

Database Description:

Community Carpool Connect (C3) manages its services through several key collections: *Users*, *Car Info*, *Rides*, *Ride Participants*, *Transactions*, and *Notifications*.

Users Collection

The `users` collection is pivotal, housing data for everyone interacting with C3, categorized by roles: Drivers, Riders, and Admins. Drivers and Riders engage in the carpooling services, offering and seeking rides. Admins, on the other hand, oversee platform operations. This collection stores vital user data, including names, contact details, and, for drivers, essential car information to facilitate easy identification and communication within the C3 ecosystem.

Car Info Collection

Specific to drivers, the `car_info` collection details the vehicles in the C3 network. It includes information such as the make, model, and license plate of each car, linked to its respective driver. This collection ensures that riders can get comprehensive details about the car they will be carpooling in, enhancing trust and safety.

Rides Collection

The core of C3's functionality lies within the `rides` collection. It catalogs all rides listed on the platform, whether they're offered by drivers or requested by riders. Each record in this collection specifies the journey's start and end points, the date and time, and, depending on the listing's nature, available seats or the number of riders. This collection plays a crucial role in the matchmaking process, facilitating the manual search for compatible carpool partners.

Ride Participants Collection

To manage ride capacities and ensure efficient carpooling, the `ride_participants` collection tracks which users have joined a particular ride. This system allows for the dynamic management of available seats, ensuring drivers can fill their cars efficiently and riders can find spaces in rides that suit their schedules.

