

## Phase-2 Report

Team - Lonely

Members - Pragun Saxena (20171127)

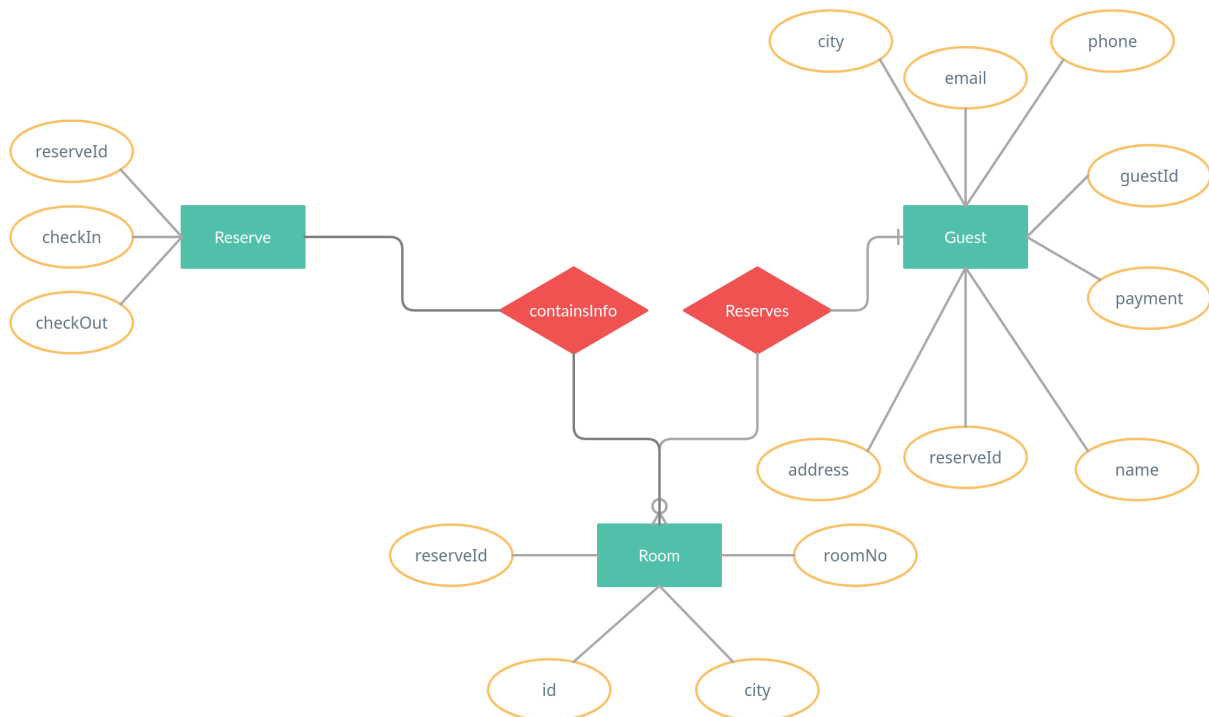
### Algorithm Details:

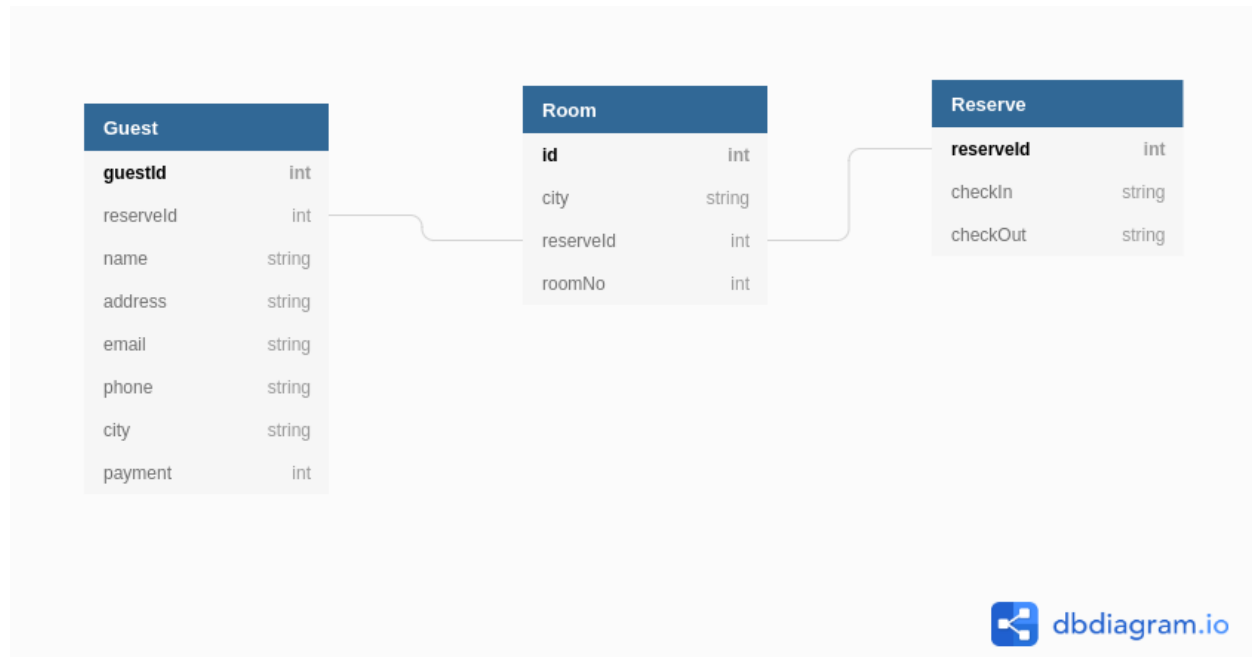
Data structures such as maps and list were used for fast and optimized query;

All the predicates and conditions are pushed down to fragment/site level to reduce the number of operation while joining

Redundant attributes are removed for a particular fragment

### ER Diagram and Relational Diagram:





## Output Comparison for Queries:

Original Queries:

- SELECT city, email, name, payment, checkin from Reserve, Room, Guest where city = "Mumbai" and reserveld = 2;
- SELECT id, city from Room where reserveld = 2;
- SELECT id, city, checkIn from Room, Reserve where reserveld = 2;
- select guestId, name, city from Guest, Room where city = "Goa";
- SELECT city, roomNo from Room;
- SELECT id, guestId, name, address, payment from Room, Guest;

After optimisation and decomposition

1.

Queries to run on Site with ID 1

["SELECT name, reserveld FROM Guest WHERE reserveld = '2' ;"]

Queries to run on Site with ID 2

["SELECT city, reserveld FROM Room WHERE city = 'Mumbai' and reserveld = '2' ;", "SELECT checkin, reserveld FROM Reserve WHERE reserveld = '2' ;"]

2.

Queries to run on Site with ID 1

["SELECT id, reserveld, city FROM Room WHERE reserveld = '2' ;"]

Queries to run on Site with ID 2

["SELECT id, reserveld, city FROM Room WHERE reserveld = '2' ;"]

Queries to run on Site with ID 3

["SELECT id, reserveld, city FROM Room WHERE reserveld = '2' ;"]

3.

Queries to run on Site with ID 1

["SELECT id, reserveld, city FROM Room WHERE reserveld = '2' ;"]

Queries to run on Site with ID 2

["SELECT id, reserveld, city FROM Room WHERE reserveld = '2' ;", "SELECT checkIn, reserveld FROM Reserve WHERE reserveld = '2' ;"]

Queries to run on Site with ID 3

["SELECT id, reserveld, city FROM Room WHERE reserveld = '2' ;"]

4.

Queries to run on Site with ID 1

["SELECT guestId, name FROM Guest"]

Queries to run on Site with ID 3

["SELECT city FROM Room WHERE city = 'Goa' ;"]

5.

Queries to run on Site with ID 1

["SELECT roomNo, city FROM Room"]

Queries to run on Site with ID 2

["SELECT roomNo, city FROM Room"]

Queries to run on Site with ID 3

["SELECT roomNo, city FROM Room"]

6.

Queries to run on Site with ID 1

["SELECT guestId, name FROM Guest ", "SELECT id FROM Room"]

Queries to run on Site with ID 2

["SELECT guestId, address FROM Guest ", "SELECT id FROM Room"]

Queries to run on Site with ID 3

["SELECT guestId, payment FROM Guest ", "SELECT id FROM Room"]