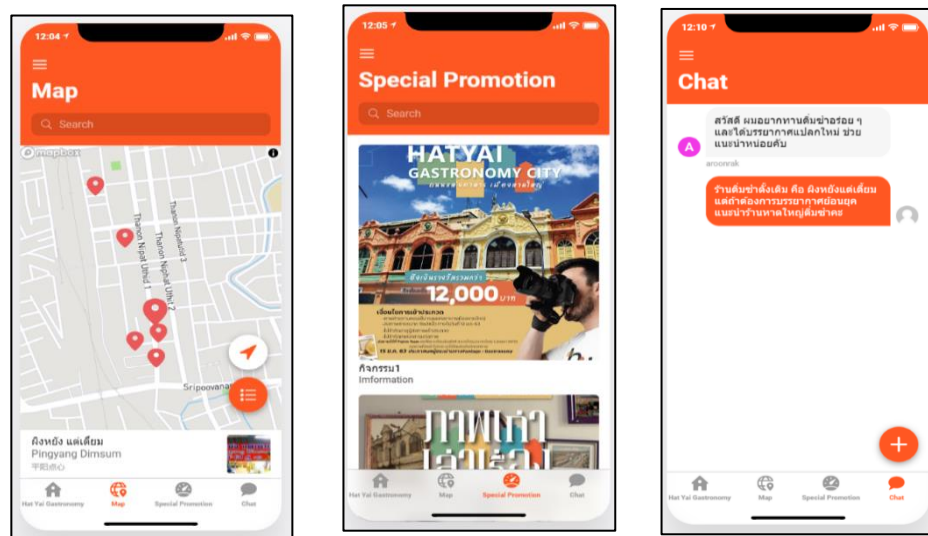


Figure 7. Restaurant map public relations and chatting through the application.

Part 2 Evaluation of application development efficiency of Hat Yai Food Road Niphat Uthit 1 Road, Hat Yai District, Songkhla Province. By evaluating the efficiency of 7 experts related to information technology development and application system development, it was found that the functionality of the application (\bar{X} = 4.75, SD = .160) and application design (\bar{X} = 4.80, SD = .180).

Table 1. Application performance evaluation results

Functional aspects of the application	\bar{X}	SD	Interpret results
1. Appropriately choose the type of font size displayed on the application.	4.97	.183	The most
2. Appropriateness as a four-channel for publicizing news on the application.	4.57	.679	The most
3. The suitability of using background colors. Illustrations and symbols to convey meaning	4.70	.466	The most
4. The appropriateness of choosing to watch videos and broadcasting stories about the restaurant.	4.57	.774	The most
5. Appropriate placement of components and application menus.	4.83	.461	The most
6. Appropriateness of interaction with users.	4.83	.461	The most
Total	4.75	.160	The most

Table 1 shows the results of the evaluation results of the performance of the street food application in Hat Yai, Niphat Uthit 1 Road, Hat Yai District, Songkhla Province, overall at the highest level (\bar{X} = 4.75, S.D. = .160) when considering each aspect, found. The suitability of the type The font size is displayed on the application. At the highest level (\bar{X} = 4.97, S.D. = .183), followed by suitability in the placement of app components and menus and user interaction at the highest level (\bar{X} = 4.83, S.D. = .461), respectively.

Table 2. Application design performance for evaluation results

Application design	\bar{X}	SD	Interpret results
1. The ability to support various phone operating systems.	4.97	.183	The most
2. A familiar text and vocabulary can be easily followed.	4.97	.183	The most
3. Arrangement of buttons for choosing using the command menu is convenient.	4.80	.484	The most
4. Ability to display information in 3 languages: Thai, English, and Chinese.	4.90	.305	The most
5. App display of food items by restaurant classification	4.83	.531	The most
6. Display search results. Navigate and display the restaurant's location through the application.	4.67	.547	The most
7. Presentation of restaurant history information and video through the app	4.47	.681	very
Total	4.80	.180	The most

Table 2 presents the results of the design efficiency evaluation of the Hat Yai street food application, Niphat Uthit 1 Road, Hat Yai District, Songkhla Province, overall at the highest level (\bar{X} = 4.80, S.D. = .180) when considering each aspect, found. The ability to support various phone operating systems and familiar texts and terms can be easily followed. At the highest level (\bar{X} = 4.97, S.D. = .183), followed by the ability to display data in 3 languages, namely Thai, English, and Chinese (\bar{X} = 4.90, S.D. = .305), respectively.

Part 3 Satisfaction with the functionality of the Hat Yai street food application Niphat Uthit 1 Road, Hat Yai District, Songkhla Province Evaluation results of the efficiency of Hat Yai street food application.

Table 3. Satisfaction results of the street food application in Hat Yai

Functional satisfaction of the application	\bar{X}	SD	Interpret results
1. Applications developed following actual use.	4.40	.855	very
2. The application can save the code and store the user data.	4.63	.490	The most
3. The app makes it easy to communicate with each other.	4.70	.596	The most
4. The application is fast to process.	4.40	.621	very
5. The application is reliable.	4.27	.828	very
6. The app has accurate processing capability.	4.50	.974	very
7. The application complies with the changing technology of the future.	4.20	.795	very
Total	4.44	.181	very

Table 3. shows the results of the satisfaction assessment of the street food application in Hat Yai, Niphat Uthit 1 Road, Hat Yai District, Songkhla Province. The overall application performance was at a high level of satisfaction (\bar{X} = 4.44, S.D. = .181). The application made it possible to contact, talk, and interact easily with the highest level of satisfaction (\bar{X} = 4.70, S.D. = .596), followed by the application to save code and store user-level data. The satisfaction level was the highest (\bar{X} = 4.63, S.D. = .490), and the application was capable of correct processing with a high level of satisfaction (\bar{X} = 4.50, S.D. = .974), respectively.

