

Ambulance Incentive Project v2

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MOTIVATION

Problem Domain: Emergency Medical Services (EMS)

- Ambulances do not have the confidence that they will be compensated for their services
- Lack of competition creates unfair prices for patients

Mission:

- Create a transparent and efficient system for deploying and compensating ambulances
- Ensure guaranteed funding and billing for EMS transportation using blockchain technology
- Utilize a blockchain smart contract based auction system for patient collection

HIGH LEVEL REQUIREMENTS

Last year:

- **Bidding System:** The system must support a fully functional bidding system that pays the ambulance for successfully delivering a patient using an ethereum smart contract
- **Data Storage:** Non-transactional data, such as that of paramedics or hospital networks, must be stored in our MongoDB database
- **Web application:** The system must be a responsive web application that provides a clean user interface

This Year:

- **Blockchain:** Transition from Ethereum to Avalanche
- **Database:** Convert NoSQL MongoDB to MySQL
- **Web Application:** Implement new functionality for complete auction process

TECH STACK



Solidity: object oriented programming language for programming smart contracts



Avalanche: A blockchain platform that prioritizes transaction speed and scalability



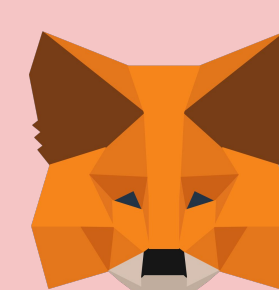
Truffle: development environment for deploying and testing smart contracts



MySQL: A relational database management system



Nest.js: flexible react framework that allows for easy development of web interface

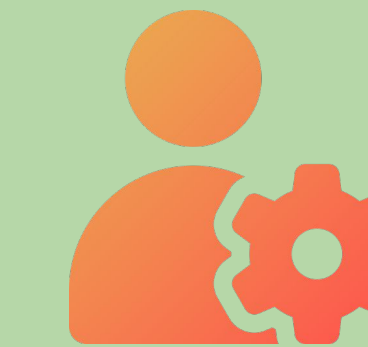


MetaMask: software cryptocurrency wallet used to interact with the Ethereum blockchain

TECHNICAL SKILLS

- Developing smart contracts using Solidity
- Web development using Next.js framework
- Database management & query generation using MySQL
- Bash scripting to automate database creation process
- HTML & CSS skills for web design efficiency
- Deploying smart contracts with Truffle
- Git experience for code management

ACTORS



Contract Admin:
Handles all user accounts

Ability to add, remove, and edit user accounts



Police:
Initiates auctions for ambulances

Takes all patient information



Ambulance:
Bids in auction to accept tender

Delivers patient to the hospital



Hospitals:
Prepares for patient arrival

Verify patient delivery

AUCTION PROCESS

