

# EEl Project#1

## Web Design

Word count : 968

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### I. Introduction

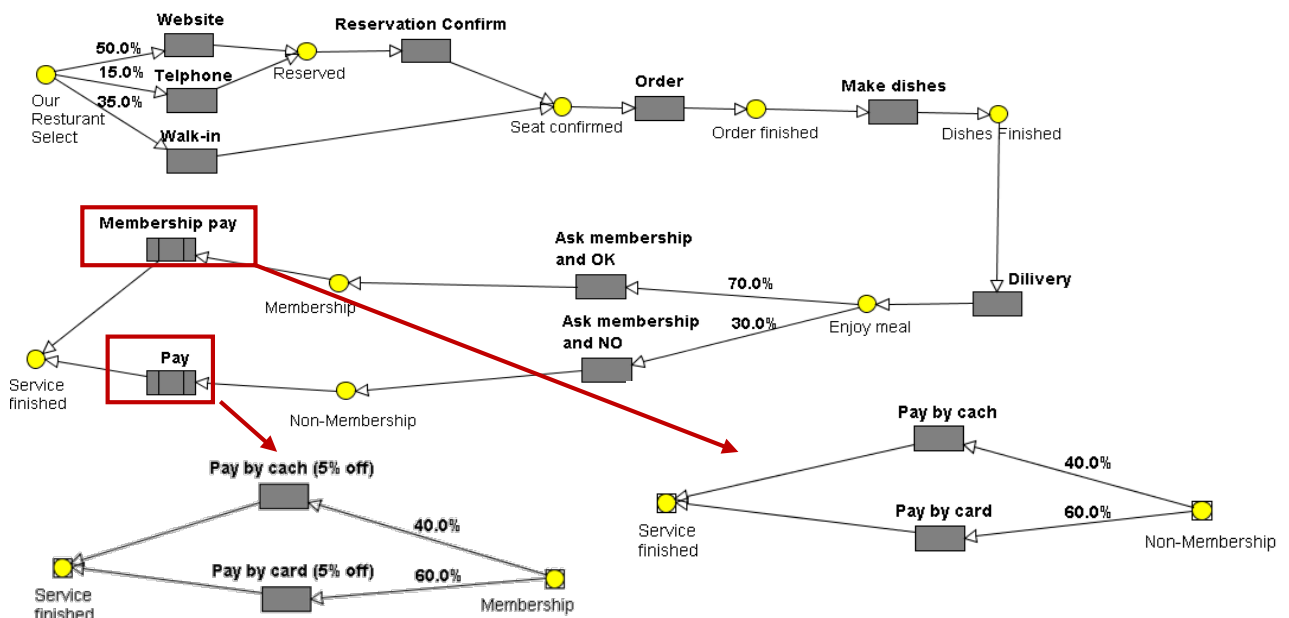
Booking online, phone and walk-in booking are three primary approaches to reserve seats in restaurants. Among them, online reservation especially, is relatively more efficient and effective to be managed and maintained with customer database development. Its competitive edges includes decreasing the number of phone calls during the busy hours, increasing workplace productivity by managing staff's time better, and taking reservations even when it's too busy to answer the phone, or the restaurant is closed. Therefore, online reservation is more popular for restaurants to gain more customers and grow businesses.

This project develops the AS-IS model and TO-BE model on a luxurious restaurant that has four courses, five reservation times and twenty tables available, trying to simulate the online booking business process with software INCOME and VS website developer.

