

# Software Design Document

**for**

**SubScruple**

**Version <1.0>**

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# Contents

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	DOCUMENT PURPOSE .....	1
1.2	PRODUCT SCOPE .....	1
1.3	INTENDED AUDIENCE AND DOCUMENT OVERVIEW .....	1
1.4	DOCUMENT CONVENTIONS .....	2
1.5	REFERENCES AND ACKNOWLEDGMENTS .....	2
<b>2</b>	<b>ACTIVITY DIAGRAMS .....</b>	<b>3</b>
2.1	ACCOUNT LOGIN OVERVIEW .....	3
2.2	DATABASE MANAGEMENT OVERVIEW .....	4
2.3	PROFILE MANAGEMENT OVERVIEW .....	5
2.4	SUBSCRIPTION PURCHASE OVERVIEW .....	6
<b>3</b>	<b>STRUCTURAL MODELING .....</b>	<b>7</b>
<b>4</b>	<b>BEHAVIOR MODELS .....</b>	<b>8</b>
4.1	SEQUENCE DIAGRAM: ACCOUNT CREATION .....	8
4.2	SEQUENCE DIAGRAM: ACCOUNT LOGIN.....	9
4.3	SEQUENCE DIAGRAM: ADMIN ACCOUNT LOGIN .....	10
4.4	SEQUENCE DIAGRAM: SUBSCRIPTION PURCHASING .....	11
4.5	STATE DIAGRAM: PROFILE MANAGEMENT .....	12
4.6	STATE DIAGRAM: DATABASE MANAGEMENT .....	13

# 1 Introduction

**SubScruple** is a free, subscription service, web-based application that users can purchase subscriptions through different services offered in their respective location. These subscriptions can be bought at different tier levels and provide extra benefits to the user depending on the tier. In this section, you will be introduced to the purpose of this document, the scope of this product, the intended audience/document overview, document conventions, and references and acknowledgements.

## 1.1 Document Purpose

The purpose of this document is to centralize the diagrams and functionalities, provided by each group member, that ultimately define how the system operates. This will consist of an overview of how the system will function, the high-level, web-based user interface, and how this system will resonate with the team members developing said system and the interested audience and/or stakeholders. Revisions made to the document are a possibility depending on the changing vision of the project or the feasibility of certain features. Reading over this document should provide the reader with a holistic sense of what **SubScruple** does and the operations it provides to its subscription users.

## 1.2 Product Scope

The particular scope of **SubScruple** is to offer subscriptions for various services that are congregated onto this one application. This application will strive to get the best deals possible by being constantly kept up to date with subscription pricing for the various services that the user chooses. The application can also be thought of as a hub for where all user subscription info will be stored, where they can choose to view their subscriptions by logging in to the application. In an ever-expanding market and reliance on technology for most purchases, each user can be certain to receive some benefit out of this web application.

## 1.3 Intended Audience and Document Overview

This document will be written in such a way that the reader is assumed to have a knowledge of how software design documents are written, whether they are developers, project managers, marketing staff, users, testers, or documentation writers. The intended audience who are to operate **SubScruple** are those typically with an interest in technology, online shopping, or online reading, as the offered services will mainly be centered on these three categories.

The rest of this software design document past section 1 will delve into the nature of the system functionalities, with each section depicting different diagrams for how the application should generally function. If you are a reader with moderate to extensive knowledge in how web applications operate, please read the whole document to have a comprehensive understanding of the different functions of **SubScruple**.

