DBMS PROJECT- OLA

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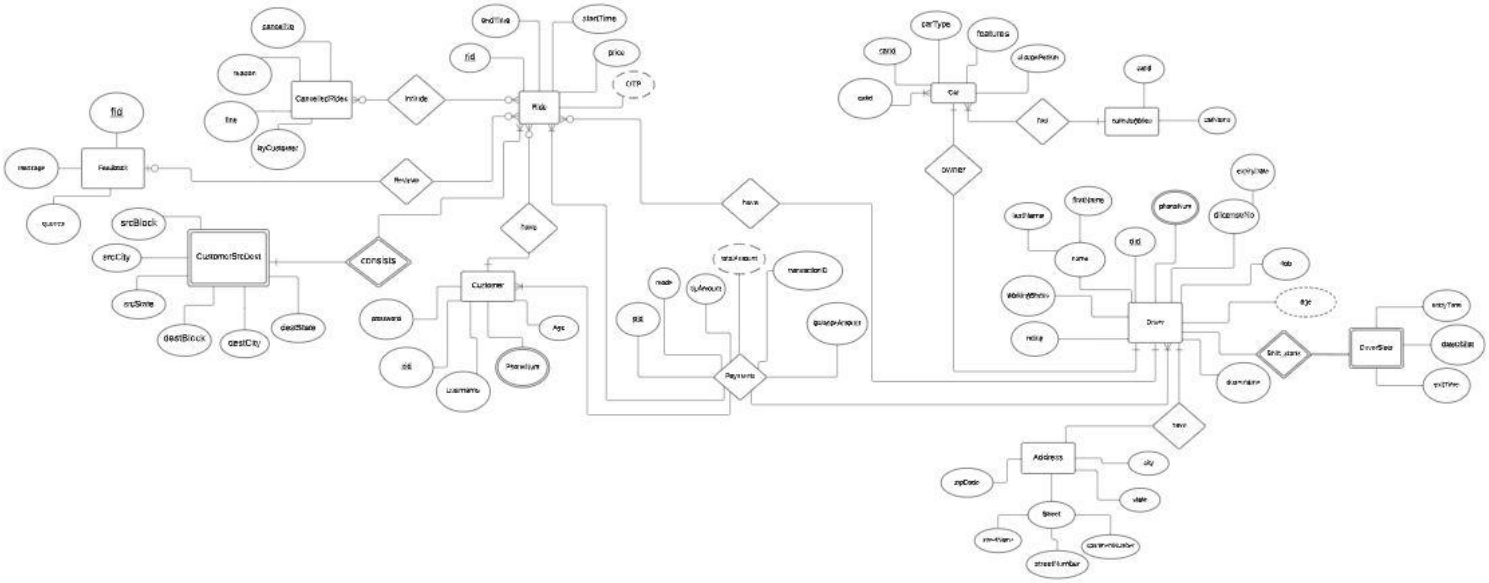
Scope:

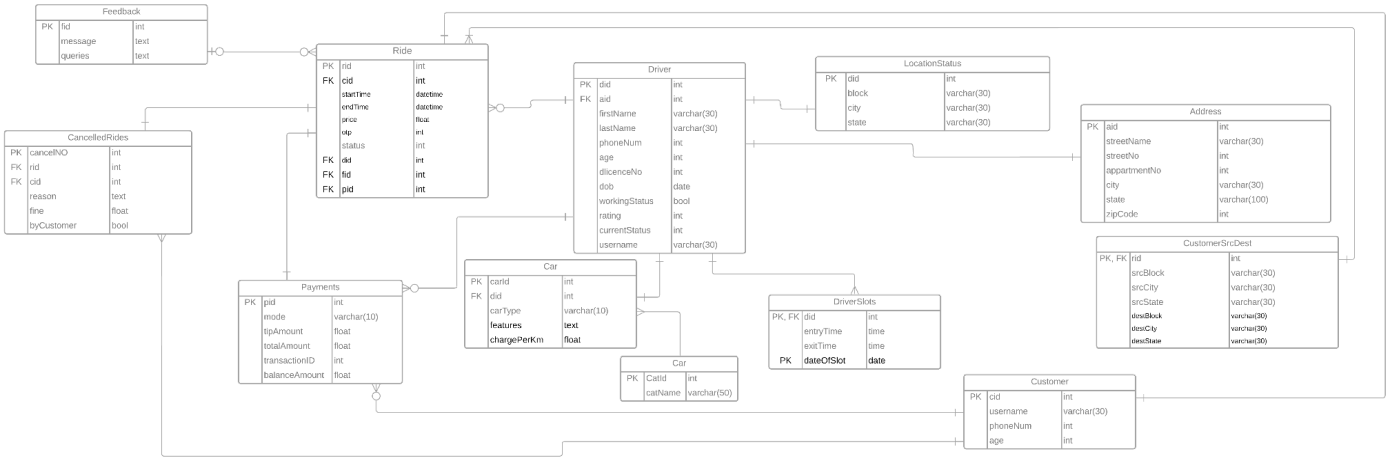
The vision behind our project is to provide hassle-free, reliable and technology efficient cab services.
It runs on a pay for performance model where we charge commission in whatever sales are made.
We are targeting the market for customers who travel outstation or in city taxi.

