

DnA Project Phase 3

Team 18 : Chacha And Co

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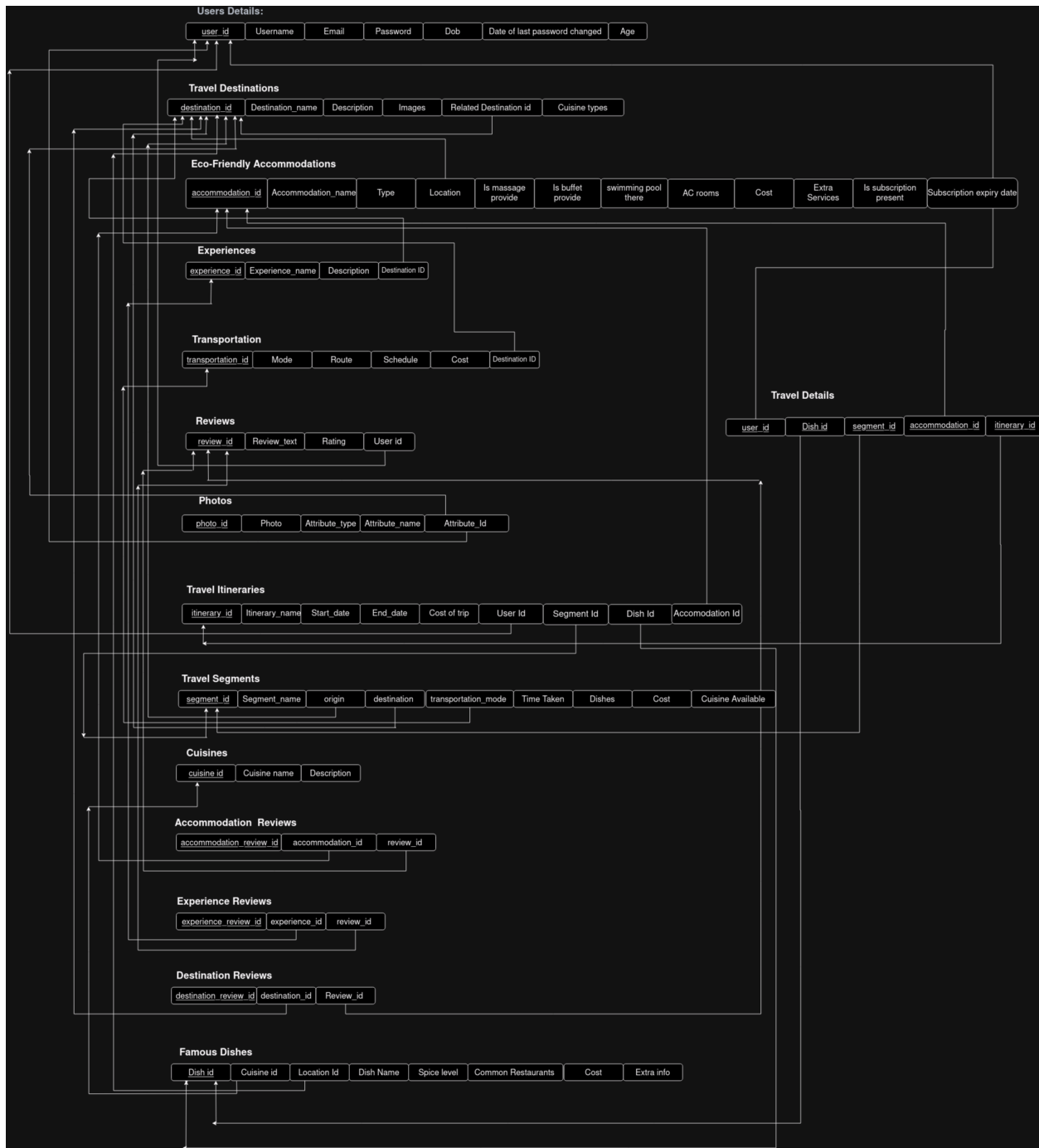