## **1.4 Document Conventions**

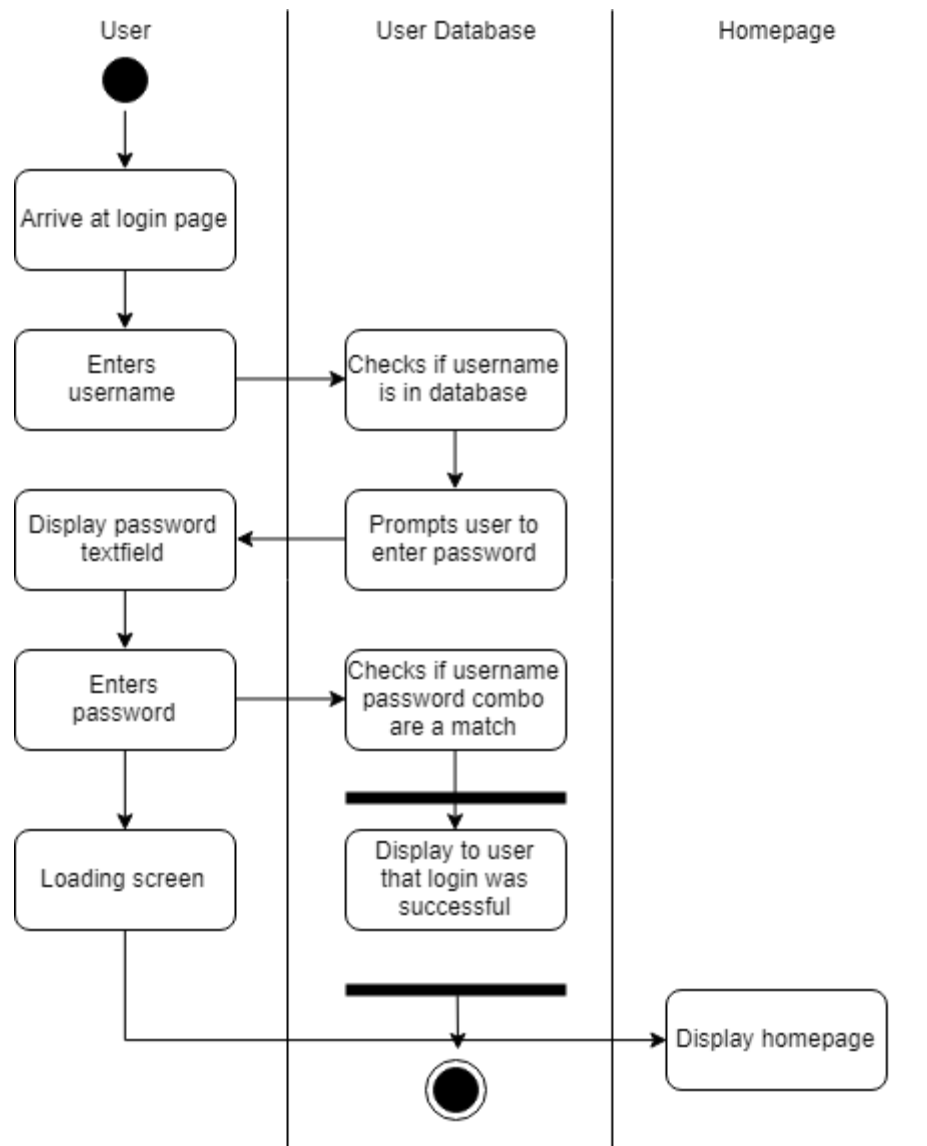
This software design document follows the writing conventions of the IEEE formatting requirements which includes but is not limited to: the use of size 11/12 Arial font, italics are used for comments, each line of the document is single spaced, the document maintains one inch margins, and the main sections begin at the top of it's own page with a single number followed by subsections with decimal separator format that can span over multiple pages.

## **1.5 References and Acknowledgments**

- Standard IEEE Citation Guide:  
[https://learn.wsu.edu/bbcswebdav/pid-2795651-dt-content-rid-91333015\\_1/courses/2018-FALL-VANCO-CS-320-7661-LEC/IEEE-Citation-StyleGuide.pdf](https://learn.wsu.edu/bbcswebdav/pid-2795651-dt-content-rid-91333015_1/courses/2018-FALL-VANCO-CS-320-7661-LEC/IEEE-Citation-StyleGuide.pdf)
- Slide reference material provided by Professor Xinghui Zhao of WSUV:  
[https://learn.wsu.edu/bbcswebdav/pid-2754132-dt-content-rid-91541549\\_1/courses/2018-FALL-VANCO-CS-320-7661-LEC/Lecture11\\_SystemModeling1.pdf](https://learn.wsu.edu/bbcswebdav/pid-2754132-dt-content-rid-91541549_1/courses/2018-FALL-VANCO-CS-320-7661-LEC/Lecture11_SystemModeling1.pdf)

