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## Project Background

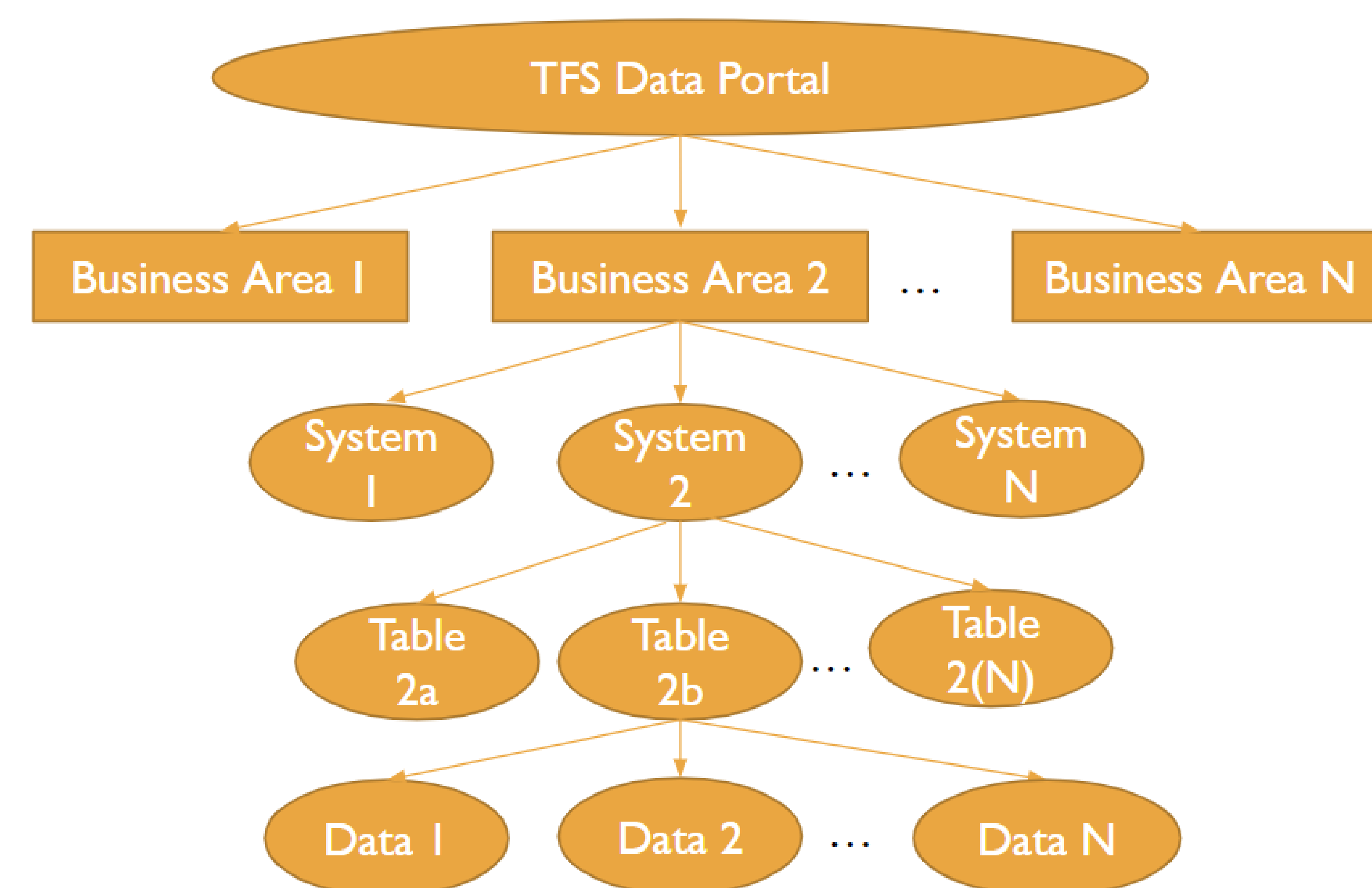
Toyota Financial Services (TFS) relies on multiple disjointed systems to record, store, check and correct all the data that exists in their current ecosystem.

**The problem** — Lack of a holistic view of data for employees and business partners who want to leverage the data as part of TFS. This approach results in unorganized data, and a manual, time-intensive process of linking physical and business data elements.

