

FLIGHT LEDGER

- **CODE HACKERS**

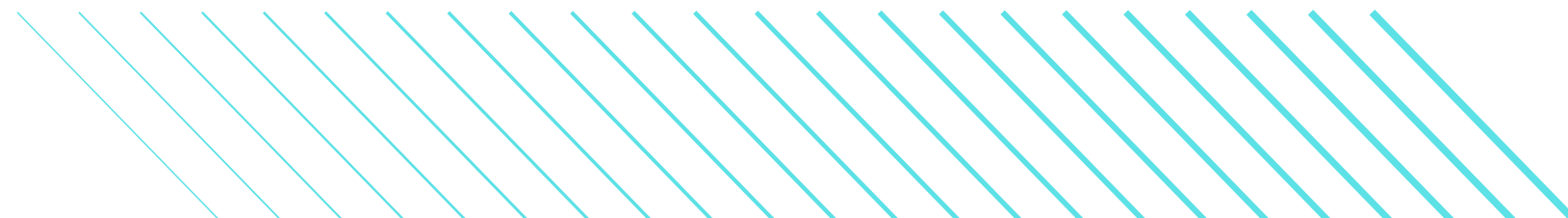
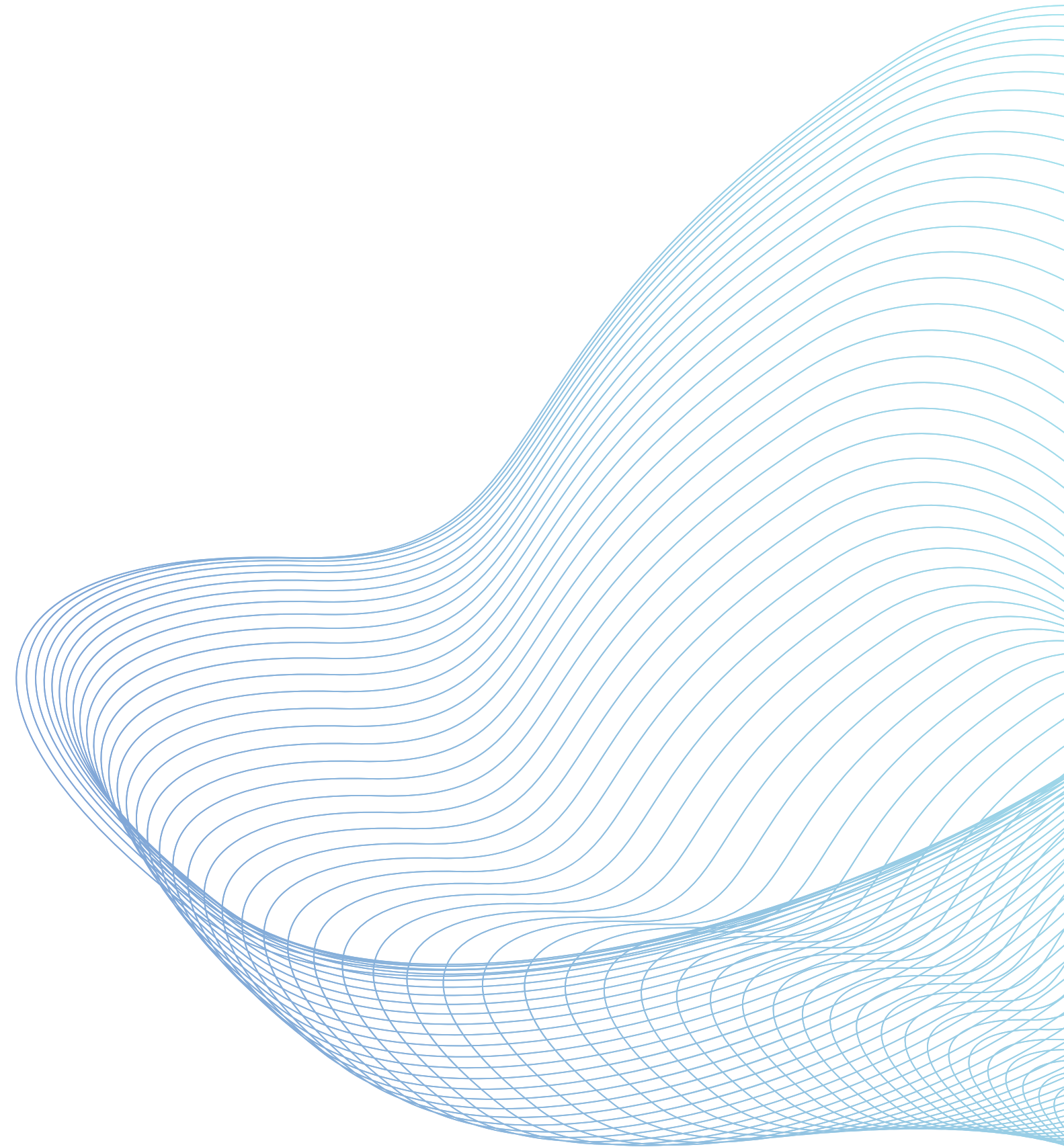


