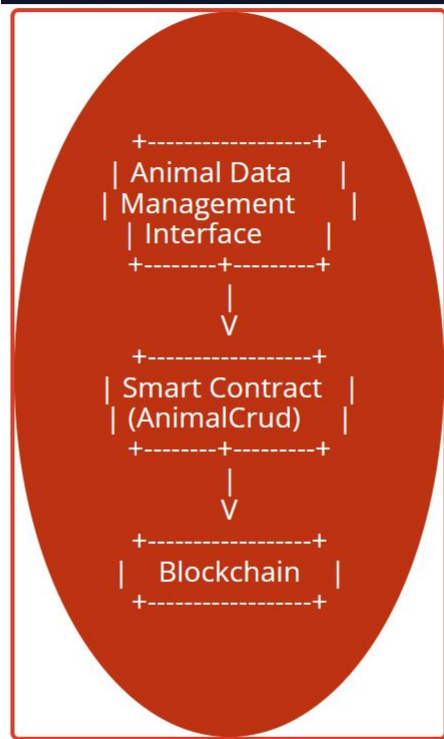


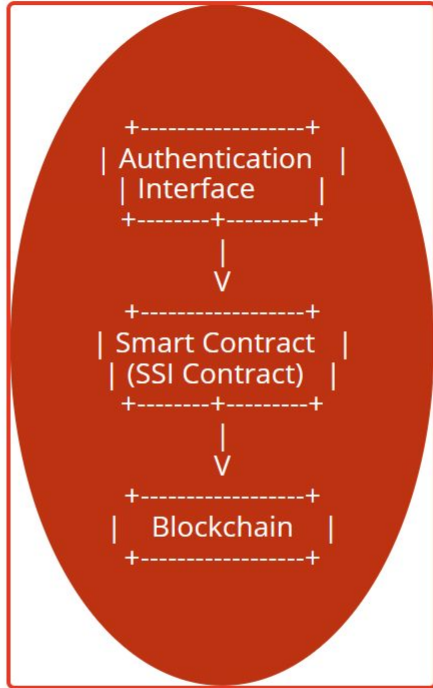
DFD's for FaunaRescueBlockchain

Data Flow Diagram for Animal CRUD Operations:



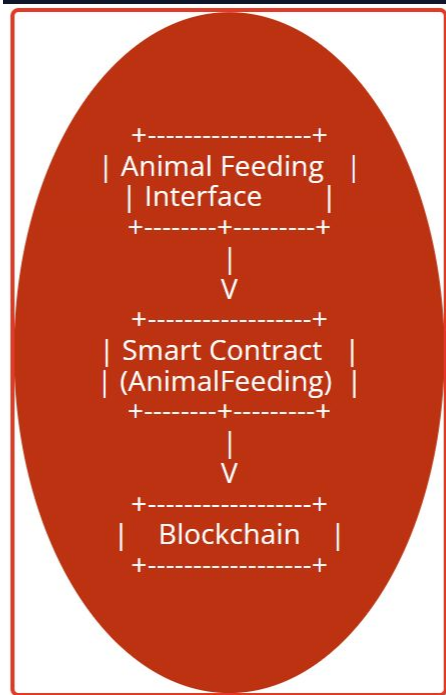
- Users interact with the "Animal Management Interface" to perform CRUD operations (Create, Read, Update, Delete) on animal data.
- The interface communicates with the "Smart Contract" deployed on the blockchain, which handles CRUD operations.
- The "Blockchain" contains the AnimalCrud smart contract to manage animal data operations.
- The smart contract processes transactions and updates the data in the blockchain.

Data Flow Diagram for User Authentication (SSI):



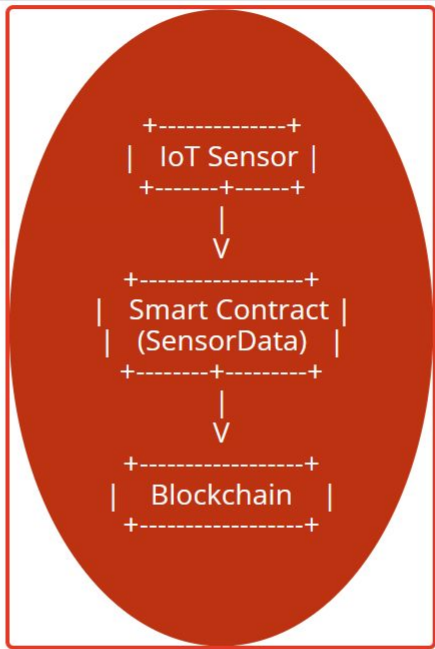
- Users interact with the "Authentication Interface" to initiate actions requiring authentication (e.g., feeding).
- The "Smart Contract" deployed on the blockchain manages the authentication process using SSI.
- The "Blockchain" contains the SSI-related smart contract to authenticate users.
- The smart contract verifies the user's identity through SSI and grants permission for specific actions.

