

# Parker and Rivas

Fuel Picker

## Software Design Document

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# Introduction

## Purpose

The Software design document describes the architecture and system design of the Fuel Picker application. This document contains the initial design of our application and the goals for the application. This is a living document and is expected to be kept up to date with the project as it grows. This document is to be used by the developers, Quality Assurance, Business analyst and Client to make sure everyone understands the scope of the project correctly.

## Scope

Fuel Picker is a web application that will best predict the fuel rate based on specific criteria. This application will provide a client login page where a user may access a profile and data entry to receive a fuel quote. This quote will then be logged in a history page along with their input.

## Overview

We have divided this Document into the following sections. *System Overview*, this section goes into the higher level overview of the whole system. It will cover the functionality of our application, context and the initial design of our application. *System Architecture*, this section aims to provide a better understanding of the different modules that make up the project and how we decided on this structure. *Data Description*, this section covers the data that will move through the application and how it is being used or logged. *Component Design*, this section follows each component of our project with a more functional description in mind. *User Interface Design*, here we show off the view of the application and how you can use its different features. *Requirements Matrix*, this section showcases how the data is manipulated based on the UI and the functions of the application.

## Reference Material

List resources used to make this documentation here.

## Definition and Acronyms

SDD, Software Design Document

TDD, Test Driven Development

UML, Unified Modeling Language

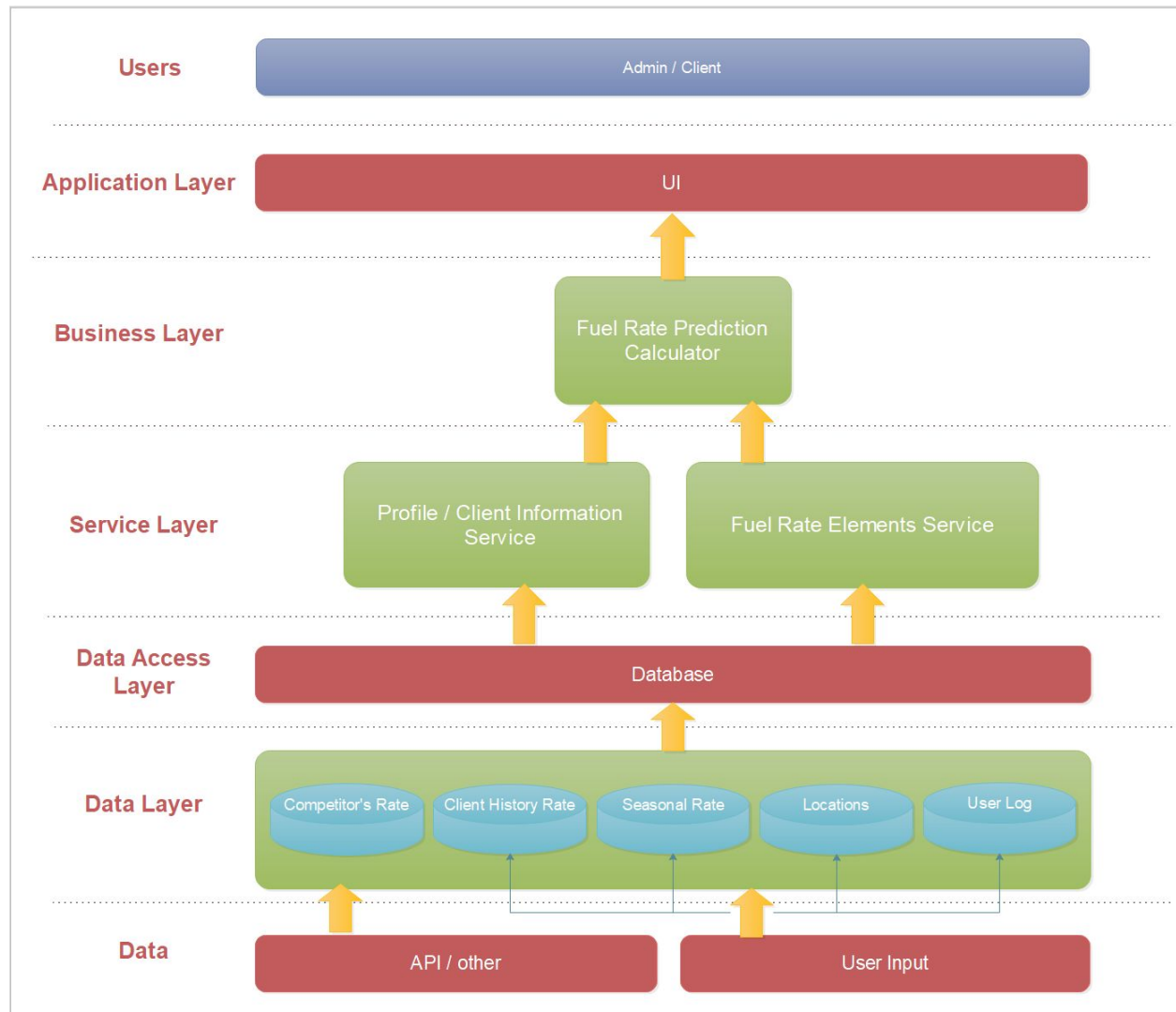
MVP, Minimum Viable Product  
UI, User Interface

