Block Diagram

Group: CW-03

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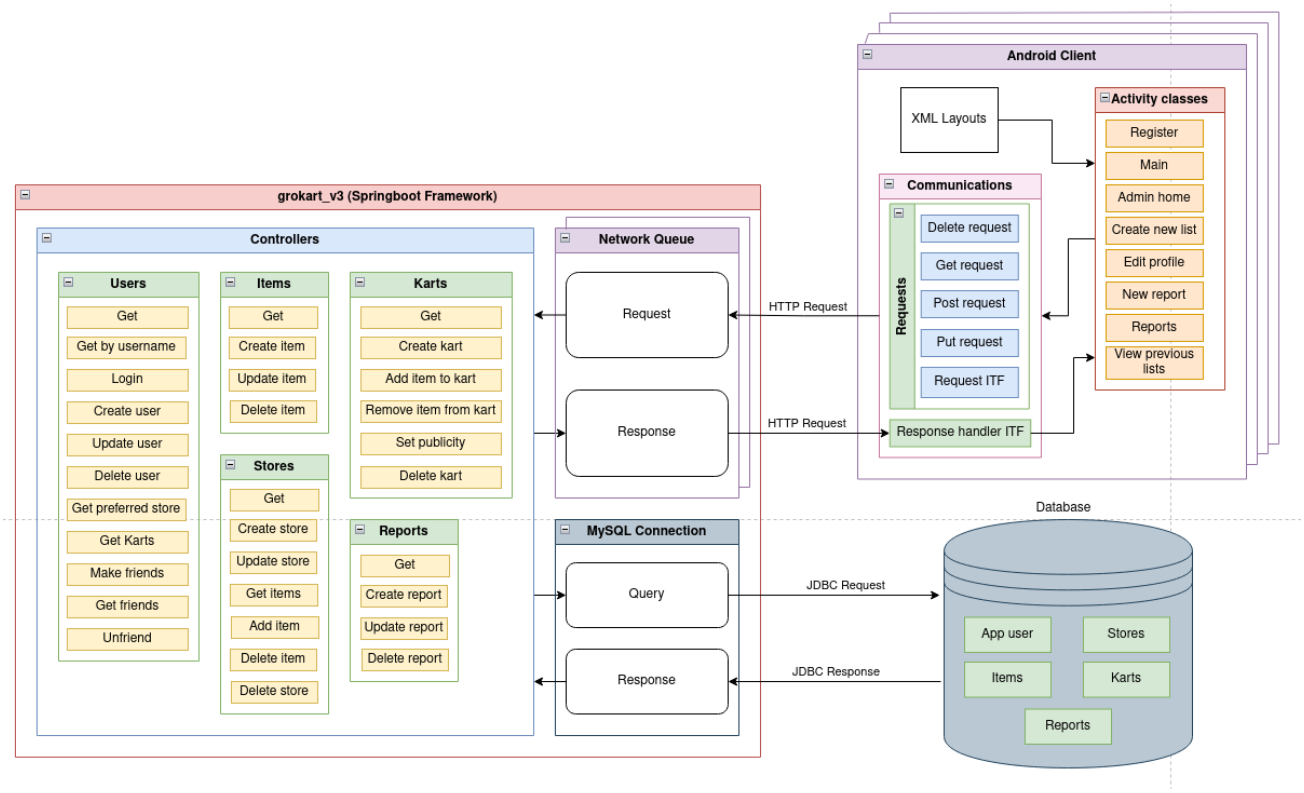
Project Name: GroKart

Block Diagram



Description of the block diagram

Client Components:

XML Layouts

The XML layout files include a variety of xml files that are responsible for the design of the app

Java Classes

The Java classes hold the code that displays the design elements included in the XML layout files and dictates what happens when a user interacts with those elements. This includes when a user types into a textbox or when they click on a button. The java classes use the communication classes to connect to the backend.

Communication/Network Classes

Request Classes: These are helper classes meant to facilitate and modularize code that makes any type of request to the backend.

Response Handling: This is a helper interface, meant to be used as a parameter of a method. This interface has one method through which the user can specify how he wants to handle the response.