Data Flow Diagram for Animal Feeding Authorization:



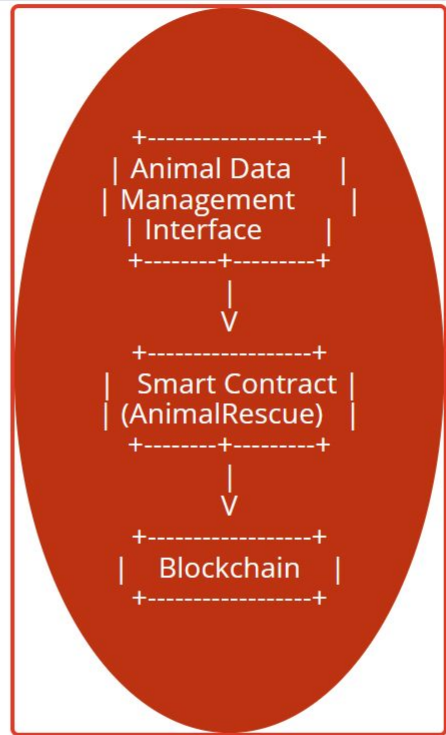
- The "Animal Feeding Interface" enables the owner to initiate feeding actions for the animal.
- The "Smart Contract" deployed on the blockchain manages the feeding authorization process.
- The "Blockchain" contains the AnimalFeeding smart contract to control feeding authorization.
- The smart contract verifies the owner's authorization and triggers the feeding process.

Data Flow Diagram for IoT Sensor Data:



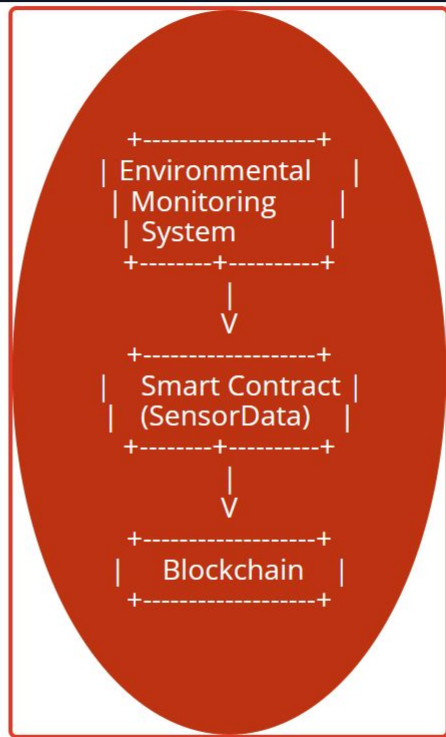
- The "IoT Sensor" periodically collects sensor readings (e.g., temperature, humidity) from the terrarium environment.
- The "Smart Contract" deployed on the blockchain receives sensor readings through a function call.
- The "Blockchain" contains the SensorData smart contract to store sensor readings and update times.
- The smart contract updates the sensor data and timestamps on the blockchain.

Data Flow Diagram for Animal Data Management:



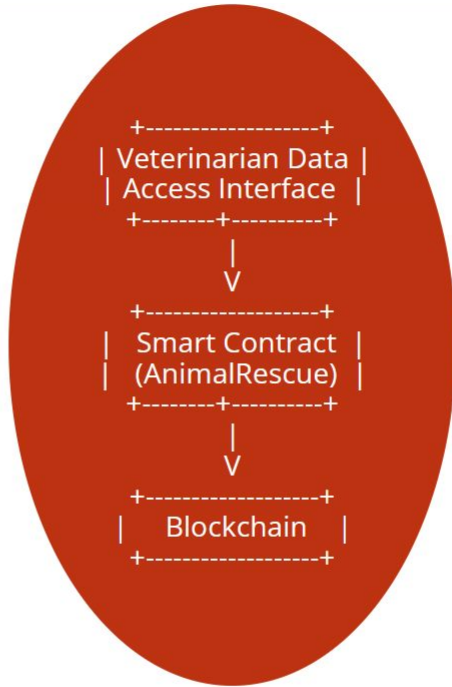
- Users interact with the "Animal Data Management Interface" to add, retrieve, and update animal data.
- The interface communicates with the "Smart Contract" deployed on the blockchain, which stores and manages animal data.
- The "Blockchain" contains the AnimalRescue smart contract to manage animal data.
- The smart contract processes transactions and updates the data in the blockchain.

Data Flow Diagram for Environmental Monitoring:



- The "Environmental Monitoring System" collects data from various sensors (temperature, humidity, light, etc.).
- The system communicates with the blockchain smart contract to update sensor readings.
- The "Smart Contract" updates sensor data on the blockchain, ensuring transparency and data integrity.

Data Flow Diagram for Veterinarian Data Access:



- The "Veterinarian Data Access Interface" allows authorized veterinarians to access animal health data.
- The interface communicates with the blockchain smart contract to retrieve relevant data.
- The "Smart Contract" validates access rights and provides the requested data securely from the blockchain.