

# Transport Company Database System

## Introduction:

The following database is to facilitate record keeping and access of various information required by a transport company. This type of system can be expanded and used for online ticket system. We have manipulated the table and whole database structure for our easy understanding and knowledge.

The bus table gives basic information regarding the bus itself. Route table shows information about the route. Passenger table contains information of passengers whenever they provide during the booking time. The ticket handed to customers as well as a copy kept for record keeping by Transport Company contains information regarding ticket bought.

## User stories:

- Name list of passenger travelling to Kathmandu
- Name list of passenger in a particular number of Bus
- Get the route length travelled by a particular passenger
- Getting bus details which run in a particular route from the available entries
- Displaying all passenger info regardless of whether they are travelling or not

## Conceptual model (ER):

The following shows core structures of tables:

- PASSENGER TABLE:

PASSENGERID	FNAME	LNAME	ADDRESS	PHONE	EMAIL

- BUS TABLE:

BUSID	BUS_NUMBER	TOTAL_SEAT	MODEL	ENTRY_DATE	ROUTEID

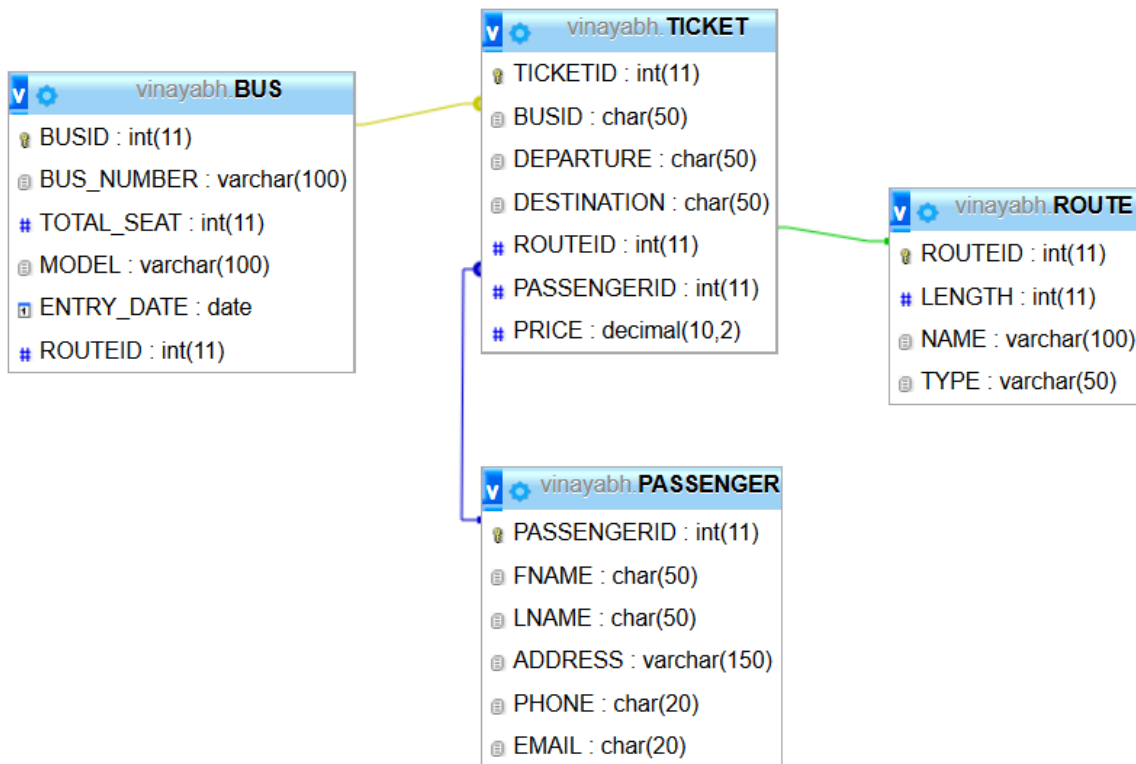
- ROUTE TABLE:

ROUTEID	LENGTH	NAME	TYPE

- TICKET TABLE:

TICKETID	BUSID	DEPARTURE	DESTINATION	ROUTEID	PASSENGERID	PRICE

## SQL mapping:



## SQL QUERIES:

### CREATING TABLES:

#### PASSENGER:

```
CREATE TABLE PASSENGER
```

```
(
PASSENGERID INT NOT NULL AUTO_INCREMENT,
FNAME VARCHAR(50) NOT NULL,
LNAME VARCHAR(50) NOT NULL,
```

```
ADDRESS VARCHAR(150),  
PHONE CHAR(20),  
EMAIL CHAR(20),  
PRIMARY KEY (ID)  
);
```

