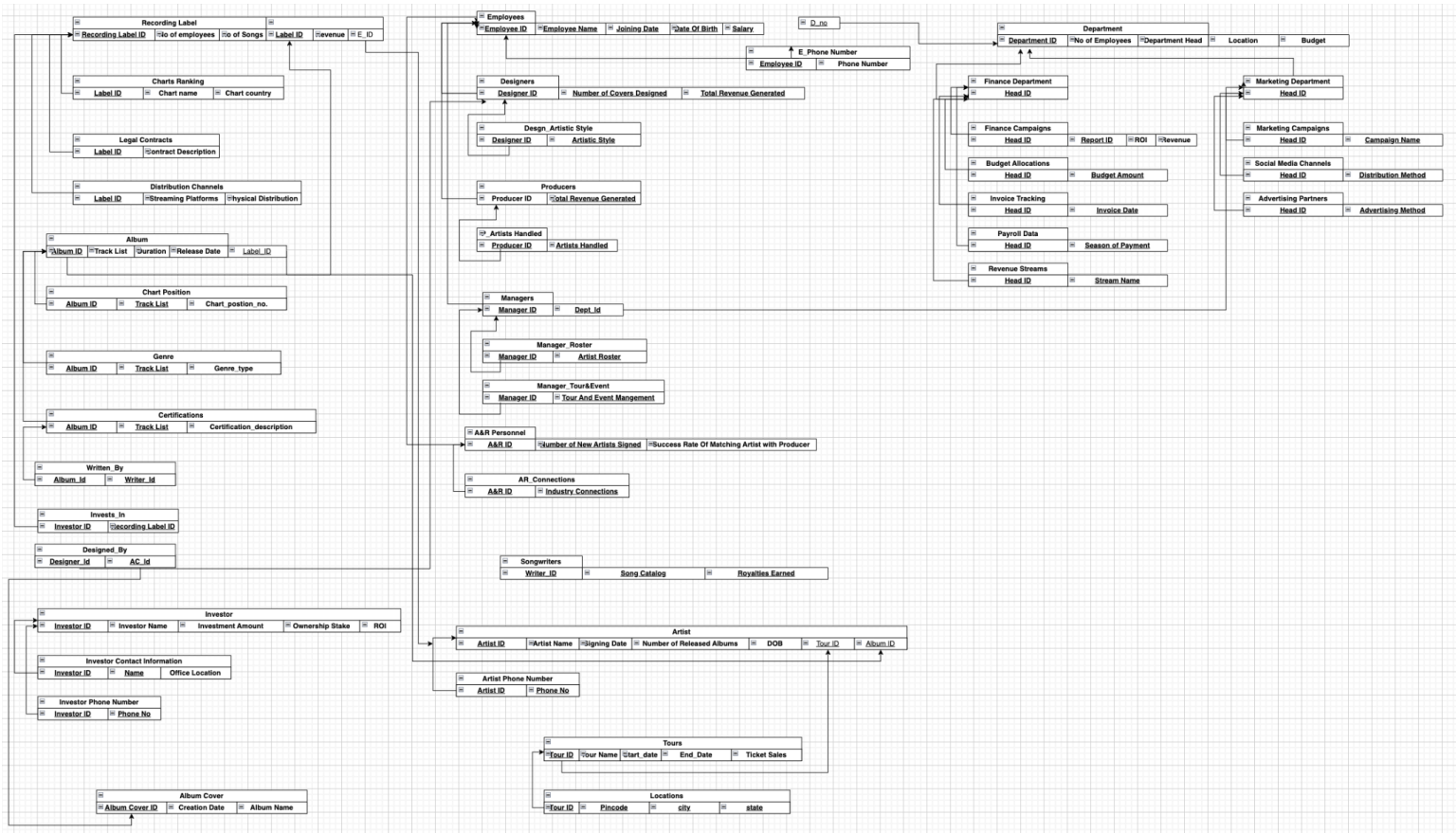


TEAM 13:

ABRAHAM PAUL, SUMIT KUMAR, Aadi Deshmukh, Vidhi Rathore, Manasa Kalaimalai

Doubts clarified by Balakumar Velayathum :)

After mapping ER to relational model::