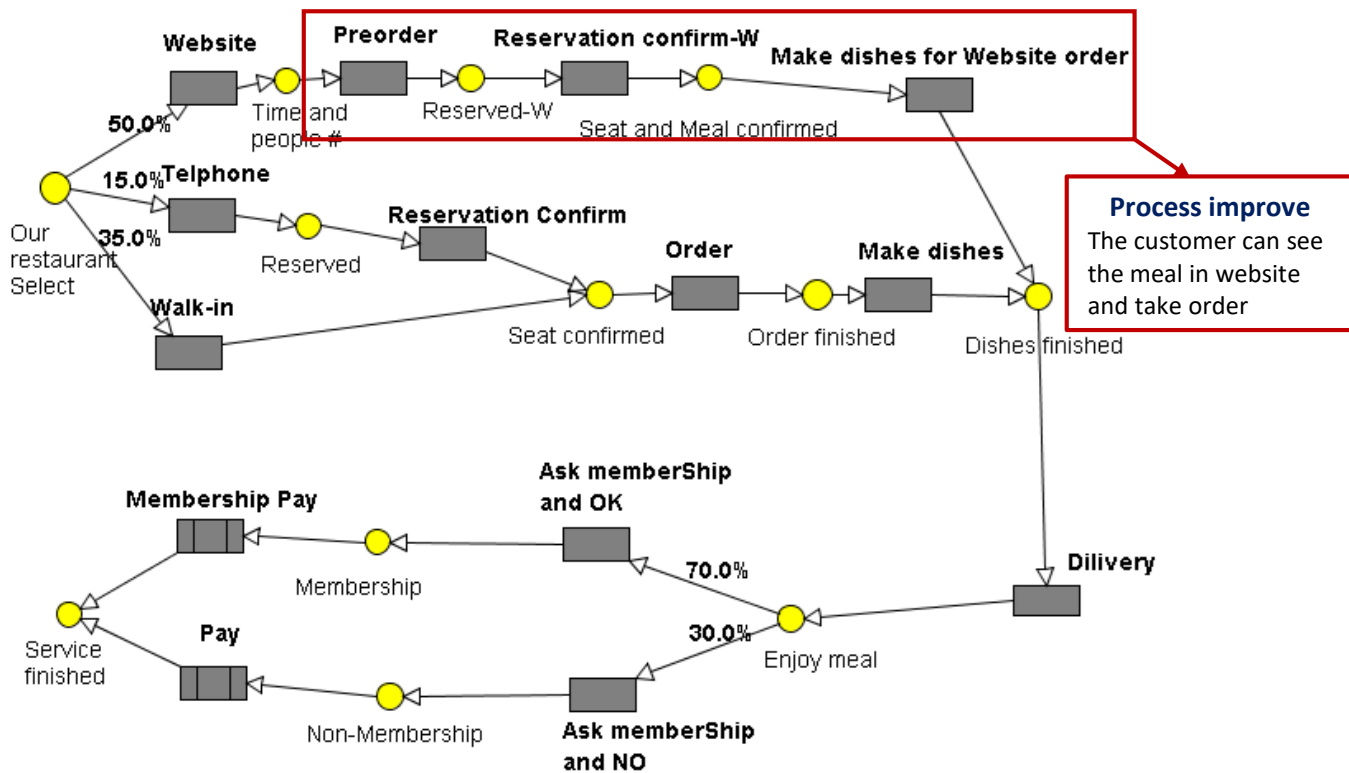
reference: <http://restaurantengine.com/online-booking-app/>

### II. AS-IS Model & TO-BE Model

In this part, we will use INCOME's behavior model to illustrate operating process of our restaurant, and the ordering flow is what we are interest. There are 20 tables and 5 time-periods for customers who walks in or reserved by telephone and Internet. By the way, opening hours is 11:00~21:00 and divided into 5 time-periods. Simulate for one day, we assume there are 200 orders to finish. The proportion of website reservation, telephone reservation and walk-in are 50%, 15%, 35%. For those who reserved we will confirm again. Customers will order, wait for dishes, and pay after enjoying meals. For payments, cash or credit card are allowed which account for 40% and 60%. Restaurant will give 5% discount for who is on the membership rolls, and assume that 70% of customers are membership.