#### **TICKET:**

```
CREATE TABLE TICKET(  
TICKETID INT NOT NULL AUTO_INCREMENT,  
BUSID CHAR(50) NOT NULL,  
DEPARTURE CHAR(50) NOT NULL,  
DESTINATION CHAR(50) NOT NULL,  
ROUTEID INT NOT NULL,  
PASSENGERID INT NOT NULL,  
PRICE DECIMAL(10,2),  
PRIMARY KEY (TICKETID),  
FOREIGN KEY(ROUTEID) REFERENCES ROUTE(ROUTEID),  
FOREIGN KEY(BUSID) REFERENCES BUS(BUSID),  
FOREIGN KEY(PASSENGERID) REFERENCES PASSENGER(PASSENGERID)  
);
```

#### **ROUTE:**

```
CREATE TABLE ROUTE (  
ROUTEID INT NOT NULL AUTO_INCREMENT,  
LENGTH INT NOT NULL,  
NAME VARCHAR(100) NOT NULL,  
TYPE VARCHAR(50) NOT NULL,  
PRIMARY KEY (ROUTEID)  
);
```

#### **BUS:**

```
CREATE TABLE BUS (  
BUSID INT NOT NULL AUTO_INCREMENT,  
BUS_NUMBER VARCHAR(100) NOT NULL,  
TOTAL_SEAT INT NOT NULL,  
MODEL VARCHAR(100) NOT NULL,  
ENTRY_DATE DATE NOT NULL,  
ROUTEID INT NOT NULL,  
PRIMARY KEY (BUSID),  
FOREIGN KEY(ROUTEID) REFERENCES ROUTE(ROUTEID)  
);
```

### **INSERTING VALUES:**

```
INSERT INTO PASSENGER  
(FNAME, LNAME, ADDRESS, PHONE, EMAIL)
```

### VALUES

```
( 'BIKRAM' , 'BC' , 'TUMLINGTAR' , '5604218' , 'BCBIKRAM@GMAIL.COM' ) ,
( 'RAJIV' , 'KHATRI' , 'CHISAPANI' , '2565621' , 'YOURRAJIV@YAHOO.COM' ) ,
( 'SITA' , 'POUDEL' , 'KATHMANDU' , '1215451' , 'POUDELSITA@GMAIL.COM' ) ,
( 'RAJESH' , 'DOE' , 'POKHARA' , '5121451' , 'RAJESH.ME@GMAIL.COM' );
```

### INSERT INTO ROUTE

(LENGTH, NAME, TYPE)

### VALUES

```
( '450' , 'KANKADVITTA - KATHMANDU' , 'EXPRESSWAY' ) ,
( '350' , 'DUBLING-GHORAHI' , 'LINK ROAD' ) ,
( '250' , 'PALPA-BIRGUJ' , 'EXPRESSWAY' )
```

### INSERT INTO BUS

(BUS\_NUMBER, TOTAL\_SEAT, MODEL, ENTRY\_DATE, ROUTEID)

### VALUES

```
( 'BA1KHA3233' , '45' , 'CALIBER-2010-SUZUKI' , '2014-10-12' , 1 ) ,
( 'BA2KHA3636' , '50' , 'RANGOLI-2008-TATA' , '2014-11-11' , 3 ) ,
( 'ME1PA25364' , '55' , 'HUNTER-2009-VOLVO' , '2015-08-09' , 2 );
```

### INSERT INTO TICKET

(BUSID, DEPARTURE, DESTINATION, ROUTEID, PASSENGERID, PRICE)

### VALUES











```
( '1' , 'TOKHA' , 'PALPA' , '3' , '3' , '100' ) ,
( '3' , 'BIRGUJ' , 'SALLERI' , '2' , '2' , '150' ) ,
( '2' , 'ITAHARI' , 'KATHMANDU' , '1' , '1' , '600' );
```

## RESULTS FROM ABOVE:











### PASSENGER

←T→		PASSENGERID	FNAME	LNAME	ADDRESS	PHONE	EMAIL
<input type="checkbox"/>	Edit  Copy  Delete	1	BIKRAM	BC	TUMLINGTAR	5604218	BCBIKRAM@GMAIL.COM
<input type="checkbox"/>	Edit  Copy  Delete	2	RAJIV	KHATRI	CHISAPANI	2565621	YOURRAJIV@YAHOO.COM
<input type="checkbox"/>	Edit  Copy  Delete	3	SITA	POUDEL	KATHMANDU	1215451	POUDELSITA@GMAIL.COM
<input type="checkbox"/>	Edit  Copy  Delete	4	RAJESH	DOE	POKHARA	5121451	RAJESH.ME@GMAIL.COM











