3.1 Environmental configuration and technique

3.1.1 Overview

We use the B/S architecture to develop and completely separate the frontend from the backend. We will use Spring Boot, Hibernate-JPA, Vue and other frameworks, and use Java, Kotlin, JavaScript and other development languages, using git, maven, postman, etc. dev-tools to assist our development. we will build an interoperability investment system on Windows and Android upon the same database.

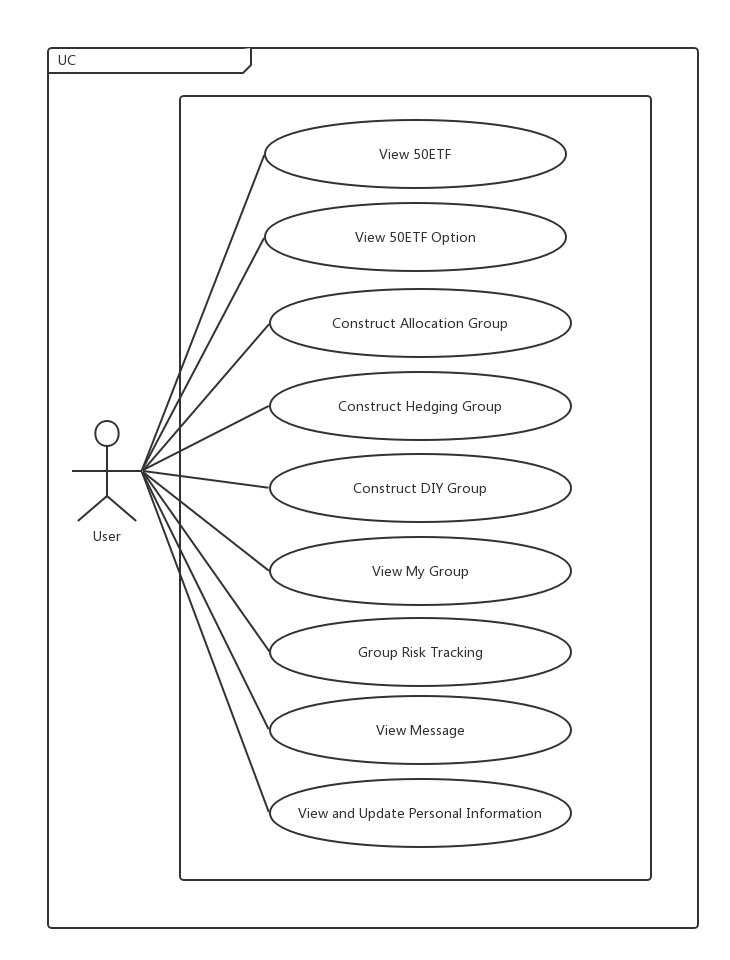
Specific technical characteristics and advantages will not be described here. You can see Wikipedia for details. The complete technology stack is listed below.

3.1.2 Technology Stack

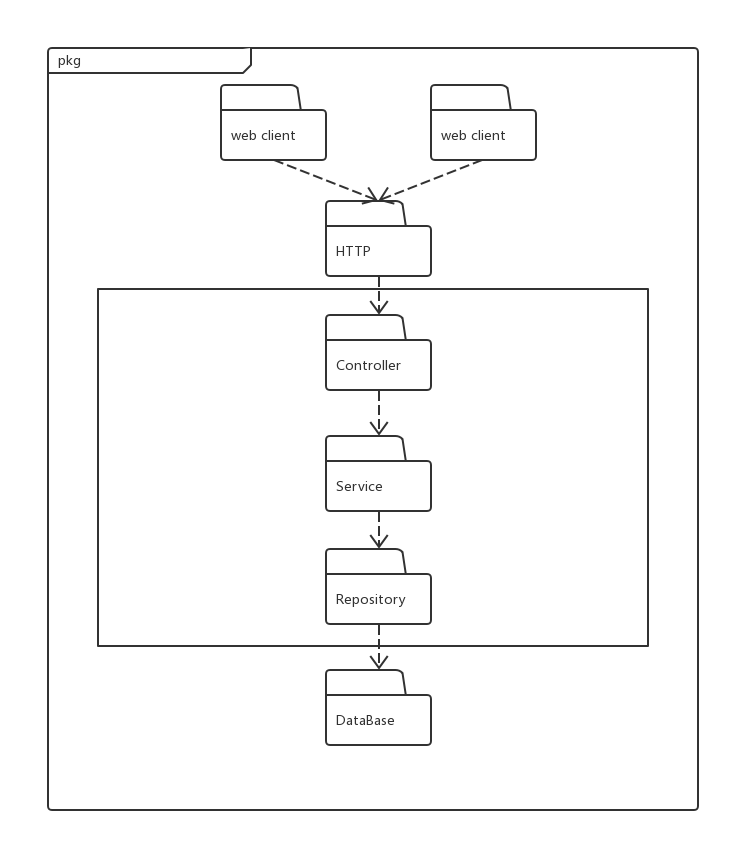
|  |  |
| --- | --- |
| 1、Framework | |
| Spring Boot | Web server framework |
| Hibernate-JPA | Database framework |
| Vue+Vue Router+Vuex | Web frontend framework |
| 2、Environment | |
| Windows10 | Development environment |
| Linux | Server environment |
| Android | Mobile platform |
| Mysql | Database support |
| JRE8 | Java runtime environment |
| Chrome | Web test environment |
| 3、program language | |
| Java | Server and Android development language |
| JavaScript | Web development language |
| XML | Android development language |
| HTML | Web development language |
| 4、development tool | |
| IntelliJ Idea | Java development IDE |
| Web Storm、VS Code | Web development IDE |
| Android Studio | Android development IDE |
| Git | Version control tool |
| Maven | Java Project dependent integration tool |
| NPM | JS Package management tool |
| Postman | Interface test tool |

