Arrayán

A Blockchain-based Resilient Food Supply Chain

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Apache ResilientDB Incubating

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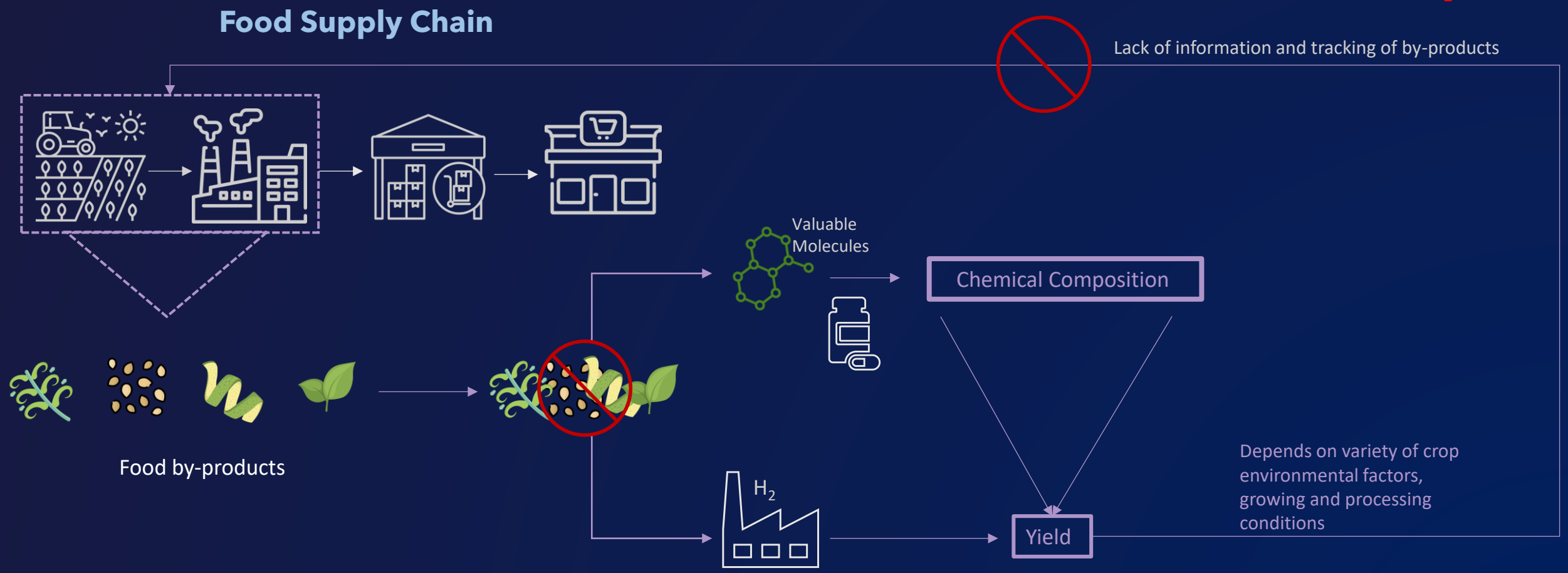
Apache Incubator PODLING

Agenda

- Problem Statement
- Our Solution
- Tech Stack
- Features
- Architecture
- Projects and Recognition
- Demo

Problem Statement

11,790,000,000 KGs of un-valorized byproducts[1]



1 ReFED org, Food Waste (2022)

Our Solution

Upstream Food Supply Chain

Arrayán

An online market for secure and transparent food supply chain operations

Stakeholders that valorize byproducts

- Animal Farmers
- Chemical Biorefineries
- Hydrogen Producers
- Upcycling Companies

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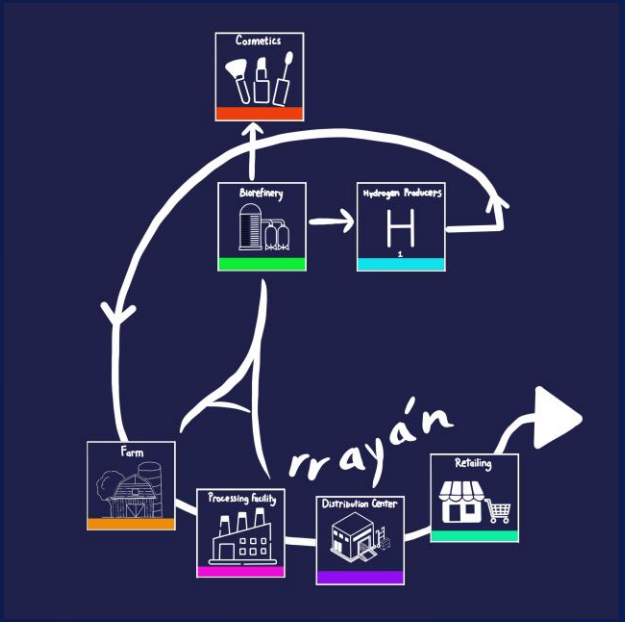
Our Solution