## System Overview

When interacting with our application the user will be brought to a login page. If the user does not have a login then they may register with a username and password. After login the user will be prompted to fill out their profile then redirected to the main page. On the main page the user will have the option to either fill out their current information and get a new quote or view the history of their previous quotes.

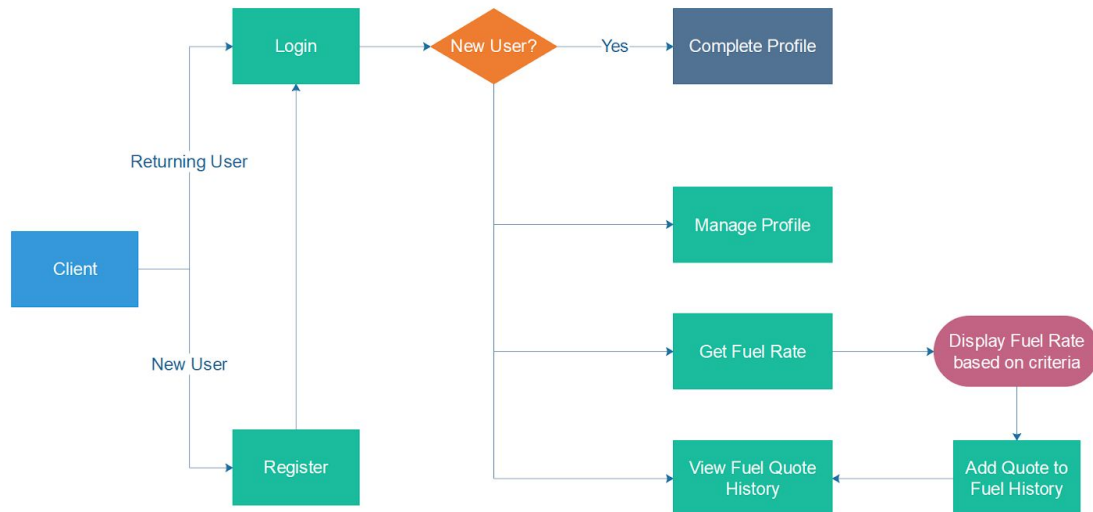
# System Architecture

## Architectural Design



Here is presented the different subsystems in the architectural design of the program. Data section is not in its final state but displays an idea of where data will originate from. Service Layer provides the client with essential components necessary for their experience. The Client Information service serves to relay information stored in the database that pertains to that client. The Fuel Rate elements service provides the criteria needed for the logic of the fuel predictor feature of the application. Together, these will bring the basis of our users' experience and expected functionality.

## Decomposition Description



A breakdown of the program's subsystems is shown here. Presented is the expected data and process flow of the application in search of giving the functional structure with this diagram.

## Design Rationale

The above architecture was chosen because of the simplicity in the display of subsystems and how each individual part works with the others. We chose to go with a derivative of a data flow architecture. Some trade-offs for choosing this architecture was that there is no real focus on implementing the user interfaces. However, the architecture shown gives an idea of the back-end process and flow of our application.