In the whole process, making dishes takes the most part of time so restaurant adds a new service: Allow pre-order for customers reserved on website, and this is our TO-BE Model. If customers order in advance, and his waiting time will decrease. The reason is that restaurant already knows when the reserved customer come, and can prepare more efficiently



● **Pre-ordering system**

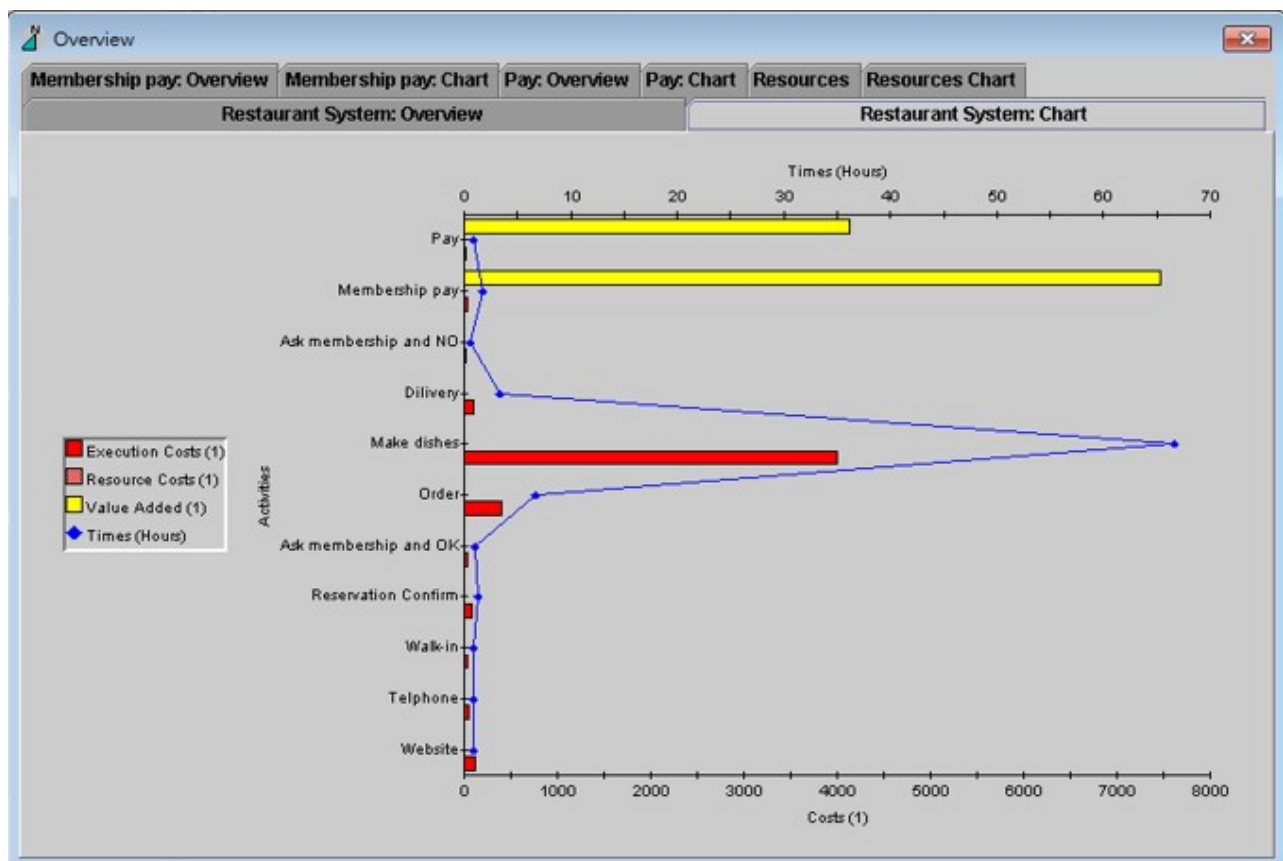
We add this system to our website. This system can make customer see the online menu 、take order and receive our promotion information on website. We create system to improve our service process. Reduce the process time of making dishes.