4. Conclusions

From the research results on the development of street food applications in Hat Yai. To promote tourism and income to communities in the area in the form of a food street, divided into 3 parts as follows:

1. The results of the development of the application of street food in Hat Yai Niphat Uthit 1 Road, Hat Yai District, Songkhla Province, from visits to the research area to interviews with restaurant operators along Niphat Uthit 1 Road to inquire about the reasons for no tourists and meeting of community development stakeholders, in line with Suebsom, K. and Meeplat, N., 2020 [13] joint analysis Design and implement technology that tourists in the community or the general public can access to promote tourism for tourists come to test the variety of food and outstanding food items. Able to travel according to the map, recommend restaurants to continually boost income for the community, consistent with Boonchom, V., Khamdam, K. and Kreutong, R., (2020). [1] Has developed an application. Help present cultural wisdom arising from An idea that society or community has continuously passed on from one generation to the next. The application can be installed free of charge. Registration is required for the initial use of the application to store user data. When entering the application will show restaurant information. Food items and menus with food names are displayed in Thai, English, and Chinese Show restaurant maps for traveling to nearby restaurants with Google Maps and display event press information for timely information to tourists. Comply with Dadpe Jinendra, etc., 2017. [3] Application to locate the location. Tourists can conveniently provide travel information to mobile users [13] useful for usability and responsiveness. Collect data about community attractions and restaurants to be packed in the mobile application, including the ability to display text, images, videos, and additional services anytime, anywhere.

2. The results of the evaluation of the efficiency of the application development of street food in Hat Yai can display restaurant information, food menu, and directions for tourists to guide directions to recommended restaurants. Can display images, videos, and support text in 3 languages for Thai and foreign tourist groups. The performance evaluation results showed that The application design aspect was at the highest level (\bar{X} = 4.80 S.D. = .180), and the application performance evaluation was at the highest level (\bar{X} = 4.75 S.D. = .160). The application activation is convenient by scanning the QR code, which is supported on Android and iOS operating systems, which is an operating system on smartphones with many users suitable for use in promoting tourism in the form of income promotion for restaurant operators in the community. There are restaurant details, food menus, and maps for easy access to the restaurant. Appropriate application to promote tourism in the community is appropriate and consistent with Puttitaweessri, P., Kranruang, D. and Rimphati, W., 2020. [10] Application of tourism by smartphone navigation. Community information can be displayed to find basic information conveniently. Systematic display in a form that is beautiful, proportional, color, text, images, and video that are clear, easy to use, and not complicated. Fast response to user requests corresponds to Sarayapong, 2018 [6] Mobile application technology for displaying food items Restaurant information and food ordering can be facilitated to consumers by the key factor that facilitates the display of restaurant search information and food items.

3. Satisfaction results of the Hat Yai street food application can be used on smartphones, both Android and iOS. The program can be installed free of charge. There is a simple membership storage system. The results of the satisfaction assessment revealed that the work aspect was at a high level (\bar{X} = 4.44 S.D. = .181), entering the application was convenient and very fast without any complicated steps. There is an interactive chat channel to help tourists and the general public with inquiries. The information presented through the application is reliable and suitable with information, activities, and restaurants that featured and recommended tourist dishes, corresponding to Chadarattiti, P. and Mrungsiri, N., 2016. [2] Android GPS-based restaurant search makes it easy to find restaurants. Because the device is compact and shows location quickly and accurately, a travel navigation system can be applied on a mobile phone application that can

display complete tourist information, work through Google Maps and suggest nearby places. To facilitate users' travel decisions in nearby areas and display information and press releases to tourists.

The research results on the development of street food applications in Hat Yai, Niphat Uthit 1 Road, Hat Yai District, Songkhla Province, has been published in the street food event on January 30 - February 3, 2021., which is attended by a large number of tourists and the general public. From an experimental trial of an application via a smartphone, it was found that It can be used and is free. The organizing committee aims to promote income and support food tourism for the community. So that the general public can access more tourists come to travel in the community, causing more income for the community, which is a potential development and sustainable self-development, consistent with Prachayaphak Laowsungsuk, 2017. [8] Applying technology to increase channels for restaurant operators to develop food items and services to satisfy consumers and the diverse information presented through easily accessible application channels and food and service types makes it easier for consumers to make informed decisions [11]. Restaurants promote tourism in the form of food by adding information about restaurants and nearby attractions to display on the map for easy search and help make traveling more convenient. So tourists can travel to nearby restaurants and eateries for famous dishes. It also supports a model of gastronomic tourism that is unique to each region and unique and interesting local food and way of life, consistent with Sornsuwan, K. and Srisawat, C., 2017. [14] Displaying detailed restaurant information and displaying its location with Google Maps allows tourists to use it on their devices quickly and efficiently. The application can present information or other activities to promote tourism in the form of food conveniently by the application, helping to manage travel time for tourists to be worthwhile. This leads to tourism with food highlights to strengthen and generate sustainable income for the community.

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