The list of points that our team is trying to recover

Stage 1:
Updates in TeamInfo.md for teamName and the project summary (specifically, the file name for Readme.md is corrected).

Stage 2:
Having a complete and correct ER/UML diagram.

- We replaced the incorrect UML diagram with the correct diagram.

(inside doc -> Stage2_Conceptual and Logical Database Design.pdf)

Stage 3:
Database implementation - for providing the DDL commands for your tables.

- We make sure the ordering of the tables is correct.

Advanced Queries - for providing screenshots with the top 15 rows of the query results.

- We added the screenshots of the query results.

(both of these are inside doc -> Database Design.pdf)

Project Reflection Report

1. Please list out changes in your project directions if the final project is different from your original proposal (based on your stage 1 proposal submission).

The project directions regarding the CRUD operations are changed. The functions include insert the passenger information, delete the passenger information based on the user ID, update the user's password, search the passenger information by entering the user ID as the keyword.

2. Discuss what you think your application achieved or failed to achieve regarding its usefulness.

Our application don't have the function that allows the users to find the flights they need, and get the price and other information about flight. This is what our application failed to achieve regarding its usefulness.
Our application is able to insert a user information, search a user information based on the keyword, update this user's password, or delete the user information. It also has two advanced queries and advanced database programs which are all relevant to our application.

3. Discuss if you changed the schema or source of the data for your application

At the very beginning, we tried to find dataset which could include five entities. But later we realized that it is difficult to find such a dataset.

After that, we planned to use the data that is auto generated for all of our tables/schema. It works fine for most tables. However, we encountered the problem that the online data-generating software is not able to generate a list of airport name, and airline name. Therefore, we decided to use the real dataset for the airport table and the airline table.

4. Discuss what you change to your ER diagram and/or your table implementations. What are some differences between the original design and the final design? Why? What do you think is a more suitable design?

When designing the application, we found our first version of design did not meet the requirements, so we re-designed the database. We deleted the “Rating” entity and added the “Ticket” entity. The final design is a more suitable design, because all the entities are quite meaningful, the relationship between each entity is reasonable and consistent with the real life scenario. Also, in the original design, Rating is not a proper entity.

5. Discuss what functionalities you added or removed. Why?

We removed the functionality that “Airline companies should be able to log in and add, delete, or modify the flight information after logging in”, We removed these functionalities, because we were not able to implement them successfully.

We removed the functionality that “Passengers and Airlines should be able to input the source city, destination city, latest arrival time, and get the FlightCode of matching”, because we didn’t have enough time to accomplish this functionality.

We removed the functionality that “Enter the flight code, to receive the flights information like prices, duration, flight rating, and Airline average ratings.” The functionality involves joining two tables, so that means we also have to think about the foreign key constraints. We found that it is complicated for us because our web development knowledge and experiences are quite limited.

6. Explain how you think your advanced database programs complement your application.

For stored procedures, what it does is that, for each flight, we calculate the average price for its first class tickets. And then we need to decide whether this price should be considered as expensive, medium, cheap, which are three different price levels. This is useful because suppose someone wants to buy the first class ticket and this person also has more than one choice for the flight. Then this person can decide which flight will be the most suitable, considering the price level.

The trigger we used is the “before insert” type of trigger. Suppose we try to insert a new user into the Passenger table, if we don’t input anything in the password column, there will be a default password entered into the password column when the data is actually inserted into our database. It complement the application because it can prevent the situation where some users don’t have password, or their password is empty.

7. Each team member should describe one technical challenge that the team encountered. This should be sufficiently detailed such that another future team could use this as helpful advice if they were to start a similar project or where to maintain your project.

Yuhua Weng - Our team faced the challenge at stage four. During stage 4, after we finished writing the code for frontend and backend, we found that we were not able to insert the new data into our GCP database and that means our application is not able to access the database in our GCP mysql instance. Later we found out the main cause was that the frontend and backend of our application are not connected properly. The url in the client side doesn’t match the routes in the server side. We should also use the same port number for frontend and backend.

Yutong Li - I am responsible for writing the front end of the team. I encountered a lot of problems when writing the front end, such as how to implement user interaction with the page. Such as user insert, delete, update, and search information. In addition, designing UI is also a relatively difficult thing for me, which requires me to find some information about CSS. Luckily I finished building the front end, and we also successfully connected the front end to the database.

Ye Yu - When I was working on stages 1 and 2, I always found that I didn't know how to start. Later I realized it was because I didn't watch the workshop video seriously. Then I would watch the video many times before every work and it was very effective.

Boning Wang - In stage3, data needs to be input into gcp, but this process is difficult to debug. Sometimes the data does not meet the requirements and cannot be input to gcp, but it takes us a long time to find the bug.

8. Are there other things that changed comparing the final application with the original proposal?

Compared with the initial proposal, we pay more attention to the creation and change of user accounts and passwords because this is the premise of all other outcomes. We designed the UI to be more reasonable, so users can use our APP more directly.

9. Describe future work that you think, other than the interface, that the application can improve on

In the future work, when inserting the new data, we could make the inserted entries appear in the webpage, so that the readers can see more clearly what is being inserted.

Additionally, the application could add the function that allows the users to find the flights they need, and get the price and other information about flight.

10. Describe the final division of labor and how well you managed teamwork.

Yutong Li - Stage1, 2, 3 and FrontEnd
Yuhua Weng - Stage1, 2, 3, BackEnd and Demo
Ye Yu- Stage1, 2, 3 and BackEnd
Boning Wang - Stage1, 2, 3 and BackEnd
Each team member could do their assigned task on time since the work was distributed equally among them.