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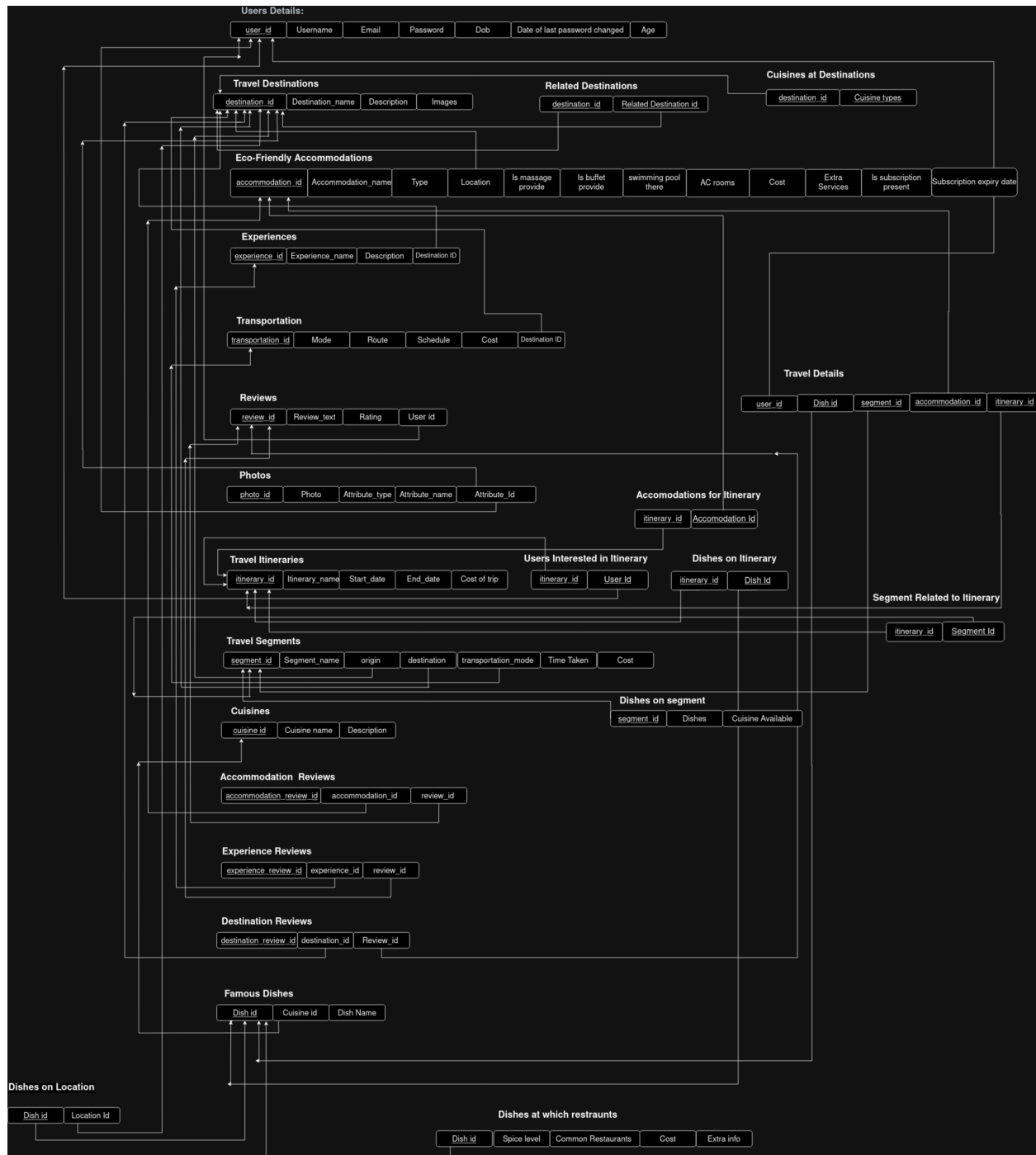
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Relational Model