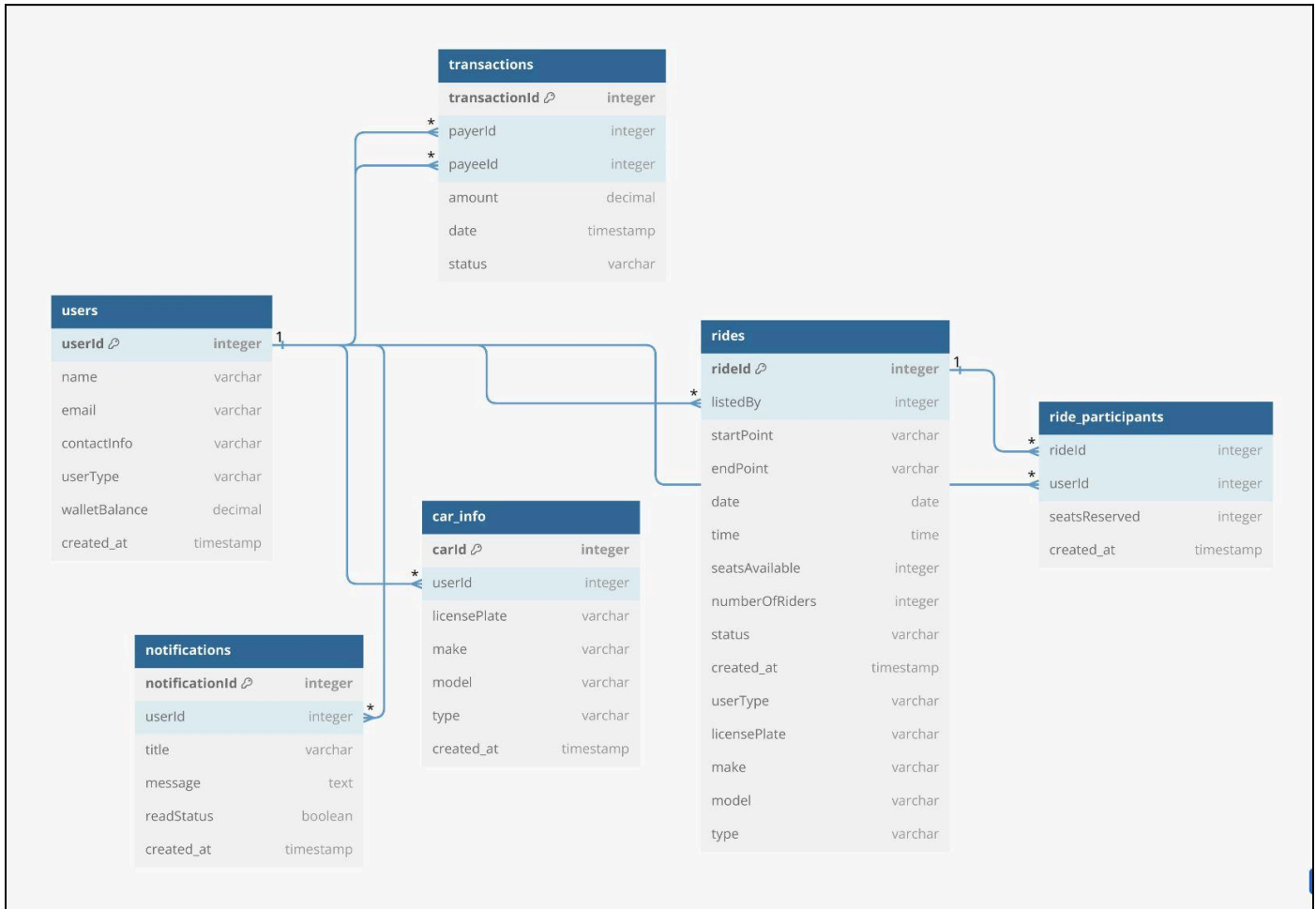
Transactions Collection

C3 introduces a secure wallet system for financial transactions, tracked in the `transactions` collection. Whether adding to their wallet balance or paying for rides, users' financial activities are meticulously recorded here, ensuring transparency and security. Each transaction's status is also monitored, providing real-time updates on payment processing.

Notifications Collection

The `notifications` collection is C3's communication backbone, delivering timely alerts and updates to users. Whether it's a new ride match, changes in ride status, or transaction updates, this collection ensures users are always informed. Notifications can be customized according to the users' roles, ensuring relevant information delivery.

ER DIAGRAM



Database collections:

CarpoolDB

LOGICAL DATA SIZE: 5.91KB

STORAGE SIZE: 168KB

INDEX SIZE: 168KB

TOTAL COLLECTIONS: 6

CREATE COLLECTION

Collection Name	Documents	Logical Data Size	Avg Document Size	Storage Size	Indexes	Index Size	Avg Index Size
car_info	2	263B	132B	36KB	1	36KB	36KB
notifications	1	225B	225B	20KB	1	20KB	20KB
ride_participants	1	90B	90B	20KB	1	20KB	20KB
rides	7	1.95KB	285B	36KB	1	36KB	36KB
transactions	1	117B	117B	20KB	1	20KB	20KB
users	15	3.28KB	225B	36KB	1	36KB	36KB

Sample Snippets

Users:

```
_id: ObjectId('65edea04aa5d882e9206d422')
name: "Bunny"
email: "arvindjittal1@gmail.com"
password: "$2b$12$0Zscg0cpBsV8QNd.6VYc20GqVukTBSi87DCqpotRxnUzhkkGYcKnq"
contactInfo: "9132656399"
carInfo: Object
  licensePlate: "SBN3999"
  make: "Honda "
  model: "Accord"
  type: "LX Sedan"
  userType: "driver"
```

Car Info:

```
_id: ObjectId('65f62d51dc3b8e795e2bf5e7')
licensePlate: "SBN3999"
make: "Honda "
model: "Accord"
type: "LX Sedan"
createdAt: 2024-03-16T23:37:53.629+00:00
userId: ObjectId('65f62d51dc3b8e795e2bf5e6')
```

Rides:

```
_id: ObjectId('65f66e2c8afa4555e973355f')
startPoint: "Wishpering"
endPoint: "MIC"
date: "2024-03-16"
time: "23:14"
seatsAvailable: ""
pricePerSeat: ""
numberOfRiders: "4"
userType: "rider"
listedBy: ObjectId('65ea15dbdf022fb3ebd9a643')
createdAt: 2024-03-17T04:14:36.834+00:00
status: "Open"
```

Ride Participants

```
_id: ObjectId('65f7a0a8ef74cf5b15f7f167')
userId: 56789
seatsReserved: 2
created_at: "2024-03-20T12:00:00Z"
```

Transactions

```
_id: ObjectId('65f7a04def74cf5b15f7f166')
payerId: 12345
payeeId: 67890
amount: 15
date: "2024-03-20T12:00:00Z"
status: "Completed"
```

Notifications

```
_id: ObjectId('65f79fc7ef74cf5b15f7f165')
userId: 12345
title: "Ride Confirmation"
message: "Your ride request for 'Downtown to City Park' on March 20th, 2024, at ..."
readStatus: false
created_at: "2024-03-15T09:30:00Z"
```