

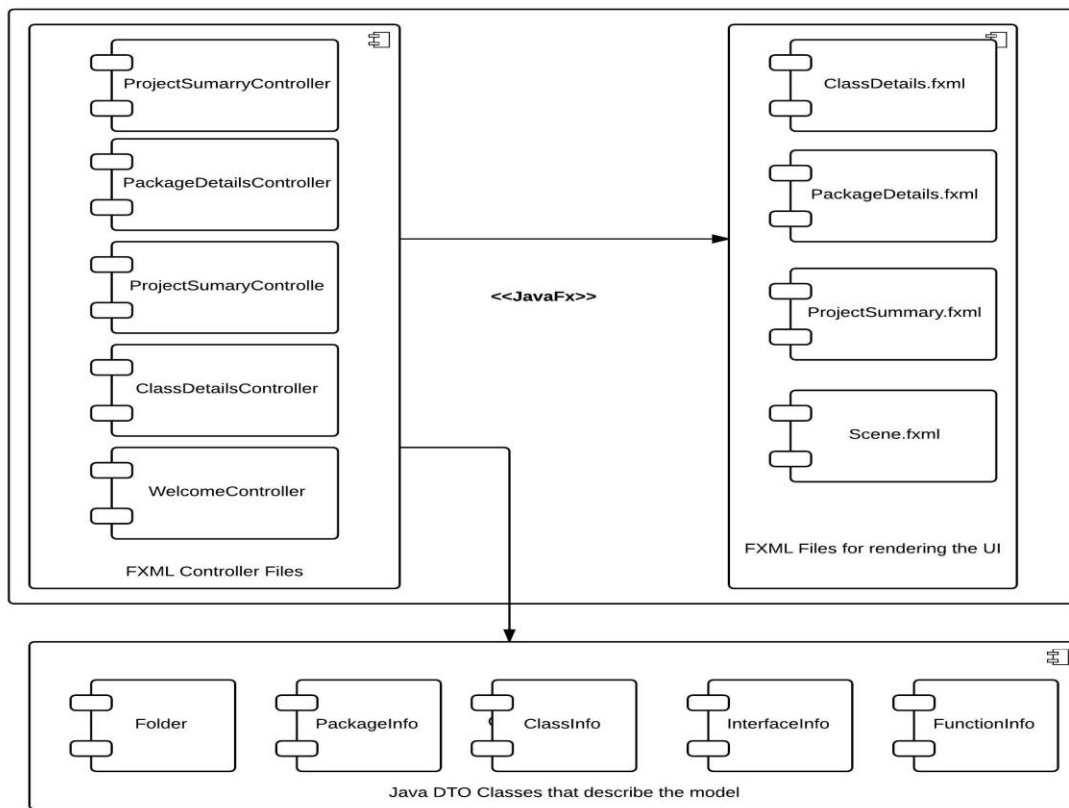
Software Design Document for Java Stats

1. Introduction

This document specifies the architecture and design for the project 'Java Stats'. It consists of a high-level architecture diagram explaining how the modules interact with each other, and consists of a class diagram for showing how the classes collaborate and exchange messages. The purpose of this document is to ensure the developer follows the architecture and develops the software as close as possible to the specified design. The design in this document is closely tied with the software requirements specification for the same system which is explained in SRS for java Stats ^[1].

2. Architecture Design

The below diagram depicts the architecture of the software. The application uses JavaFX as the primary library for creating the desktop application. JAVA FX relies on controller files for possessing variables and functions that determine how the layout should be depicted. For each corresponding controller file, there must be a corresponding FXML file which is used for determining the layout of a scene. JAVA FX further needs some logic contained in Java files to render. The DTO classes contain this information.



