

Infrastructure to Migrate to a Subnet

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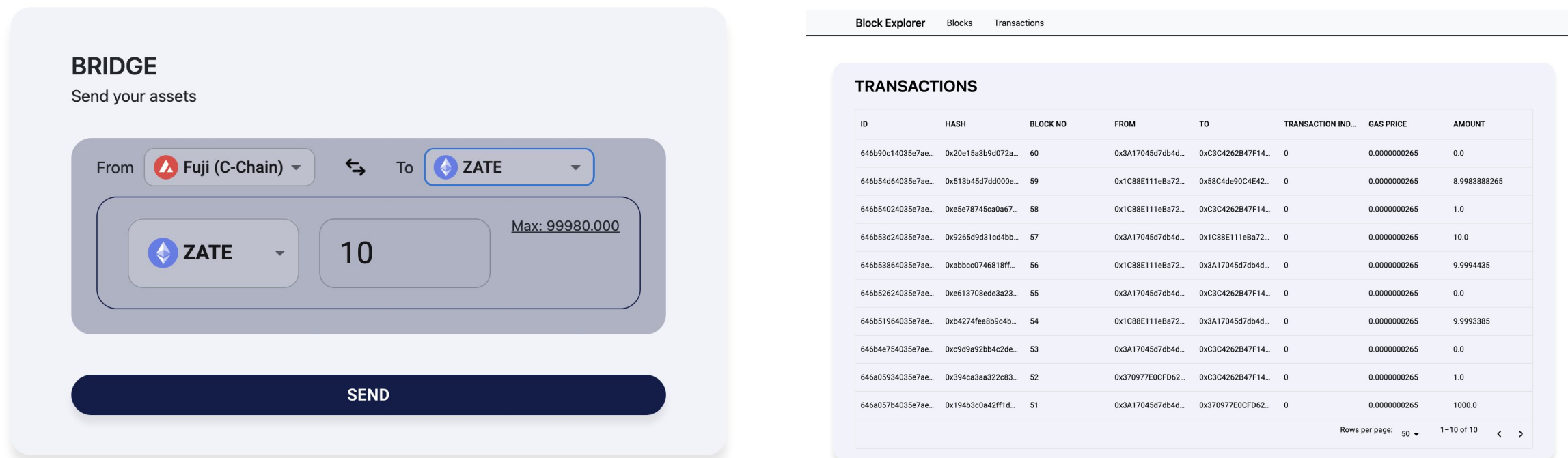
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Project Description / Objectives

- This project aims at addressing the common challenges that decentralized applications (dApps) face during migration to their own blockchain.
- Main objective is to ease the process for dApps to migrate from an existing blockchain to an Avalanche Subnet.
- Having a block explorer and allowing users to use the existing project's tokens are the common problems of the migration process.
- A dApp should be able to use our software to solve the problems mentioned above and as a result decrease the development time to accomplish migration process.

