API Documentation - Carpooling Application

Overview

This document provides details for the RESTful API endpoints of the Carpooling application. The API allows users to register, login, create and manage rides, make bookings, and more.

Base URL

All API endpoints are relative to the base URL:

```
/api
```

Authentication

Most endpoints require authentication using JWT (JSON Web Token). After login, include the token in the Authorization header:

```
Authorization: Bearer {your_token}
```

Response Format

All API responses follow this standard format:

```
{
  "success": true|false,
  "message": "Message describing the result",
  "data": { /* Response data object */ }
}
```

API Endpoints

Authentication

Register Passenger

- **URL**: `/auth/passenger-register`

- **Method**: `POST`

- **Content-Type**: `multipart/form-data`

- **Auth required**: No

- **Parameters**:

  - `email` : Email address (string, required)

  - `password` : Password (string, required)

  - `fullName` : Full name (string, required)

  - `phone` : Phone number (string, required)

  - `avatarImage` : Profile picture (file, optional)

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Đăng ký thành công",
  "data": {
    "id": 1,
    "fullName": "Nguyen Van A",
    "email": "example@gmail.com",
    "phone": "0123456789",
    "role": "PASSENGER"
  }
}
```

- **Error Response**:

- **Code**: 409 CONFLICT
- **Content**:

```json
{
  "success": false,
  "message": "Email đã tồn tại",
  "data": null
}
```

Register Driver

- **URL**: `/auth/driver-register`
- **Method**: `POST`
- **Content-Type**: `multipart/form-data`
- **Auth required**: No
- **Parameters**:
  - `email` : Email address (string, required)
  - `password` : Password (string, required)
  - `fullName` : Full name (string, required)
  - `phone` : Phone number (string, required)
  - `avatarImage` : Profile picture (file, optional)
  - `licenseImage` : Driver license image (file, required)
  - `vehicleImage` : Vehicle image (file, required)
- **Success Response**:
  - **Code**: 200
  - **Content**:

```json
{
  "success": true,
  "message": "Đăng ký thành công",
```

```
  "data": {
    "id": 2,
    "status": "PENDING",
    "licenseImageUrl": "<http://example.com/files/license.jpg>",
    "vehicleImageUrl": "<http://example.com/files/vehicle.jpg>",
    "avatarImageUrl": "<http://example.com/files/avatar.jpg>",
    "fullName": "Nguyen Van B",
    "email": "driver@gmail.com",
    "phone": "0987654321",
    "role": "DRIVER"
  }
}
```

Login

- **URL**: `/auth/login`

- **Method**: `POST`

- **Content-Type**: `application/json`

- **Auth required**: No

- **Request Body**:

```
{
  "email": "example@gmail.com",
  "password": "password123"
}
```

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Đăng nhập thành công",
```

```
    "data": {
      "token": "eyJhbGciOiJIUzI1NiJ9...",
      "email": "example@gmail.com",
      "role": "PASSENGER"
    }
  }
```

- **Error Response**:
  - **Code**: 401 UNAUTHORIZED
  - **Content**:

```
{
  "success": false,
  "message": "Đăng nhập thất bại: Bad credentials",
  "data": null
}
```

Ride Management

Create Ride (Driver only)

- **URL**: `/ride`
- **Method**: `POST`
- **Content-Type**: `application/json`
- **Auth required**: Yes (DRIVER role)
- **Request Body**:

```
{
  "startLocation": "Ho Chi Minh City",
  "endLocation": "Da Lat",
  "departureTime": "2023-12-01T08:00:00",
  "arrivalTime": "2023-12-01T12:00:00",
  "availableSeats": 4,
```

```
    "price": 300000
  }
```

- **Success Response**:

  - **Code**: 201 CREATED

  - **Content**:

```
{
  "success": true,
  "message": "Tạo chuyến đi thành công",
  "data": null
}
```

Get Available Rides (Passenger only)

- **URL**: `/ride/available`

- **Method**: `GET`

- **Auth required**: Yes (PASSENGER role)

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "success",
  "data": [
    {
      "id": 1,
      "startLocation": "Ho Chi Minh City",
      "endLocation": "Da Lat",
      "departureTime": "2023-12-01T08:00:00",
      "arrivalTime": "2023-12-01T12:00:00",
      "availableSeats": 4,
```

```
      "price": 300000,
      "status": "ACTIVE",
      "driverName": "Nguyen Van B"
    }
  ]
}
```

Get Ride Detail

- **URL**: `/ride/{id}`

- **Method**: `GET`

- **Auth required**: Yes

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Danh sách chuyến đi",
  "data": {
    "id": 1,
    "startLocation": "Ho Chi Minh City",
    "endLocation": "Da Lat",
    "departureTime": "2023-12-01T08:00:00",
    "arrivalTime": "2023-12-01T12:00:00",
    "availableSeats": 4,
    "price": 300000,
    "status": "ACTIVE",
    "driverName": "Nguyen Van B",
    "driverPhone": "0987654321"
  }
}
```

Cancel Ride (Driver only)

- **URL**: `/ride/{id}`

- **Method**: `PUT`

- **Auth required**: Yes (DRIVER role)