This system have three benefit for restaurant :

1. Restaurant can prepare for food before customer arrive. It can save customers' time. Improve restaurant service quality.
2. Provide information to buy material, restaurant can reduce the waste of material. It can decrease material cost.
3. Restaurant can collect customer data easily. It can provide useful information to our management department.

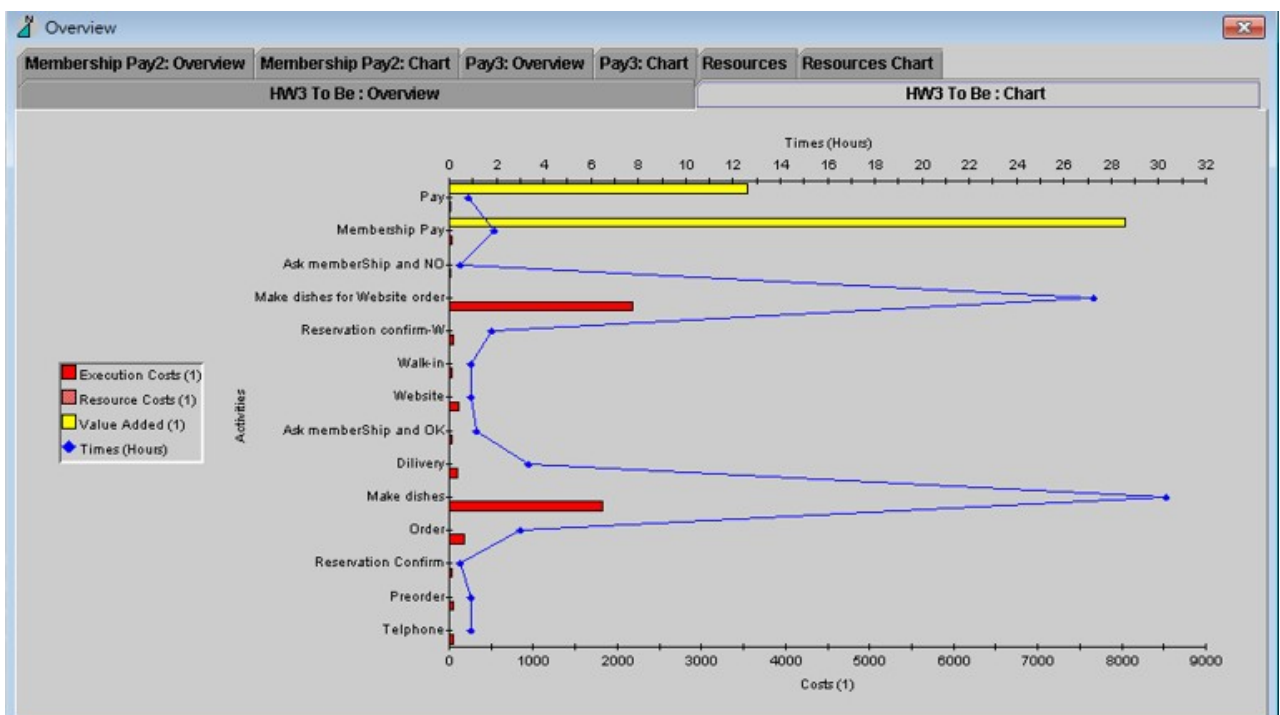
### III. Compare the performance via simulation

| Restaurant System: Overview |             |                    |                  |                 |               |  |
|-----------------------------|-------------|--------------------|------------------|-----------------|---------------|--|
| Activities                  | Count       | Execution Costs... | Resource Cost... | Value Added (1) | Times (Hours) |  |
| Website                     | 109         | 109                | 0                | 0               | 0.908         |  |
| Telephone                   | 55          | 55                 | 0                | 0               | 0.917         |  |
| Walk-in                     | 36          | 36                 | 0                | 0               | 0.9           |  |
| Reservation Confirm         | 164         | 82                 | 0                | 0               | 1.367         |  |
| Ask membership and OK       | 131         | 26.2               | 0                | 0               | 1.092         |  |
| Order                       | 200         | 400                | 0                | 0               | 6.667         |  |
| Make dishes                 | 200         | 4,000              | 0                | 0               | 66.667        |  |
| Dilivery                    | 200         | 100                | 0                | 0               | 3.333         |  |
| Ask membership and NO       | 69          | 13.8               | 0                | 0               | 0.575         |  |
| Membership pay              | 131         | 26.2               | 0                | 7,467           | 1.725         |  |
| Pay                         | 69          | 13.8               | 0                | 4,140           | 0.867         |  |
| <b>Sum</b>                  | <b>1364</b> | <b>4,862</b>       | <b>0</b>         | <b>11,607</b>   | <b>85.017</b> |  |