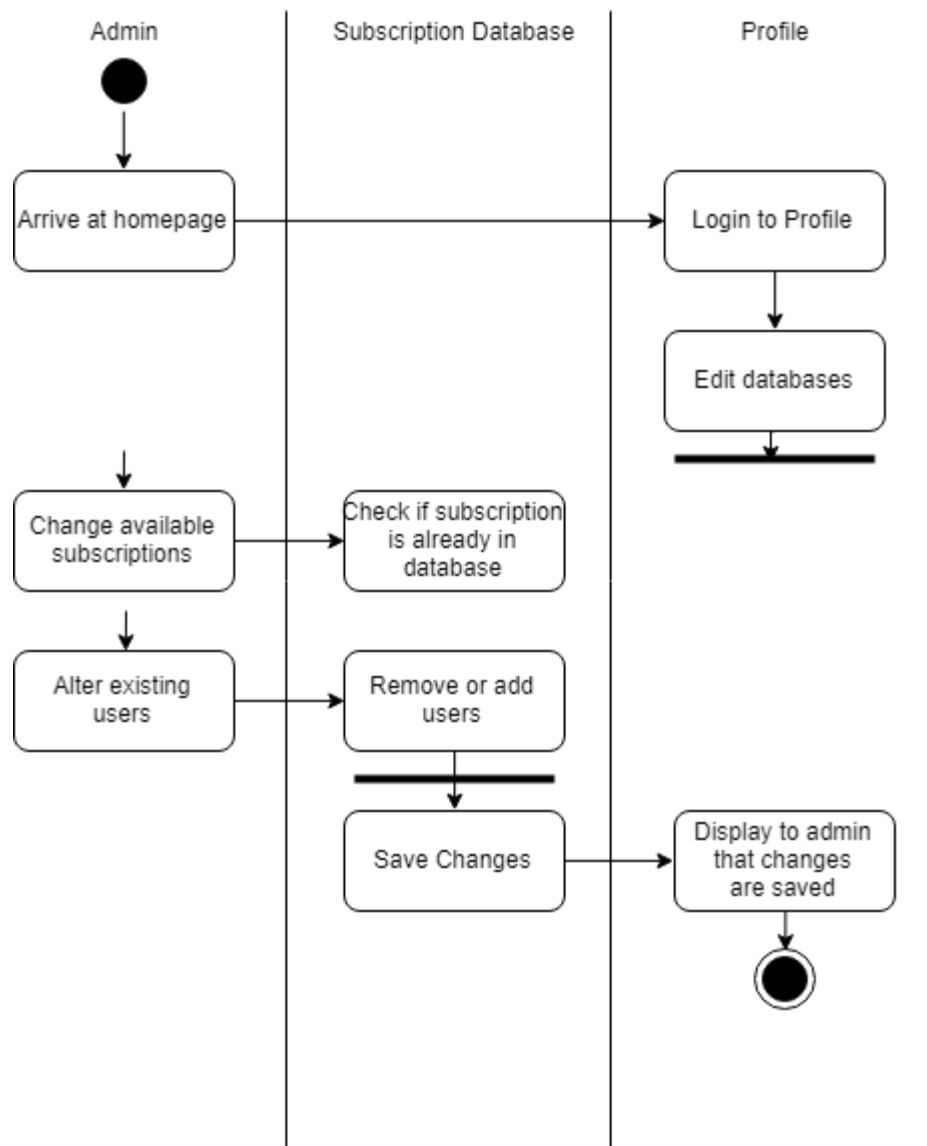
## 2 Activity Diagrams

### 2.1 Account Login Overview



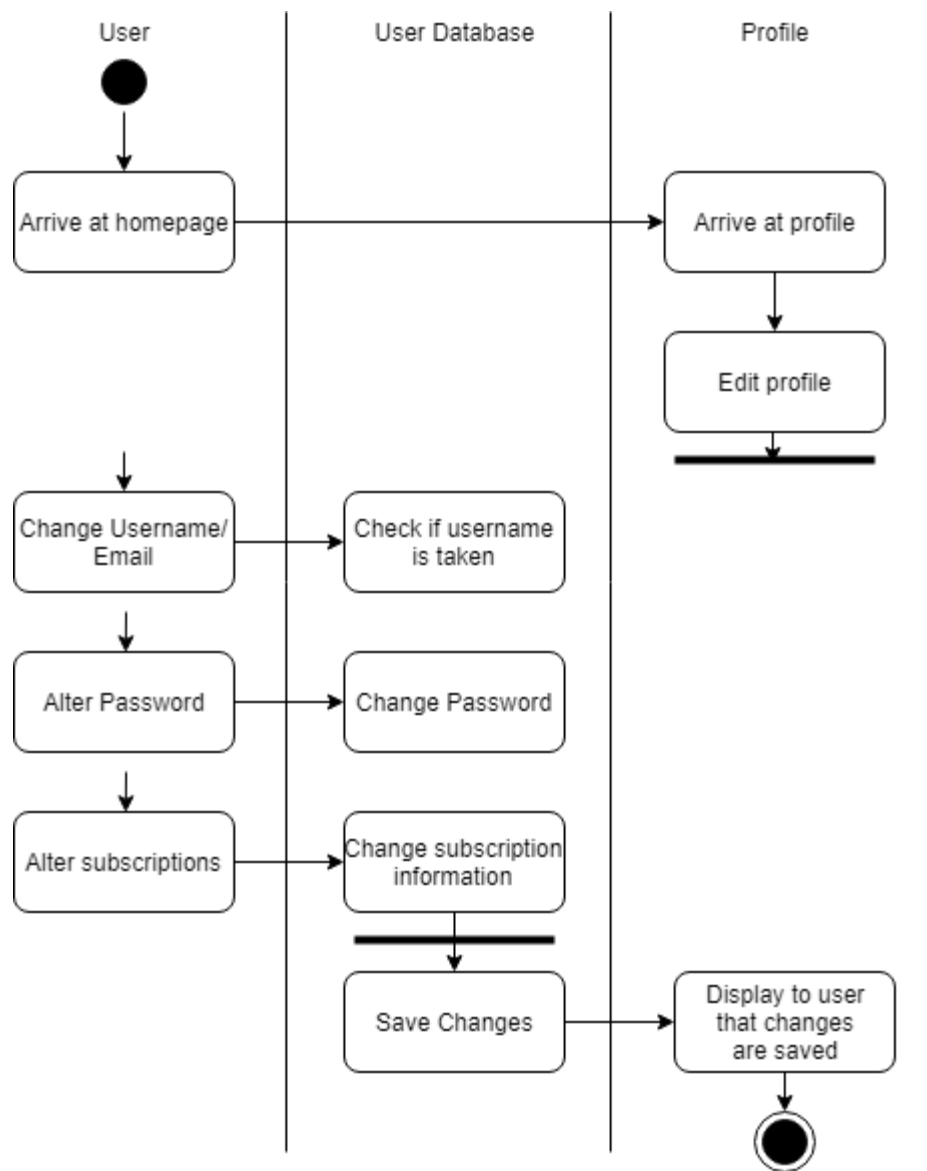
**Figure 2.1.** General overview the process of how a user would log in to their profile and the checking that the database performs before bringing the user to the homepage.

