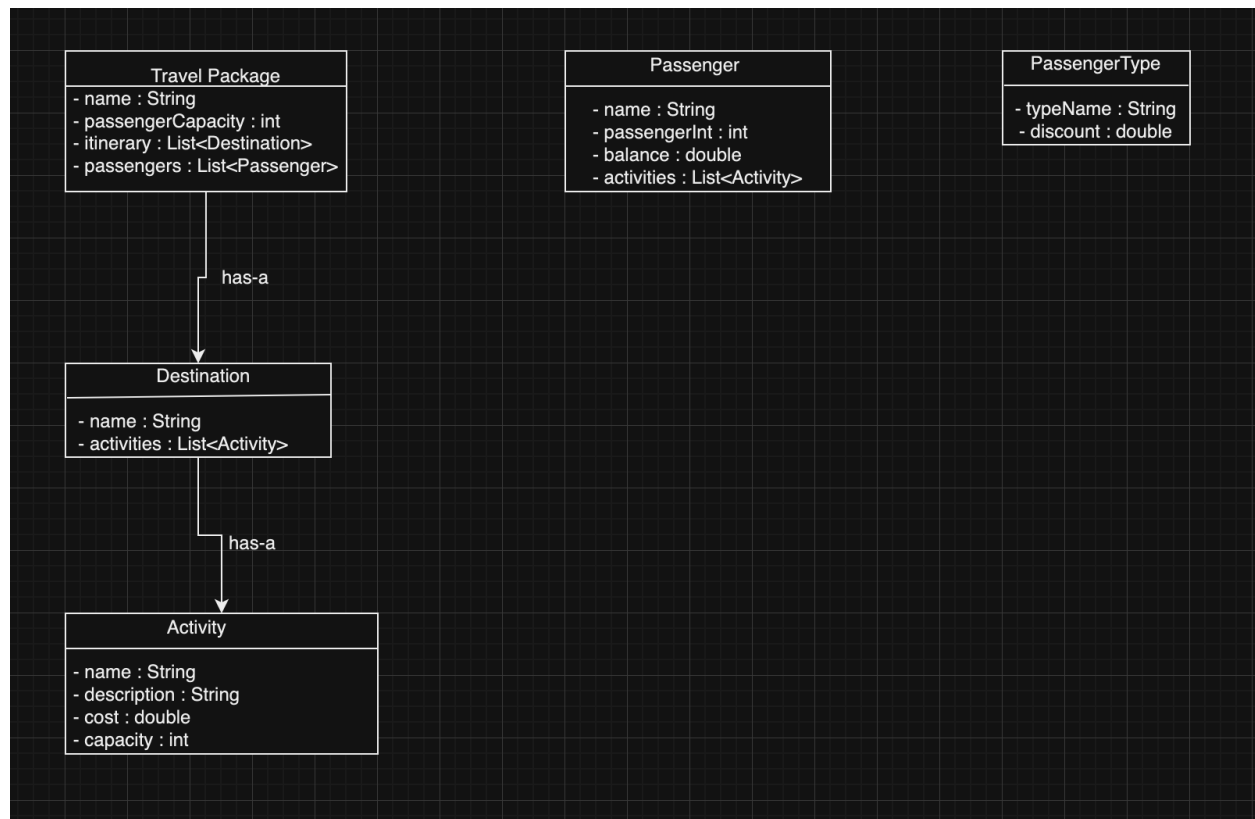


Low level Design(LLD) - UML Diagram



High Level Design(HLD)

1. Passenger Activities:

- Let's assume:
 - 50 passengers sign up for activities per day.
 - 20 passengers pay for activities.
 - 30 passengers update their balances.
- Total Daily Changes:
 - New Passenger Activity Records: 50 records
 - Updated Passenger Balance Records: 30 records
- Estimated Daily Data Change:
 - New Data per Day: $(50 \text{ records} * 200 \text{ bytes}) + (30 \text{ records} * 200 \text{ bytes}) = 16,000 \text{ bytes} = 16 \text{ KB}$

2. Booking Activities:

- Let's assume:
 - 100 passengers enroll in activities per day.
 - 50 activities' available spaces are updated.
- Total Daily Changes:
 - New Booking Records: 100 records
 - Updated Available Spaces Records: 50 records

- Estimated Daily Data Change:
 - New Data per Day: $(100 \text{ records} * 100 \text{ bytes}) + (50 \text{ records} * 100 \text{ bytes}) = 15,000 \text{ bytes} = 15 \text{ KB}$

Total Estimated Daily Data Change: Adding up the daily data changes from each category:

- Passenger Activities: 16 KB
- Booking Activities: 15 KB

Total Estimated Daily Data Change: 31 KB

Database Schema

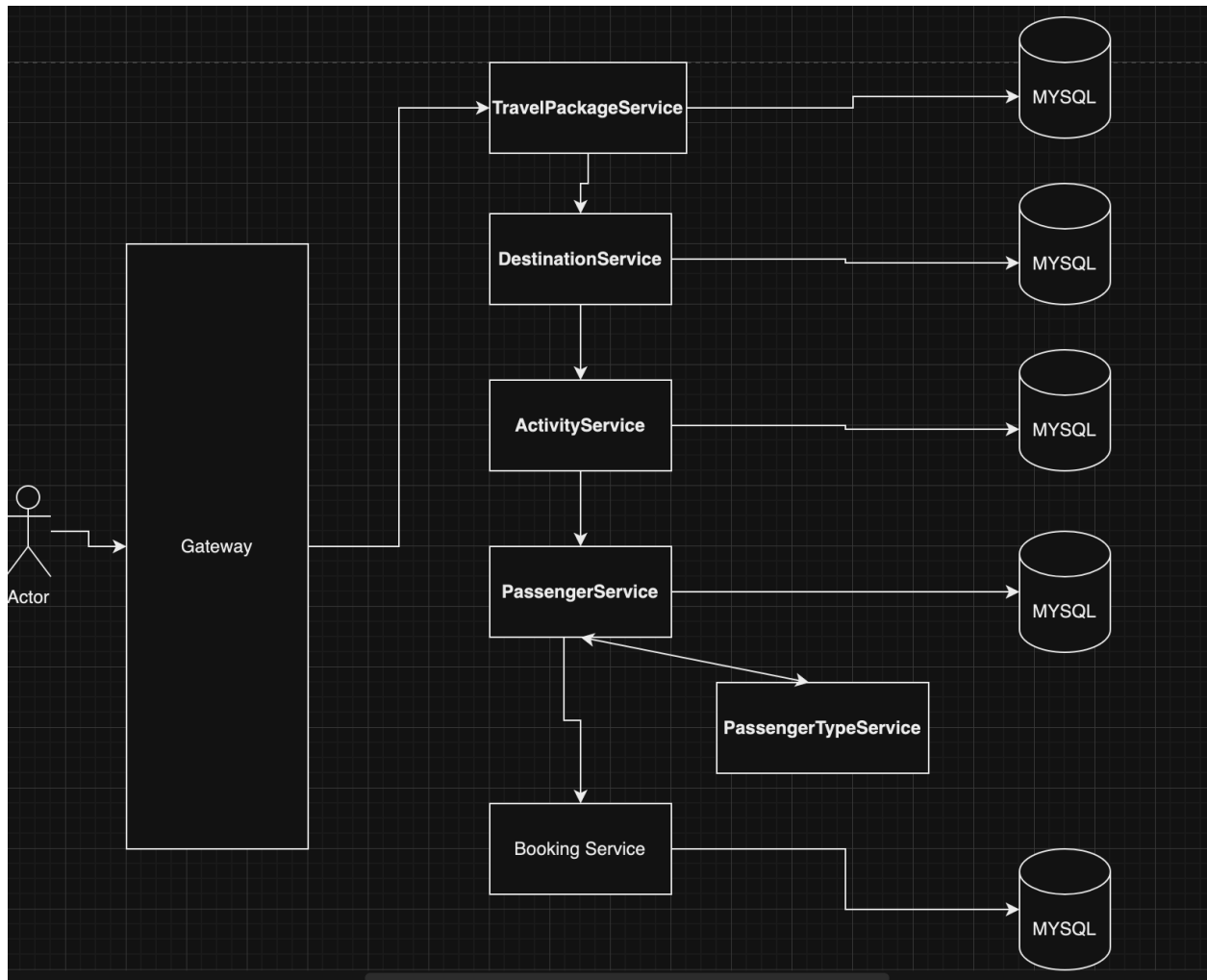
Entities and Relationships:

1. PassengerType:
 - passenger_type_id (Primary Key)
 - type_name
 - discount
2. Passenger:
 - passenger_id (Primary Key)
 - name
 - passenger_number
 - balance
 - passenger_type_id (Foreign Key referencing PassengerType)
3. Activity:
 - activity_id (Primary Key)
 - name
 - description
 - cost
 - capacity
 - destination_id (Foreign Key referencing Destination)
4. Destination:
 - destination_id (Primary Key)
 - name
5. DestinationActivity:
 - destination_activity_id (Primary Key)
 - destination_id (Foreign Key referencing Destination)
 - activity_id (Foreign Key referencing Activity)
6. TravelPackage:
 - travel_package_id (Primary Key)
 - name
 - passenger_capacity
7. TravelPackageDestination:
 - travel_package_destination_id (Primary Key)

- travel_package_id (Foreign Key referencing TravelPackage)
- destination_id (Foreign Key referencing Destination)

8. Booking:

- booking_id (Primary Key)
- passenger_id (Foreign Key referencing Passenger)
- activity_id (Foreign Key referencing Activity)
- booking_timestamp



High Level Design