FIT3171: Databases (S1/2022)

Assignment 1A: Conceptual Model – World Cruises (WC)

Assumptions Made

1. **Guardian – Minor relationship**
    a. When a family first booked a cruise, WC can check whether a minor (if there is any) has an accompanying guardian. This is not possible after the first booking as the minor is already registered in the system. Therefore, the front-end developer is assumed to check for this condition. This is clarified by the teaching team via email.

2. **The difference between a CRUISE and a SHIP**
    a. A CRUISE is assumed to be an event (a ride) hosted on a SHIP, which represents the transportation (object).

3. **CRUISE_PORT datetime attribute**
    a. As there could be overnight stays (or longer), WC is assumed to record both the date and time for arrivals and departures. This is shown in the example given by the teaching team on the Ed forum.

4. **PASSENGER**
    a. PASSENGER, in this context, is not a passenger for a particular CRUISE ride. It is assumed to be a client of WC, that has booked at least one of WC's CRUISE. Therefore, the PASSENGER's id can be used to identify a PASSENGER uniquely, across all CRUISEs. This is clarified by the teaching team via email.
    b. Based on the above assumption, a PASSENGER can have multiple bookings of different CRUISEs (but at least one). As CABIN allocation is performed at booking time, a PASSENGER must appear in one or more MANIFEST entries.
    c. PASSENGERs are assumed to stay on the CRUISE throughout the entire ride. This is confirmed by the teaching team on the Ed forum.

5. **The structure of MANIFEST**
    a. A MANIFEST is assumed to be a table, with four columns – cabin_number, cabin_capacity, cabin_class, and passenger_boarding_datetime to record for each CRUISE, the CABIN which has been allocated for each PASSENGER and the time at which the PASSENGER boards the CRUISE.
    b. A MANIFEST entry is assumed to only be created when the PASSENGER steps on the CRUISE.

6. **CABIN allocation**

a. A CABIN is assumed to be allowed to be allocated to multiple PASSENGERs (e.g., in the case that it is a family, or a guardian guarding multiple minors). However, per the assignment specifications, a PASSENGER can only be allocated to one CABIN. Allocation is done through the MANIFEST. This is still restricted by the cabin's capacity.

7. CRUISE – CRUISE_PORT relationship

a. A CRUISE is assumed to visit at least one PORT. Therefore, every CRUISE will have at least one CRUISE_PORT, which records the arrival and departure date & time.

8. CRUISE_PORT – PORT relationship

a. A PORT is assumed to be able to house multiple SHIPS/CRUISES.
b. A PORT is assumed to be able to be repeatedly used by the same CRUISES.
c. A PORT is assumed to be at least used by one SHIP/CRUISE, otherwise the PORT should not be tracked by WC.
d. Based on the above assumptions, a PORT must have one or more CRUISE_PORT (timestamps of arrival/departure, and the CRUISE info).

9. SHIP – CRUISE relationship

a. CRUISE is the only service WC provides. Therefore, a SHIP is assumed to be at least used by one CRUISE.

10. SHIP – CABIN relationship

a. A SHIP is assumed to have at least one CABIN.

11. CABIN – MANIFEST relationship

a. We assume it is possible that a CABIN is never allocated to a PASSENGER before. For example, if a CABIN is reserved for storage. Therefore, a CABIN can appear in zero or more MANIFEST entries.

12. CRUISE – MANIFEST relationship

a. A CRUISE is assumed to have at least one PASSENGER; therefore a CRUISE must appear in at least one MANIFEST entry.