*Matthew Yiqing Zhu*

*For Westpac Interview*

*High-Level Design*

Project: Simple Weather Information Service

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Author | Create/Update Date | Comments |
| 0.1 | matthew.yiqing.zhu | 2024 05 01 | Initialization |

1. Introduction:

This document is for the project’s high-level design.

1. High-level view:

* This project is based on spring boot framework with a layered design.
* The controller layer work as web service endpoint to provide the service to the client.
* Service Layer handles the business logic before providing the result to the controller layer.
* The repository/DAO layer queries the data from the mocked database, and pre-process exceptional data (such as null data).
* Mocked In memory database creates recorded data then stores it in the memory handles the query from DAO and returns values.
* Other support classes like Pogo and Utils defined as data structure.

The above description can refer the layer diagram Figure1, and Figure 2.

For the detailed design classed in each layer, please refer to the file “1.2 DetailedDesign.xlsx”

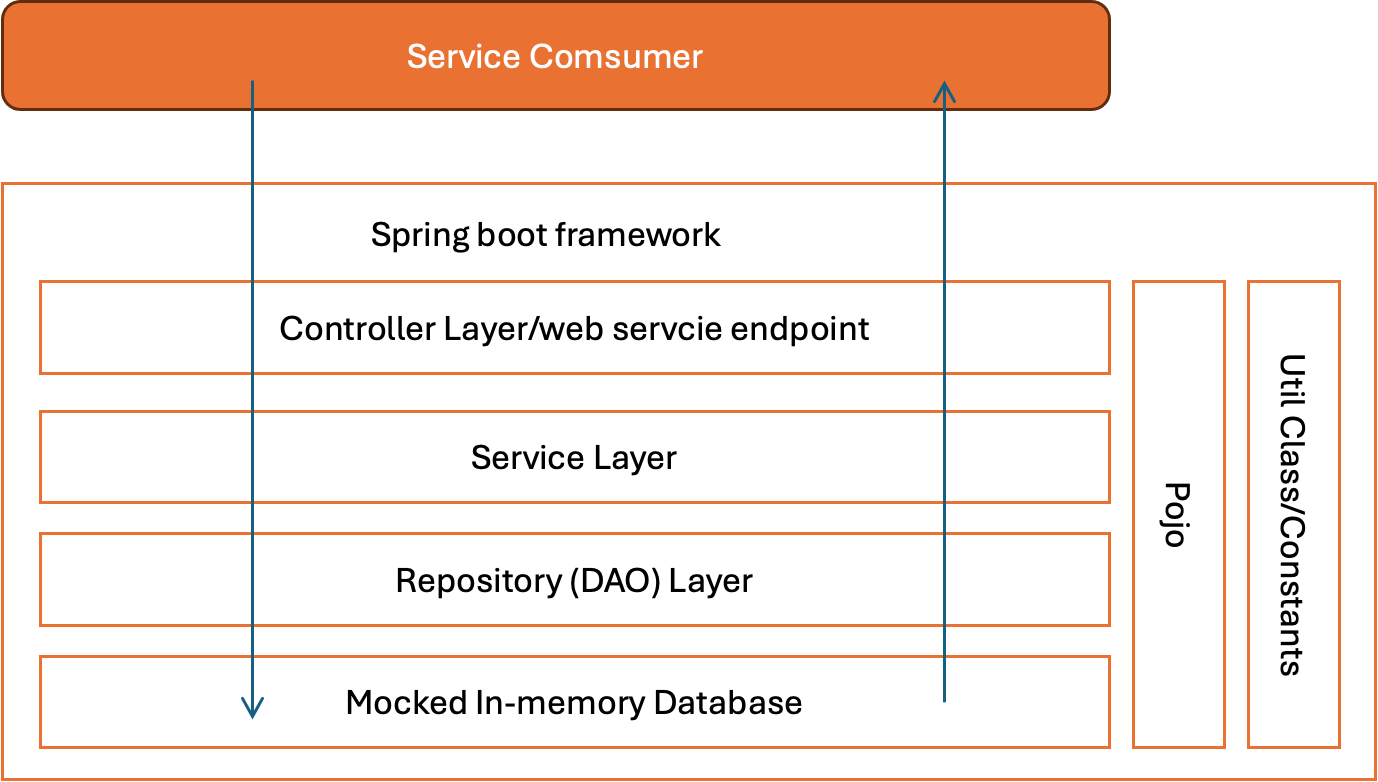


Figure 1

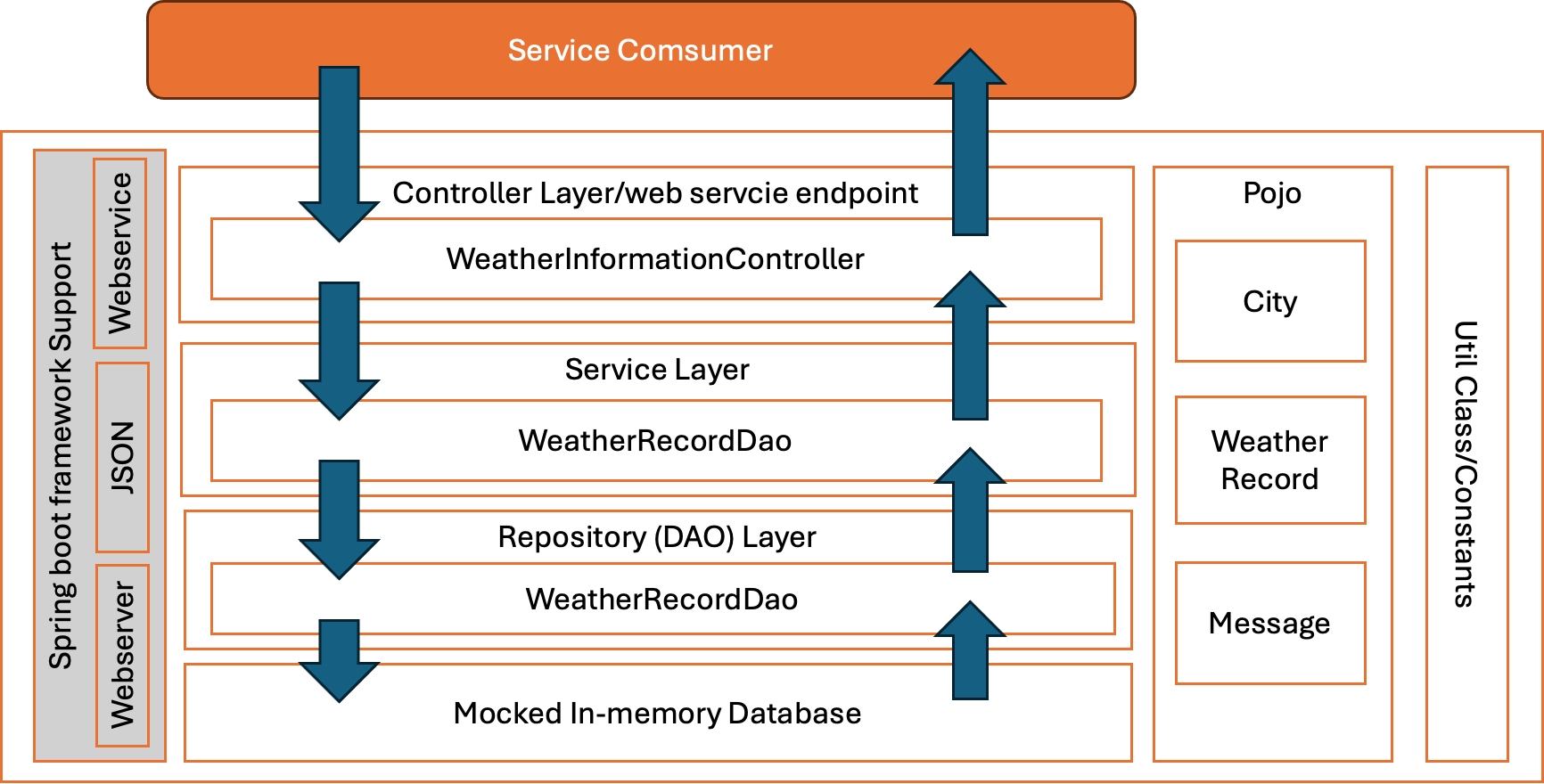


Figure 2

1. API INTERFACES

There are 3 interfaces for use, here is the high level design, for details of input and output, please refer to document “2.1 API Manual.docx”

|  |  |  |  |
| --- | --- | --- | --- |
| Name: | Mapped URI: | Java method nam | Description |
| Weather information query | /queryweatherbycities | queryWeatherByCities | Input cities information to query weather information |
| Available cities query | /availablecities | getAvailableCities | Getting the cities’ name list whose weather information exist in database |
| Manual query | / | availableService | Return the simple manual online |

Currently “Weather information query” and “Available cities query” need call data from database as Figure 3, and Figure 4 described. “Manual query” are excepted return data directly from the controller level, as Figure 5 described.