3.2 Software Architecture Design

3.2.1 Use Case View

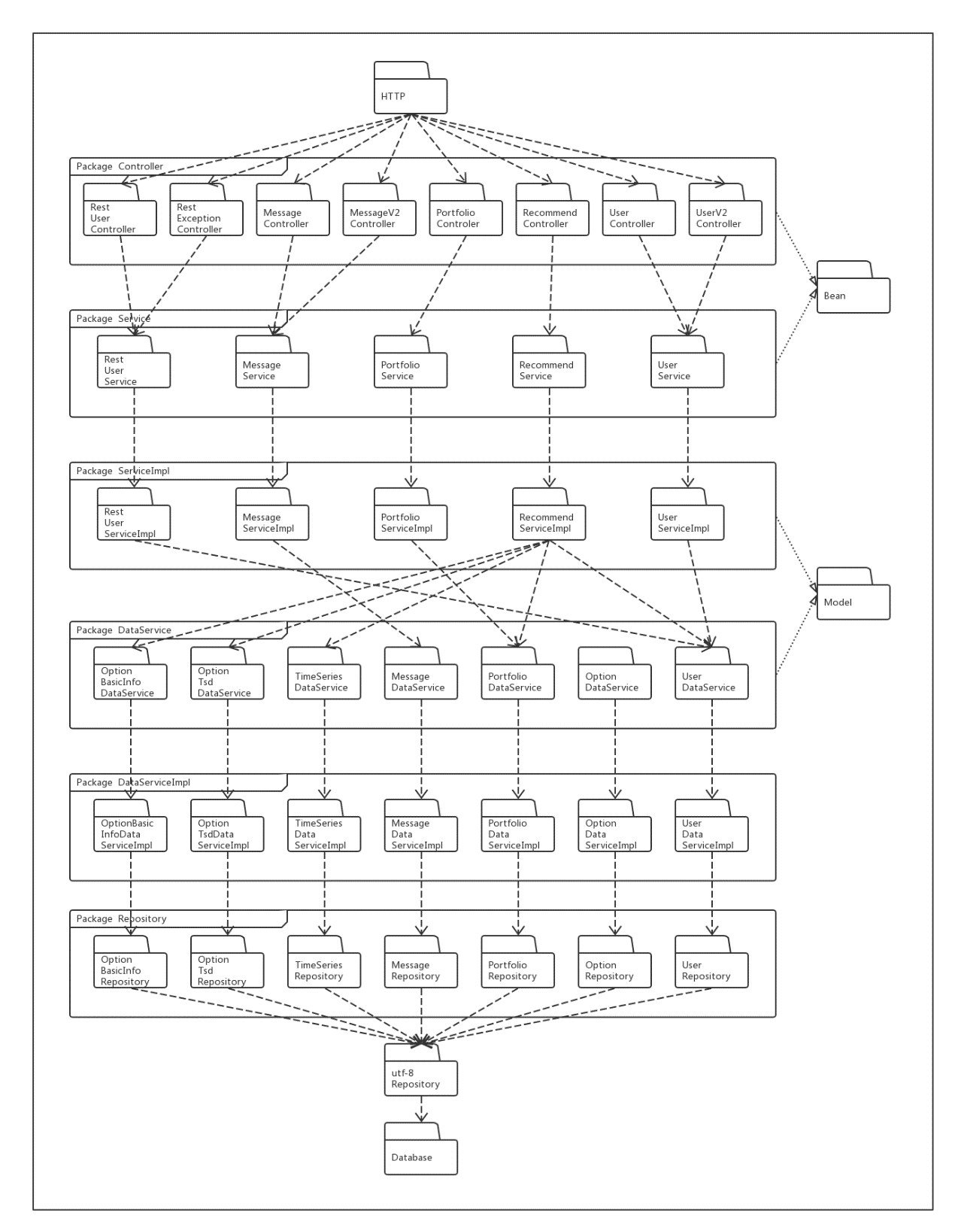


3.2.2 Logical View

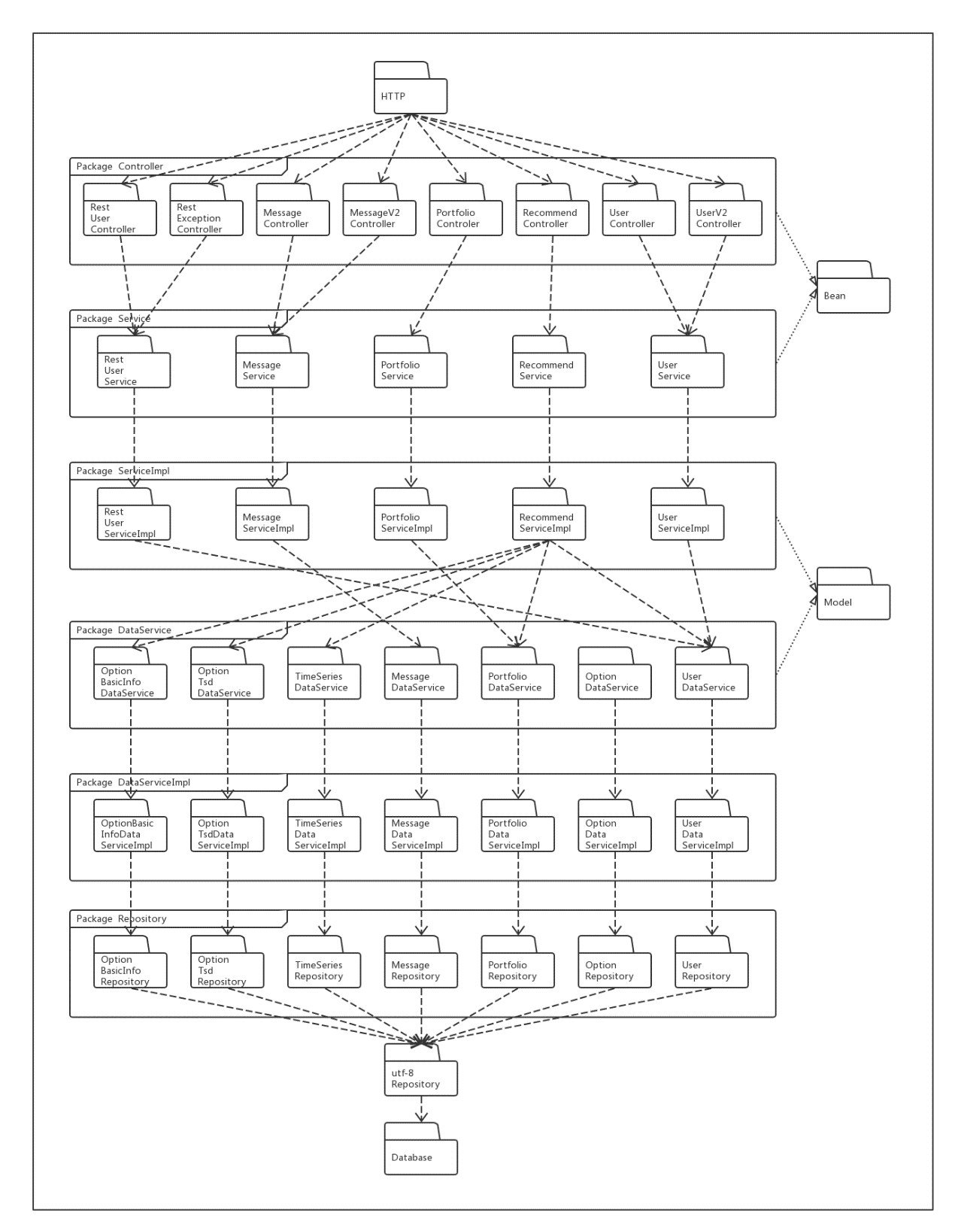


The system adopts the architecture of the interface layer-logic layer-data layer. The client first sends the HTTP requests, and the server's control end receives the requests sent by the client, calling the interfaces of the corresponding modules, and each module processes its own business logic, thus realizing the functional requirements and returning them to users. The data between the client and the server is sent in the form of JSON. The logic layer can obtain data from corresponding interfaces and at this time the data layer sends the requirements downward to the respective data modules for processing. The three layers cooperate with each other to achieve the functional requirements and non-functional requirements of users.

3.2.3 Development View



3.2.4 Process View



3.2.5 Deployment View

