Deliverable #3

Group #4
Attia, Abrar - attiaa1 - 400017188
Ansell, Evan - ansellea - 1415992
Fayez, Susan - fayezs - 001404420
Yin, Hao - yinh1 - 400016540
Yang, Zhiwen - yangz18 - 400023048

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1 Introduction

1.1 Purpose

purpose of this document is to provide a more in depth look at the systems within Forester. Specifically, the document goes over the functionality of all classes in the application and how the use cases are completed. The intended audience of this document are mainly the software developers and the project managers.

1.2 System Description

The Forester system is a plant identification system implemented by Blackboard Architecture. It accepts three user types: average users, researchers and administrators. They have different levels of permission to view and manipulate data from the data source. The system stores plant data and identifies designated matches according to the input of users. The users enter a number of different plant characteristics which are checked by the relevant experts. Then the system fetches data from the data source and displays output to the users. The whole system contains four entities(Plant Data, Search History, Registered Users, Modifications) which hold all the data of the system. With the help of controller classes(I/O Controller, Identification Experts, Security, Modification Controller), users are able to login, edit account information, send input, receive output and edit plant data. The system also consists of eleven boundary classes: Identify Plant, Results, View Search History, Login, Login Error, Change Password, Submit Modifications, Manage Modifications, Researcher and Administrator. They communicate with entity classes by controllers to realize data transmission back and forth.

1.3 Overview

The remaining sections of this document contains a collection of state charts for the controller classes that exist in the Forester system. Sequence diagrams are then used to display in depth the use cases of the application. Lastly, a detailed class diagram is provided. The document then ends with a division of labour sheet.