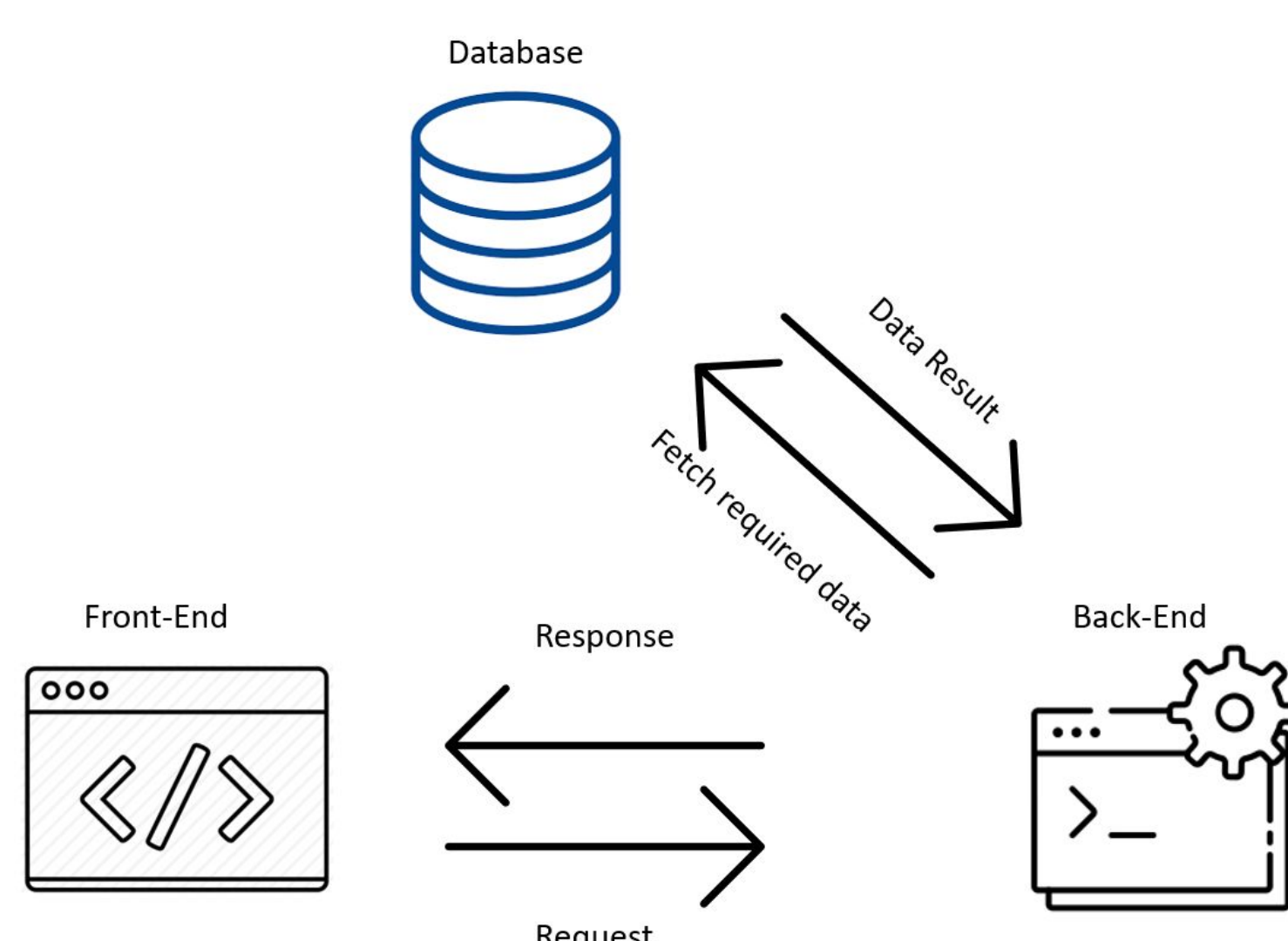


System Design

- Our own Subnet called Zate with a native token called ZATE. Also, a AZATE token that lives on Avalanche Fuji.
- A mobile application that uses ZATE token to authenticate the user.
- An indexer, an API and a website to process and serve the transactions happening on our Subnet.
- A bridge website for users to turn their AZATE tokens on Fuji to ZATE tokens on Zate Subnet.
- For bridge to work, we have Smart Contracts on both blockchains and a Relay application to listen to both smart contracts' events and send adequate transactions to the other blockchain.

System Architecture

- User tries to login to our mobile application but fails to do so. Because they don't have ZATE balance on Zate Subnet.
- They bridge their existing AZATE tokens from Fuji to Zate.
- They inspect bridge transaction on both chains using explorers.
- User tries again to login and successfully logs in because they have performed the bridging process.



Web Explorer



Methods

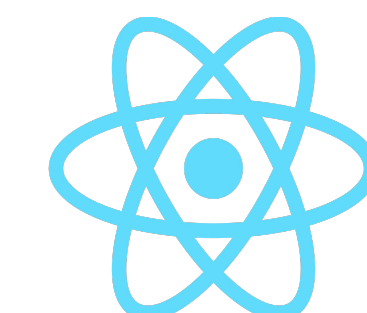
- Avalanche-cli is used for creating the Subnet.
- Solidity with Hardhat is used for creating the Smart Contracts and the Relay application.



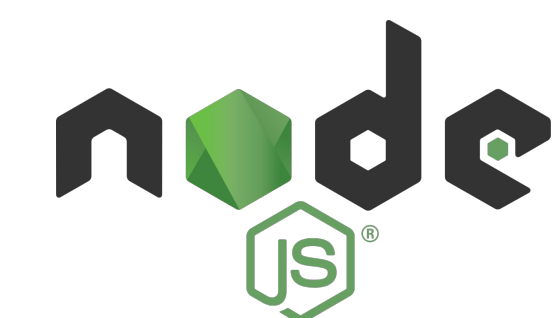
- Flutter is used for mobile application, firebase is used for backend connection & database



- Bridge and Block Explorer web applications are developed with React.js, JavaScript, HTML, SCSS.



- Block explorer API and indexer is developed with Express.js, a web framework for building RESTful APIs with Node.js.



Results

- We have established a working blockchain network, ZATE.
- Implemented a bridge between Avalanche Fuji C-chain and our Zate Subnet.
- Developed a website to bridge tokens manually.
- Developed a website to display block data.
- Developed a mobile social media application that uses ZATE token to authenticate.