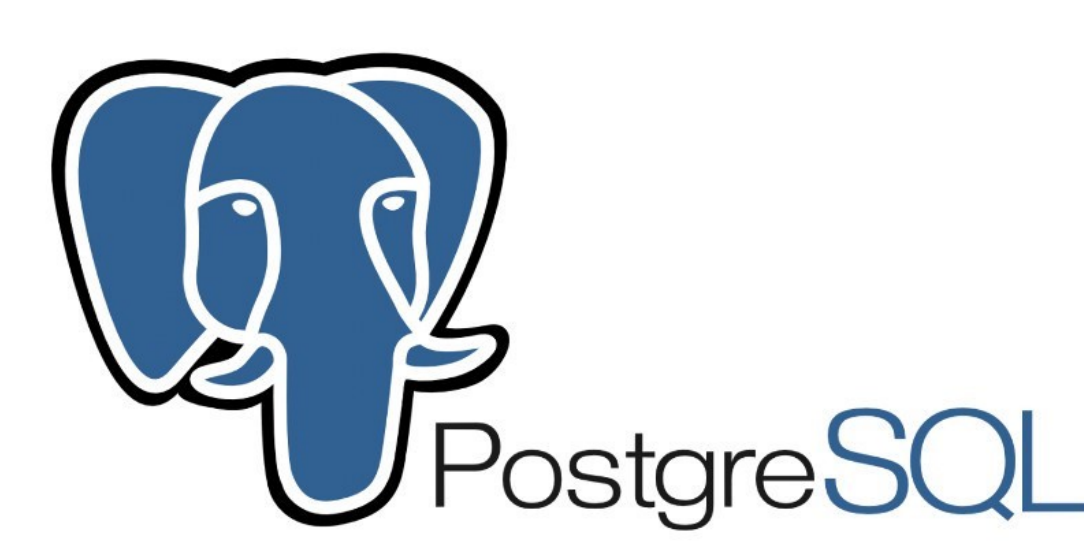
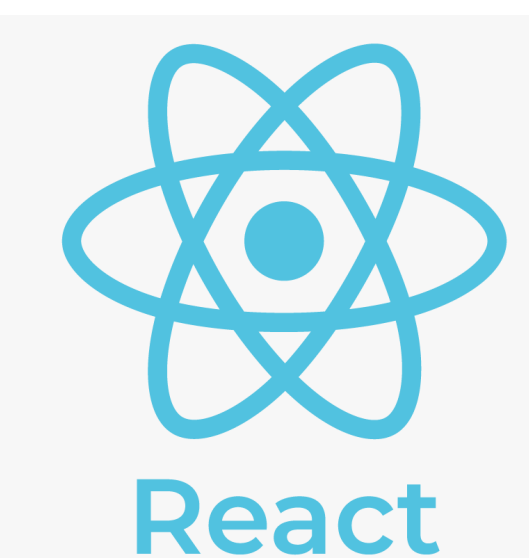
**Project goal**— TFS requires a solution that would allow:

- Data to be organized by business areas such as Loan Originations, Insurance, Servicing etc.
- The ability to do google-like search for data elements to bring up business definitions, physical attributes, data quality rules & profile, along with any related data.