2 State Charts for Controller Classes

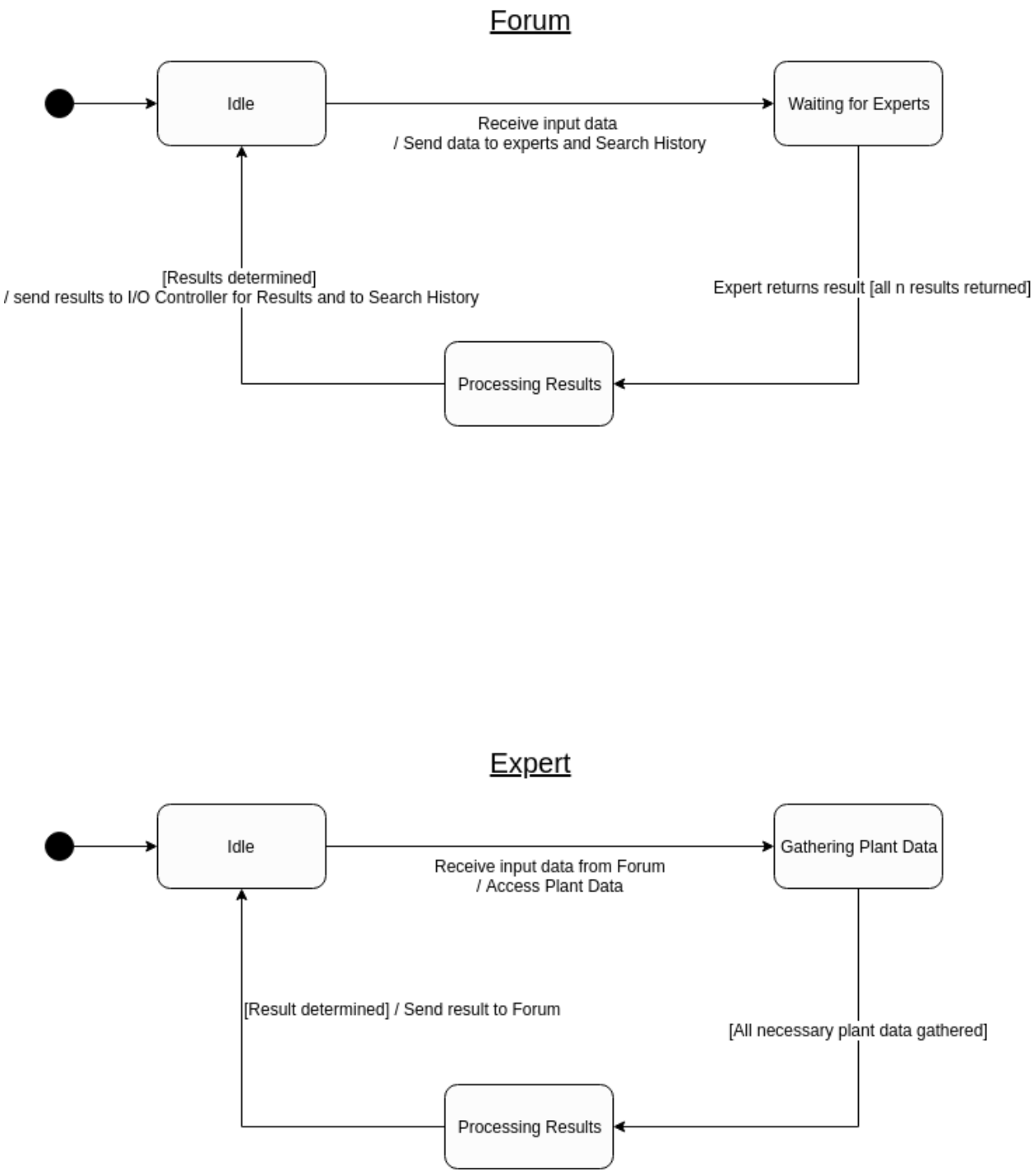

Figure 1: Forum and Expert State Charts

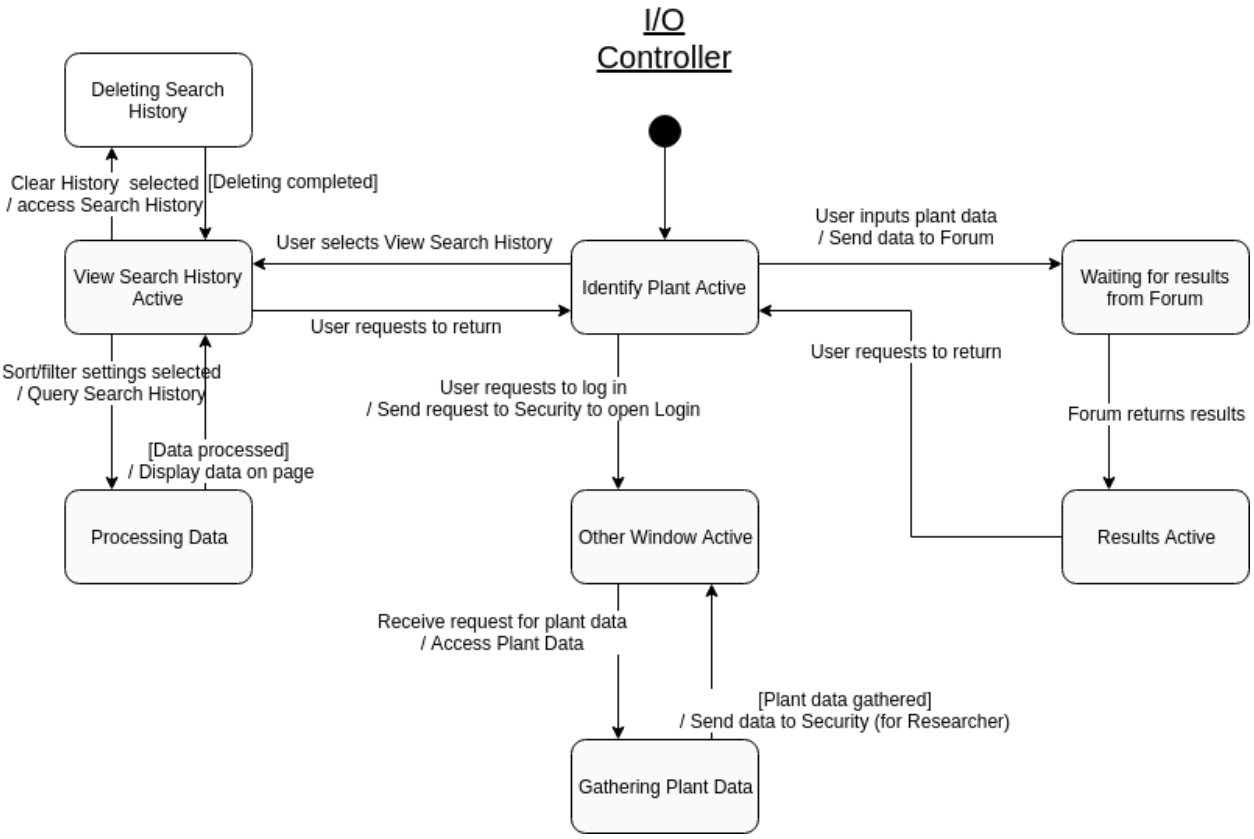

Figure 2: I/O Controller State Chart