3. Database Design

None. This is a standalone desktop application which does not rely on any database

4. Graphical User Interface

Screen 1 presented in SRS for ‘Java Stats’^[1] is handled by the following files

- WelcomeController.java
- Scene.fxml

Screen 2 presented in SRS for ‘Java Stats’^[1] is handled by the following files

- ProjectSummaryController.java
- ProjectSummary.fxml

Screen 3 presented in SRS for ‘Java Stats’^[1] is handled by the following files

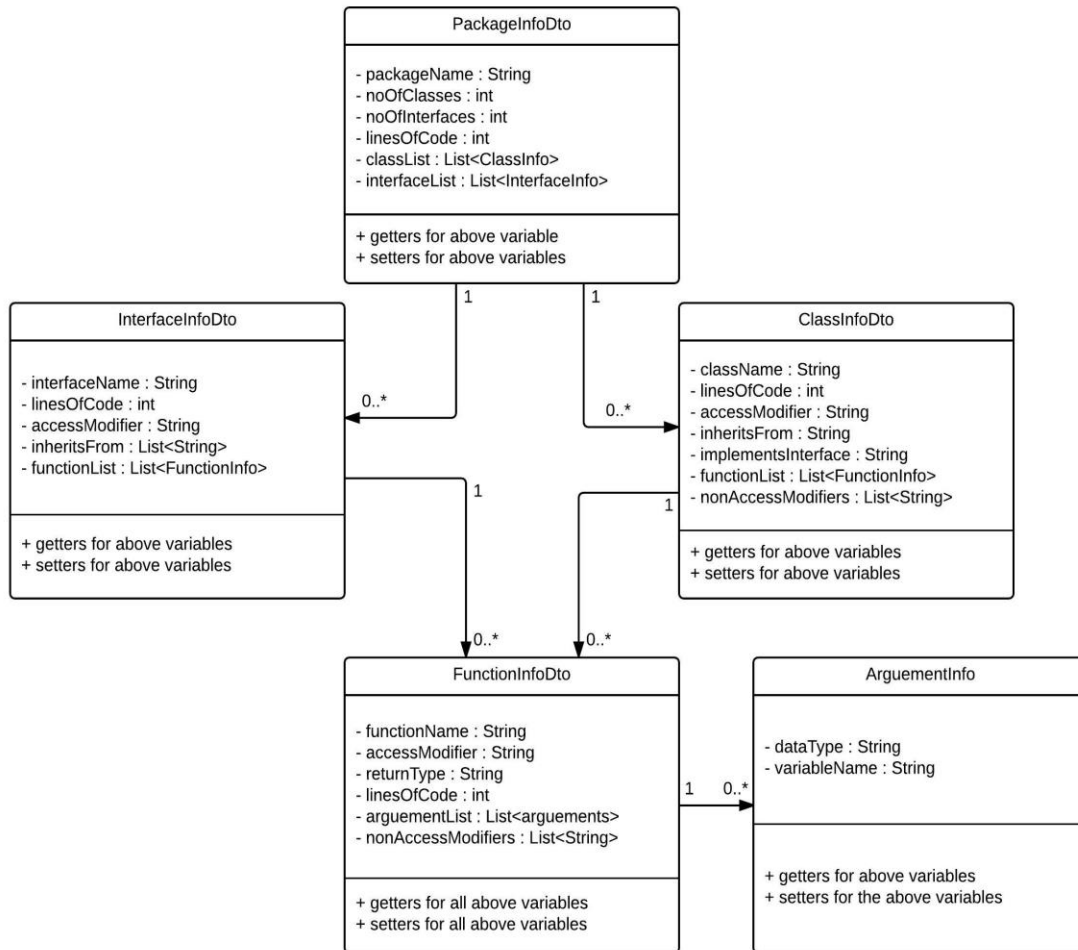
- PackageDetailsController.java
- PackageDetails.fxml

Screen 4 presented in SRS for ‘Java Stats’^[1] is handled by the following files

- ClassDetailsController.java
- ClassDetails.fxml

5. Class Diagram and Classes

Note : For brevity and conciseness, only the 5 main classes have been included, also getters and setters have not been individually listed



The classes depicted above are the main DTO classes which hold variables that in unison form the model of the application. In addition to the main classes, helper classes are also present which are used for the display of information. Java FX and java parser are the 3rd party libraries used to aid in the application.

6. Design process

Since this project is based on PSP, it wasn't possible to follow the standard design and design review processes. The design for this project was based on prior experience in developing large scale web applications and good knowledge of object orientation. The application was decomposed into its individual modules, and specifications of the attributes and functions of the individual modules were designed. The interaction between these modules were then designed.

As part of the design review phase, I the developer myself reviewed the design to make sure that the design has covered all the functionality mentioned in the SRS, and that it supports a flexible and modular architecture to maintain the application as scalable and maintainable.

7. References

[1] SRS document for Java Stats.