## Data Hierarchy

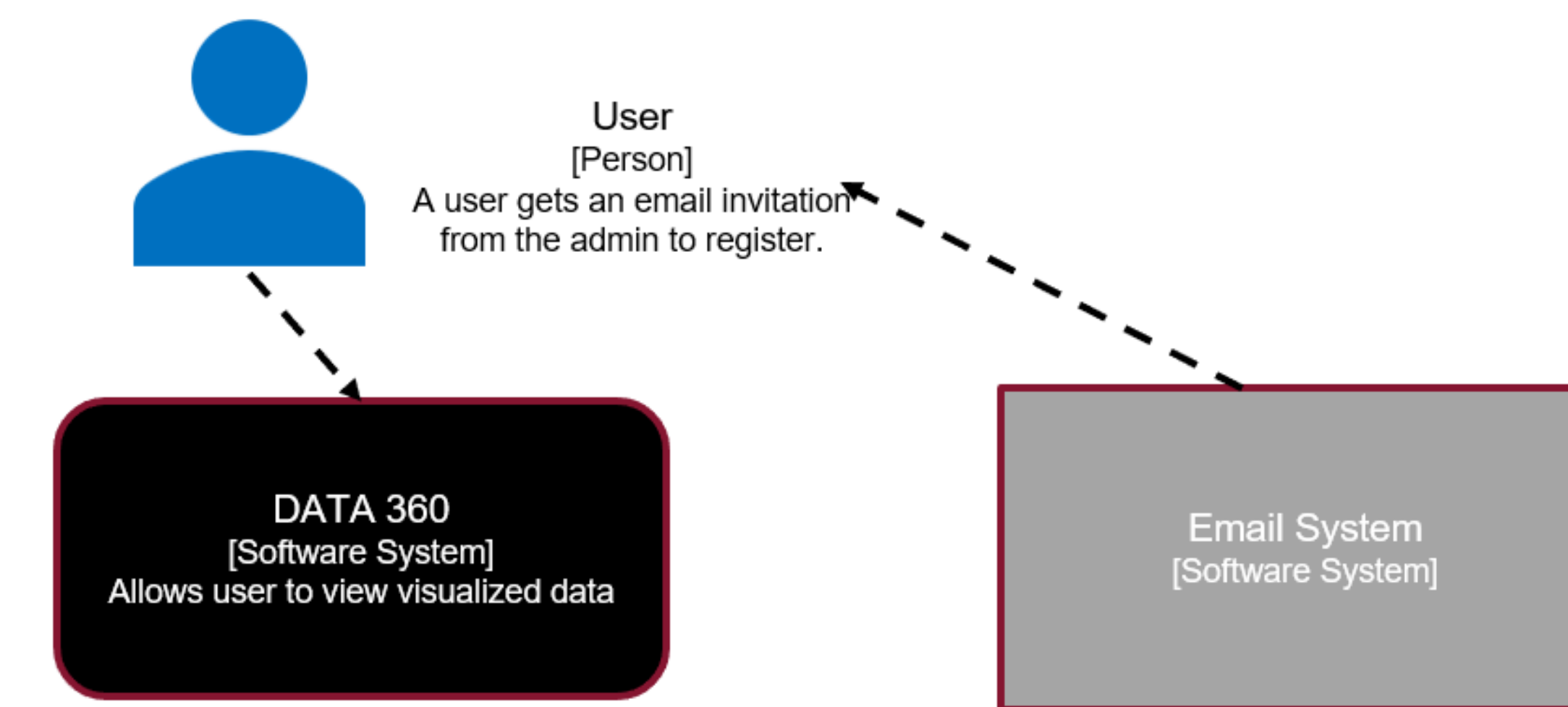


## Tools Used



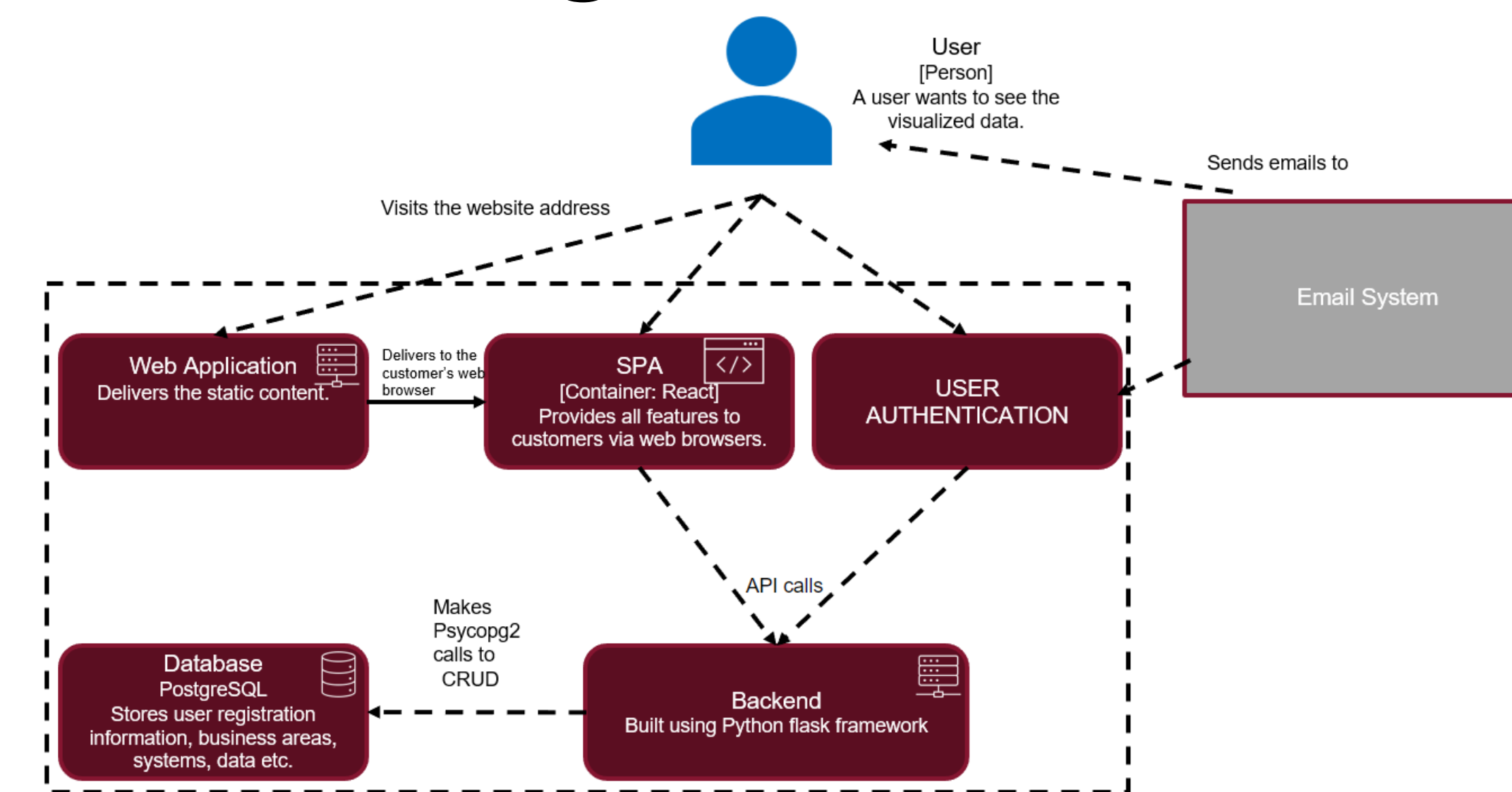
## Software Architecture

### Level 