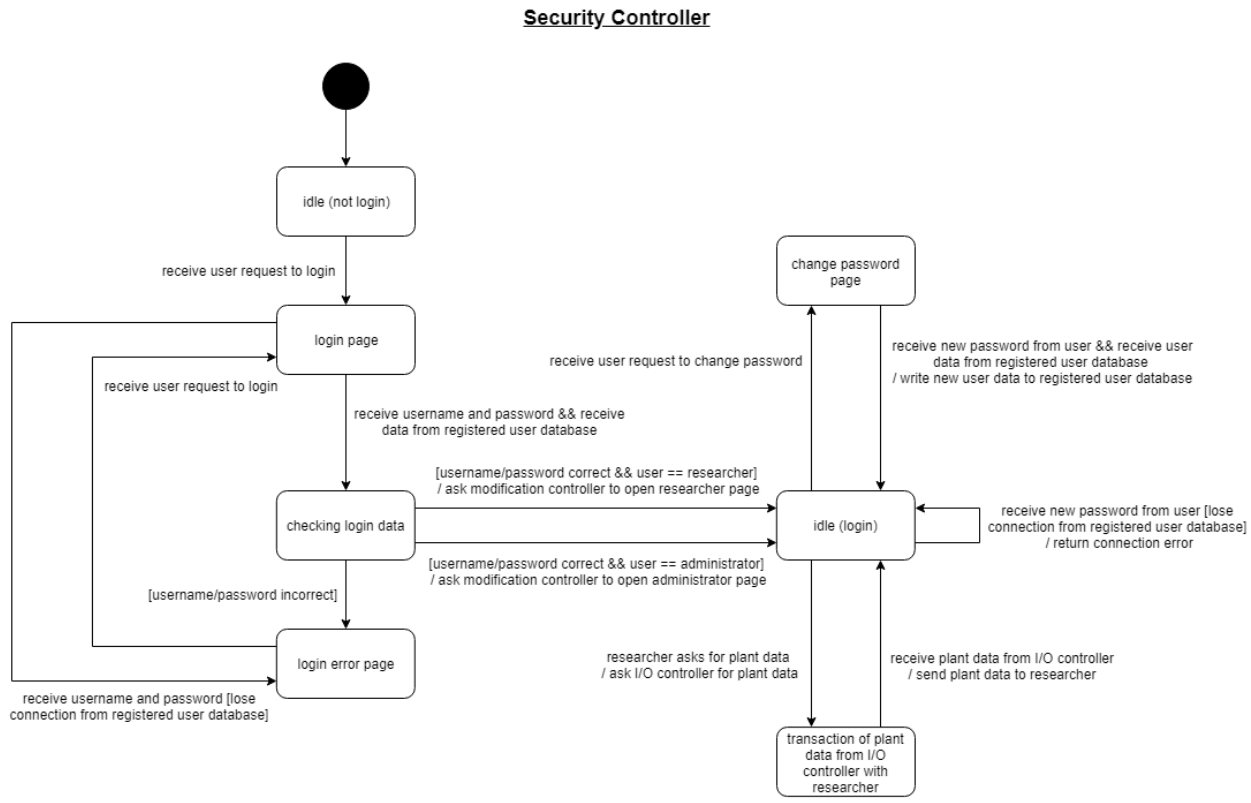

Figure 3: Security Controller State Chart

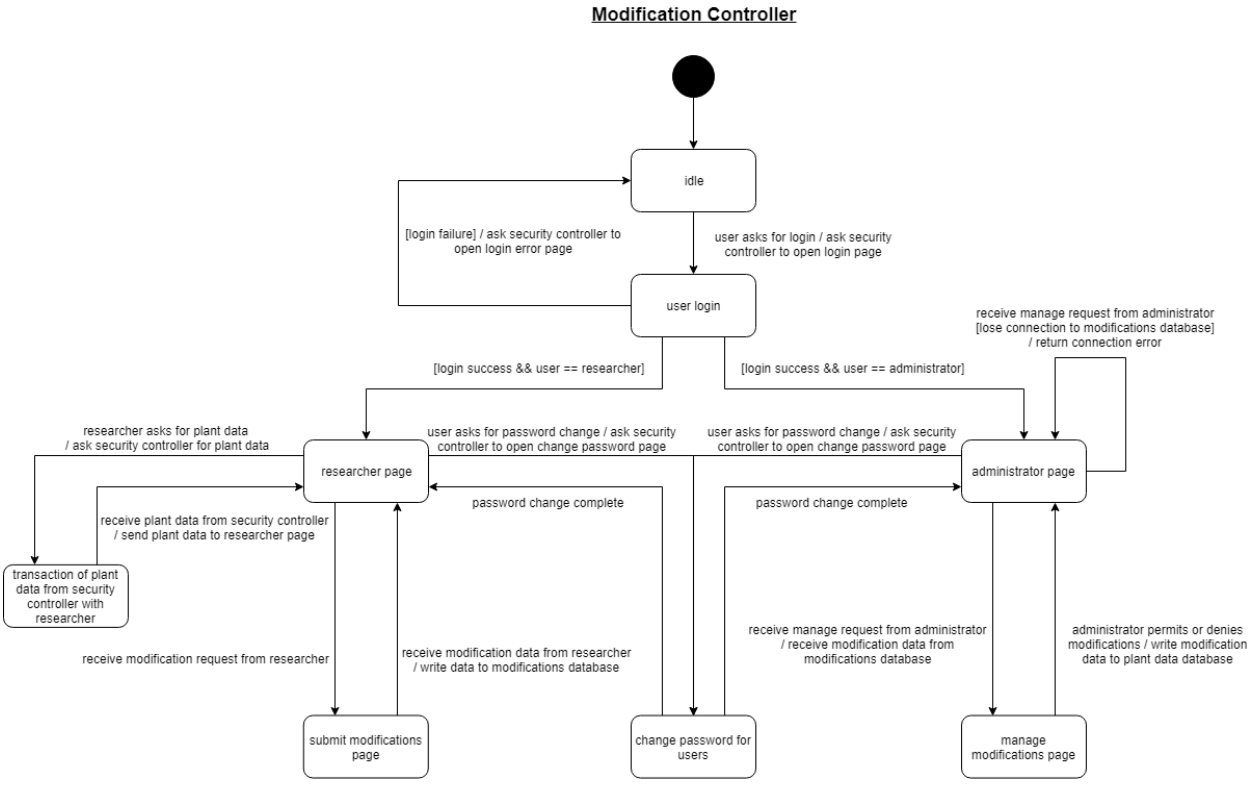

Figure 4: Modification Controller State Chart

3 Sequence Diagrams