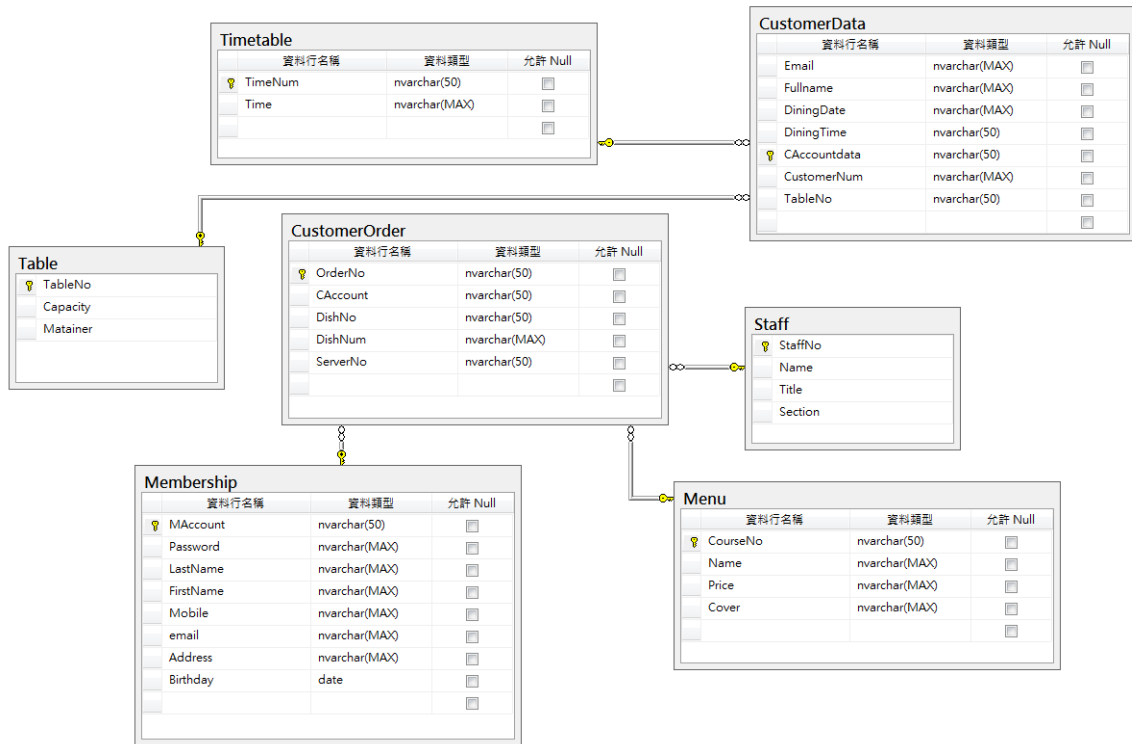
From the first-level simulation of result , we have found that the task “make dishes” is the most time and cost step. We don’t know how long do customers wait for food before they complaining. The customer waiting time will effect the service quality , so we need to reduce the service time. The process of making dishes is our first purpose.

