The improvement of ordering process with android studio: A case in restaurant for NTHU student

Kyle Chang

Department of Industrial Engineering and Engineering Management, National Tsing Hua University, Taiwan

Abstract I will develop an App by Android Studio to shorten the waiting time of whole ordering process. Through this App, the general store can receive orders directly and the customers can browse all the information and place orders in advance. Without any doubt, this application can be convenient for both vendors and customers.

1. Introduction

1.1 background

Nowadays, cell phones are already very popular. Everyone has a smart phone, but many restaurants still use the phone to order, which caused some problems. If you call the restaurant, the restaurant can only answer one customer at the same time, wasting the waiting time of other customers.

1.2 problem

There are 3 dining area in NTHU, including feng-yun building,shui-mu building and the refreshment, and it's about three to five restaurants in each area, 15 places in total. First of all, the registered student is up to 13000, so there will be too many people waiting to buy the meal at the peak time, such as lunch and dinner time. Moreover, the rest time is only 80 minutes at noon, so it may take lots of time to wait in line and can't use the time effectively. The other problem is that the distance between some department to restaurant is too far, so it also wastes time for student to get a meal.

1.3 purpose

I'll develop a simple but very convenient App for students in NTHU, all you need to do is download it on-line. By using this App, you can get all the information about the restaurant which you are interested in, including the brief introduction, the menu, location and so on. Moreover, you can also make the reservation and order the meal in advance.

2. System Definition and Analysis

This section informs about the display of logistic provider containing As-is model, To-Be model.
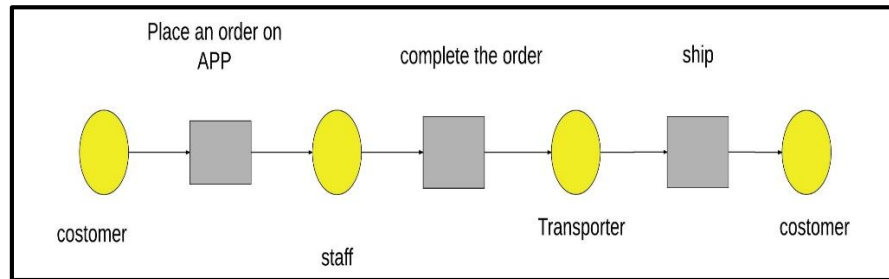
2.1 As-Is Behavior model

The Figure1 shows the process when customer want to order meals. Nowadays, customers have to make a phone call to store. Customers have to find or search the telephone number, and dial the telephone to wait the staff answer the call. After the staff answers the call, we have to tell him our order list, from meals name to ice or sugar, this is very time-consuming, and the staff has to confirm the flavor and quantity and address again, then he will deliver the order list to the meal maker to wait them complete the order. After they complete the order, they hand over the meals to the delivery man and the delivery man ship to the customer.
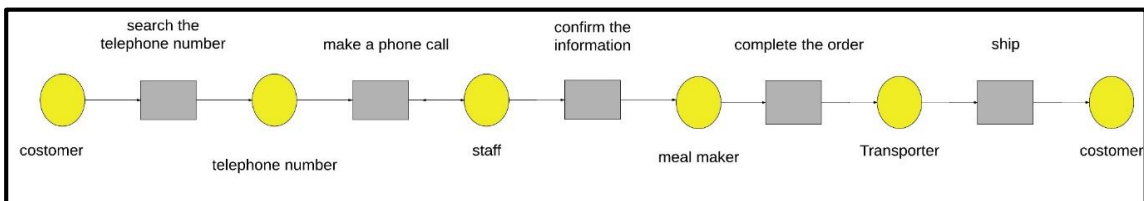
Fig.1. As-is Behavior model.

2.2 To-Be Behavior model

The concepts of the improved beverage ordering system are showed as Figure 2. Customers now can make the order online, then the order list will automatically send to the store. After the staff receives the order online, they can start to make beverages, the process is more time-saving. After complete the order, they give to the delivery man, ship to the customer.

Fig.2.To-Behavior model.

3. System Design Implementation

According to our To-Be model and object model, we want to establish an App for student to cut down the time of having a meal. Student can use the system to order the meal. And the staff of the platform will execute the order according to the web information. Next we will show the step how students get an order in Figure3-Figure17.

1.click the "註冊"button to get the account

Fig.3.**Frist page of the APP**

Fig.4.Agreement of the rule

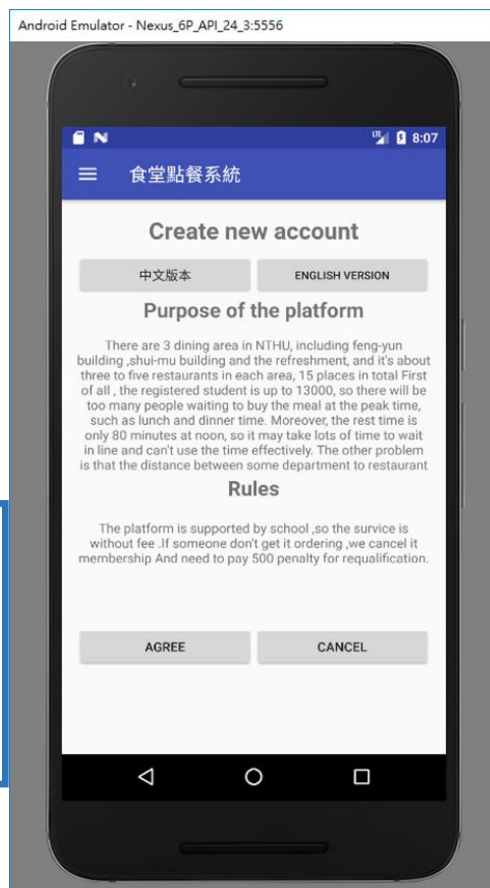2.We can change to the English Version by click "English version" button.