TABLE OF CONTENT



- Problem definition
- Solution
- TechStack
- Unique Idea
- Architecture of Idea

PROBLEM STATEMENT

- **Air Traffic Control (ATC) operates based on an extensive dataset, encompassing flight plans, real-time weather updates, and precise aircraft positions. The reliability and safety of air travel hinge on the integrity and security of this data, making it imperative to prevent errors or unauthorized access, ensuring smooth and secure operations.**
- **Air Traffic Control (ATC) frequently necessitates manual coordination and communication among numerous parties, such as pilots, controllers, and ground personnel. This manual process can result in delays and operational inefficiencies within the aviation system, impacting flight schedules, passenger experiences, and overall safety. Streamlining communication and automation are vital improvements.**

SOLUTION

- **Blockchain technology offers a robust solution by establishing an immutable and tamper-proof ledger for storing vital data in fields like air traffic control. Each transaction, such as flight plan submissions or aircraft position updates, is cryptographically connected to the prior one. This cryptographic linkage ensures data integrity, making it exceedingly challenging to modify or manipulate, enhancing data security and trustworthiness.**
- **A blockchain-based solution utilizes smart contracts to automate critical aviation processes like flight routing, airspace control, and financial transactions between airlines and airports. These smart contracts can enable automatic notifications and payments, enhancing operational efficiency and reducing manual intervention, ensuring smoother and more efficient aviation management.**

TECH -STACK

1

Platform - Hyperledger fabric
Language- Go(Golang) , JavaScript

2

Non-blockchain DBMS
MongoDb(Nosql)

3

Cloud Infrastructure
Amazon Web service

4

Backend development - NodeJs And
Python

5

Smart contract-Chain Code
Open zeppelin(Smart Contract
security)