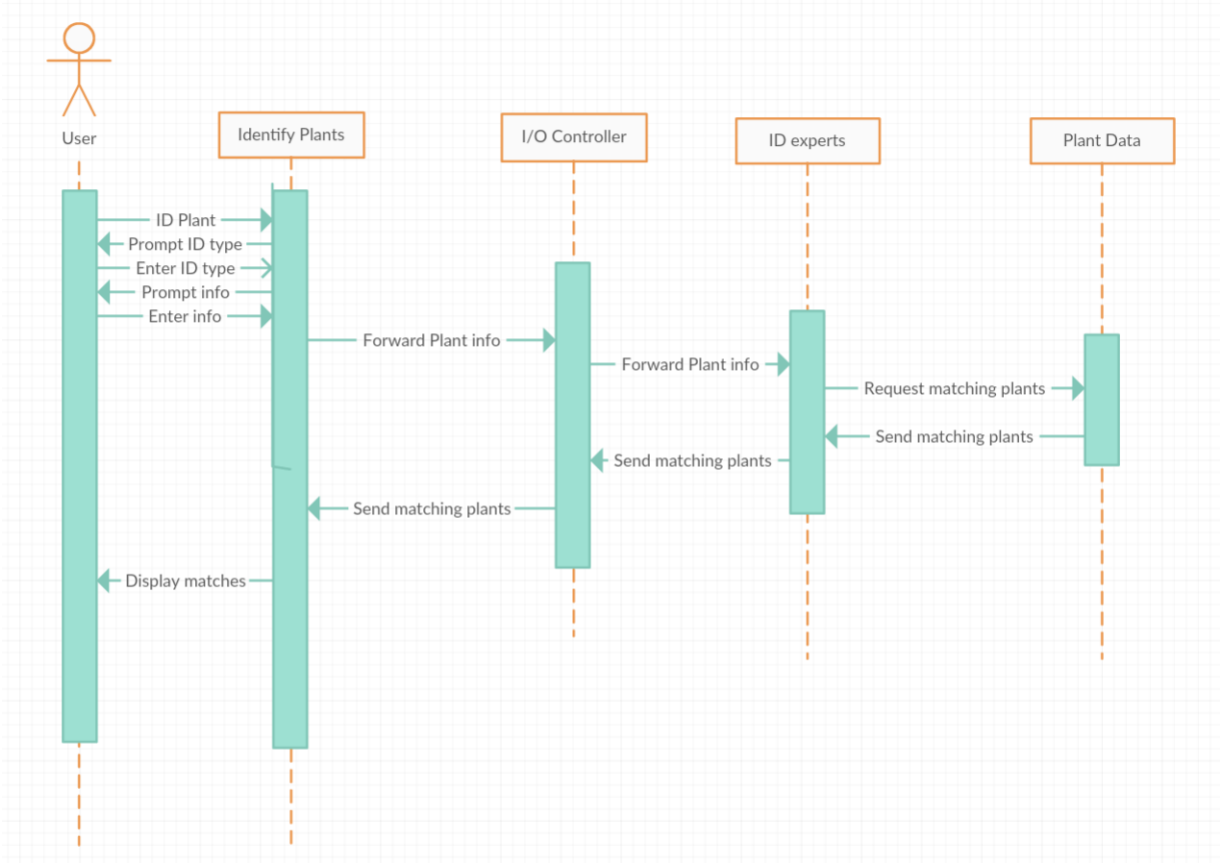

Figure 5: Identify Plants

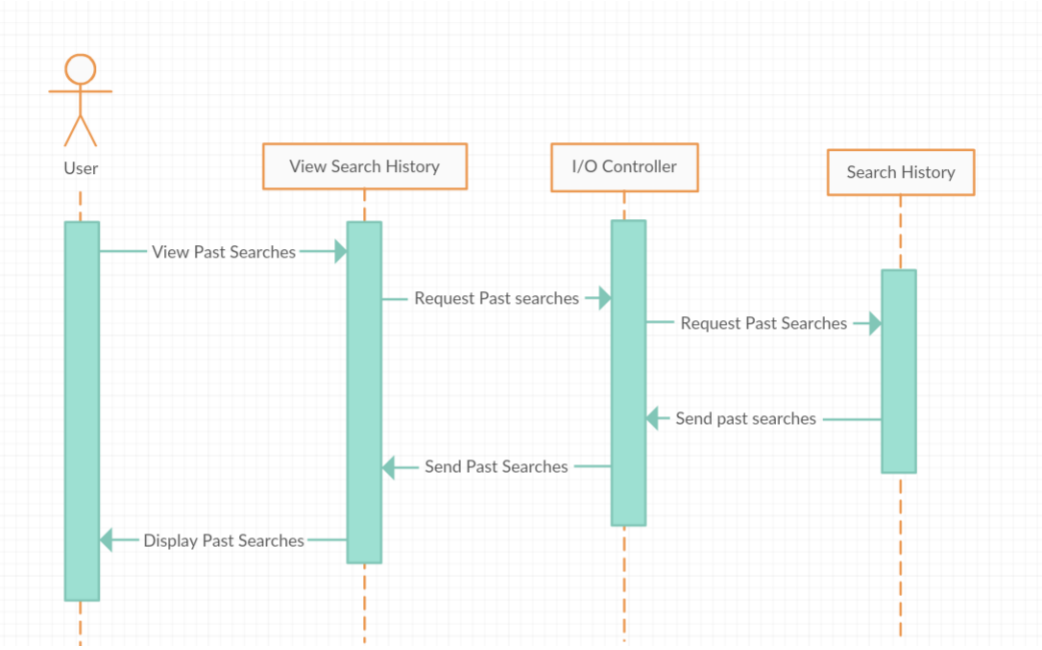

Figure 6: View Past Searches

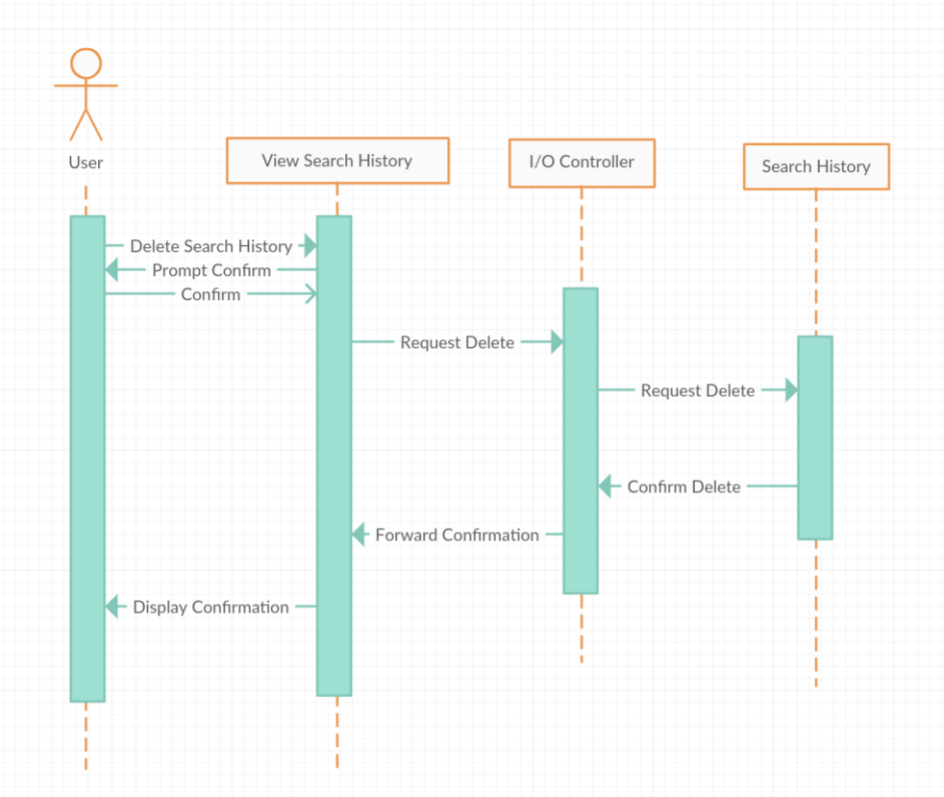

Figure 7: Delete Search History