Updated ER Diagram:



https://lucid.app/lucidchart/95c419d4-4b36-4ed0-b6a2-9205c1471963/edit?invitationId=inv_edca42ae-2590-4682-985f-3fd73adfba75&page=0_0#

Updated Relation Schema:



Views:

- **cal_tot_wrk_hrs**: it contains the entry and exit time of the slots of a particular driver when asked by the driver for different dates and it helps in calculator of working hours at various stages
- **ridesbydriver:** it contains the list of rides by a driver and it helps in calculation of the most visited place by the driver which could further help in business practices

Grants

1. **Admin:** it has been given all privileges in the database as it handles all operations across database
2. **Driver**
    a. Driver has access to payments table where he could find the sum of payments made to him
    b. Driver has been not given features to look over to customer table
    c. Also driver could see the source and destination of customers and find out the best place where most of rides are booked for him
3. **Customer**
    a. Customer have restriction to look over to the payment table
    b. Customer could look over the location status of the drivers so that a suitable driver could be find for him

c. Customer could search for the car which suits him best whereas he is not allowed to have feature over the driver slots table

SQL Queries:

1. **Query for Updating drivers current location after completing a ride**
   UPDATE locationstatus set block = (select destBlock FROM customersrcdest WHERE rid = 123), city = (SELECT destCity FROM customersrcdest WHERE rid = 123), state = (SELECT destState FROM customersrcdest WHERE rid = 123);

2. **Query for driver with a booked ride (status=2) and rating more than or equal to 8**
   SELECT D.did, D.firstName, D.lastName, D.rating FROM driver AS D, ride AS R WHERE D.rating>=8 AND status='2';

3. **Query for finding the Driver for the Customer Booking**
   SELECT D.did, D.firstName FROM Driver D WHERE D.did IN(select L3.did FROM LocationStatus L3 WHERE L3.block = "j" AND L3.did IN(select L2.did FROM LocationStatus L2 WHERE L2.city = "Springfield" AND L2.did IN(SELECT L1.Did FROM LocationStatus L1 WHERE L1.state = "California")))

4. **Query for finding the No of hours worked by drivers of the organization in the current year**
   CREATE view cal_tot_wrk_hrs as SELECT entryTime et1, exitTime ex1, entryTime et2, dateOfSlot FROM DriverSlots;
   UPDATE cal_tot_wrk_hrs set et1 = ex1 AND ex1 = et2 WHERE et1>ex1;
   SELECT SEC_TO_TIME(SUM(TIME_TO_SEC(Temp.interval_of_time))) as tot_work_hr from (SELECT TIMEDIFF(ex1, et2) as interval_of_time FROM cal_tot_wrk_hrs WHERE dateOfSlot LIKE '2022%') Temp;
   drop view cal_tot_wrk_hrs;

5. **Counting customer who completed most of the rides**
   SELECT (SELECT username from customer where R.cid = cid) , R.rid, max(C.cnt) from ride as R INNER JOIN (SELECT status, COUNT(status) as cnt from ride GROUP BY status) C on R.status = C.status;

6. **Finding maximum number of payments completed in which mode and by whom**
   SELECT C.pid, max(C.cnt) from (select pid, mode, COUNT(mode) as cnt from payments GROUP BY mode) C;

7. **Find driver with maximum number of 9 star rating in a particular day**
   select firstname from driver where did IN(SELECT R2.did from ride R2 where startTime BETWEEN '2021-01-12 00:00:00' and '2021-01-12 23:59:59') and rating = 9:

8. **Rides cancelled by Customers**
   select R.rid , R. startTime, C.firstName, C.lastName from Customer C, CancelledRides CR, Ride R where CR.cid = C.cid and CR.byCustomer = 1 and CR.rid = R.rid;.