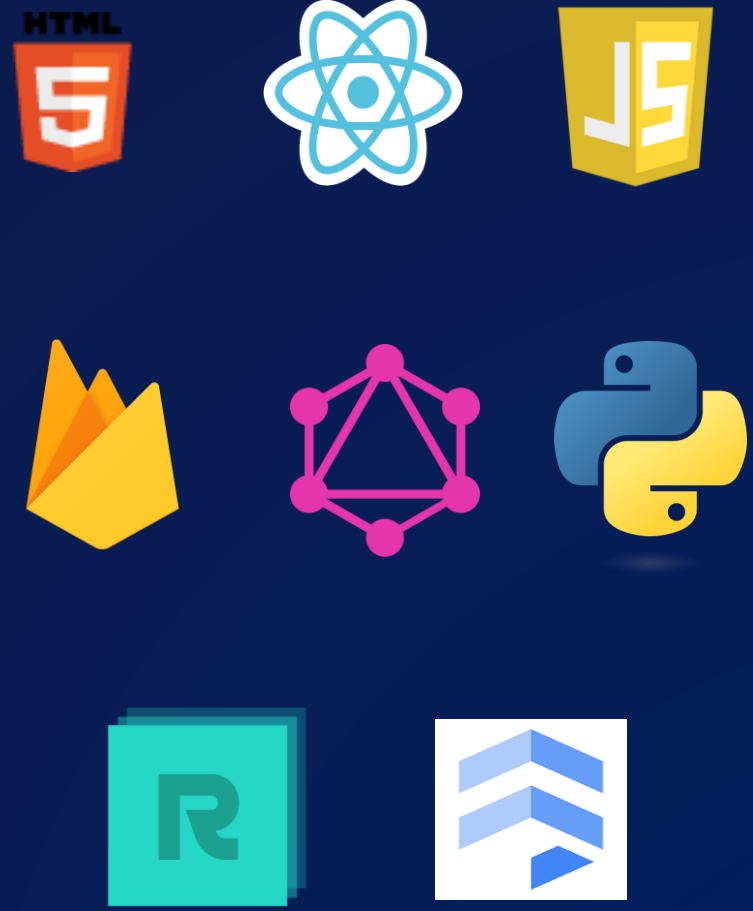
- Arrayán is a Food Supply Chain application built on the blockchain fabric of **ResilientDb** that tracks products, byproducts, process history and acts as an online market through the food supply chain.

- The goal of Arrayán is to standardize the food by-products to scale their valorization applying the term **traceability for sustainability**.



Tech Stack

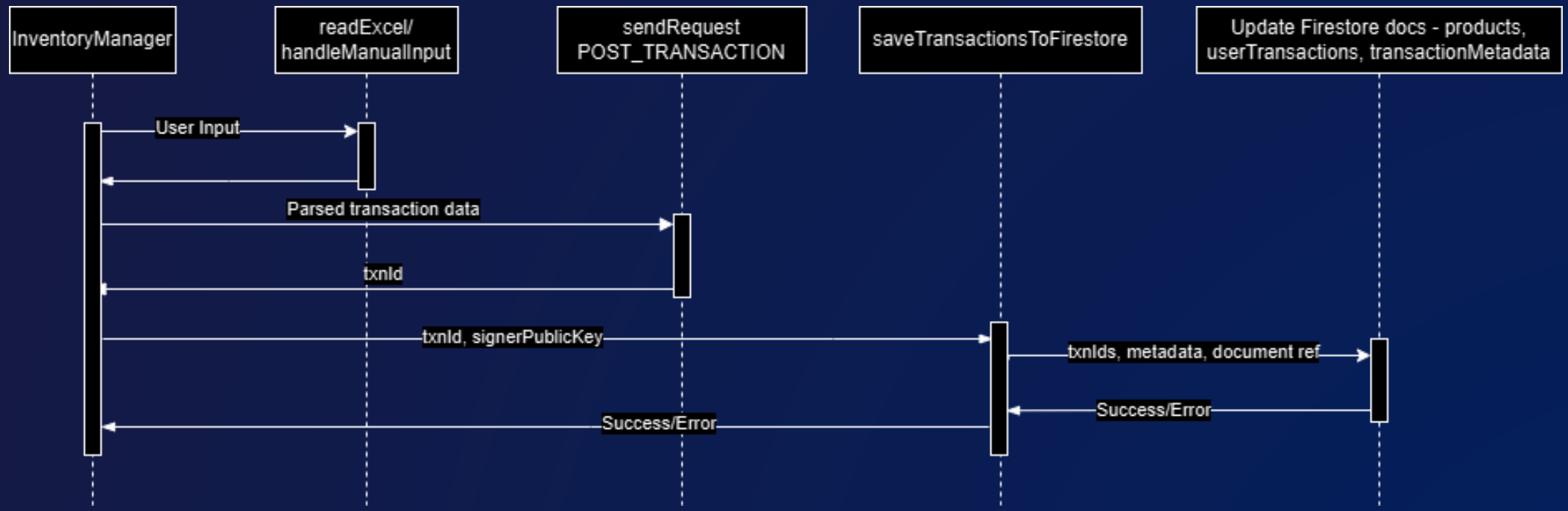
- ReactJS
- Dashboard with react-chartjs2
- Authentication with Google Firebase
- Python
- GraphQL
- Google Firestore
- ResilientDb