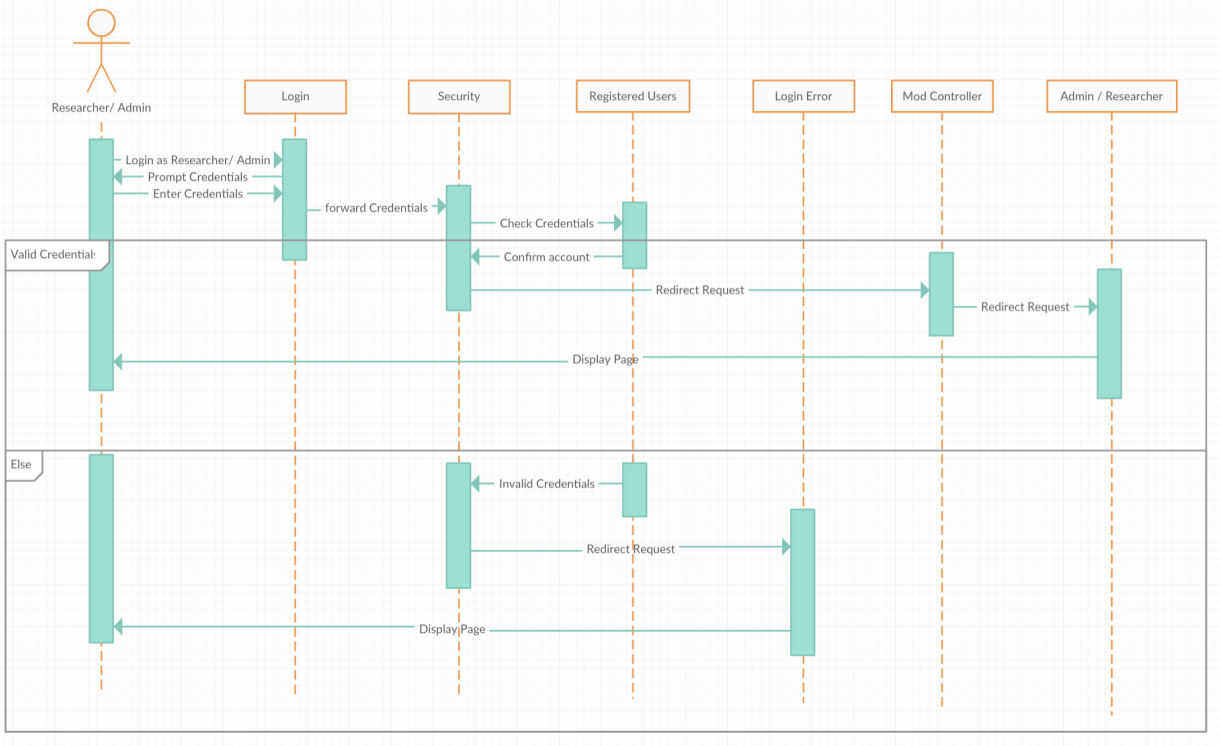

Figure 8: Login

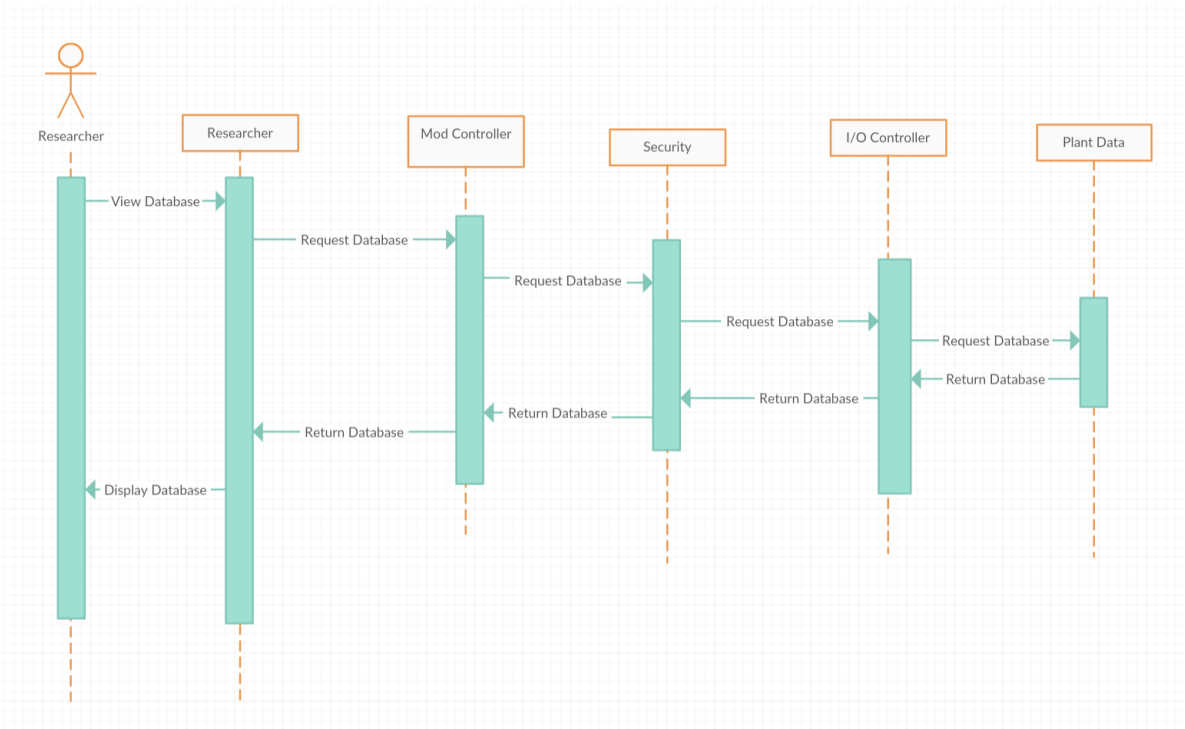

Figure 9: View Database

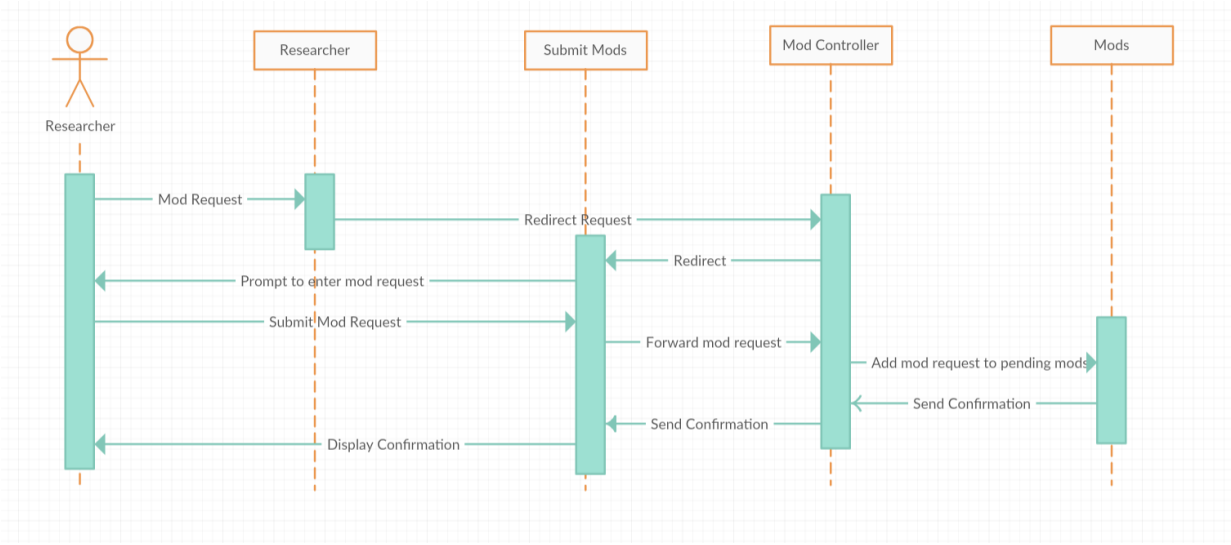

Figure 10: Submit Requests

