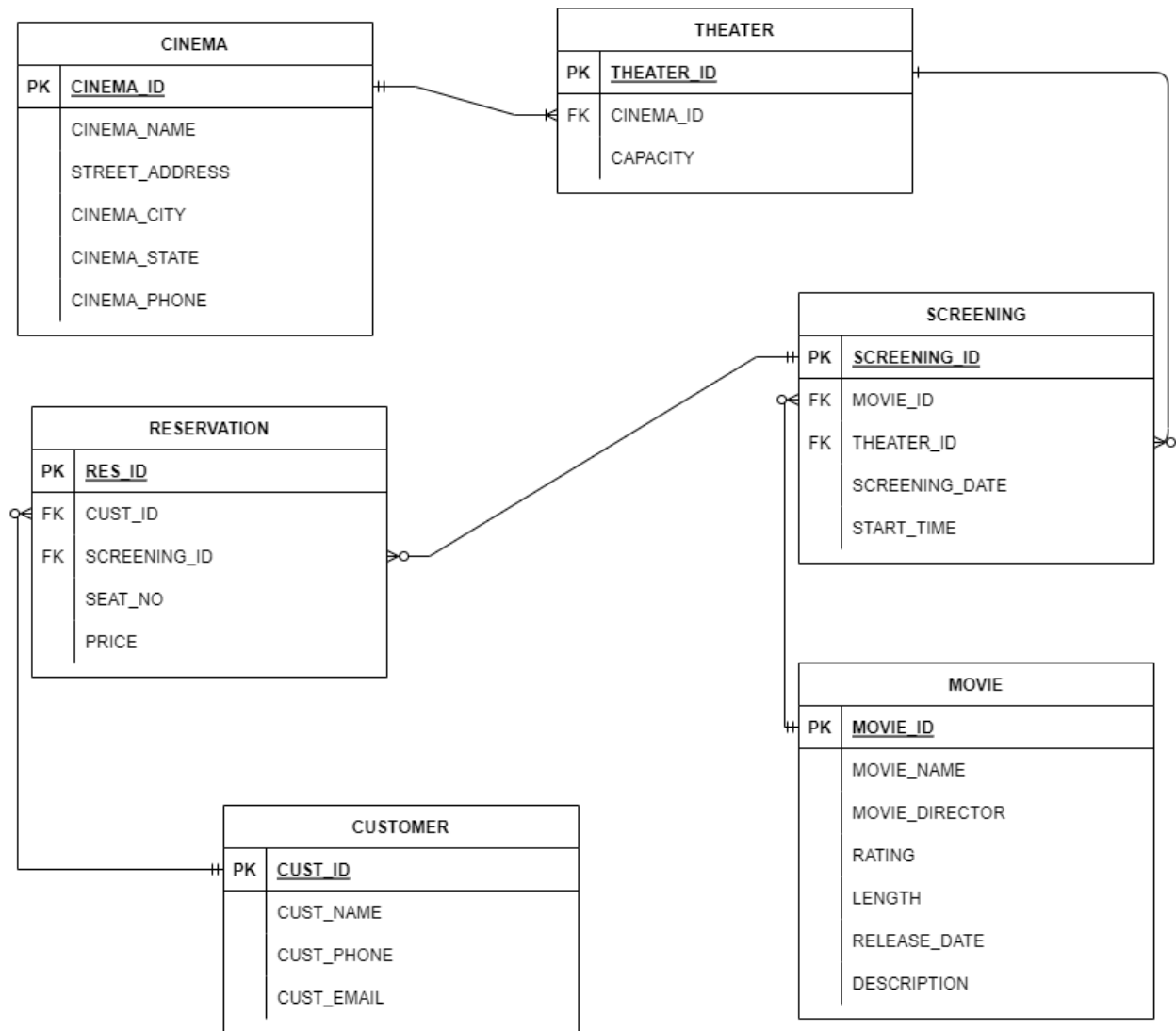


Cinema Seat Booking Management Database

ER diagram



Some of our business rules:

Business Rule: A cinema can hold many theaters.

Business Rule: A customer can have one or many reservations.

Business Rule: A reservation can only be assigned to one customer and have only one screening.

Business Rule: A movie can have many screenings.

Business Rule: One or more theaters can show the same movie.

Business Rule: A theater can show many screenings over the course of the day, same or different movies.