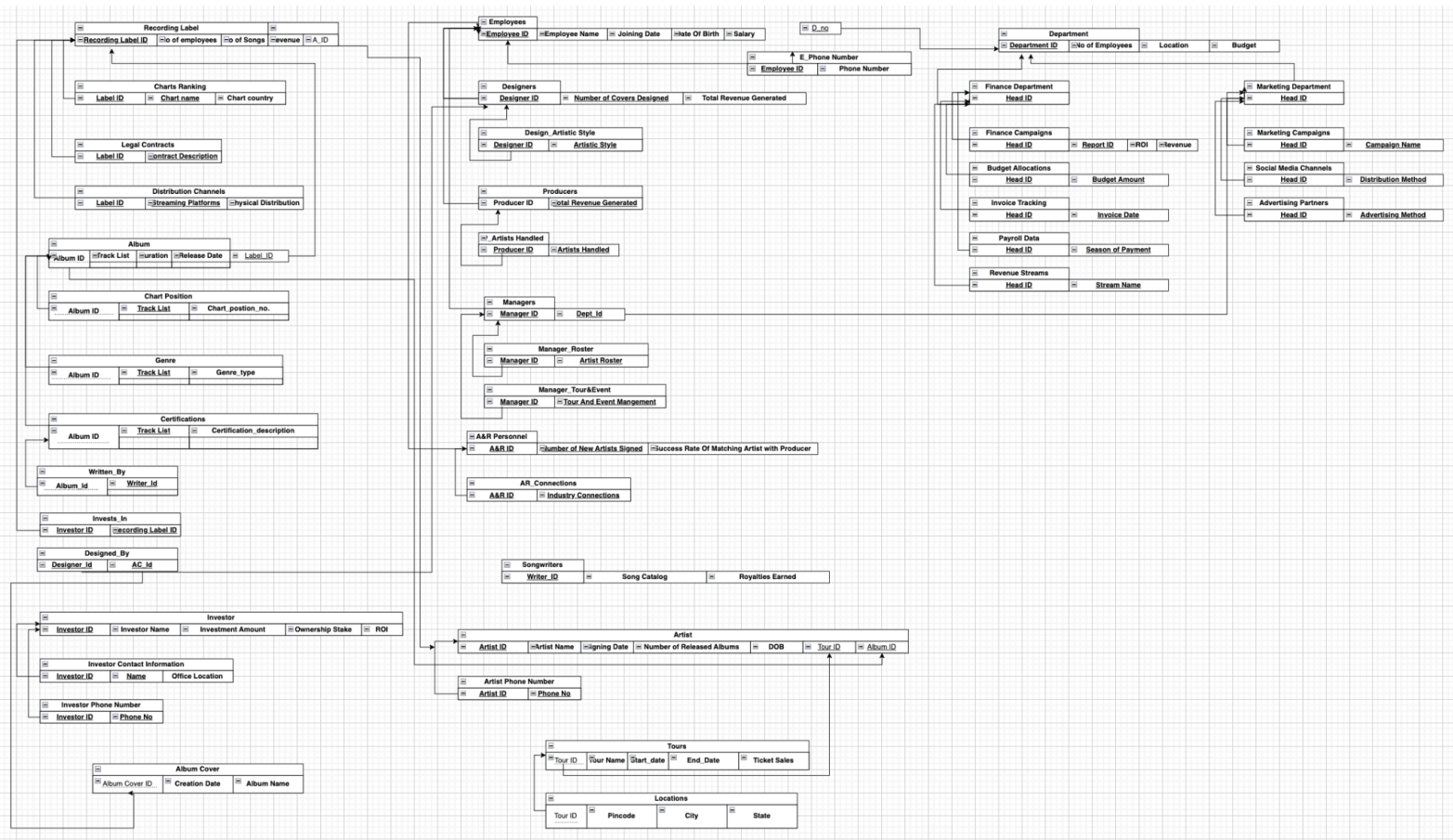
Link to Relational Database: Draw.IO

<https://drive.google.com/file/d/1RIEaZ46rOa2UIhBZ5Z40iuaZ8Sw99lhZ/view?usp=sharing>

1NF Notation

No changes were required to convert the database to 1NF since all multivalued attributes have been separated into their own respective tables, hence all attributes in the tuples have atomic values. This satisfies the properties of the 2NF form.

No changes were made; however, **all** relations had multivalued attributes for which we had to further split the relations.



2N Notation:

A few tables were added to account for attributes that are partially determined by the primary key, for which the primary key and its partially dependent attributes were put in a different table. This satisfies the requirements of the 2NF form.