9. **Finding the sum of expenses in the cities**
   select o.d2 as did, d.firstName, d.lastName, o.no_of_cancelled_rides from Driver d, (SELECT m.d2, count(*) as no_of_cancelled_rides from (select r.did as d2 from Ride r, CancelledRides cr where cr.rid = r.rid) m GROUP BY d2 HAVING COUNT(*)>0) o where o.d2 = d.did;

10. **Finding the maximum amount of tips given in a city**
    SELECT tt.sumi from (SELECT a.city, SUM(p.tipAmount) as sumi from Payments as p, Ride as r, Address as a, Driver as d where a.aid = d.aid and d.did = r.did and r.pid = p.pid) as tt

Embedded SQL Queries:

1. select c.carId, c.carName as name, d.did, c.chargePerKm as charge, cc.catname as cat from locationstatus ls, driver d, car c, carcategories cc where ls.did=d.did and CONCAT(ls.block, ls.city, ls.state) LIKE '$src' and c.catId=cc.catId and c.did= d.did;

2. select d.did, CONCAT(d.firstName, ' ', d.lastName) as dname, d.phoneNum as pn, d.dlicenseNo as dlno, d.rating from driver d where did=$did";

3. INSERT INTO `ride` (`cid`, `startTime`, `price`, `otp`, `status`, `did`) VALUES ('$cid', NOW(), '$pmoney', FLOOR(RAND()*(4999-1000+1))+1000, 2, '$did')

4. INSERT INTO `customersrcdest` (`rid`, `srcBlock`, `srcCity`, `srcState`, `destBlock`, `destCity`, `destState`) VALUES ('$rid', '$srcBlock', '$srcCity', '$srcState', '$destBlock', '$destCity', '$destState')

5. INSERT INTO `cancelledrides` (`rid`, `cid`, `reason`, `fine`, `byCustomer`) VALUES ('$rid', '$cid', '$reason', '$ccharge', '1')

6. INSERT INTO `payments` (`mode`, `tipAmount`, `totalAmount`, `transactionID`) VALUES ('$pType', '$tipAmount', '$totalAmount', '$transId')
7. $query="UPDATE `ride` SET `endTime` = NOW() WHERE `ride`.`rid` = '$rid' ";

8. $query="DROP VIEW IF EXISTS cal_tot_wrk_hrs";

9. $query="CREATE view cal_tot_wrk_hrs as SELECT did, entryTime et1, exitTime ex1, entryTime et2, dateOfSlot FROM DriverSlots where did='$did'";

10. $query="UPDATE cal_tot_wrk_hrs set et1 = ex1 AND ex1 = et2 WHERE et1>ex1";

11. $query="SELECT SEC_TO_TIME(SUM(TIME_TO_SEC(Temp.interval_of_time))) as tot_wrk_hr from (SELECT TIMEDIFF(ex1, et2) as interval_of_time FROM cal_tot_wrk_hrs WHERE dateOfSlot LIKE '2022%') Temp";

12. $query="select SUM(totalAmount) as sum from ride natural join payments where did='$did';";

13. $query="create view ridesBydriver as select * from ride natural join customersrcdest where did=4;";

14. $query="update ridesbydriver set srcBlock='j', srcCity='Springfield', srcState='California';";

15. $query="select count(*) as nor, CONCAT(srcBlock, '/', srcCity, '/', srcState) as source from ridesbydriver";

Triggers:-

1.

Trimming of username if the user provides with space in the front or the back

```
$trigger = "CREATE TRIGGER name_trimming BEFORE INSERT ON customer FOR
EACH ROW SET NEW.username = TRIM(NEW.username)";
$result2 = @mysqli_query($conn,$trigger)
Or die ("<p>2.Unable to query the table.</p>"."<p>Error code
".mysqli_errno($conn). ": ".mysqli_error($conn). "</p>");
```

2.calculating age of customers

```
CREATE TRIGGER `cal_age` BEFORE INSERT ON `customer`
FOR EACH ROW set new.age = ((SELECT extract(year FROM
"2021-06-15"))-(SELECT extract(year FROM new.dob)))
```

Indexes

1. **create Index IX_Locationstatus_city ON locationstatus (city ASC); //index on location status table**

2. **create Index IX_customersrcdest_srcCity ON customersrcdest (srcCity ASC);//index on customersrcdest table**

3. **create Index IX_customer_username ON customer (username ASC); //index on customer table**

4. **create Index IX_CarName_car ON car (carName ASC); //index on car table**

5. **create index IX_Phonenum_driver on driver (phoneNum ASC); //index on driver table**

6. **create index IX_balance_amount on payments (balanceAmount ASC); // Index on payments table**