Features

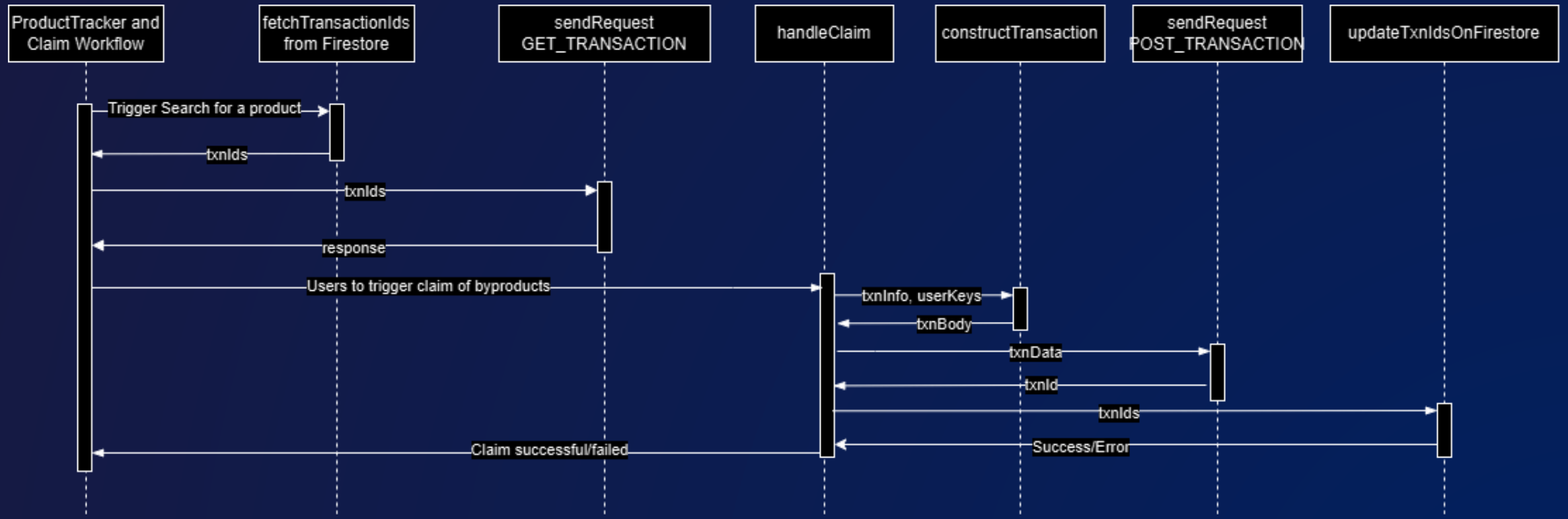
- Inventory Management
  - Integration with InnoVint
  - Support of uploading Excel files
  - Manual input
  - Real time visualization of current inventory status
- Tracking – Supply Chain
  - Efficient search capability with indexing and point queries
  - Simple, intuitive and comprehensive supply chain
  - Ability to claim food byproducts
  - Alerts and notifications on-screen
- Authentication
- User-friendly dashboard and visualizations