### BUS

		BUSID	BUS_NUMBER	TOTAL_SEAT	MODEL	ENTRY_DATE	ROUTEID
<input type="checkbox"/>  Edit  Copy  Delete		1	BA1KHA3233	45	CALIBER-2010-SUZUKI	2014-10-12	1
<input type="checkbox"/>  Edit  Copy  Delete		2	BA2KHA3636	50	RANGOLI-2008-TATA	2014-11-11	3
<input type="checkbox"/>  Edit  Copy  Delete		3	ME1PA25364	55	HUNTER-2009-VOLVO	2015-08-09	2

## TICKET

		TICKETID	BUSID	DEPARTURE	DESTINATION	ROUTEID	PASSENGERID	PRICE
<input type="checkbox"/>  Edit  Copy  Delete		1	1	TOKHA	PALPA	3	3	100.00
<input type="checkbox"/>  Edit  Copy  Delete		2	3	BIRGUJ	SALLERI	2	2	150.00
<input type="checkbox"/>  Edit  Copy  Delete		3	2	ITAHARI	KATHMANDU	1	1	600.00

## ROUTE

		ROUTEID	LENGTH	NAME	TYPE
<input type="checkbox"/>  Edit  Copy  Delete		1	450	KANKADVITTA - KATHMANDU	EXPRESSWAY
<input type="checkbox"/>  Edit  Copy  Delete		2	350	DUBLING-GHORAHI	LINK ROAD
<input type="checkbox"/>  Edit  Copy  Delete		3	250	PALPA-BIRGUJ	EXPRESSWAY

## SQL QUERIES BASED ON USER STORIES:

### STORY 1:

#### SELECT

```

PASSENGER.FNAME 'First Name',
PASSENGER.LNAME 'Last Name',
TICKET.DEPARTURE 'From',
TICKET.DESTINATION 'To'
FROM PASSENGER
INNER JOIN TICKET
ON PASSENGER.PASSENGERID = TICKET.PASSENGERID
WHERE TICKET.DESTINATION = 'KATHMANDU';

```

### RESULT:

First Name	Last Name	From	To
BIKRAM	BC	ITAHARI	KATHMANDU

### STORY 2:

#### SELECT

```

PASSENGER.FNAME 'First Name',

```

```

PASSENGER.LNAME 'Last Name',
TICKET.DEPARTURE 'From',
TICKET.DESTINATION 'To'
FROM PASSENGER
INNER JOIN TICKET ON PASSENGER.PASSENGERID = TICKET.PASSENGERID
INNER JOIN BUS ON BUS.BUSID = TICKET.BUSID
WHERE BUS.BUS_NUMBER= 'BA2KHA3636';

```

RESULT:

First Name	Last Name	From	To
BIKRAM	BC	ITAHARI	KATHMANDU

STORY 3:

```

SELECT
PASSENGER.FNAME 'First Name',
PASSENGER.LNAME 'Last Name',
ROUTE.LENGTH 'Route Distance'
FROM PASSENGER
INNER JOIN TICKET ON PASSENGER.PASSENGERID = TICKET.PASSENGERID
INNER JOIN ROUTE ON ROUTE.ROUTEID = TICKET.ROUTEID
WHERE PASSENGER.FNAME = 'BIKRAM';

```

RESULT:

First Name	Last Name	Route Distance
BIKRAM	BC	450

STORY 4:

```

SELECT
BUS.BUS_NUMBER 'Bus Number',
BUS.TOTAL_SEAT 'Seat Capacity',
BUS.MODEL 'Bus Model Info'
FROM TICKET
INNER JOIN BUS ON TICKET.BUSID = BUS.BUSID

```

```
INNER JOIN ROUTE ON ROUTE.ROUTEID = TICKET.ROUTEID
WHERE ROUTE.NAME = 'PALPA-BIRGUJ';
```

RESULT:

Bus Number	Seat Capacity	Bus Model Info
BA1KHA3233	45	CALIBER-2010-SUZUKI

STORY 5:

```
SELECT
PASSENGER.FNAME 'First Name',
PASSENGER.LNAME 'Last Name',
TICKET.DEPARTURE 'From',
TICKET.DESTINATION 'To'
FROM PASSENGER
LEFT JOIN TICKET
ON PASSENGER.PASSENGERID = TICKET.PASSENGERID;
```

RESULT:

First Name	Last Name	From	To
BIKRAM	BC	ITAHARI	KATHMANDU
RAJIV	KHATRI	BIRGUJ	SALLERI
SITA	POUDEL	TOKHA	PALPA
RAJESH	DOE	NULL	NULL

## Conclusions

This project can be used for the online seat reservation and for scheduling bus routes and carry them in an effective and much better way in a developing nation like Nepal.

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