Report of Web Technology

Design and implementation

Before I try to design the web pages, I have written a ER diagram to help me analyse the relationship between rooms, reservation records, guests and manager. This is very helpful for me to create the tables in database. For example, when I watch the ER diagram, I can easily know that manger will search the tables of rooms, guest and reservation record, and then guest can search room, and reservation. Therefore I have a clear map there and I know what information I should insert into the database.

There are three object, and they are manger, guests, and room. It is confirmed that there are three table for them. If I saved the reservation record in the room table or guests table, it would quite difficult for me to manage the date when I design the web function. For example, If I store the reservation record in room table, when a room have been booked many times, it is not easy for us to store them in room table. Therefore, create a new table to store the reservation record is good. It is means that once a guest make a reservation, I create one reservation record in the reservation table. When manager wants to delete or insert date into it, it would be more convenient and easy. Therefore I create four database table to store data in this project.

As for the web pages design, I try to make it simper, because I had never learn any knowledge about HTML, CSS and JavaScript before this web technology module. A simple web design and format maybe more helpful for me to finish all the tasks. Because I have create four tables in the database and there are four objects in the ER diagram, I create four links for guest to register, sign in, manager to sign, users to view available rooms. Every pages is connected with each other fluently. For example, when users want to view available room, they click the "Rooms" and they opening a search pages for users to choose a period time and connect to next page to show available room information after clicking "search". Users can view those information and remember the Room ID which they want to book. And them click "make reservation" to next page to input the order information. Finally, after clicking "confirm", those information would be insert into table "reservation", this is one record in the table.

Almost my pages are connected one by one. Because when I try to design the web page, I did not familiar with "AJAX" and "JavaScript", I design most pages using the "HTML" and "CSS". At first, I thought I can rebuilt the web pages after I finish all the task and functionalities. But when I finish all most the functionalities, I find it is not easy to rebuilt the structure of pages. Maybe I have to redesign all pages if want to make those interface more beautiful and more convenient for people to use.

As for the design of backstage, I try to create every PHP code in different document. I this would be more convenient to reuse code and have clear look in code. For example, I find almost functionalities require us to connect to database, so I can write the "connect" code in a document and when I need to connect to the database, I just invoke the document to connect. It is more convenient and make code simpler. As we know the "PHP"code and "HTML" can be a document to complete. I think sometimes it is convenient, because we do not need to spend more time to separate the code. On the other hand, I think it would be complicated for new learner to do in this way. It is means that when there are some "HTML" document contains "PHP" and "PHP" document contains "HTML", it would takes us more time to find the relationship, logic and any other things. Therefore, In this project, I always try to write "HTML" in "HTML" documents and "PHP" in "PHP" document. Also, in order to make the web page more beautiful, I have download some plugins. For example, I can reference some CSS plugins to built the web page to make it more nice.

Testing and validating

When I design the web pages, I would like to open my HTML document in the explorer frequently. In my opinion, this is the most effective way to testing my code. I can see what my code can show in the explorer. After I watching the what the explorer show, I can quickly know about my code and find what I need to add or delete. On the other hand, when you open the "inspect"function of your explorer, you can easily to watch the format of your code. You can open "inspect"function and your "HTML" in the same window. Then, where you mouse on the code, relevant components will be show in the page. It is means that you can easily to find which code stand for which part of the page. What's more, you can use the mouse to drag relevant code to be in every position in the code in the "inspect"of explorer. Then, relevant part of the page will move to relevant position the page. You can very quickly to change the components of your code to show what it will be like. After you drag, if you like this format of the page. You can quickly to copy this

code to paste in your original document. I think this is a good way for me to test and validate my code.

When I write the backstage in PHP. I always try to find some to test the code. I think running it in the explore is a good way too. Since "PHP" always will connect to database, I have to down the local database and the software "XAMPP". Then, I will copy my code in the document of "XAMPP" to connect a localhost to test the code. When I write a page or write a function, I will quick to open it through the "XAMPP". At the same time, I will always to check the local database to make sure whether the code is validate. If database did not change correctly, it is confirm there is some problems and error in my code. In the same, opening the explorer, most of the, the explorer will show some error in the window. I will can easily find the error in the specific line in the code.