| HW3 To Be : Overview          |             |                     |                    |                 |               |  |
|-------------------------------|-------------|---------------------|--------------------|-----------------|---------------|--|
| Activities                    | Count       | Execution Costs (1) | Resource Costs (1) | Value Added (1) | Times (Hours) |  |
| Telephone                     | 55          | 55                  | 0                  | 0               | 0.917         |  |
| Preorder                      | 109         | 54.5                | 0                  | 0               | 0.908         |  |
| Reservation Confirm           | 55          | 27.5                | 0                  | 0               | 0.458         |  |
| Order                         | 91          | 182                 | 0                  | 0               | 3.033         |  |
| Make dishes                   | 91          | 1,820               | 0                  | 0               | 30.333        |  |
| Dilivery                      | 200         | 100                 | 0                  | 0               | 3.333         |  |
| Ask memberShip and OK         | 141         | 28.2                | 0                  | 0               | 1.175         |  |
| Website                       | 109         | 109                 | 0                  | 0               | 0.908         |  |
| Walk-in                       | 36          | 36                  | 0                  | 0               | 0.9           |  |
| Reservation confirm-W         | 109         | 54.5                | 0                  | 0               | 1.817         |  |
| Make dishes for Website order | 109         | 2,180               | 0                  | 0               | 27.25         |  |
| Ask memberShip and NO         | 59          | 11.8                | 0                  | 0               | 0.492         |  |
| Membership Pay                | 141         | 28.2                | 0                  | 8,037           | 1.908         |  |
| Pay                           | 59          | 11.8                | 0                  | 3,540           | 0.808         |  |
| <b>Sum</b>                    | <b>1364</b> | <b>4,698.5</b>      | <b>0</b>           | <b>11,577</b>   | <b>74.242</b> |  |



We add the function customers can reserve on website. Get a good website that actually converts people into making reservations — not just an online brochure that doesn't convert into business. This customer attraction that brings people to your website and to your restaurant. It not only promotes the qualities of service but also decreases service time. In the To-Be Chart , we can detect the process of making dishes divides two parts — Make dishes for website order and Make dishes for walk-in. It actually reduces the process time of making dishes. We compare total service time of two models, we find To-Be Model total service time is less than As-Is Model indeed.

## IV. ER Model



### ● Interpretation of each table

| CustomerOrder |   |
|---------------|---|
| Attribute     | Description   |
| *OrderNo      | The unique order number for each order line.          |
| CAccount      | The user account the customer log in with.            |
| DishNo        | The unique dish code which can be referred to "Menu". |
| DishNum       | The number of dish that customers ordered.            |
| SeverNo       | The unique number of each server.                     |

| Membership |                          |
|------------|--------------------------|
| Attribute  | Description              |
| *MAccount  | The unique user account. |
| Password   | Password                 |
| LastName   | Last name                |
| FirstName  | First name               |
| Mobile     | Mobile                   |
| Email      | Email                    |
| Address    | Address                  |
| Birthday   | Birthday                 |

| CustomerData |   |
|--------------|---|
| Attribute    | Description   |
| *Email       | Email   |
| Fullname     | Full name of the customer who has reserved the table. |
| DiningDate   | The date customer will come.                          |
| DiningTime   | The dining time customer selected.                    |
| CAccountData | Customers' user accounts.                             |
| CustomerNum  | The reserved number of customers .                    |
| TableNo      | The unique number of each dining table.               |

| Menu      |                                 |
|-----------|---------------------------------|
| Attribute | Description                     |
| *CourseNo | The unique number of each dish. |
| Name      | The name of each dish.          |
| Price     | The price of each dish.         |
| Cover     | The cover photo of each dish.   |

| Table      |                                  |
|------------|----------------------------------|
| Attribute  | Description                      |
| *TableNo   | The unique number of each table. |
| Capacity   | The capacity of each table.      |
| Maintainer | The maintainer of each table.    |