- All the entities are made into tables with the same attributes
- All the Primary keys are marked, and the foreign keys joined
- For the weak entities, the column for identifying relations has been added to make the values of the table identifiable.
- New tables have been made for relationships with M:N cardinality
- Foreign keys have been added to the required tables based on the relations

For First Normal Form



The table travel destinations had two multivalue attributes,

- Related destinations

- Cuisine types

The table Travel Itineraries had four multivalued attributes,

- Accommodation
- Segment Id
- User
- Dish

Travel Segments had one multivalued attribute

- Dishes
- Cuisine available (would be a multivalued as Dishes is a multivalued)

The table Dishes had two multivalued attributes,

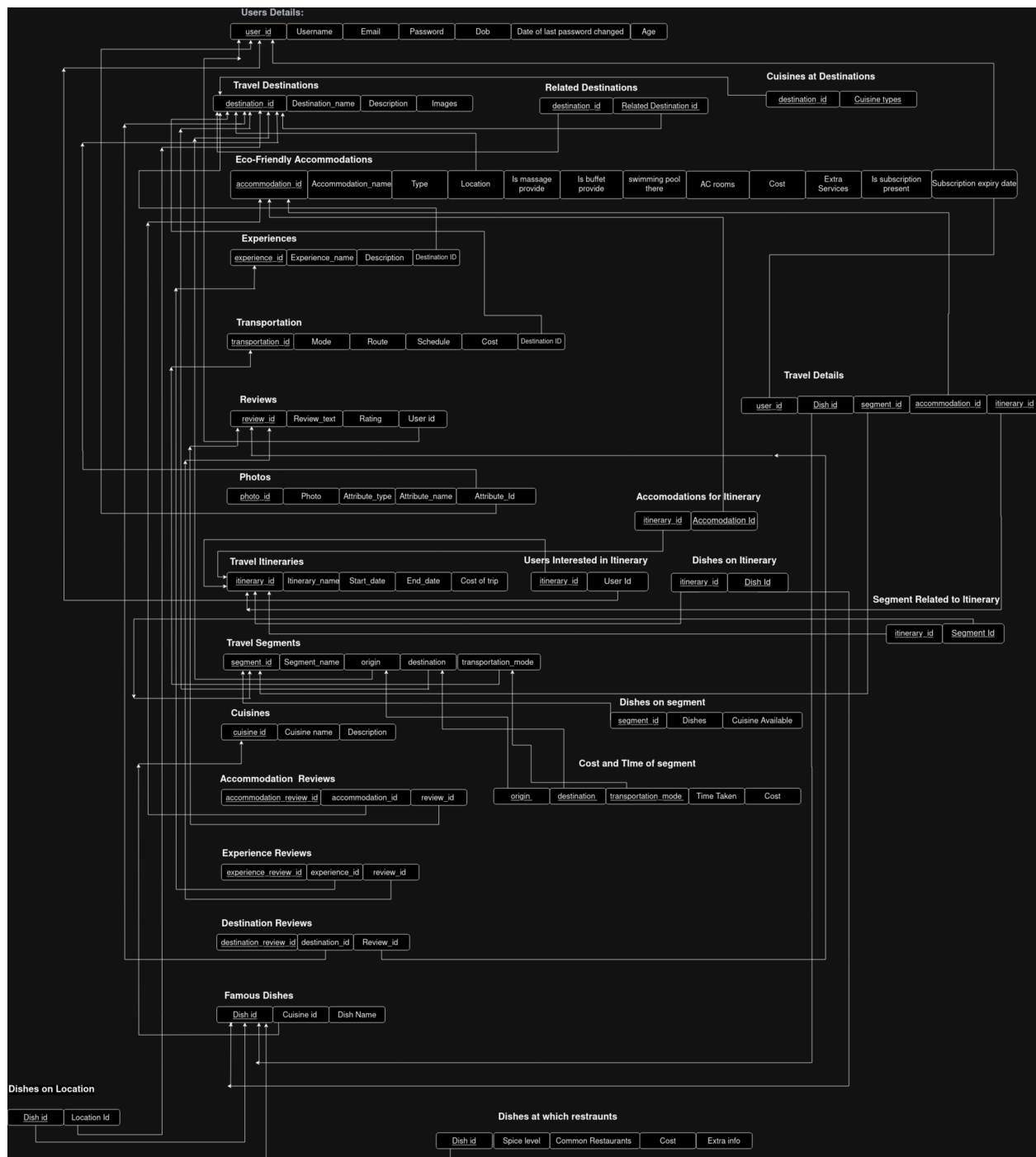
- Location
- Description (This was a multivalued rather than only Common Restaurants)

- 1NF necessitates that tables do not contain attributes capable of holding multiple values.

- To eliminate the existence of multivalued attributes, a new table(eg. Related Destinations,Cuisines at Destination, Accommodation for itinerary, Users interested in itinerary, Dishes on itinerary, Segment related to itinerary, Dishes on segment , Dishes at location, Dishes at which restaurant) with just the multivalued attribute and the original table's Primary key as its foreign key is made.

