BlockChain PROJECT PROPOSAL

A Peer-to-Peer Carpooling System

Group Members

Yousef Shaban Salem

320210318

Mohamed Osama Abd Elfatah

320210218

TABLE OF CONTENTS

Concept

The idea is to create a platform where individuals can offer or request rides directly to/from others, without the need for a centralized intermediary like Uber. Blockchain technology can be used to manage the transactions, ensure trust and transparency, and facilitate secure payments between riders and drivers.

Key Components

User Profiles: Users can create profiles with information such as their location, travel preferences, and payment details.

Ride Listings: Users can create listings for rides they are offering or requesting, specifying details such as pickup/dropoff locations, timing, and price.

Key Components

Smart Contracts: Smart contracts can be used to automate the process of matching riders with drivers, executing the ride, and processing payments.

Blockchain: The blockchain serves as the underlying technology to record transactions, verify identities, and maintain a secure and transparent record of all ride-related activities.

Example Workflow

1.Offering a Ride

- Alice wants to offer a ride from her home to her workplace.
- She creates a listing on the platform, specifying her route, timing, and price per seat.
- The listing is broadcasted to the network and recorded on the blockchain.

2. Requesting a Ride:

- Bob sees Alice's listing and decides to request a seat in her car. - He sends a request through the platform, which is recorded on the blockchain.
- The smart contract automatically matches Bob with Alice and confirms the ride.

3.Ride Execution

- Alice and Bob meet at the agreed-upon location and time.
-After the ride is completed, both parties confirm the completion of the ride through the platform.
- The smart contract releases the payment from Bob to Alice, which is executed securely through the blockchain.

Benfites

Decentralization

The system operates without a central authority, giving more control to users and reducing dependency on a single entity.

Transparency

All transactions and interactions are recorded on the blockchain, providing a transparent and immutable record.

Benfites

Cost Efficiency

By eliminating intermediaries, the system can reduce costs for both riders and drivers.

Trust and Security

The use of blockchain technology ensures that transactions are secure and that users can trust the system.

Challenges

Regulatory Compliance

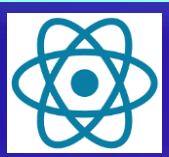
Ensuring compliance with local transportation regulations and laws.

User Adoption

Convincing users to switch from traditional ride-hailing services to a decentralized platform.

DEVELOPMENT Tools

TailWind CSS



React

Solidity

GoEth

VsCode