## 2.2 Database Management Overview



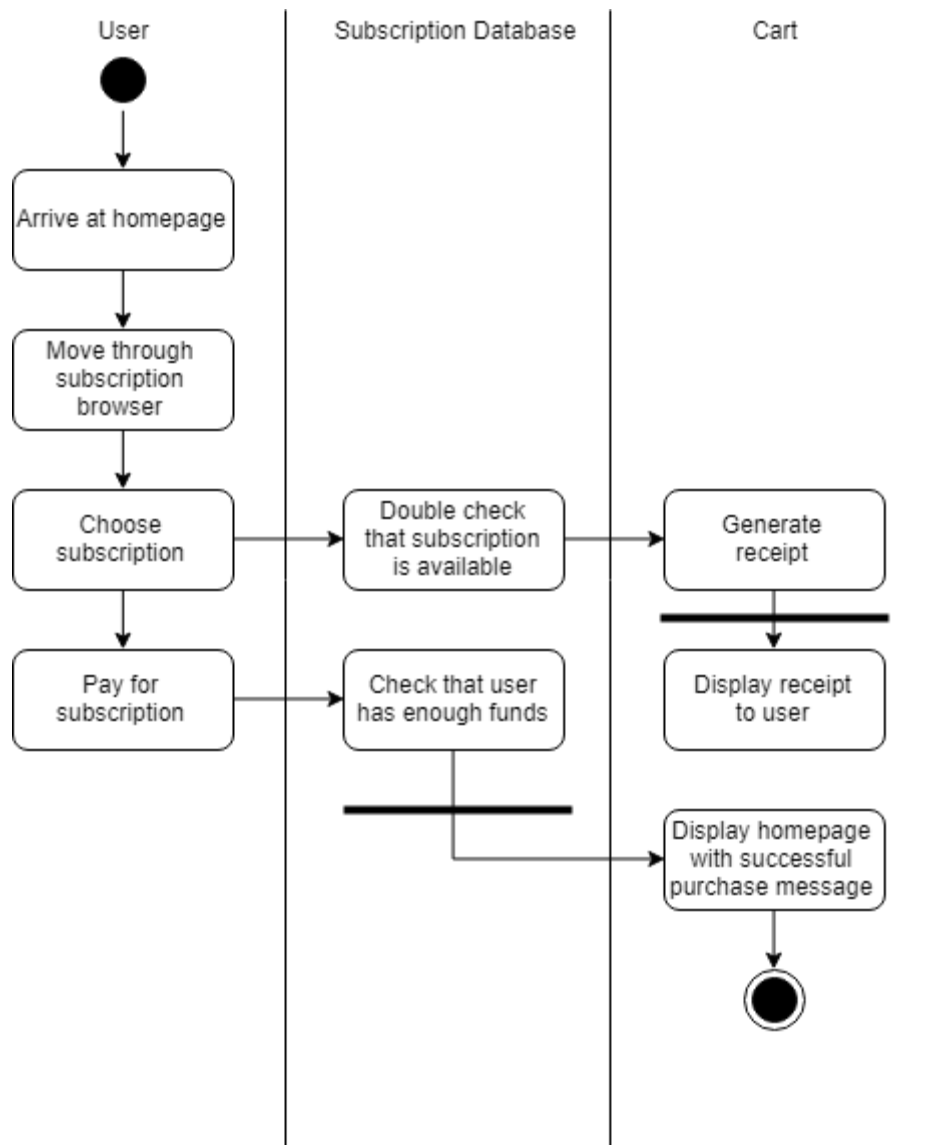
**Figure 2.2.** General overview of how an administrator would manage the databases of **SubScurple**, whether they change current subscriptions offered or alter the information/status of existing users..