Architecture



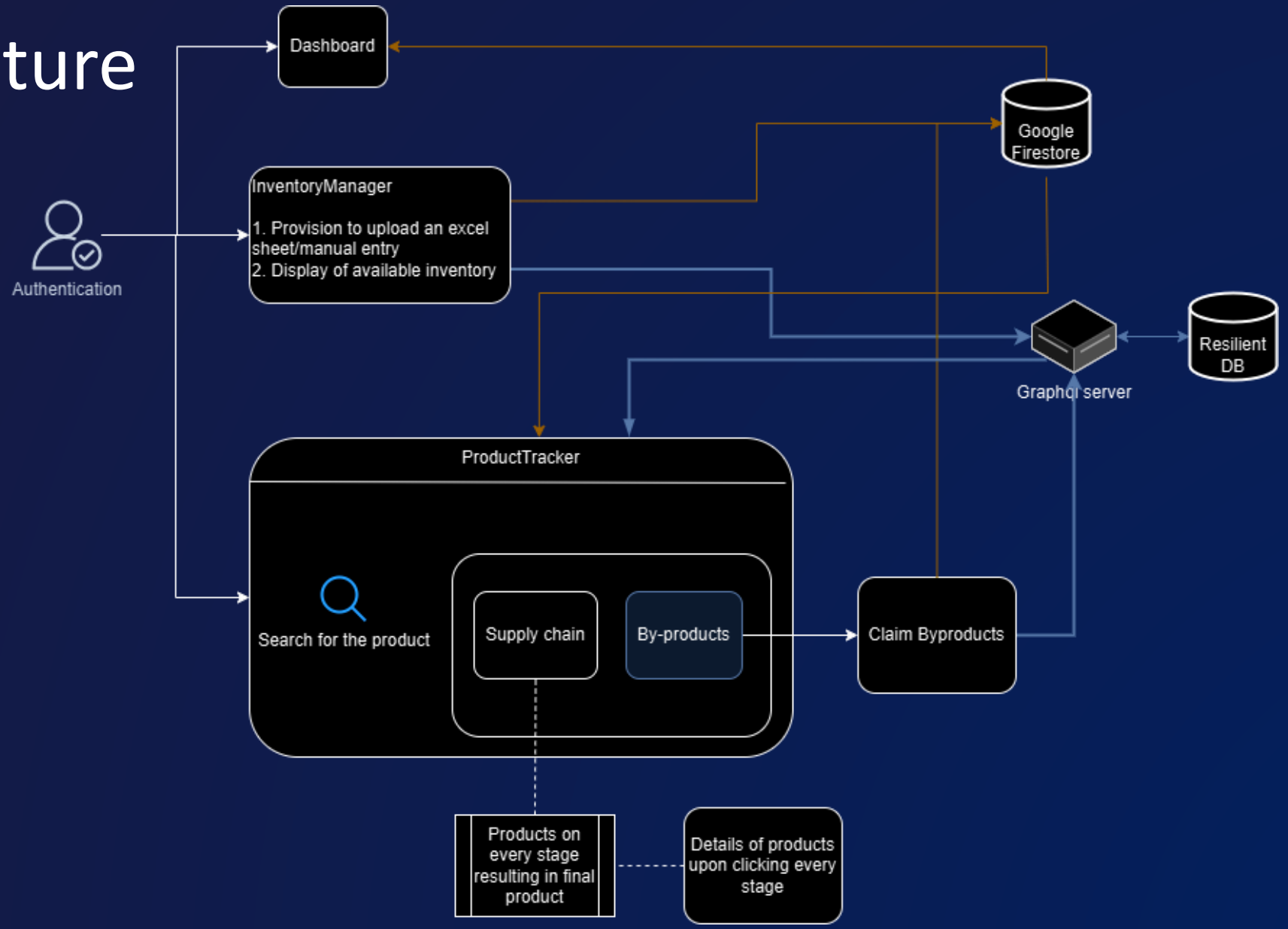
Sequence diagram of Inventory Manager

Architecture



Sequence diagram of Product Tracker and Claim Workflow

Architecture



Projects and Recognitions

Arrayán - *A Blockchain-based Resilient Food Supply Chain Application*

Semi-finalist at the Lineage Food Chain Innovation Challenge, 2024

Respirer - *A Blockchain-based CO2 Emission Tracker built On Resilient DB*

Runner-Up at the hackathon by AI Institute for Food Systems, 2024

Developed an Ag-Graphql wrapper to serve as a common platform for all Ag apps on ResilientDb

Thank you!

Scan the QR to try Arrayán and help us build a sustainable food supply chain

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