- This way, we eliminate the multivalued attributes while also reducing redundancy.
- Description which was originally not a multivalued was changed to being a multivalued attribute

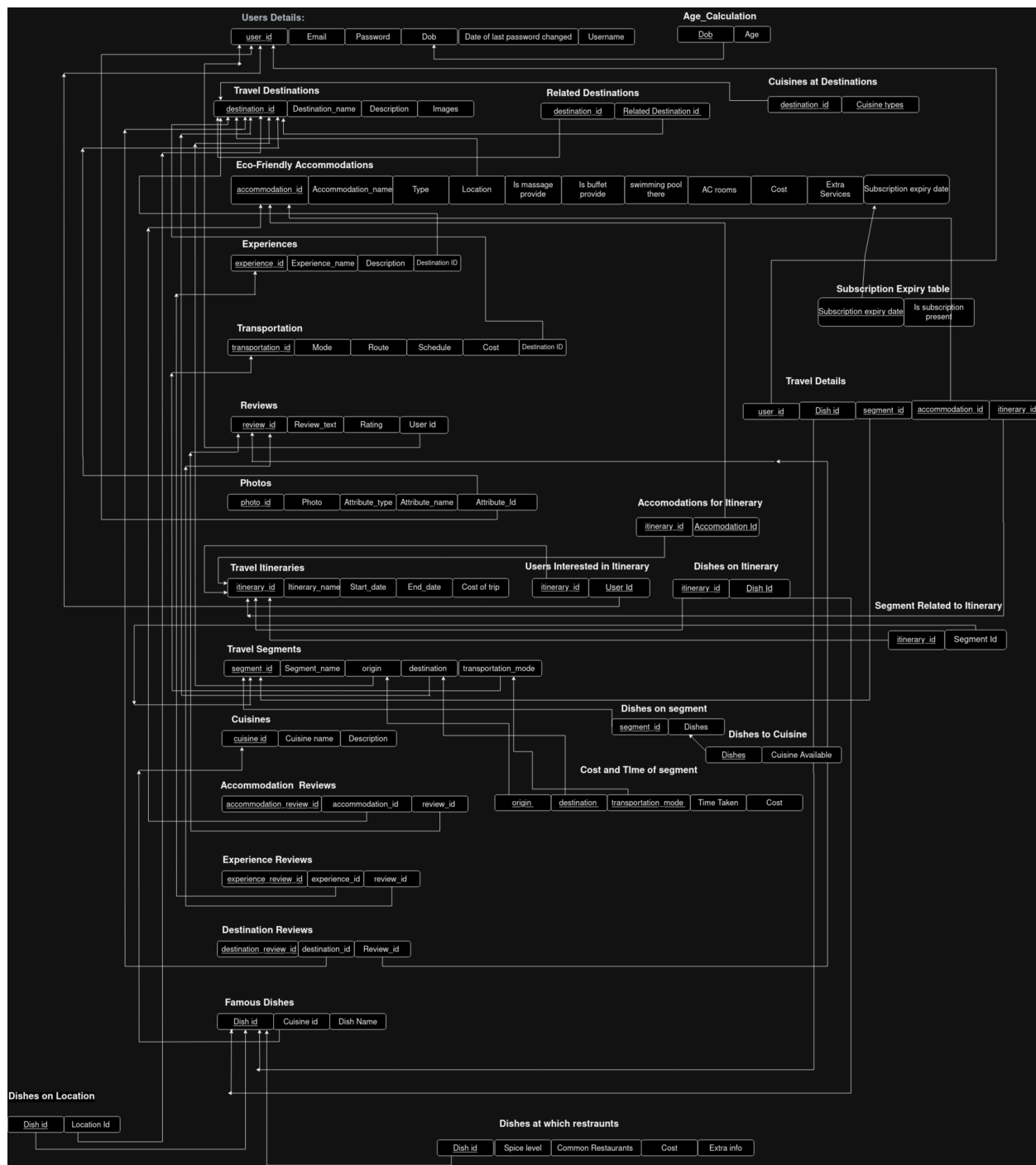
For Second Normal Form



- The second normal form requires the functional dependencies of a multi-attribute primary key to all be in separate tables.

- In the context of the "Travel segments" table, to avoid issues related to using "origin," "destination," and "transportation mode" to uniquely identify time taken and cost, a separate table named "Cost and Time of Segment" was created. This new table employed a primary key composed of the combination of "origin," "destination," and "transportation mode," with corresponding columns for time taken and cost.

Third Normal Form



- Third Normal Form (3NF) requires that all fields in a table must depend only on the primary key and not transitively on another field within that table.
- User Details was split into "User_Details" and "Age_Calculation" (DOB, Age) tables, removing the transitive functional dependency between User ID and Age. Similarly,

Accommodation table was split to accommodation and subscription expiry tale and Dishes on Segment was split to Dishes on Segment and Dishes to Cuisine table.