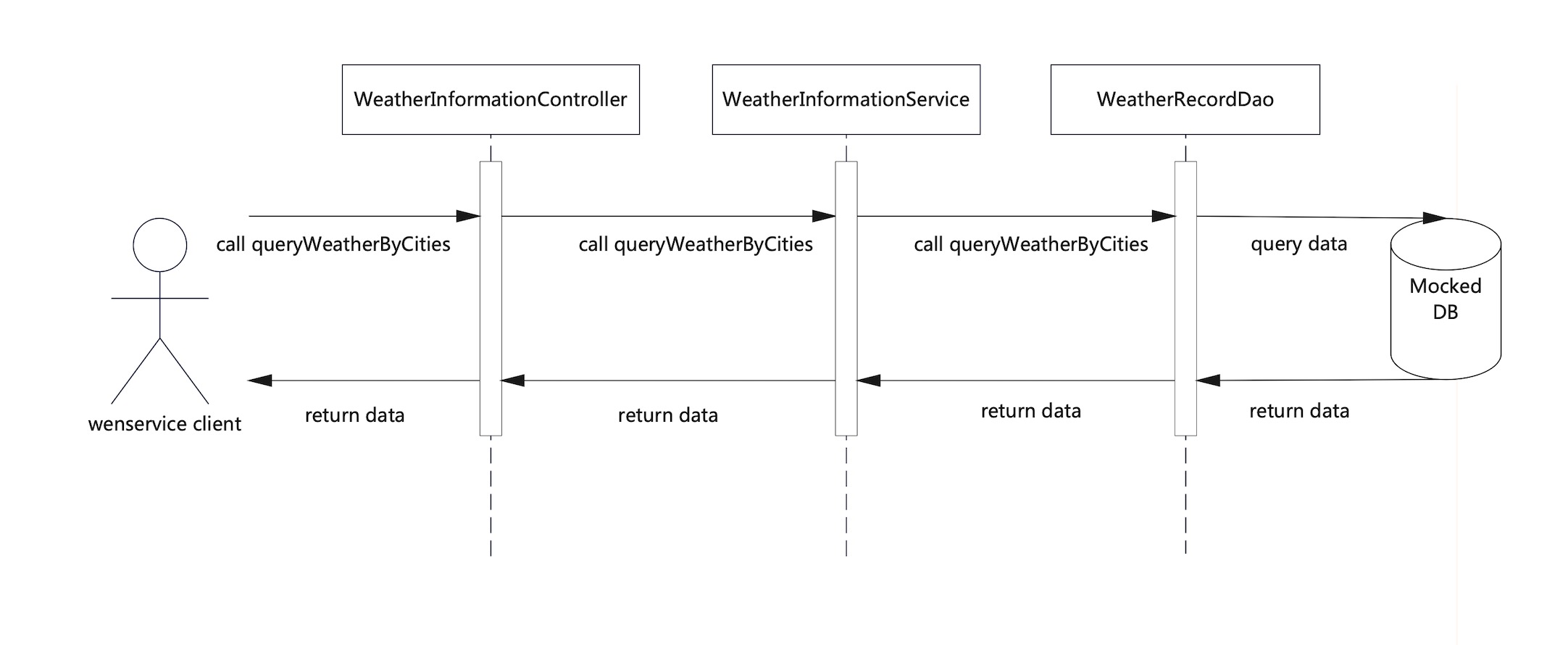


Figure 3 Weather information query

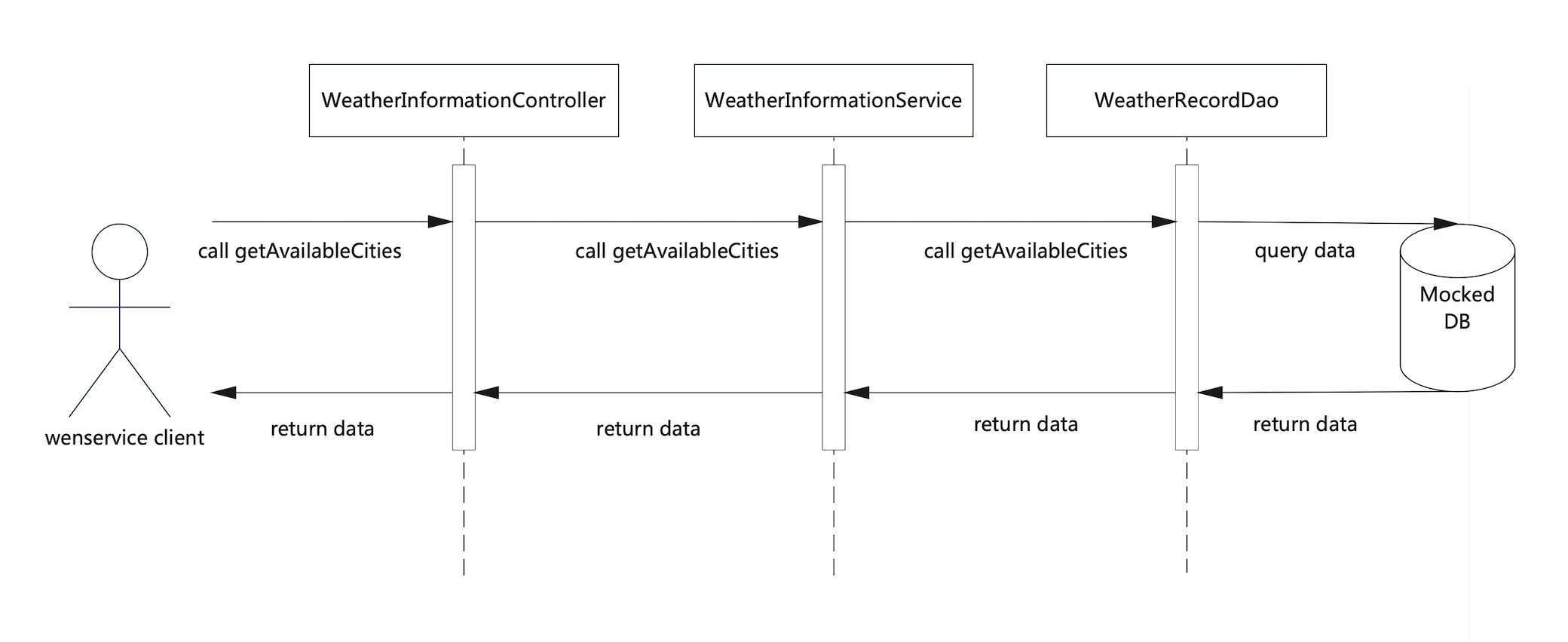


