SMART VOTING

Presentation Three

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Introductions

The Project Team

Stephen Davis - Database, Back end

Matthew Campbell - Front End, Presentation Lead

Satabdi Sangma - Front End

Michael Sirna - Back End

What is Smart Voting

What is Smart Voting?

- New voting system
- Accessible from computers, phones, and tablets
- Utilizes multiple databases including a ledger database
- For voting we use a two ledger system that separates
- User created accounts allow users to vote after identifying themselves

Technology Stack

Front End - React

Advantages

- Open source
- Fast workflow
- Large community support
- Frequently updated
- Easy to test
- Easy to deploy

Disadvantages

- Environment constantly changes
- Documentation can be challenging

Back End - Node JS

Advantages

- Open source
- Large community support
- Scalable
- Event based models
- JSON support

Disadvantages

- Poorer performance with more computation
- Asynchronous
- Documentation can be challenging

Back End - Express JS

Advantages

- Open source
- Scalable
- Supports caching
- Supports middleware
- Well documented

Disadvantages

- Asynchronous
- Error messages can be unhelpful

Database - PostgreSQL

Advantages

- Open source
- Highly expandable
- Low maintenance
- Includes logging for fault tolerance
- Process complex data types
- Large language support
- JSON support

Disadvantages

- Slower than MySQL
- Requires more work for configuration than MySQL

Database - Amazon DynamoDB

Advantages

- High performance
- Able to handle large datasets
- Highly scalable
- Predictable pricing

Disadvantages

- Can only be deployed to AWS
- Limited support for advanced queries
- No support for triggers or joins

Database - Amazon Quantum Ledger Database

Advantages

- Immutable and transparent
- Cryptographically verifiable
- Easy to learn and use
- High levels of security
- Entries can not be modified or deleted once written to the ledger

Disadvantages

- Serverless - Can only run on AWS
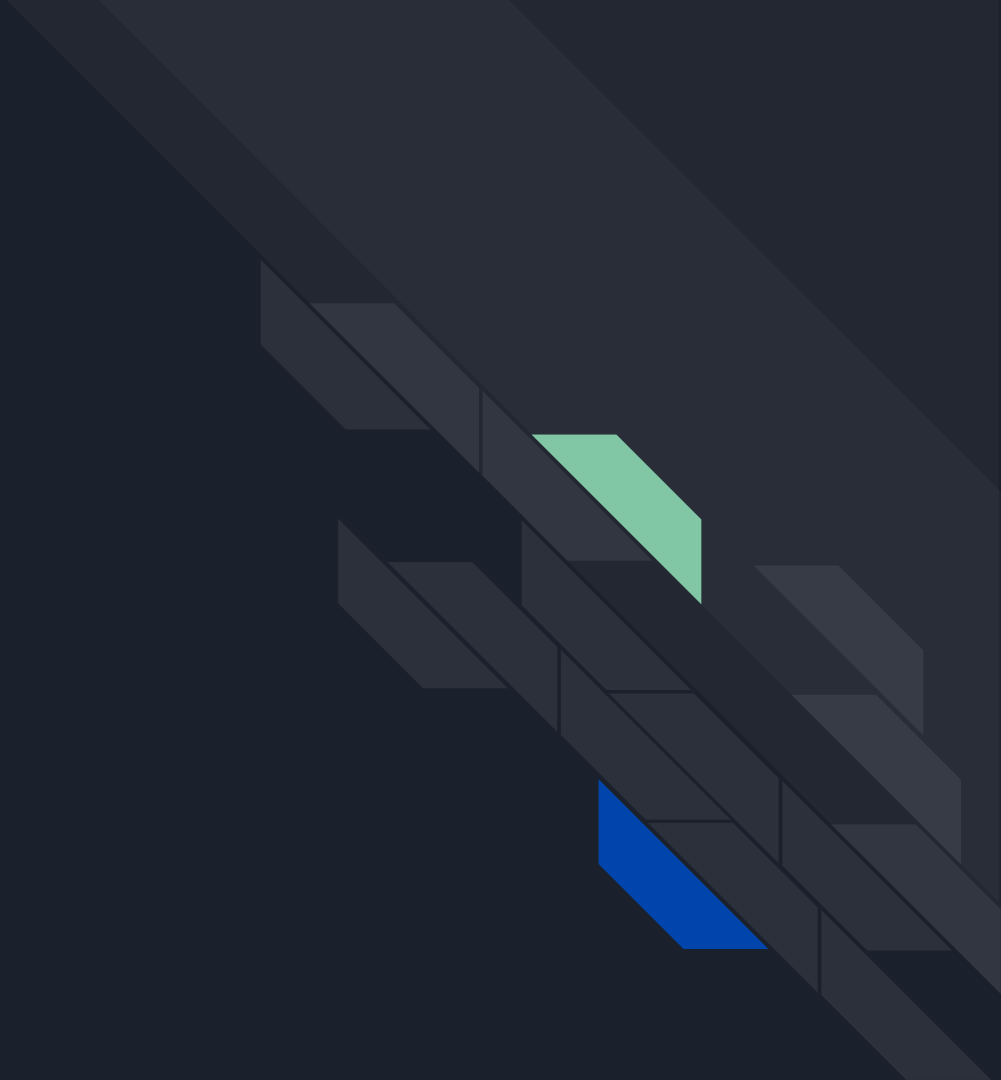- Can not be run on premise

Storage - Amazon S3

Advantages

- Extensive documentation
- Highly scalable
- Reliable and secure
- High durability
- Easy integration with other AWS services
- Simple server-side encryption
- Low cost

Disadvantages

- Steep learning curve
- Complex to setup and configure
- Poor online user interface
- Slow access to objects

Next Steps

Next Steps - In Scope

- Party Information
  - Party Lists
  - Political Party Landing Page
    - Political information pages
- Admin Pages
  - Party membership
  - Create & manage elections
- Voting Process
  - Build Ledgers
  - Setup voting access
- Mobile and Tablet Friendly
- Finish Pages
- Complete Linking of Front End and Back End with Axios

Next Steps - Out of Scope

- Voting Package
  - Access:
    - Passwords
    - QR codes
- Voting History
- Voting Analytics
  - Electoral District Map