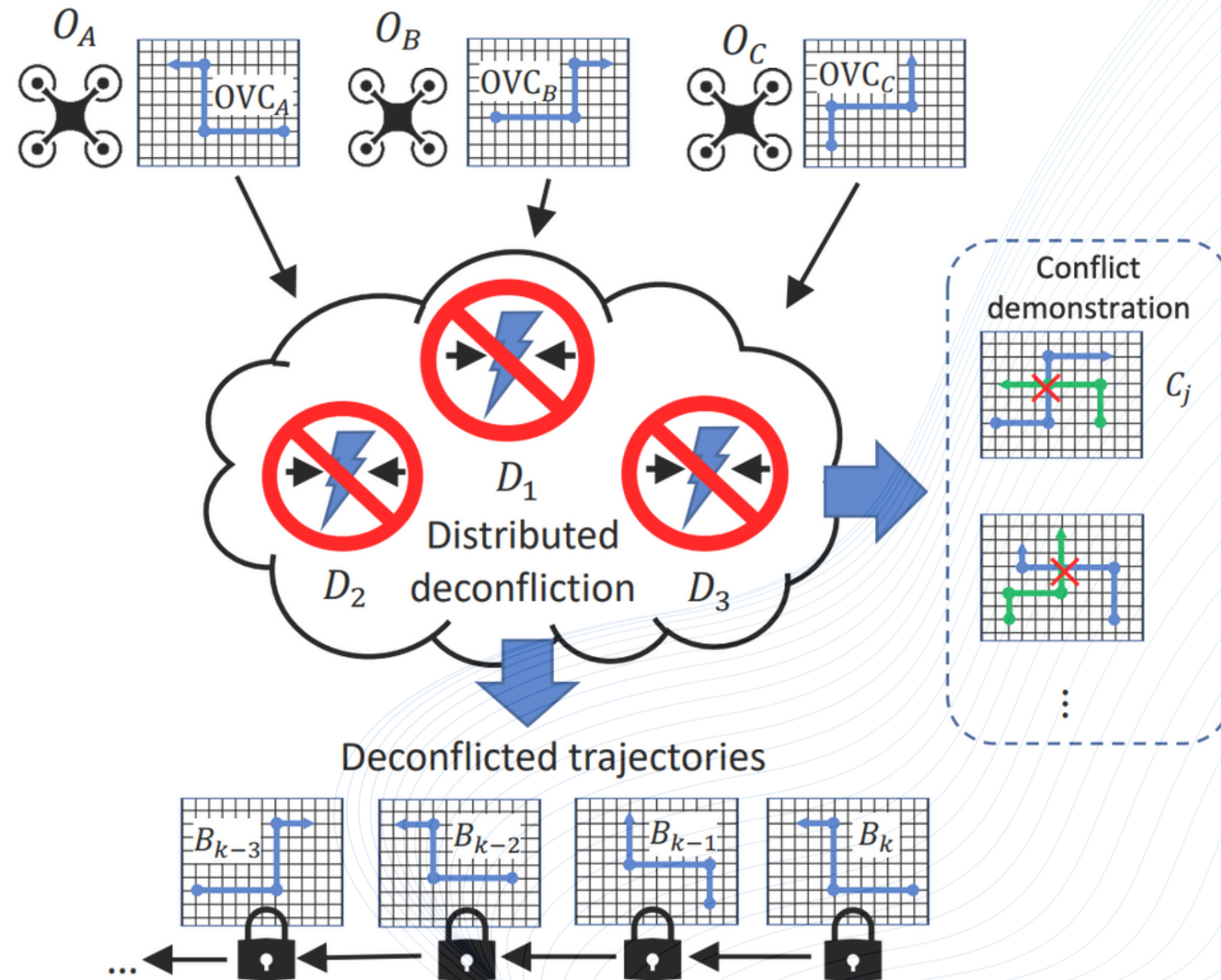
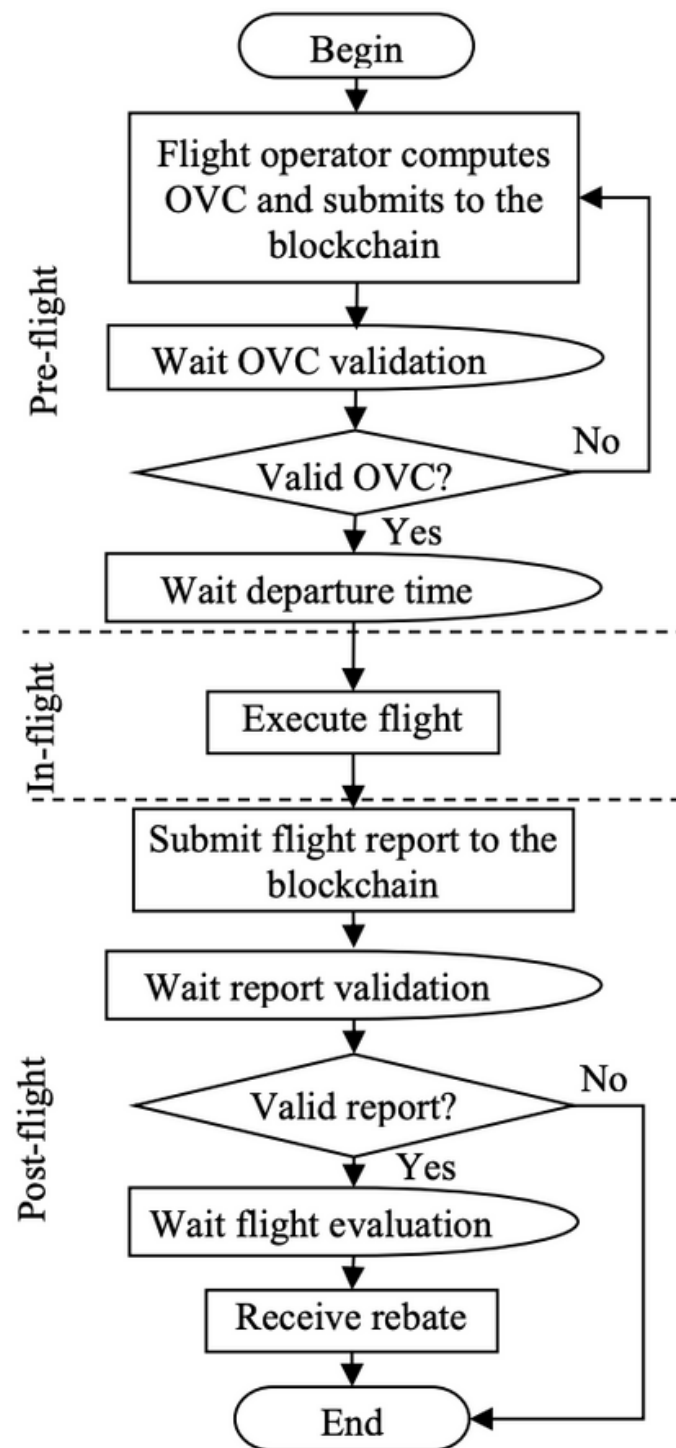
6

Frontend - React , Angular

HOW IS OUR IDEA UNIQUE?

- **Blockchain ensures the immutability of data, making it tamper-resistant and highly secure.**
- **Transaction transparency and cryptographic hashing provide an additional layer of security.**
- **Smart contracts enable automation of key processes, such as flight routing, clearance validation, and air traffic management decisions. Automation reduces human error and streamlines decision-making.**
- **Distributed ledger technology eliminates single points of failure by decentralizing data across multiple nodes, ensuring system resilience.**

ARCHITECTURE





THANK YOU