On the other hand, sometimes the explorer did not show the error line or we can not find the error. We can use comment notation in the code which you think it is error. And then, open the explore to test what the code will show in the page. This way is not the most effective, because it may take you much time to comment to code to find the error, but you always can find the error. Also, you can use "echo" to print the last line code in the document. And then, open it in the explorer, it will print it in the page to help you find the error.

Sometimes, when users try to test code in the explorer, it will take them a lot of time. Testing code in the explorer is not a quickly. We can use the database to check the "PHP" sentence. The way is that we can copy the "PHP" sentence into the database in relevant input area. Then, click "go", if the code is correct. The data will execute in the correct way. If not, this "PHP" sentence is wrong.

Most difficult and useful technology

Maybe most people will think the front end technology is easy, but I think it is difficult for me. I think design a web page is complex. You should be patient to write every part in the page and check every part position many times in the explorer. If some people do not familiar with this technology, this is a very difficult work for them. For example, when I design this page, I have never learn relevant knowledge before. I try my best to learn in the lecture and read the resources in the "W3C" website. I spend a lot of time to build the pages, and the pages are still ugly. It always take me a lot of time to adjust the

components in suitable position. Anyway, I think those web technology is quilt useful, because it stand for the interface which people can have straight feeling about this system.

I think the most useful technology is using "PHP" to manage the database. Although the interface can give people a straight feeling, all functionalities are based on the "PHP" and database. Without the interacting with database, I can not make all the operation come true. For example, if you input Room ID into to website page, we have to use "PHP" language to connect database firstly, and then, use the search sentence to operate database search the table to find this room. Finally, database will use "PHP"to transfer information to web pages. As we can see in the processes above, almost processes are baed on "PHP" and database.

We can use the basic "PHP" language method to operate almost functionalities in this project. Those basic method is "select", "insert", "delete", and "update". For example, when user register on the website, after they input the register information, "PHP" will insert those information into the guest table in the database. When guest try to sign in this website, "PHP" will use "select" method to select information form the guest table. If finding the same data in the database, it will permit guest to sign in the system. Additionally, when manager wants to modify some guest records or room information, it is also the "PHP" language to update those information in relevant tables.

jQuery UI is a kind of very useful technology. I find that if we download the jQuery UI, we can use many different methods in the javascript library. Those can help us make UI more nice and have a good experience. For example, in this project, I have used a plugin called date-picker which is form the jQuery UI. When I use it in my pages, I have to declare the function in head. When users click the mouse on it, there will be a calendar for user to chose a data. After clicking "submit", those data will be transfer another type which can use in "PHP" language.

The responsive and adaptive technology is also a useful technology. One of our project task is to make website to adjust to different devices screen, so I try to search related resources and learned it. with the development of mobile devices, almost users transfer from PC to mobile or pad, so that the responsive and adaptive technology is a useful and necessary in the market.

The last one is the jQuery validate technology which I think is very useful. When using it in the web, if user input some information but the format is not your setting format, the web will remind user to input again automatically. Programmer can set any setting for the input information. When use input the right format, you can set it tell user that the input is in right format. As for the password input. We can set two input two frame for users to input two times. If the passwords input are different, it will remind users to input again. In a word, programmer can set any regulation for users to input information.

Alternative technology

The "session start()" technology. When I write a page for user to input information and post those informations to the backstage. After executing code, it will jump to another page. The problem is that when I try to write this page, I have to use those information which used in last page and I do not want to let user submit again, so how can I to remember last page information and use them in current page? The "session start()" can solve this problem. We can firstly use give the value to "$session" in the first page. When explorer jump to the second page, this page can use the "session" to get those values form last page. This is real good technology, because it can keep the information which have been submitted once. After that, user will not need to submit again. It help programmer to make code simpler and also convenient for them to write coed.

This technology also can use in the guest sign in and manager sign in. It can help to Make a authentication mechanism for guest and manager. For example, when a guest or manger sign in their account, the explorer will jump to a page which only guest or manager can view. There is a the same problem should be solved. How this page know the guest or manager have signed in? If this page cannot keep the guest or manger information, other people can also access this page by input the address in the explorer. Therefore, we can use "session start()" to keep guest or manager information and when it jump to other pages, we can transfer this information to other page to help authentic user or manager. Finally, we can stop this "session", when user or manger log out, we can write a sentence to stop "session".