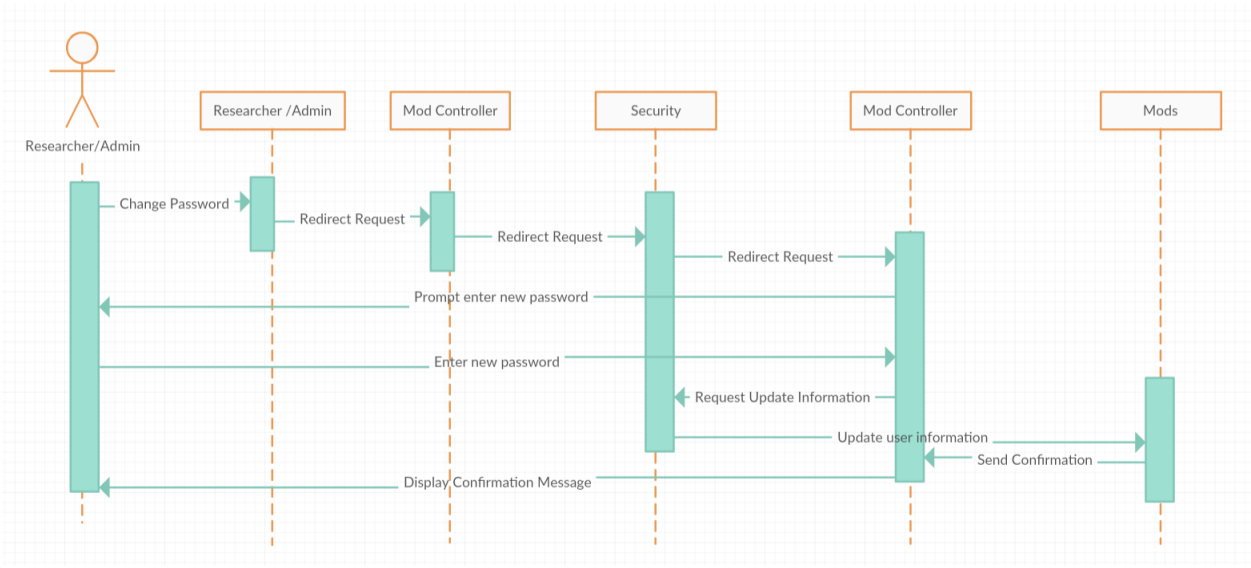

Figure 11: Update Password

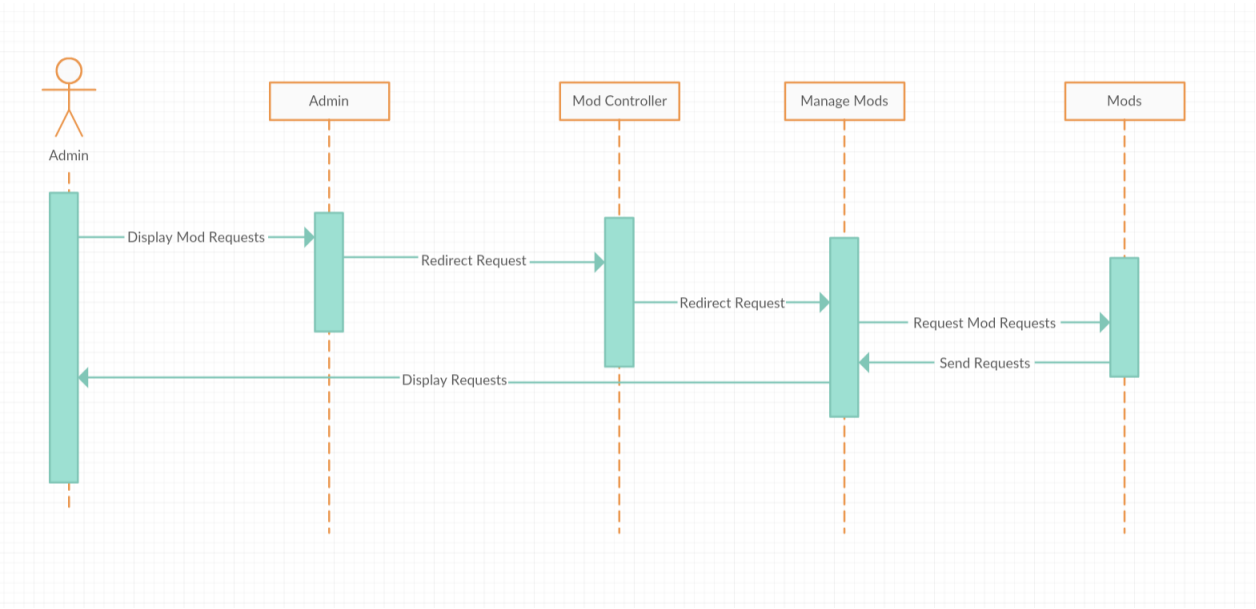

Figure 12: Display Requests

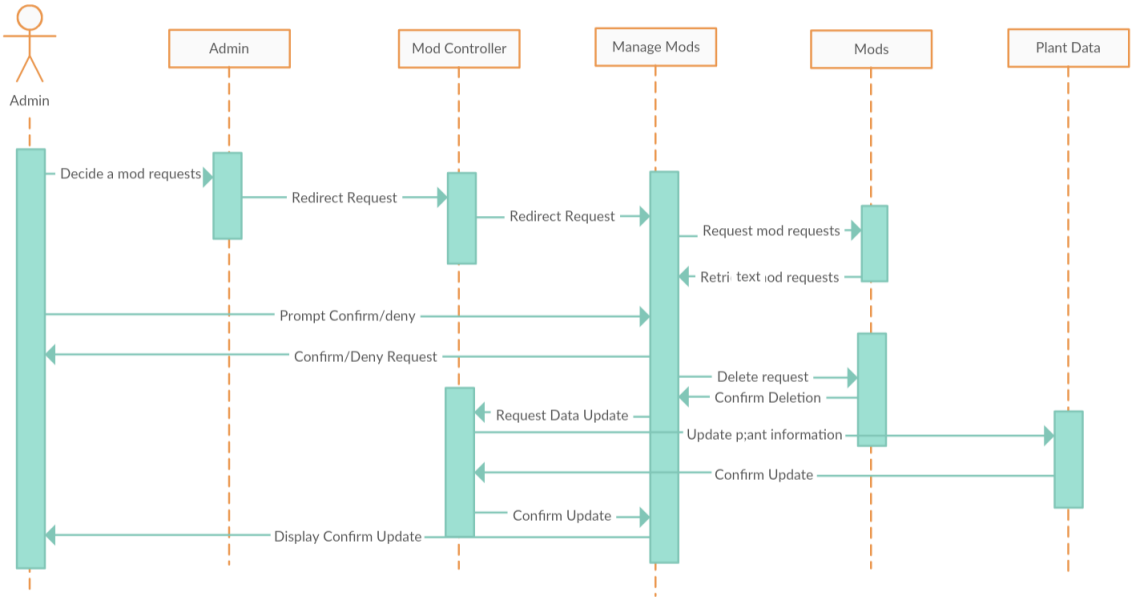

Figure 13: Decide mod requests

4 Detailed Class Diagram

Note: The Detailed Class Diagram is divided into 2 sections in order to allow for more clarity. The placeholder (S2) connects both sections of the diagram together.