1: System Context Diagram



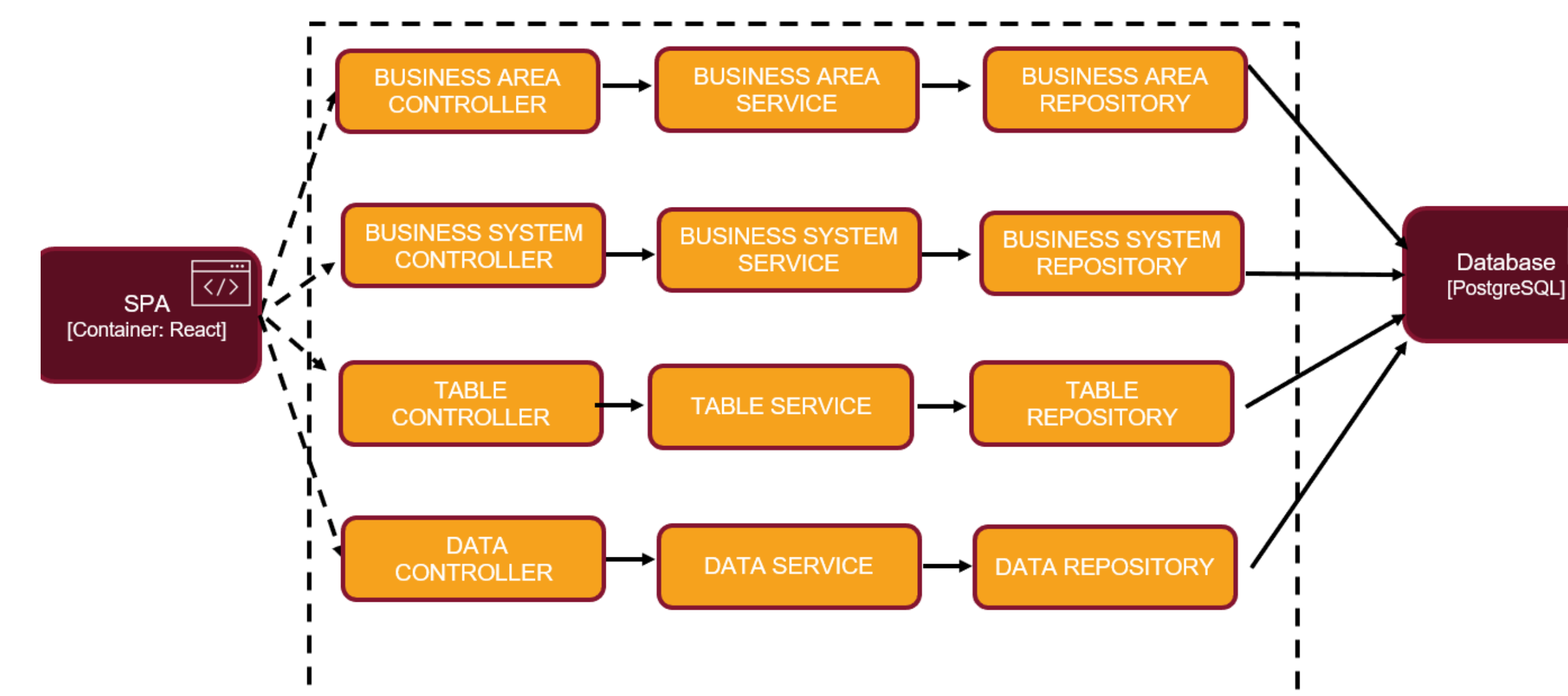
The user is allowed to register on the portal and use it via email invitation only.

