

TEAM SEQUEL EXTRACT (Project Phase 2) (Airport Management System)

- Anmol Agarwal (2019101068)
- Pratyush Priyadarshi (2019101118)
- Samyak Jain (2019101013)

CENTRAL AIRPORTS MANAGEMENT DATABASE

MINOR CHANGES MADE BY US

Changes related to the removal of some attributes

- From the **AIRCRAFT** entity, we are removing the attribute “OWNER AIRLINE”.
The reason behind this: We do this as the information that the airline owns this particular aircraft is already captured in the relation “AIRLINE owns the AIRCRAFT” and after reading about how relational models are represented last week, we understand that the attribute “owner airline” is redundant.
- From the **LUGGAGE** entity, we are removing the attributes “Name”, “IATA CODE OF DESTINATION AIRPORT” and “Flight-ID”.
The reason behind this: We do this as the information which these attributes convey is already obtainable as these attributes are already present in the Boarding Pass Entity to which the LUGGAGE entity is related to.
- **Removal of attribute ‘IATA designator id for employer airline’ from AIRLINE EMPLOYEE entity**
The reason behind this: We do this as the information is already conveyed in the form of a relationship “AIRLINE EMPLOYEE works for AIRLINE” and hence, this attribute was adding redundancy in terms of storage space in the database.
- From the **BOARDING PASS** entity, we remove attributes Flight ID, Departure Date, Scheduled departure time, IATA code for source airport, and IATA code for the destination airport.
The reason behind this: We do this to remove data redundancy as these attributes can easily be queried for from the ROUTE to which the Boarding Pass is related. Also, since a route may be connected to many boarding passes, for storage space purposes, it makes much more sense to keep this data as attributes of the ROUTE entity.

Changes related to an entity

- Conversion of a route from **weak entity type** to **strong entity type** by addition of key attribute **ROUTE ID**.

Name	Domain Constraints	Attribute Type	Description
Route ID	Numerical	Key Attribute	ID to identify a particular flight

Changes related to a relationship

- Removal of relationship ‘**PASSENGER (infected individual) has come in contact with PASSENGER (individual at risk)**’ as we find out that this relationship though enormously useful, can always be queried in a way such that we explore all flights that have been boarded by an infected individual and then find out which passengers have attended this flight. We had earlier included this relationship as we felt that a direct relationship would be better in terms of query time complexity as opposed to traversing the relations to obtain this information.

Convention to be followed while reading ER DIAGRAM

If the arrowhead in the relationship points from E1--->relationship--->E2, then the relationship is to be read as E1 is_related_to E2.
If the arrowhead in the relationship points from E1<---relationship<--E2, then the relationship is to be read as E2 is_related_to E1.