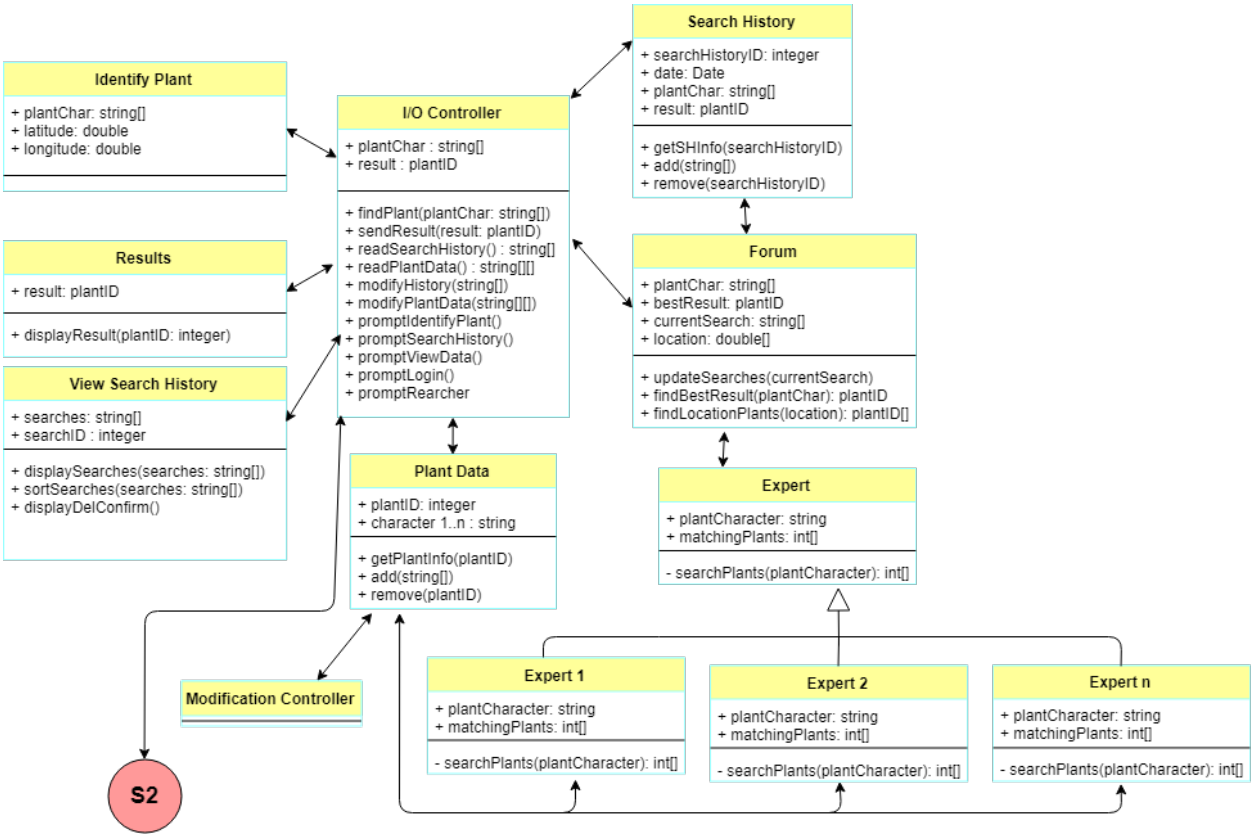

Figure 14: Detailed Class Diagram - Top Half

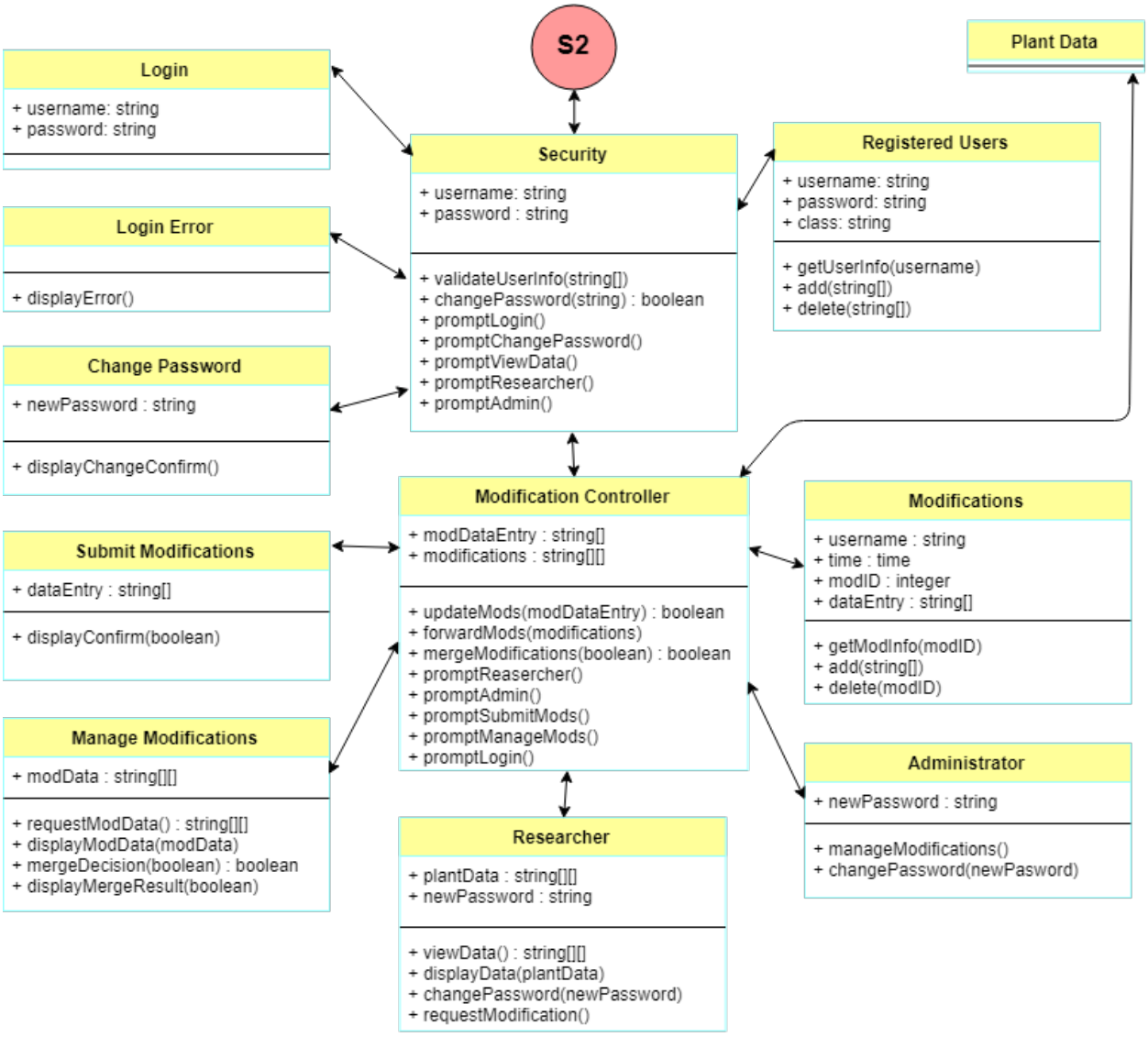

Figure 15: Detailed Class Diagram - Bottom Half