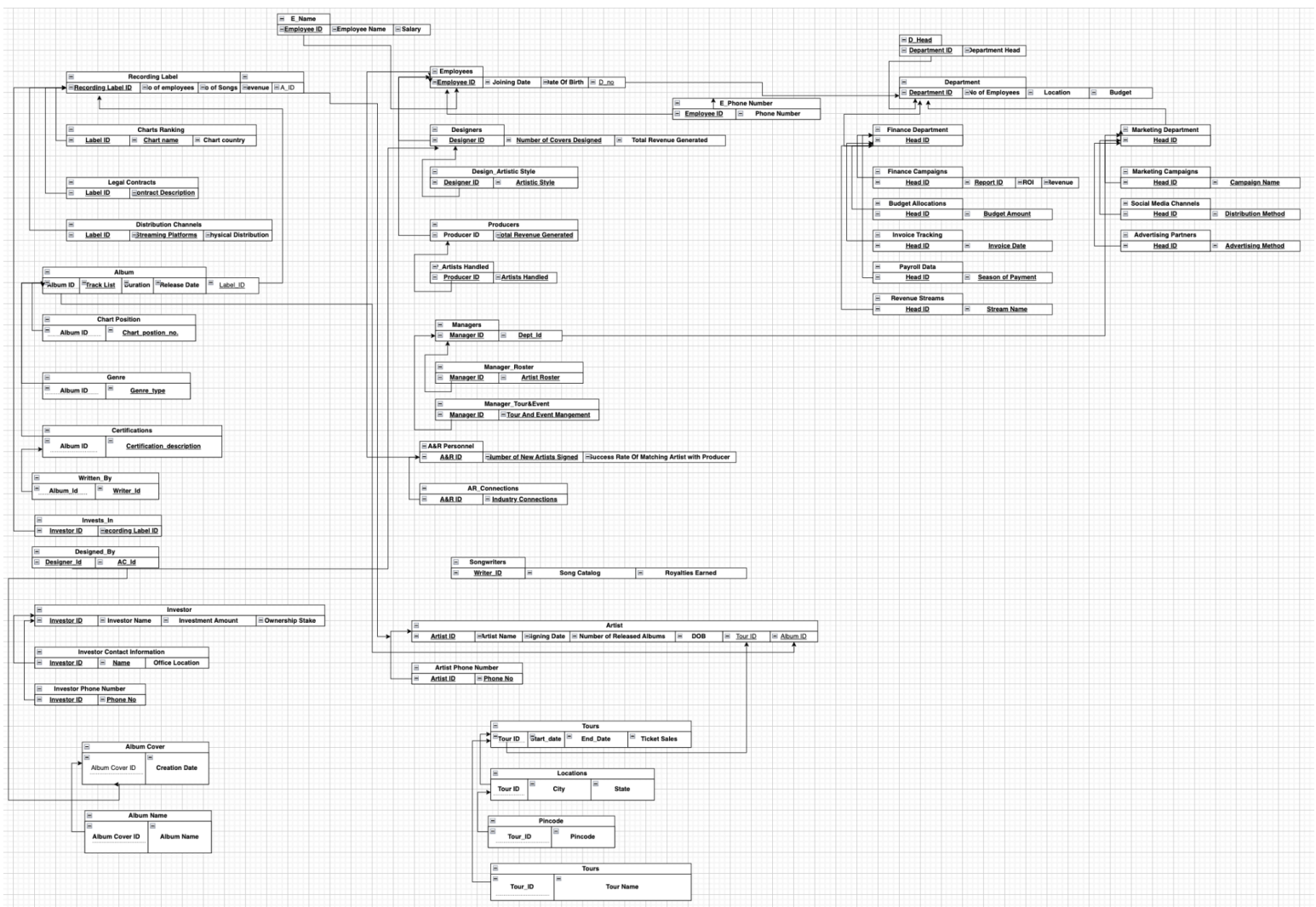
Entities that were modified- Employees, Department, Tours, Album Cover

Employees: The employee name and salary are partially determined by the employee ID

Tours: This weak entity was split up by pincode in locations table and tour name in tours table as they were partially dependent.

Album Cover: -It was split into album name and creation date as album name is partially dependent on album_cover_id.

Department: Department head was partially determined by the Department ID, so the department table was split into two tables, one having Department ID as a foreign key referencing the primary key of the original table, and the other table had the remaining attributes.



3NF Notation:

Transient attributes from tables in 2NF were split into another table, meaning attributes that functionally determine other attributes were organized into their own table. This satisfies the properties of 3NF form.

Entities that were modified- Albums, Investor

Albums: The Album ID determines the Track list as well as the duration of the album; however the track list determines the album duration, creating a transitive relationship between the album duration and the album ID, hence we create a new table for this.

Investor: The Investor ID determines the Investment amount and the ownership stake of the investor; however, the investment amount functionally determines the ownership stake of the investor, making this a transitive relationship for which the ownership stake and investment amount make their own table.

