Data Model:- Uber Transportation

Entities

# USER\_DIM

|  |  |
| --- | --- |
| USER\_ID | PRIMARY KEY |
| FIRST\_NAME | VARCHAR(100) |
| LAST\_NAME | VARCHAR(100) |
| GENDER | ENUM(‘M’,’F’) |
| Mobile Number | Number(10,0) |
| JOINED\_DATE | DATETIME |

# DRIVER\_DIM

|  |  |
| --- | --- |
| DRIVER\_ID | PRIMARY KEY |
| DRIVER\_LICENSE\_ID | VARCHAR(25) |
| FIRST\_NAME | VARCHAR(100) |
| LAST\_NAME | VARCHAR(100) |
| GENDER | ENUM(‘M’,’F’) |
| Phone Number | Number(10,0) |
| JOINED\_DATE | DATETIME |

# USER\_\_RIDE\_BOOKMARK\_DIM

|  |  |
| --- | --- |
| USER\_ID | FOREIGN KEY REFERENCE USER DIM |
| BOOKMARK\_TAG | VARCHAR(100) |
| LOCATION\_ID | NUMBER(7,6) |

# LOCATION DIM

|  |  |
| --- | --- |
| LOC\_ID | PRIMARY KEY |
| LOCATION\_NAME | VARCHAR(100) |
| LANDMARK | VARCHAR(100) |
| MAP\_GRID\_ID | FOREIGN KEY REFERENCES MAP\_GRID\_DIM |

# MAP\_GRID\_DIM

|  |  |
| --- | --- |
| MAP\_GRID\_ID | PRIMARY KEY |
| LATITIUDE | NUMBER(7,7) |
| LONGITUDE | NUMBER(7,7) |

# CAB\_DIM

|  |  |
| --- | --- |
| CAB\_ID | PRIMARY KEY |
| DRIVER\_ID | FOREIGN KEY REFERENCES DRIVER\_DIM |
| MODEL | VARCHAR(100) |
| STATUS | ENUM(‘Available’, ’Occupied’) |
| BASE\_DATE | DATETIME |
| MAP\_GRID\_ID | FOREIGN KEY REFERENCES MAP\_GRID\_DIM |

# RIDE\_DIM

|  |  |
| --- | --- |
| RIDE\_ID | PRIMARY KEY |
| USER\_ID | FOREIGN KEY REFERENCES DRIVER\_DIM |
| DRIVER\_ID | FOREIGN KEY REFERENCES DRIVER\_DIM |
| RIDE\_DATE | DATETIME |
| START\_LOCATION | FOREIGN KEY REFERENCES MAP\_GRID\_DIM |
| START\_TIME | TIMESTAMP |
| END\_LOCATION | FOREIGN KEY REFERENCES LOCATION\_DIM |
| END\_TIME | TIMESTAMP |
| PAYMENT\_ID | FOREIGN KEY REFERENCES PAYMENT\_DIM |
| RATING | INTEGER |

# PAYMENT\_ID

|  |  |
| --- | --- |
| PAYMENT\_ID | PRIMARY KEY |
| RIDE\_ID | FOREIGN KEY REFERENCES RIDE\_DIM |
| PAYMENT\_MODE\_ID | NUMBER(100,0) |

# PAYMENT\_MODE\_DIM

|  |  |
| --- | --- |
| PAYMENT\_MODE\_ID | PRIMARY KEY |
| MODE | ENUM(‘CASH’,’UPI’,’DC’,CC’) |

DESCRIPTION

USER\_DIM - This table stores information about the users who use the ride-sharing service.

DRIVER\_DIM - This table stores information about the drivers who offer rides on the ride-sharing service.

USER\_RIDE\_BOOKMARK\_DIM - This table stores information about the bookmarks created by users for their frequently travelled locations

LOCATION\_DIM - This table stores information about the locations of the users and drivers.

MAP\_GRID\_DIM - This table stores information about the map grid, which is used to store latitude and longitude information about the location.

CAB\_DIM - This table stores information about the cabs used by drivers on the ride-sharing service.

RIDE\_DIM - This table stores information about the rides taken by the users on the ride-sharing service

PAYMENT\_DIM - This table stores information about the payment made for a ride.

PAYMENT\_MODE\_DIM - This table stores information about the payment modes available for the ride-sharing service

REAL USE CASE

A user requests a ride through the ride-hailing app. The app records the user's ID and location, and sends a request to available drivers in the area. If a driver accepts the request, the app records the driver's ID and location, and creates a new ride record in the RIDE\_DIM table with the user ID, driver ID, start location ID, and ride date.

During the ride, the app tracks the location of the user and the driver, and updates the RIDE\_DIM table with the end location ID, fare, and payment status. When the ride is complete, the user is prompted to make a payment using their preferred payment method, such as credit card or UPI. The app records the payment information in the PAYMENT\_DIM and PAYMENT\_MODE\_DIM tables and updates the payment status in the RIDE\_DIM table.

In addition to this, the app can use the USER\_RIDE\_BOOKMARK\_DIM table to allow users to bookmark frequently used locations, such as home or work, for quick and easy ride booking.

The MAP\_GRID\_DIM table can be used to store the geographical location of users and drivers, which can help the app to efficiently match riders with drivers in the same area. The CAB\_DIM table can be used to store information about the available cabs, such as the cab model, driver ID, and location.

Overall, this data model can help a ride-hailing service to efficiently track and manage user and driver information, ride details, and payments.