Figure 4 Available cities query

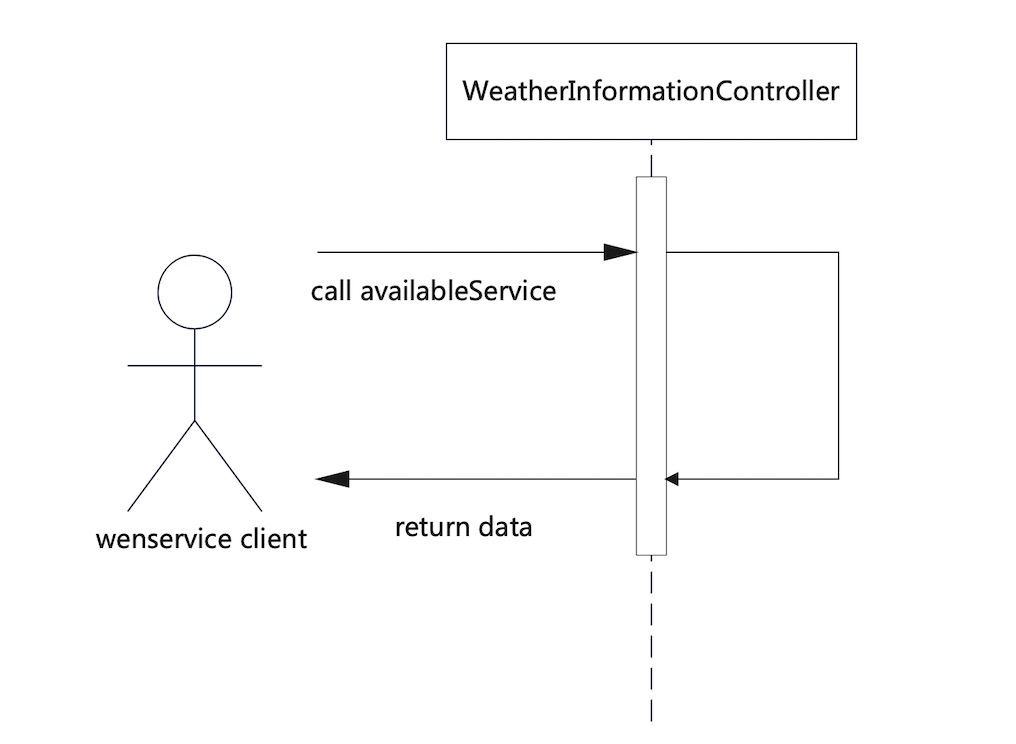


Figure 5 Manual query