# Design Document for Petrol Pal
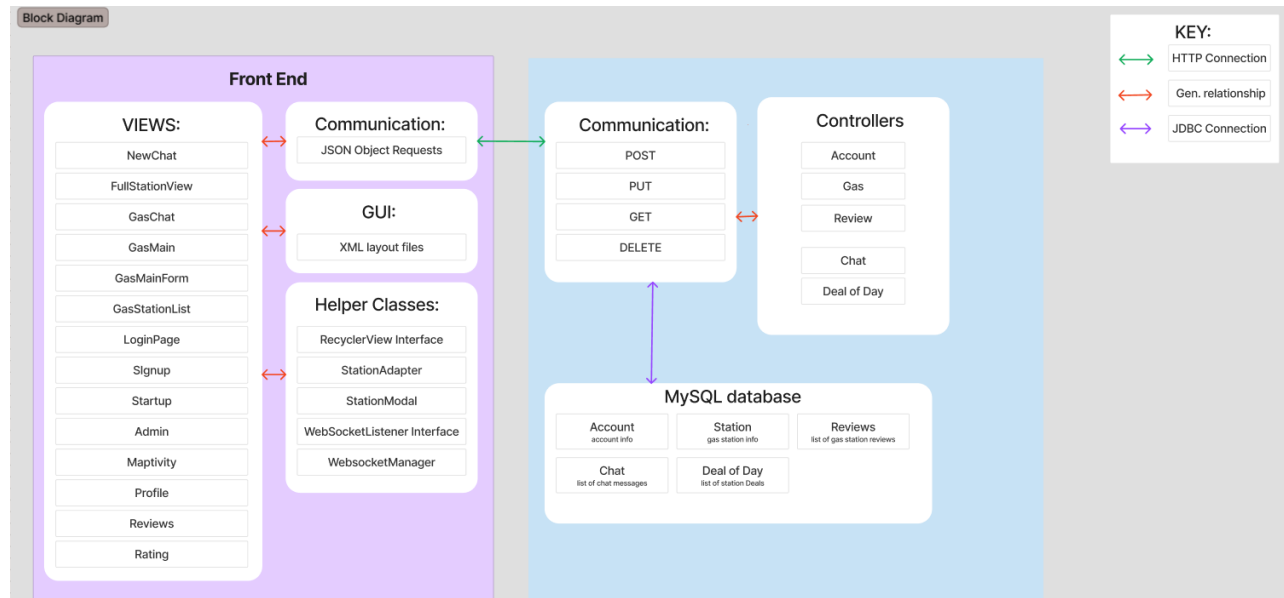
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**Block Diagram**

**Front End**

VIEWS:
- NewChat
- FullStationView
- GasChat
- GasMain
- GasMainForm
- GasStationList
- LoginPage
- SIgnup
- Startup
- Admin
- Maptivity
- Profile
- Reviews
- Rating

Communication:
- JSON Object Requests

GUI:
- XML layout files

Helper Classes:
- RecyclerView Interface
- StationAdapter
- StationModal
- WebSocketListener Interface
- WebsocketManager

Communication:
- POST
- PUT
- GET
- DELETE

Controllers
- Account
- Gas
- Review
- Chat
- Deal of Day

MySQL database
- Account — account info
- Station — gas station info
- Reviews — list of gas station reviews
- Chat — list of chat messages
- Deal of Day — list of station Deals

KEY:
- HTTP Connection
- Gen. relationship
- JDBC Connection

Backend:
Controllers:
Account Controller
Gas Controller


Communication:
Rest: Post, Put, Get, Delete

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**Front end Views:**
New chat
Full station view
Gas Chat
Gas Main
Gas Main Form
Gas Station List
Login Page
Signup
Startup
Admin
MapActivity
Profile
Reviews
Rating

**Helper:**
RecyclerView Interface
StationAdapter
StationModal

WebSocketListener Interface
WebsocketManager
**Frontend:**
SignUp: (User, Gas Station Owner, Administrator)
- Create account that takes you to a page given your chosen role provided your username is not already taken
    - EditText: username
    - EditText: password
    - Spinbox: User, Gas Station, or Administrator
Login: (User, Gas Station Owner, Administrator)
- Log in to an account that takes you to a page given your role provided your username and password are correct
    - EditText: username
    - EditText: password
Map:
- View 20 Closest Stations on A Map with limited info, click on "pins" to see full station page.
    - NavBar: Buttons for Map View, Profile View, List View
    - MapView: Display OSMDROID Map with locations
- On Create: Make a GET request to the server and supply it with the latitude/longitude of the calling device. Iterate through the list of stations returned by the backend and place pins of them on the map and save their information to be displayed on their full station pages.
FullStationUserView:
- Displays the information of the station currently being used and buttons to take you to the review and chat pages.
    - TextView: All information pulled from the server and labels to go with them
    - Button: Leave Review, Read Reviews, Chat
Station create/update: (Gas Station Owner)
- Allows a Gas Station owner to create or edit stations they own
    - EditText: Address
    - EditText: Price

**Backend:**
The backend controllers use mappings that update the database based on the URL and types of mappings. We use the mappings post, get, put, and delete to update database information.
Controllers
- account:This contains information about an account, includes a one to many relation ship with gas_info, and a one to one relation between reviews.
- gas_info: This is information about a gas station, includes a many to one relation ship to reviews and many to one relation from account.
- reviews: This is information about reviews. It includes a rating and review. It also contains two one to many relationships between accountInfo and GasInfo.
Websockets
- deal_of_day: This is  websocket that allows users to see live what deals a gas station is displaying.
- messages: This is a chat between the user and gas station that is private

PUT THE TABLE RELATIONSHIPS DIAGRAM on this fourth page! (Create the picture using MySQLWorkbench)