Normalization table

UNF	1NF	2NF	3NF
<u>CINEMAS</u> CINEMA_ID CINEMA_NAME STREET_ADDRESS CINEMA_CITY CINEMA_STATE CINEMA_PHONE THEATER_ID CAPACITY SCREENING_ID MOVIE_ID MOVIE_NAME DIRECTOR SCREENING_DATE START_TIME RES_ID CUST_ID SEAT_NO PRICE RATING LENGTH RELEASE_DATE DESCRIPTION CUST_NAME CUST_PHONE CUST_EMAIL	<u>CINEMAS</u> CINEMA_ID CINEMA_NAME STREET_ADDRESS CINEMA_CITY CINEMA_STATE CINEMA_PHONE THEATER_ID CAPACITY <u>SCREENINGS</u> SCREENING_ID MOVIE_ID THEATER_ID SCREENING_DATE START_TIME <u>RESERVATIONS</u> RES_ID CUST_ID CUST_NAME CUST_PHONE SCREENING_ID SEAT_NO PRICE <u>MOVIES</u> MOVIE_ID MOVIE_NAME DIRECTOR RATING LENGTH RELEASE_DATE DESCRIPTION	<u>CINEMAS</u> CINEMA_ID CINEMA_NAME STREET_ADDRESS CINEMA_CITY CINEMA_STATE CINEMA_PHONE <u>THEATERS</u> THEATER_ID CINEMA_ID CAPACITY <u>SCREENINGS</u> SCREENING_ID MOVIE_ID THEATER_ID SCREENING_DATE START_TIME <u>RESERVATIONS</u> RES_ID CUST_ID CUST_NAME CUST_PHONE CUST_EMAIL SCREENING_ID SEAT_NO PRICE <u>MOVIES</u> MOVIE_ID MOVIE_NAME DIRECTOR RATING LENGTH RELEASE_DATE DESCRIPTION	<u>CINEMAS</u> CINEMA_ID (PK) CINEMA_NAME STREET_ADDRESS CINEMA_CITY CINEMA_STATE CINEMA_PHONE <u>THEATERS</u> THEATER_ID (PK) CINEMA_ID (FK) CAPACITY <u>SCREENINGS</u> SCREENING_ID (PK) MOVIE_ID (FK) THEATER_ID (FK) SCREENING_DATE START_TIME <u>RESERVATIONS</u> RES_ID (PK) CUST_ID (FK) SCREENING_ID (FK) SEAT_NO PRICE <u>MOVIES</u> MOVIE_ID (PK) MOVIE_NAME DIRECTOR RATING LENGTH RELEASE_DATE DESCRIPTION <u>CUSTOMERS</u> CUST_ID (PK) CUST_NAME CUST_PHONE CUST_EMAIL

Data Dictionary (Meta Data)

CINEMAS

ATTRIBUTE NAME	DATA TYPE	SIZE	ALLOW NULL
CINEMA_ID	VARCHAR	8	NO (PK)
CINEMA_NAME	VARCHAR	30	NO
STREET_ADDRESS	VARCHAR	30	NO
CINEMA_CITY	VARCHAR	20	NO
CINEMA_STATE	VARCHAR	2	NO
CINEMA_PHONE	VARCHAR	15	NO

THEATERS

ATTRIBUTE NAME	DATA TYPE	SIZE	ALLOW NULL
THEATER_ID	VARCHAR	8	NO (PK)
CINEMA_ID	VARCHAR	8	NO (FK)
CAPACITY	NUMBER		NO

MOVIES

ATTRIBUTE NAME	DATA TYPE	SIZE	ALLOW NULL
MOVIE_ID	VARCHAR	8	NO (PK)
MOVIE_NAME	VARCHAR	50	NO
MOVIE_DIRECTOR	VARCHAR	40	NO
RATING	CHAR	4	NO
LENGTH	NUMBER		NO
RELEASE_DATE	DATE		NO
DESCRIPTION	VARCHAR	500	NO

SCREENINGS

ATTRIBUTE NAME	DATA TYPE	SIZE	ALLOW NULL
SCREENING_ID	VARCHAR	8	NO (PK)
MOVIE_ID	VARCHAR	8	NO (FK)
THEATER_ID	VARCHAR	8	NO (FK)
SCREENING_DATE	DATE		NO
START_TIME	VARCHAR	8	NO

CUSTOMERS

ATTRIBUTE NAME	DATA TYPE	SIZE	ALLOW NULL
CUST_ID	VARCHAR	8	NO (PK)
CUST_NAME	VARCHAR	20	NO
CUST_PHONE	VARCHAR	15	NO
CUST_EMAIL	VARCHAR	40	NO

RESERVATIONS

ATTRIBUTE NAME	DATA TYPE	SIZE	ALLOW NULL
RES_ID	VARCHAR	8	NO (PK)
CUST_ID	VARCHAR	8	NO (FK)
SCREENING_ID	VARCHAR	8	NO (FK)
SEAT_NO	VARCHAR	3	YES
PRICE	DECIMAL	4, 2	NO