Backend Components:

Controllers

The controllers contain mappings for data creation and manipulation. Controllers allow the client to interact with the database to GET, POST, PUT, or DELETE data to/from the database via HTTP requests.

Network Queue

Requests from the client are mapped to controllers using Spring framework.

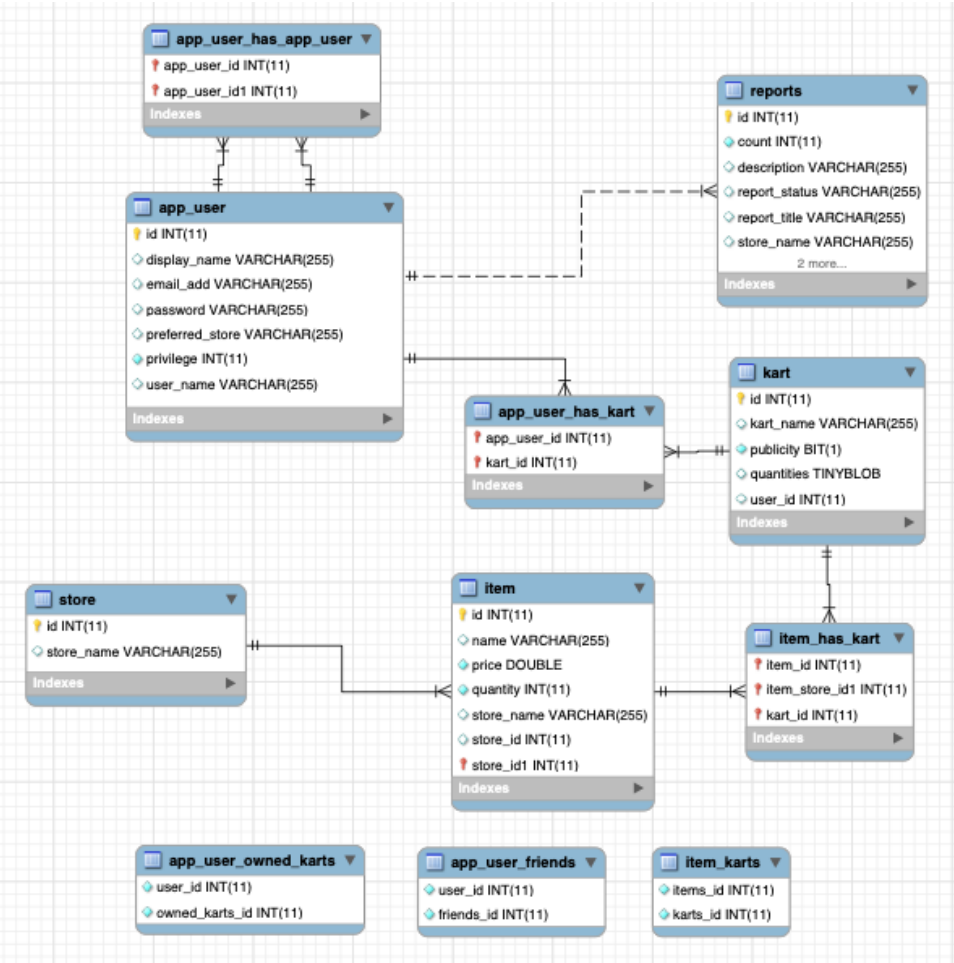
MySQL Connection

The springboot server communicates with the SQL database via JDBC. These can either queries select entries from the database to serve to the client or manipulate data according to a request from a client.

Database:

The database stores data and relationships for all users, stores, karts, items, and reports.

Tables and Relationships



- App User has Many-to-Many relations with other users since there are friendship relations between each one of them when they follow each other.
- App User has 1-to-Many relation with the report as each user would be able to launch/have multiple reports under their account
- App User has Many-to-Many relation with Karts, where each user would be able to own multiple karts and due to the friendship feature multiple users can be assigned to a kart if they follow it
- Store has 1-to-Many relation with Items, since each store has multiple items listed
- Items have Many-to-Many relation with Karts, since each Item can be in multiple karts, and each kart can hold multiple items in it
- The 4 distinctive tables map the relations between the specific user to others, user to their owned karts, items to karts and store to items, respectively.