Travel Reservations Service

CS 4400: Introduction to Database systems

Course Project: Fall 2021

Project Purpose

In this project you will analyze, specify, design, implement, document, and demonstrate an online system. You are required to use the classical methodology for relational database development. The system will be implemented using a relational DBMS that supports standard SQL queries. You will use your localhost MySQL Server (Version 5.1 or above) to implement your database and the application. You also cannot use any other software like Access or SQLite. Ask the professors or TAs if you have questions.

Project Phases

Inputs (we give you)

• Scenario Description • Sample Data Elements	• Enhanced ERD (EERD) • Initial Data Set (in a Non-Normalized Format)	• Physical Database Schema with Initial Data Set • View and Stored Procedure Shells	• User Interface Specification
Phase I	Phase II	Phase III	Phase IV *(Optional)*
• Enhanced Entity Relationship Diagram (EERD) • List of assumptions (optional)	• Relational schema • Physical Database Schema with Initial Data Set • Unhandled Exceptions List	• Implemented Views & Stored Procedures • Any Supporting Views and Related Structures	• Fully Functional Application integrated with Database System • Application Source Code

Outputs (you turn in)

Version History

Version	Date	Notes
0	December 4, 2021	Initial release
1	December 5, 2021	Fixed Final Exam timings for sections A and B

Directions for Phase 4

In this phase, your team will implement a full-fledged, stand-alone application for the Travel Reservations Service as described in the project description.

Phase 4 vs Final Exam

Phase 4 is completely optional: you can either take the Final Exam, or do Phase 4, but not both. If you do Phase 4, then all members of your team must be available for the live demo. You must submit your decision for the "Final Event" by Dec 7th at 11:59 at this time your decision is final. **EVERY TEAM MEMBER MUST FILL OUT THE FINAL EVENT SURVEY.**

- For those in Section A (TR 2:00-3:15): your final is Dec 14th from 2:40 to 5:30.
- For those in Section B (TR 3:30-4:45): your final is Dec 9th from 2:40 to 5:30.

The biggest "challenge" that we've seen over the years is when one or more members of a team decides, very close to the Due Date (e.g., less than 24 hours in some cases), that they no longer want to do Phase 4, and won't complete their portions of the project, which leaves the remainder of the team in a very bad predicament. We encourage everyone to be very honest about how much you're committed to completing Phase 4. And thinking proactively, we encourage you to setup a realistic development schedule with checkpoints established well before the Phase 4 Due Date deadline to ensure that all team members are on track with their planned implementation efforts and results.

Timeline

1. If you are considering doing a demo for Phase 4 you MUST submit an MVP (Minimally Viable Product - I.e. very basic GUI that has at least 2 screens and can handle the associated queries) by Dec 7th, and schedule your demo on canvas appointments by the same time.
    a. Resubmit your final product before your scheduled demo time.
2. If you submit an MVP, but decide you would rather take the final, change your preference for the Final Event here by Dec 8th at 10am and cancel your canvas appointment.

3. Project Demos will take place in 45 minutes time slots between (Dec 9th at 2:30pm) and (Dec 16th at 5pm). The TAs will be adding their demo slots prior to the last week of classes. Should any scheduling conflicts arise, email asmith457@gatech.edu ASAP.

Demo Instructions

- The team will join the BlueJeans link **5 minutes prior** to the start of the demo with **the application running, the database pulled up, and the database seeded with the official initial data.** The team will provide this BlueJeans link when signing up for a demo appointment.
- The team should record the entire BlueJeans session and should submit a link to the recording in the "Phase 4 Recording" assignment after BlueJeans has finished processing the recording.
- Have all team members in attendance on time. **No credit will be given to absent members, and 15 points will be deducted from tardy (up to 10 minutes) members**.
- The TA will go through a script of user stories and ask you to demonstrate a comprehensive set of application functionalities
- The TA may ask questions to assess your understanding of the application as well as your participation within the team
- The TA may ask to see your database to ensure changes are persisted there
- The TA won't run your application on their personal computer. A team member (or multiple) will run the application on their computer and screenshare.
- The TA won't try to break your application via SQL injections or some nefarious edge case. However, anything that's listed or depicted in the description is fair game.
- Remember to be respectful of the TA. They are trying to assess your application in a fair and consistent way. They are also in the middle of their own final exams and projects. Be kind to them, and they'll be kind to you.
- You will have **exactly 45 minutes** to complete your demo. We cannot give you more time, so you must come prepared.
- You will not receive your grade directly after the demo. Don't ask for it, as the TA is not allowed to tell you.

Restrictions

- You must use a database. It does not have to be MySQL, but you must use some database to persist data that is not just an in-memory data structure.
- Your code should not be public and should only be shared with your team.
- Your screens should generally follow what we've shown in the description, but you are free to present the UI however you see fit as long as the functionality is met.

During Demo Repairs

As mentioned above, you will have a **up to 45 minutes** to complete all the steps. If you encounter any problems during the demonstration process where your queries (or application capabilities) are not working correctly, then we will offer you the opportunity to perform minor "on-the-spot" repairs.

You should weigh this offer very carefully:

- If you choose to "make some repairs", then the clock will continue to tick during your efforts, and you are still responsible for completing as much of the testing script as possible. Steps from the testing script that are left uncompleted will count against your final score.
- If you choose to accept/ignore the errors and continue with the script, then you will likely lose some points because of the errors. On the other hand, this might still result in a better overall score than stopping to make repairs.

Ultimately, this choice is your call to make as a team. The TAs are allowed to let you know where you are in the testing script (e.g. "You've completed 9 of the 15 steps so far..."), and can give you some very general sense of how severe the error is compared to the expected result, but they will not troubleshoot the error for you, nor will they determine the likely impact of the error on the remaining steps of the testing script. We recommend that you discuss this as a team before the demonstration, so that you have a general strategy in advance - time is precious during the demo.

Note that we do expect the demo script to take most of the demo time, so do not submit code on Sunday night intending to make fixes during the demo. These “on-the-spot” repairs are mainly for minor fixes you don’t find out about until the demo.

Demo Script Sample

The below sample is provided to give you a sense of what sorts of tasks the TA will ask you to perform as well as how you will be earning points (point values are hidden below). Note the full demo script is a comprehensive walkthrough of your entire application; below is just a sample.

Go to the Register Customer screen. Try registering a new customer with these parameters: [Failed Registration].

- +X for failing to register customer with invalid params.

Make an registration with these parameters: [Actual Customer Registration].

- +X for successfully registering the customer.

Make another registration with those same parameters. [Actual Registration]

- +X for failing to make duplicate customer registration

Go to the Admin View Customers screen and check to see if your new customer is there.

- +X for updated Admin View Customers screen

Submission Instructions

1. You should submit a zip file including the following:
    a. All code required to setup and run your application
    b. A readme including:
        i. Instructions to setup your app
        ii. Instructions to run your app
        iii. **Brief** explanation of what technologies you used and how you accomplished your application (don't spend too much time on this)
        iv. Explanation of how work was distributed among the team members
2. To be clear, **your grade is almost entirely based on your demo**. The submission serves to ensure you are code complete by the deadline and serves as a deliverable for your efforts.