Group 9 Project Deliverable 2

Project titile: Online Food Ordering & Reservation System
Name: Group 9
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1. architecture view:

We choose Model View Control (MVC) Pattern in terms of architecture pattern. This architecture pattern is very common in web application development. MVC divides our application into three components: model, view and controller. The model contains data involved in our system and functionality. Views display information to web ui with which users can directly interact while controllers handle user inputs. Views and controllers comprise the user interface.

The reasons why we choose MVC pattern include:

1). rapid development
MVC support rapid and parallel development. Our system is a web-based application, thus we can divide views into different tasks. Three developer can develop several different views at the same time or one of us focus on implementation of controllers, one on models, and last one on views. By this way, the time used in developing our application is faster than using other architecture pattern.

2). support for asynchronous technique
The MVC pattern has the ability to integrate with framework technology like Javascript Framework, which supports asynchronous techniques. This helps us develop an application that loads fast and also provide user with better user experience.

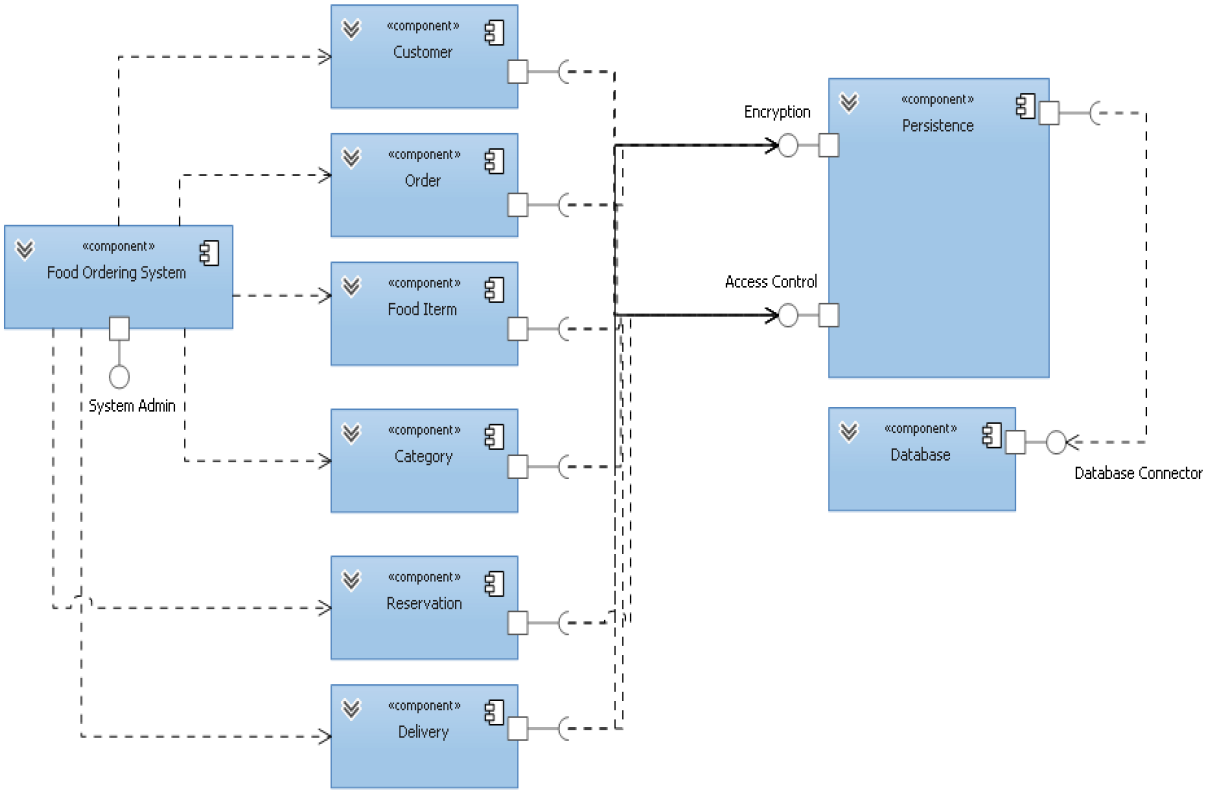
3). modifiability
Separating into model, view, and controller. It improves application modifiability since it reduce the complexity of our application. Also, modification does not affect the entire model. Thus, it is easy to change colors, fonts, screen layouts, and adding new device support for mobile phones or tablets. Moreover, Adding new type of view in MVC pattern is very easy since the Model does not depend on the views. Therefore, and changes in the Model will not affect our entire architecture.

2. System Components

Our system (Online Food Ordering & Reservation System) includes six key modules:

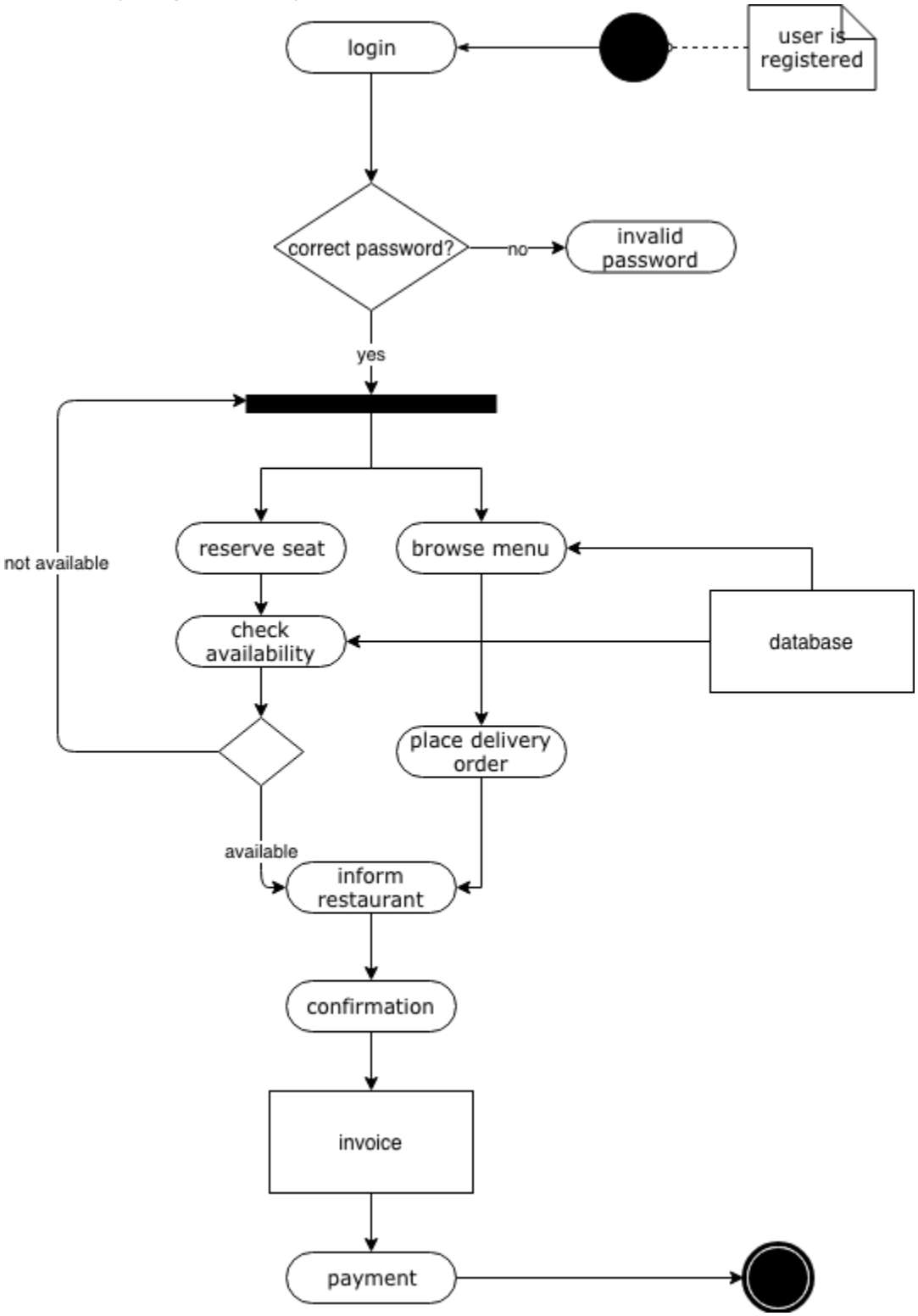
Customer: our customer who use this system and related activites.
Order: manages orders
Food Item: manages food items
Category: manages food category
Reservation: manages table reservation related activites
Delivery: manages food delivery related activites
extra two modules: **persistence module** depends on the database module and provides access control to different data while database **module** provides interface of database access.

Components diagram:



3. Activity diagram:

The activity diagram mainly describe two main activities: reserve seat and place food order.



4. Estimations:

1. As a user, I want to clearly see the details of every food in the menu such as prices, calories, ingredients , so I can compare to each other, choose the best choice I wish to order. (**card: 100**, this is a very larger task because it includes more details in this implementation.)

2. As a staff, I want to be able to edit customers' order, prevent the mistakes are made by us. For example, a customer reserve a table in the restaurant, but the reservations are full then we need to cancel. (**card: 20**, this task is large because to achieve this we need to implement an authentication and permission service first.)

3. As a staff, I want to see the orders I need to prepare so I can schedule my work sequence more efficiently. (**card: 15**, this is a medium task because scheduling staff's work sequence is a little challenging.)

4. As a staff, I want to edit the menu, so customers can see what is new.(**card: 40**, same reason as (II).)

5. As a user, I want to be able to edit my orders like change the items of food and units after I place an order. (**card: 100**, it's a very large task because if we change an order after it's been placed, then the work sequence of the staff must also be changed and conflicts might occur in this process.)

6. As a user, I want to be able to cancel my orders if I place an order mistakenly. (**card: 5**, this is a medium task because if the customer canceled the order before the restaurant accepts it then it would have no side effect.)

7. As a user, I want to to able to browse food by category or by rating. (**card: 40**, this is a large task because rating and sorting is a lot more extra work.)

8. As a user, I want to be able to select reserve a table or browser menu after login. (**card: 10**, this is a medium task since it may be nececssary to give an option for users to choose after login.)

5. Tech stack:

I. We choose Python as our development language because Python is easy to code and can save a lot of time. Moreover, two of our team members are family with python development. Other team member with java knowledge can easily learn how to use Python to develop. Lastly, Python has a variety of modules that can be used in our application development.

II. We choose Flask for web framework and Bootstrap for HTML framework because they can cooperate well with Python. Also, Flask inherit the advantage of Python, there are large amount of modules available to use. This improve the efficiency of our development.

III. We will use MySQL for our database and the system will be running on Linux mainly because Mysql is easy to install and use under linux system environment. There are a lot of document concerning the use of mysql and linux. More importantly, it is suitable for the scale of this kind of application and it will increase cost if we choose Oracle Database.

6. Sprint Planning

Sprint	User Stories No.	Time Estimation
1	1	5 weeks and more
	7	3 weeks and more
2	5	5 weeks and more
	6	3 day
	8	2 day
3	2	2 weeks
	3	1 weeks
	4	3 weeks

7. Acknowledgement

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