### Level 2: Container Diagram



Registered user makes request using RESTful API from frontend to backend. The backend processes the requests and makes PostgreSQL database calls using Psycopg2 library.

### Level 3: Component Diagram

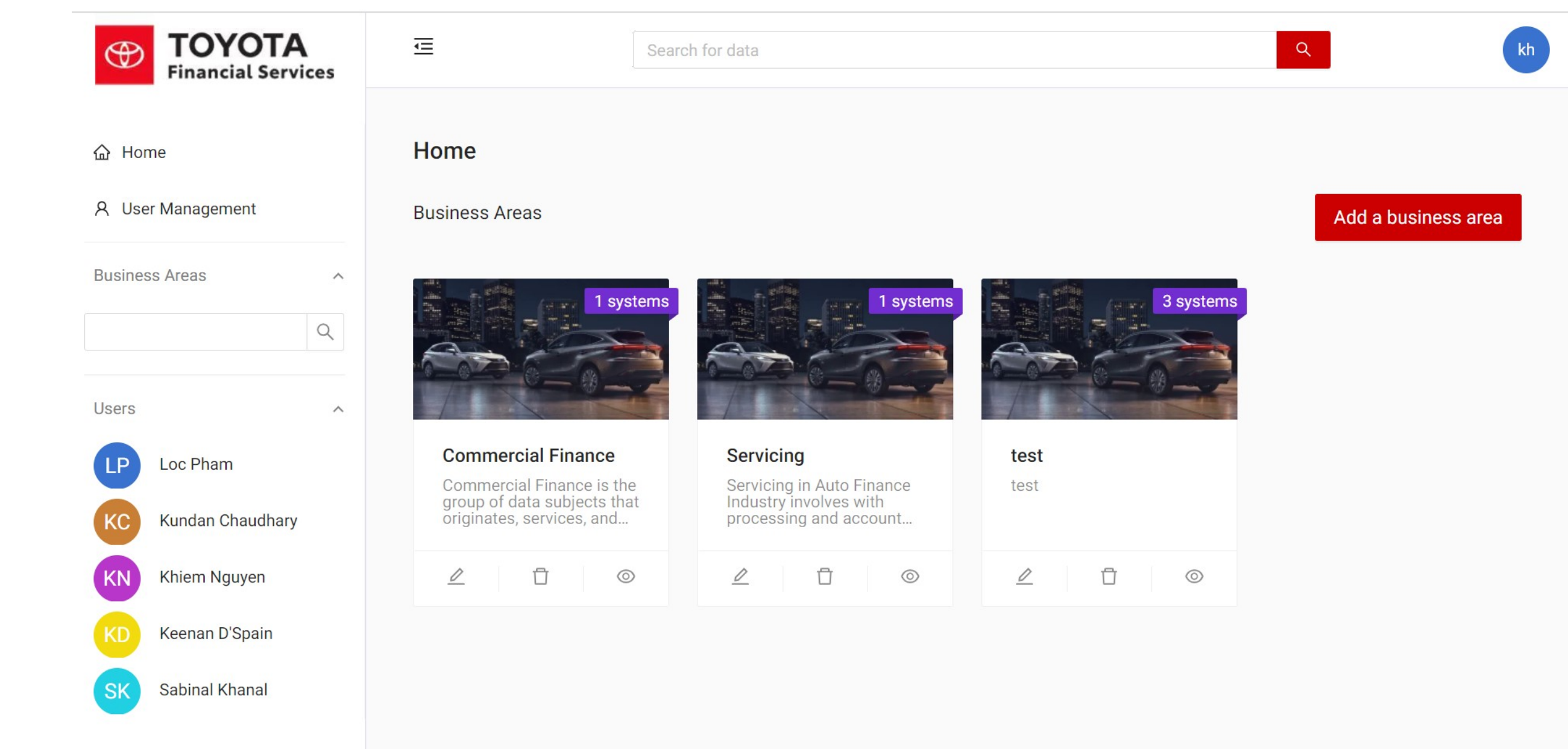


