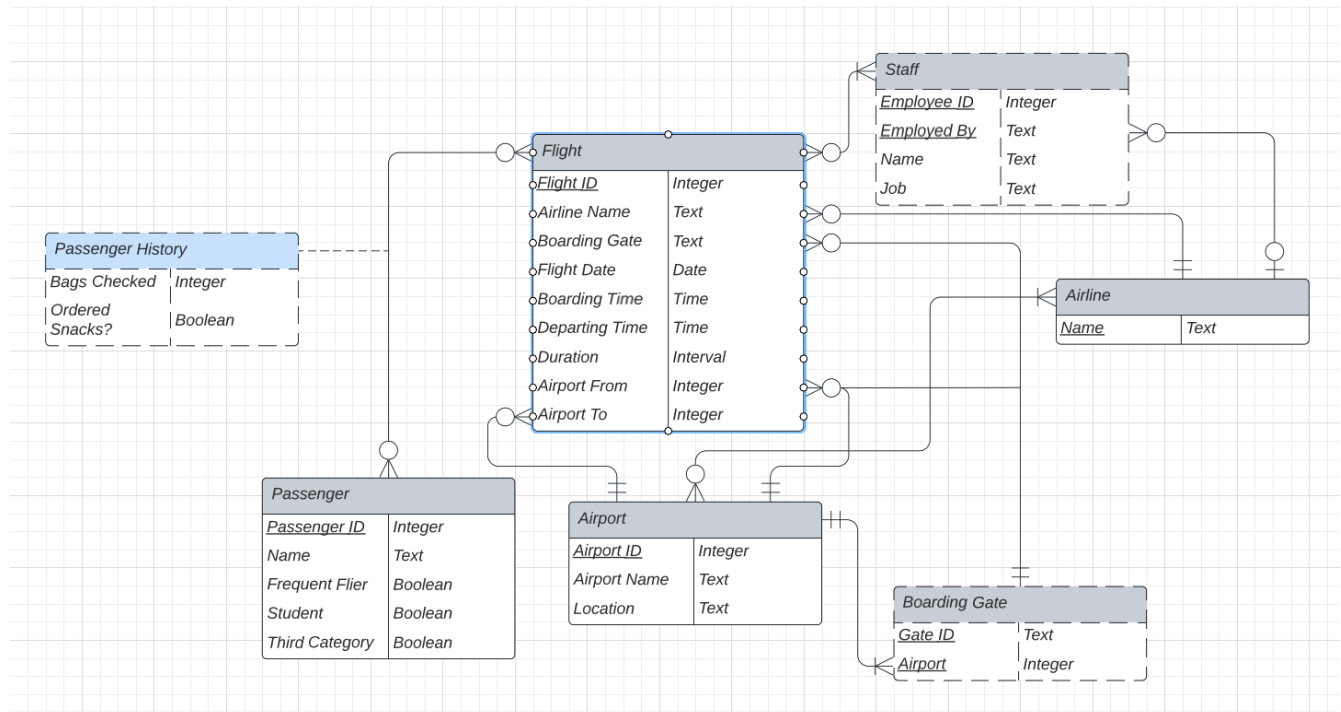


Project Overview

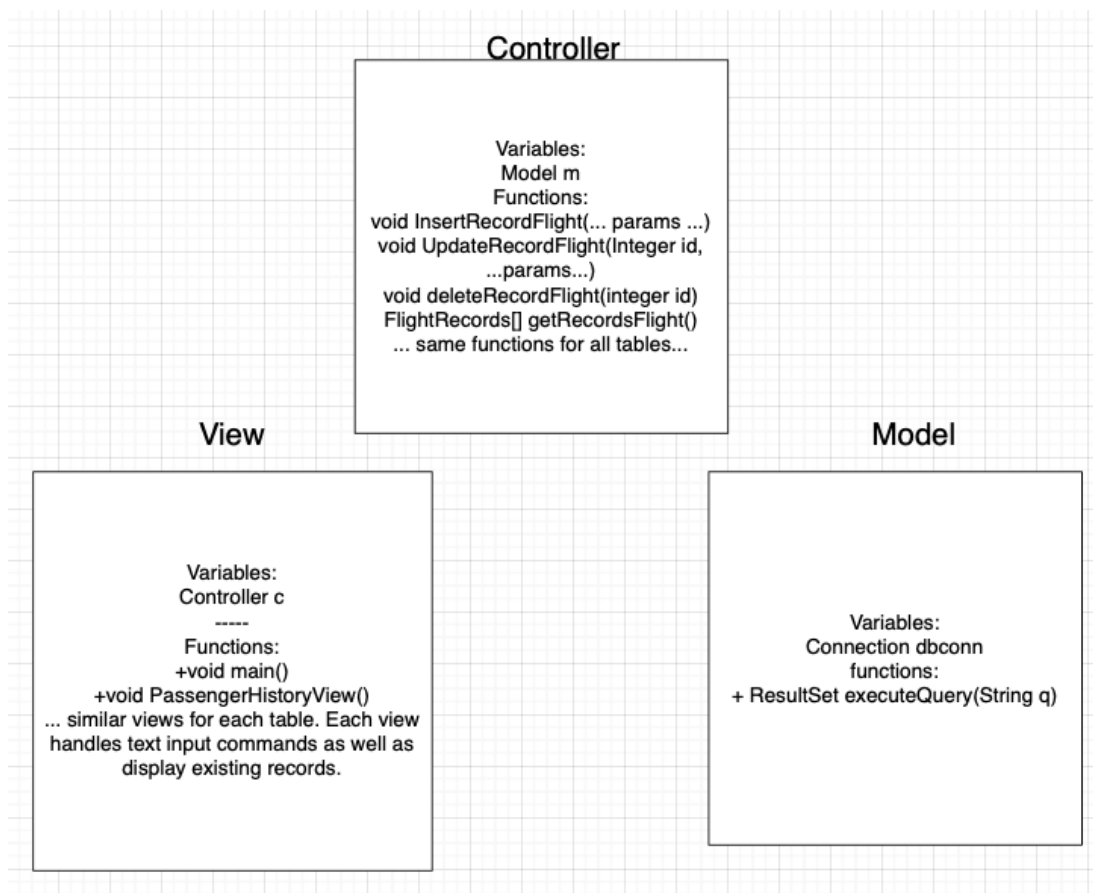
In this Project, we implement and visualize a database of flights. The text based UI displays a table that was requested by the user, as well as displays and handles prompts for update-delete-insert commands for each table.

E-R Diagram



...see next page for continuation...

MVC Diagram



VIEW

Variables

Controller c

Description: This is an instance of our controller which will be used for communication between view and the model.

Functions

+ void main()

Description: The main entry of the program. At first, it will initialize controller and a model for it. After that, it has an infinite loop until “exit” command was inputted. During the loop, it prompts the user for the table to work on. After the user enters table name, the main function calls according ...View() function to handle information display and manipulation commands. If an invalid command is entered, the program will display error and ask for a new command again

Possible inputs:

passenger history – transfers to corresponding view function

passenger

flight

... (all table names)

show tables – shows all table names

exit – exits the program

- void ...View()

Description: There is a view function for each table. It has an infinite loop until “main menu” is entered, which ends the function and returns back to main(). Right after starting the loop, the view prompts user for command. If a wrong command is entered, the program will display error and prompt for a new command

Possible inputs:

update – command to update a record. After this was entered, the program will prompt the user for primary ID of the record and the updated info for each column

delete – command to delete a record. After this command, the program will prompt for the primary ID of the record and delete it

insert – after this command, the program will prompt for information for each column of the new record

main menu – terminate loop and return back to main()

show records – display all records in the given table

CONTROLLER

Variables

+ Model m

Description: This is an instance of our model which will be used for communication between controller and the database.

Functions

insertRecord...() - function to insert a specified record for a specific table (e.g. if the function is *InsertRecordFlight* it will insert into table *Flight*). Its parameters are all parameters of the record.

DeleteRecord...() - function to delete a specified record. Only prompts for primary key (*FlightId* if its the flight table). Throws an exception if the record is not found.

updateRecord...() – similar to *insertRecord* but updates the record instead of inserting. Throws an exception if the record is not found.

GetRecords...() - get all records for a specified table. It has to transform *ResultSet* to an array of corresponding table. For example, it must transform *ResultSet* to *FlightRecords[]* if the table is *Flight*.

MODEL

Variables

+ Connection dbconn

Description: This is a variable that is necessary for communicating with the database. It must be initialized in the constructor.

Functions

+ *ResultSet* *executeQuery(String q)* – executes query through *dbconn* and returns result back to controller.