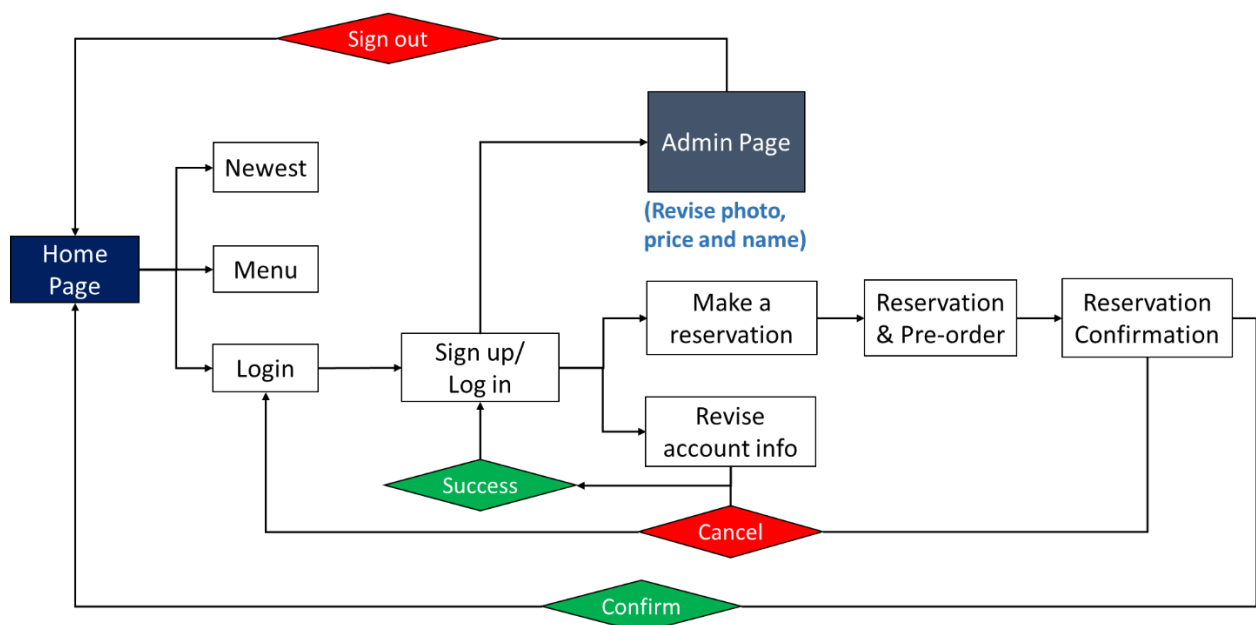
| Staff     |                                  |
|-----------|----------------------------------|
| Attribute | Description                      |
| *StaffNo  | The unique number of each staff. |
| Name      | Staff name                       |
| Title     | Job title                        |
| Section   | Staff's section                  |

| Timetable |  |
|-----------|--|
| Attribute | Description                            |
| *TimeNum  | The unique number of each dining time. |
| Time      | Dining time                            |

In order to make an online reservation, customers first have to sign up and apply for membership of the restaurant. The sign-up data will be inserted to “Membership” table with “MAccount” as the primary key. After customers log in, they can reserve the table and pre-order online. As long as customers make a reservation online, this information will be inserted into “CustomerOrder” and “CustomerData” tables with “OrderNo” and “CAccountData” as the primary keys. Among attributes in these two tables, attribute “DishNo”, “ServerNo”, “TableNo” and “DiningTime” refer to the table “Menu”, “StaffNo”, “Table” and “TimeTable”.