**Controller:** Takes requests from the front-end and passes it to the service or passes the results to the front-end.

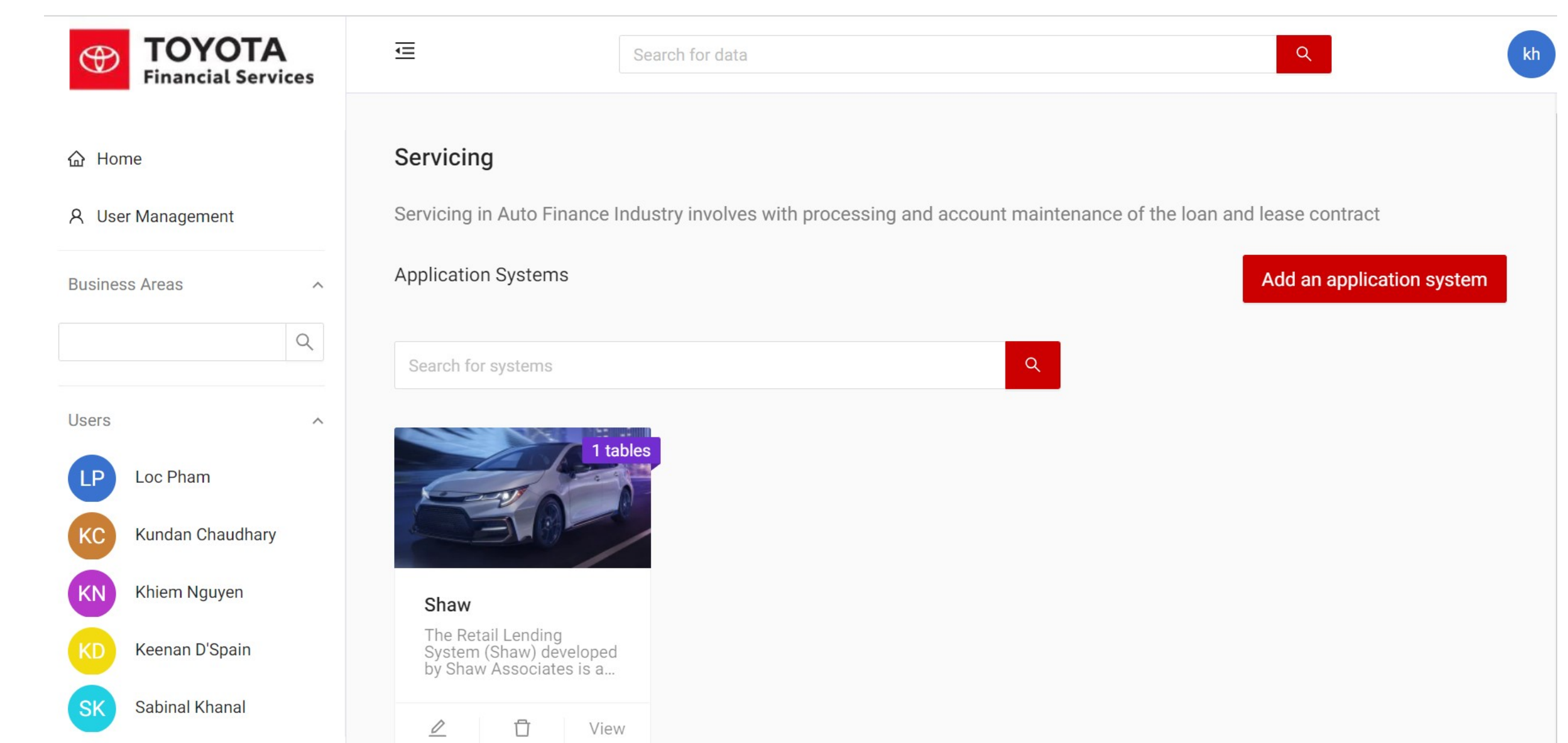
**Service:** The logic layer of the application. Performs all the computations needed.