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Huỷ bỏ chuyến đi thành công",
  "data": {
    "id": 1,
    "status": "CANCELLED",
    "startLocation": "Ho Chi Minh City",
    "endLocation": "Da Lat"
  }
}
```

Update Ride (Driver only)

- **URL**: `/ride/update/{id}`

- **Method**: `PUT`

- **Content-Type**: `application/json`

- **Auth required**: Yes (DRIVER role)

- **Request Body**:

```
{
  "startLocation": "Ho Chi Minh City",
  "endLocation": "Da Lat",
  "departureTime": "2023-12-01T09:00:00",
  "arrivalTime": "2023-12-01T13:00:00",
```

```
    "availableSeats": 3,
    "price": 350000
  }
```

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Cập nhật chuyến đi thành công",
  "data": {
    "id": 1,
    "startLocation": "Ho Chi Minh City",
    "endLocation": "Da Lat",
    "departureTime": "2023-12-01T09:00:00",
    "arrivalTime": "2023-12-01T13:00:00",
    "availableSeats": 3,
    "price": 350000,
    "status": "ACTIVE"
  }
}
```

Passenger Operations

Get Passenger Profile

- **URL**: `/passenger/profile`

- **Method**: `GET`

- **Auth required**: Yes (PASSENGER role)

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Thông tin người dùng",
  "data": {
    "id": 1,
    "fullName": "Nguyen Van A",
    "email": "example@gmail.com",
    "phone": "0123456789",
    "role": "PASSENGER"
  }
}
```

Book a Ride

- **URL**: `/passenger/booking/{rideId}`

- **Method**: `POST`

- **Auth required**: Yes (PASSENGER role)

- **Parameters**:

  - `seats` : Number of seats to book (integer, required)

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Đăng ký chuyến đi thành công",
  "data": {
    "id": 1,
    "rideId": 1,
    "passengerId": 1,
    "bookedSeats": 2,
    "status": "PENDING",
```

```
      "price": 600000
    }
  }
```

Confirm Ride Completion (Passenger)

- **URL**: `/passenger/passenger-confirm/{rideId}`

- **Method**: `PUT`

- **Auth required**: Yes (PASSENGER role)

- **Success Response**:

    - **Code**: 200

    - **Content**:

        ```
        {
          "success": true,
          "message": "Hành khách đã xác nhận hoàn thành",
          "data": null
        }
        ```

Get Passenger Bookings

- **URL**: `/passenger/bookings`

- **Method**: `GET`

- **Auth required**: Yes (PASSENGER role)

- **Success Response**:

    - **Code**: 200

    - **Content**:

        ```
        {
          "success": true,
          "message": "Danh sách bookings của khách hàng",
          "data": [
        ```

```
    {
      "id": 1,
      "rideId": 1,
      "startLocation": "Ho Chi Minh City",
      "endLocation": "Da Lat",
      "departureTime": "2023-12-01T09:00:00",
      "status": "CONFIRMED",
      "bookedSeats": 2,
      "price": 600000,
      "driverName": "Nguyen Van B",
      "driverPhone": "0987654321"
    }
  ]
}
```

Cancel Booking

- **URL:** `/passenger/cancel-bookings/{rideId}`

- **Method:** `PUT`

- **Auth required:** Yes (PASSENGER role)

- **Success Response**:

  - **Code**: 200

  - **Content**:

```
{
  "success": true,
  "message": "Huỷ chuyến đi thành công",
  "data": {
    "id": 1,
    "rideId": 1,
    "status": "CANCELLED",
    "bookedSeats": 2,
    "price": 600000
```

```
      }
    }
```

Error Codes

- 400: Bad Request - Missing required parameters or invalid data
- 401: Unauthorized - Authentication failed or token expired
- 403: Forbidden - User does not have permission for the requested operation
- 404: Not Found - Requested resource not found
- 409: Conflict - Resource already exists (e.g., email already registered)
- 500: Internal Server Error - Unexpected server error

Pagination

For list endpoints that might return many objects, pagination is supported with the following query parameters:

- `page` : Page number (starts from 0)
- `size` : Items per page (default: 10)

Example: `/api/ride/available?page=0&size=5`

Sample API Usage

Example 1: Register a new passenger

```
POST /api/auth/passenger-register
Content-Type: multipart/form-data

email=passenger@example.com
password=securepass123
fullName=John Doe
phone=0912345678
avatarImage=[file upload]
```

Example 2: Create a new ride (after login as driver)

```
POST /api/ride
Content-Type: application/json
Authorization: Bearer eyJhbGciOiJIUzI1NiJ9...

{
  "startLocation": "Ho Chi Minh City",
  "endLocation": "Vung Tau",
  "departureTime": "2023-12-05T07:00:00",
  "arrivalTime": "2023-12-05T10:00:00",
  "availableSeats": 3,
  "price": 200000
}
```

Example 3: Book a ride (after login as passenger)

```
POST /api/passenger/booking/5?seats=2
Authorization: Bearer eyJhbGciOiJIUzI1NiJ9...
```