## V. Website Demonstration

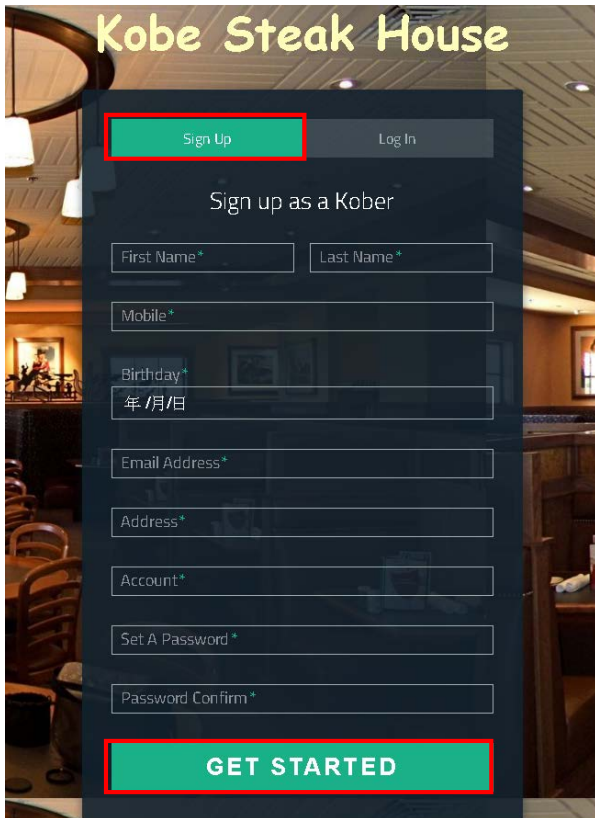
- The figure below shows the online business process of Kobe Steak House.



- **Kobe Steak House Home Page:** the page will roll down automatically with a click on upper-left corner.

- **Newest section:** all of the latest news, dish information and today's special offer will be posted here.
- **Menu section:** courses are introduced here.

- **Sign up/ Log in page:** after sign up or log in, customers can either make an online reservation or revise account information.





- **Reservation from:** once customers log in, the page will be redirected to the reservation form below. Meanwhile, the item names which have been marked “\*” (e.g. \*Course A) on this page are special offers.





- **Pre-order form (along with reservation form):** customers change the value in textbox before each course name to pre-order their preferred number of dishes and submit.



- **Reservation Confirmation:** the result of reservation information will be summarized here with the total price. “Confirm” button will lead customers to the completion page and “Cancel” button will be redirected to log-in page.



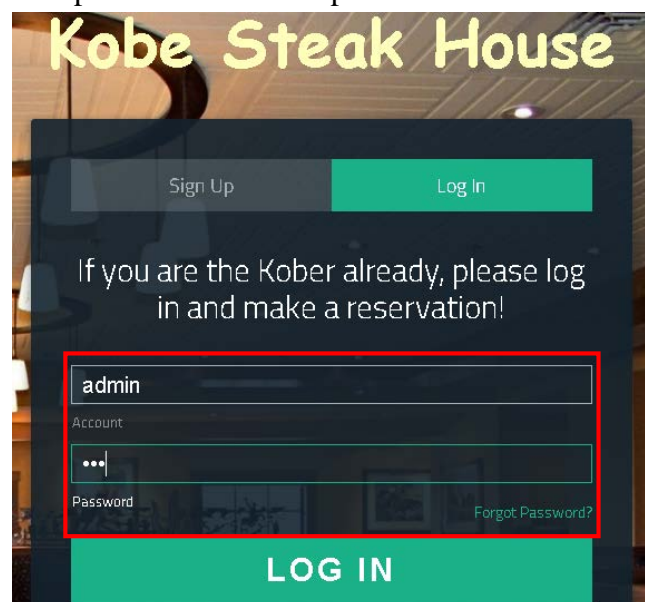
- **Reservation Cancellation:** if customers would like to cancel the reservation, what they need to do is click the cancel button to remove the reservation.



- **Completion page**



- **Administrating Page – log in:** a page manager can log in the administrating page via log-in page with the specific account and password.



- **Administrating Page:** functions include uploading the image, modifying the cover photo, price and name of the course.



reference: <http://restaurantengine.com/online-booking-app/>

## V. Further Improvement

- **Develop the APP**  
Nowadays people used to use mobile phones so we think APP developing is necessary.
- **More functions for the Web**  
For example, we can add customer service function to make customers communicate to us easily. Or we can add reservation reminder system so that customers will not forget the detail of reservation and the time.
- **Advance Payments**  
There is possible that customers won't come but they already reserved. The solution is that we request them pay by credit card before one day of the dining time.