

Final Project Part 3 List of Use Cases and Queries

Use Cases for Customer, Agent, and Anonymous User:

1. Searching for flights (main.index)
 - a. all_flights query selects flight, airport1 (alias for airport), airport2 (another alias for airport), and airplane; joins flights with airport1 via departure airport name, airport2 via arrival airport name and airplane via airplane id; filters by the date entered, origin (city or airport name) and destination (city or airport name)

Use Cases for Customer and Agent:

1. Purchase flights (main.flights)
 - a. Redirects user to login page if anonymous
 - b. If not anonymous, commit new ticket with information entered by user to database
 - c. Check if the buyer is a customer or agent. If buyer is a customer, create new purchase row without agent id
 - d. If buyer is an agent, create purchase row with agent id
 - e. Commit new purchase to database

Use Cases for Customer:

1. Customer use cases are all contained in the customer profile page (main.profile)
2. Querying upcoming flights
 - a. selects purchases, flight, ticket, airport1, airport2; performs joins tickets via ticket id, joins flight via flight_num, joins airport via departure airport, and joins airport2 via arrival airport; filter by customer email and departure after the current date; orders results in ascending order
3. Query past flights
 - a. Similar to querying upcoming flights, except filter departure date before current date and order results in descending order
4. Query total spending in past year
 - a. select sum of flight prices; joins ticket and flight on flight_num and then joins purchases on ticket_id; filter by customer email and ticket purchase date in the past year
5. Query monthly spending
 - a. Similar to query total spending in past year except group by purchase date
6. Query selective spending history
 - a. similar to (4) and (5) except use start date and end dates entered by customer; results are then sent to main.profile to be rendered on customer profile page

Use Cases for Booking Agent:

1. Booking agent use case are all contained in agent home page (main.agentHome)
2. Query upcoming flights - similar to (2) from customer use cases but filtered by booking agent id equal to the id of the logged in agent
3. Query their past month commission - selects sum of flight price from ticket joined to purchases; filtered by purchase date within the past month and filtered by booking agent id

4. Query past month ticket sales - selects count of flight_num from tickets joined purchases; filtered by purchase date within the past month and filtered by booking agent id equal to id of logged in agent
5. Query top 5 clients by ticket sales in past 6 month - selects customer email and count of customer email from purchases; filtered by booking agent id and purchase date; grouped by customer email; ordered by count and limit top 5
6. Query top 5 clients by commission in past year - selects customer email and sum of flight prices from tickets joined with purchases and flight; filtered by booking agent id and purchase date within the past year; grouped by customer email and limit top 5
7. Query commission history for entered dates - same as (3) but used dates entered by booking agent

Use Cases for Airline Staff:

1. Airline staff use cases are all contained in separate pages (main.staffHome, main.report, main.moreFlights, main.views) but all specified in main.py
 - a. Staff home page (main.staffHome)
 - i. Query airline upcoming flights in the next 30 days - same as (2) from customer use case but filtered by different dates and filtered by airline of staff member \
 - ii. addNewPlane - validates plane information entered by staff and add it to database
 - iii. addNewAirport - validates airport info. entered and add it to database
 - iv. updateStatue - checks if flight exist and if it does, update flight status
 - v. addNewFlight - validates flight info. entered and add it to database
 - b. View more flights page (main.moreFlights)
 - i. Query selects flight, airport2, airport2, and airplane; performs the same joins as in (3) of customer use cases; filtered with the entered dates, filtered with the entered airport code or city and ordered in ascending order by departure time
 - c. View reports page (main.reports)
 - i. Query indirect revenue in past month - query selects purchases and sum of flight prices; join tickets with purchases via ticket_id and joins flights via flight_num; filtered by purchase_date in the past month and filtered where booking agent is not Null or none
 - ii. Query direct revenue in past month - same as (i) but filtered where booking agent is Null or none because null means that no agent help booked the flight
 - iii. Query indirect revenue in past year - same as (i) but filtered by purchase_date in the past year
 - iv. Query direct revenue in past year - same as (ii) but filtered by purchase_date in the past year
 - v. Selective monthly ticket sale query - count ticket ids from purchases table; filtered by dates entered by staff and grouped by month; sends results to main.reports to be charted in a bar chart
 - d. View top customers and agent page (main.views)
 - i. Query top flyers in the past year - selects customer name, email, and count of customer email from purchases joined tickets joined customer table; grouped by customer email

- ii. Query top agents by tickets sold in past month - selects booking agent id, booking agent email, and count of agent id from purchases joined booking_agent table; filtered by purchase date within 30 days; grouped by agent id and email; limit results to first 5
- iii. Query top agents by number of tickets sold in past year - same as (ii) but filtered by purchase date within past year
- iv. Query top agents by commission in past year - selects booking agent id, email, and sum of flight prices; filtered by where agent id is not None and filtered by purchase day within the past year; joined tickets via ticket id, joined flights via flight num, and joined booking agent via booking agent id; grouped by booking agent id and email; limit results to top 5
- v. Query top 3 destinations in past 3 months - select airport city, and count of ticket.flight_num from flights joined airport, tickets, and purchases; filtered by purchase date within the past 3 months; grouped by airport city and limit results to top 3
- vi. Query top 3 destinations in past year - same as (v) but filtered by purchase date within the past year