**Repository:** Fetches the data from the database or commits the data to database as needed.

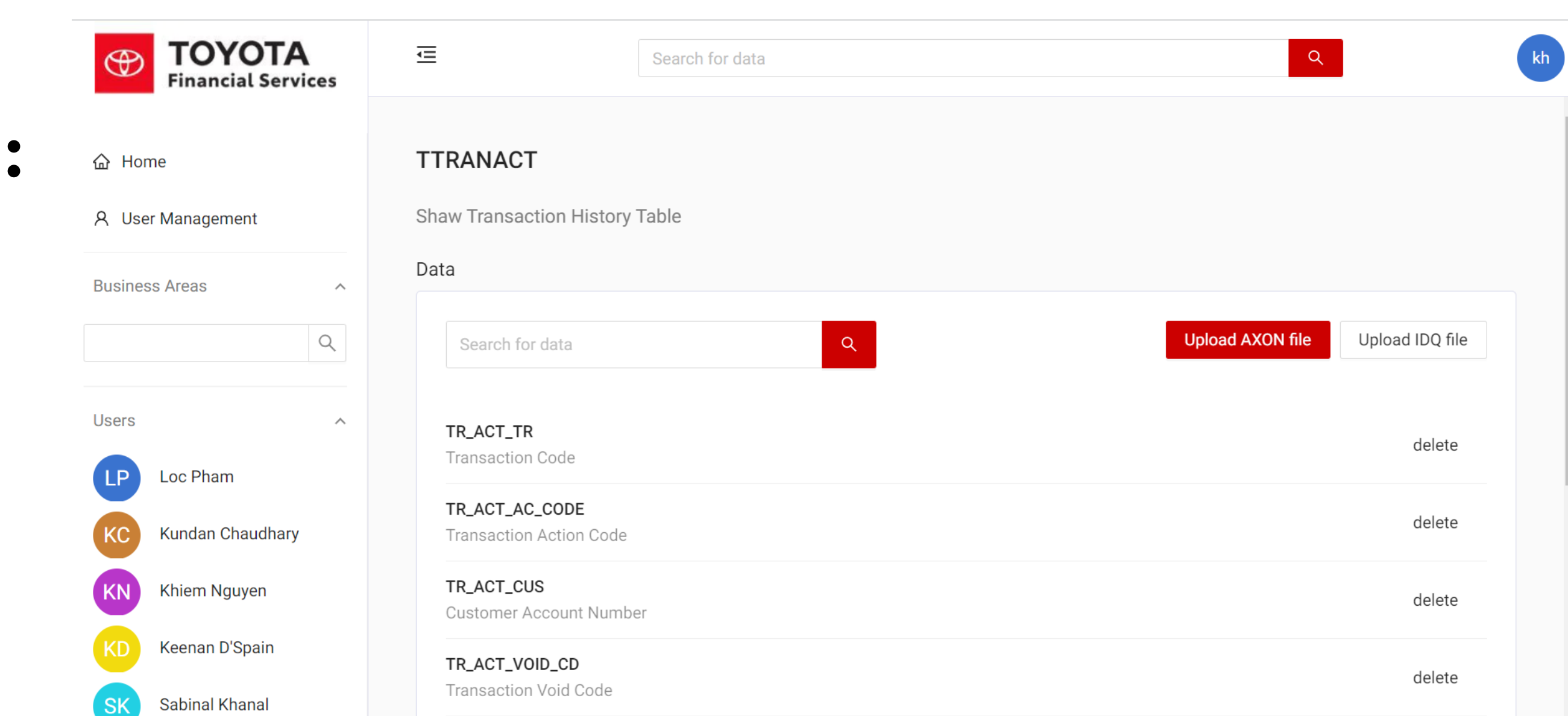
### Business Areas:



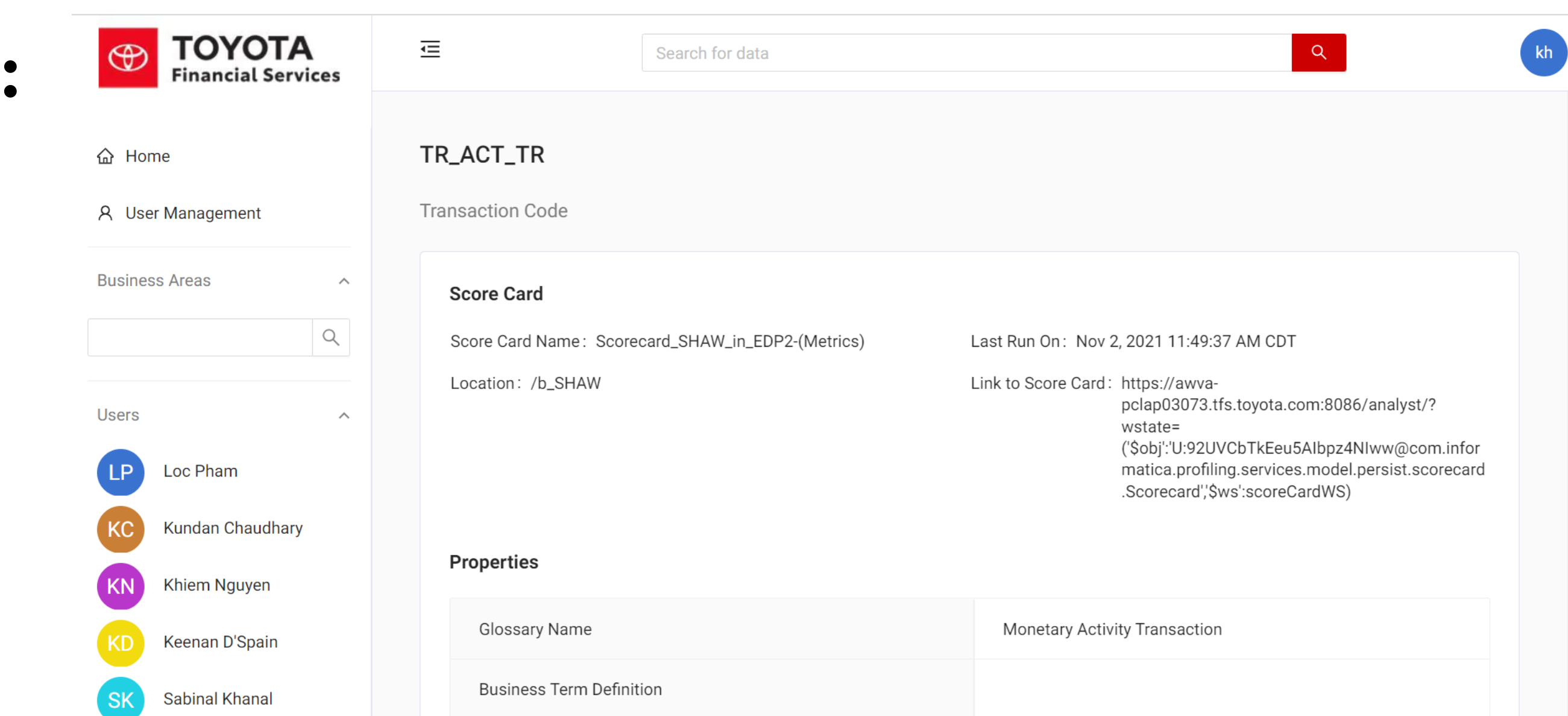
### Systems:



### Table with Data:



### Individual Data:



## Acknowledgements

### TFS Team

Gaurav Lall (Project leadership and guidance), Tai Trieu (Project co-ordination and technology support), Aritra Das (Data catalog and Business glossary), Arpita Santra (Informatica Data Quality)

### Faculty Advisors

Dr. Krishna Kadiyala, Dr. Bingyang Wei