3. If we agree with the rule, we just need to click the "agree" button and turn to the next page.

4. If we click the "cancel" button, we will turn back to the first page

Fig.5.English version of agreement of the rule

Fig.6.Member information

5. After agree the rule we will turn to the page of the member information. And we just need to fill all the textbox.

Fig.7.Member information

6. After fill all the textbox we should click the "sign up" button and get the account.

7. If we don't want to sign up, click the "cancel" button and back to the first page

Fig.8.Frist page of the APP

8. We get the account and can enter by our account and password.

Fig.9.restaurant choosing page

9. choose the restaurant we want by click the restaurant picture.

10. We can choose the quantity of the meal we want. And click the "放入購物車" button and we can put the meal to our shopping cart.

Fig.10.restaurant's order page

11.If the web pop out this window, it means the order is success to put into the cart.

12. click the "繼續購物" button we can turn back to the "restaurant choosing page" and choose another restaurant and keep shopping.

Fig.11.restaurant's order page

13. If we finish all the order, we need to click "確認訂單" button and confirm the order.

Fig.12.order confirm page

Fig.13.order confirm page

16. We also need to choose the time that we want to get our meal.

Fig.14.order confirm page

17.After all the steps, we click the "確定送出" button.

Fig.15.final page

18. The order is finished and turn to the page.

Explanation for Android studio

1) APP Fig.3：

click the "註冊"button to get the account

2) APP Fig.4：

We can change to the English Version by click "English version"

button.

3) APP Fig.5：

If we agree with the rule, we just need to click the "agree" button and

turn to the next page. If we click the "cancel" button, we will turn back

to the first page

4) APP Fig.6：

After agree the rule we will turn to

the page of the member information. And we just need to fill all the

textbox.

5) APP Fig.7：

After fill all the textbox we should click the "sign up" button and get

the account. If we don't want to sign up, click the "cancel" button and

back to the first page

6) APP Fig.8：

We get the account and can enter by our account and password.

7) APP Fig.9

choose the restaurant we want by click the restaurant picture.

8) APP Fig.10：

We can choose the quantity of the meal we want. And click the "放入購物車"

button and we can put the meal to our shopping cart.

9) APP Fig click the "繼續購物" button we can turn back to the "restaurant

choosing page" and choose another restaurant and keep shopping. If we finish

all the order, we need to click "確認訂單" button and confirm the order.

10) APP Fig.12：

We can click "取消" button and cancel the order which we don't want.

11) APP Fig.13：

we can choose the location we want to get our order.

12) APP Fig.14：

We also need to choose the time that we want to get our meal. After all the steps, we click the "確定送出" button.

13) APP Fig.15：

The order is finished and turn to the page

4. Future work

For further work, the system can integrate with the order tracking system, which can update the order process. If we can add the function tracking system, customer can confirm the location of the meal. They may be more satisfied with our ordering system.

I will implement this concept; design the website interface and the backend development by using programming language and database techniques. perhaps the system knows the users' blood pressure and sugar pressure to give some advice on what food can make both pressure more stable. Also, we could enhance some useful web application, like giving advice for meals, show Google Map to let you know how long the takeaway will arrive and so on.

Software systems are usually used on the Android systems, but nowadays more and more apps are being used on the IOS systems instead of Android systems. Improve the continuous integration system, allowing it to be connected with the IOS systems.

As said before, the rest time is only 80 minutes at noon. We have a lot of students in busy studies that sometimes may delay classes or have less time to eat. Sometimes it happens that sometimes we forget to order an early meal.

Therefore, I think we can increase the "rush order" function, which will be faster than usual if someone urgently needs food. Of course, an extra fee will be charged.

Finally, I want to add "comment" this feature, we can use this feature to understand the customer before the store's comments. The store also because

of this function, pay more attention to their service quality. On the other hand, customers can take a look at the experiences of others before making a decision. But we have to prevent stores smearing each other, customers must use this system up to ten times to start the function. And an account can't be repeated comments, in order to avoid losing credibility.

5. Conclusion

This paper starts with the research of the existing online ordering system, and simply simulates the improved website of integrated ordering, delivery and deposit system. Here are some suggestions for implementing this system:

First, the system is better to implement in a smaller but highly-demanded region first, such as the business district near schools. System is not so complicated, managers can consider expanding the store, until the system is stable.

Second, the design of the website does not consider the use of suppliers, which is necessary to reduce unnecessary work. Vendors can access meal information through the system and can adjust menus, business hours or other information. If the site is valid, customers can quickly reduce waiting time and have more choices.

So it really helpful for student to use the time, such as take a nap or prepare for the next class. And I thought it also can help the students in NTHU to be more competitive and in the health condition.

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