## 2.3 Profile Management Overview



**Figure 2.3.** General overview of how a user manage their profile, whether they change their credentials or alter any subscriptions they currently have.

## 2.4 Subscription Purchase Overview



**Figure 2.4.** General overview of how a user would go about purchasing a subscription.



### 3 Structural Modeling

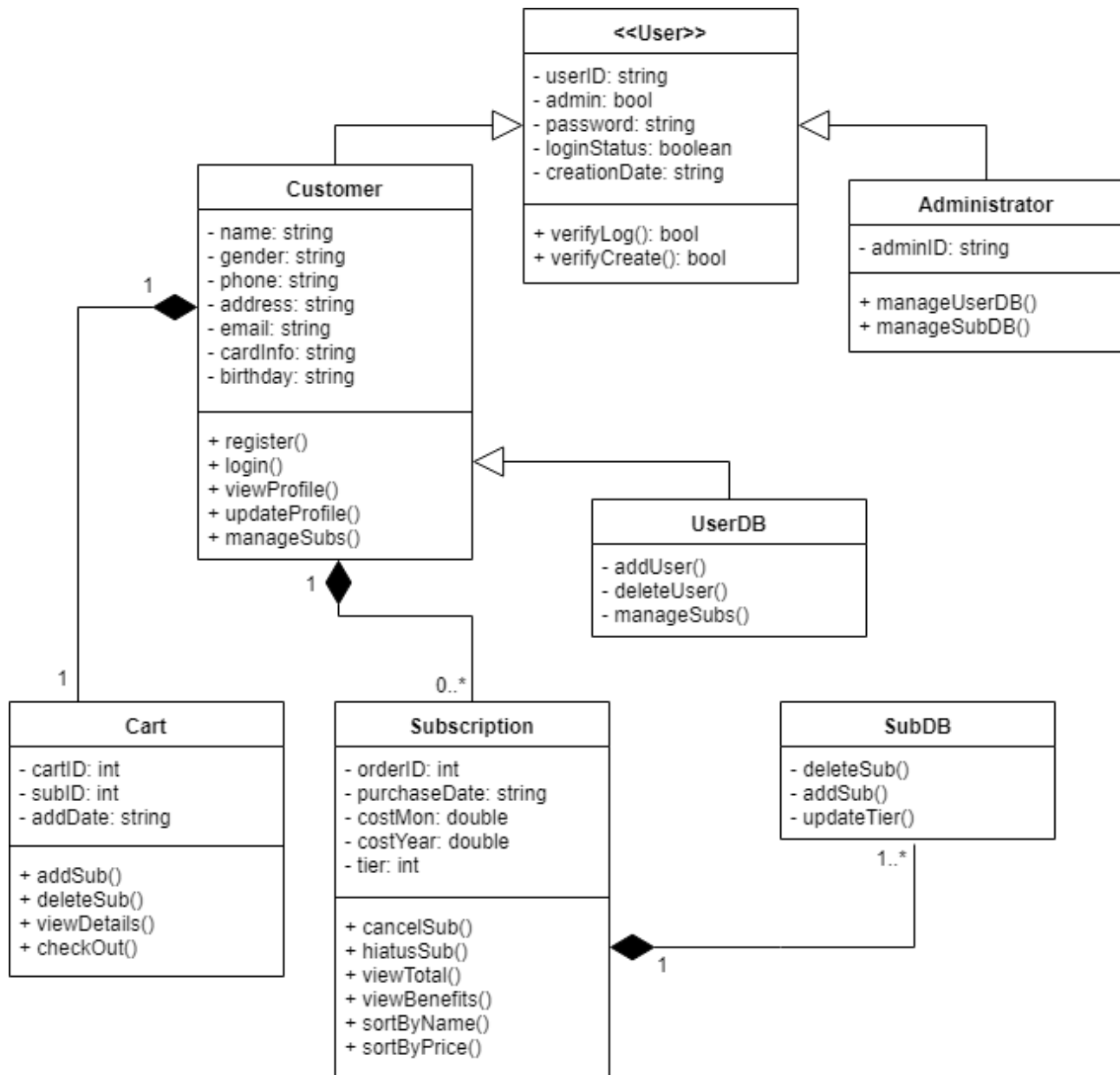
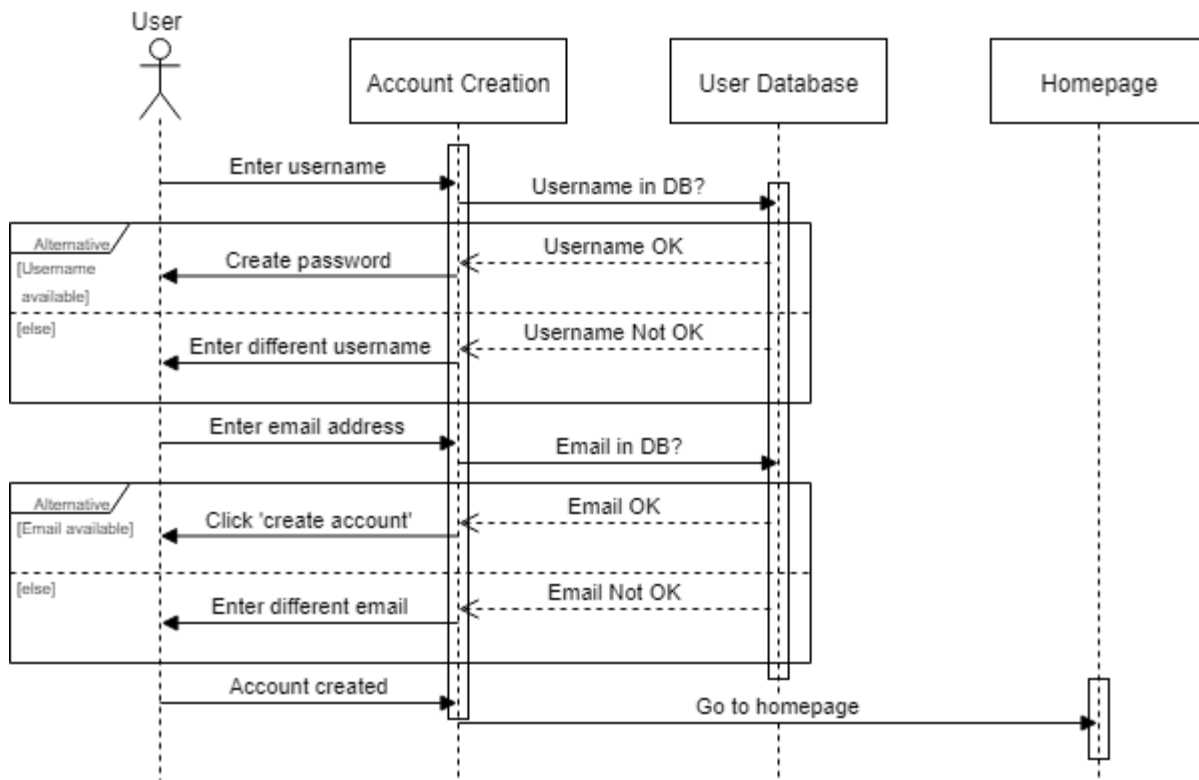


Figure 3.1. Class Diagram overview for SubScurple

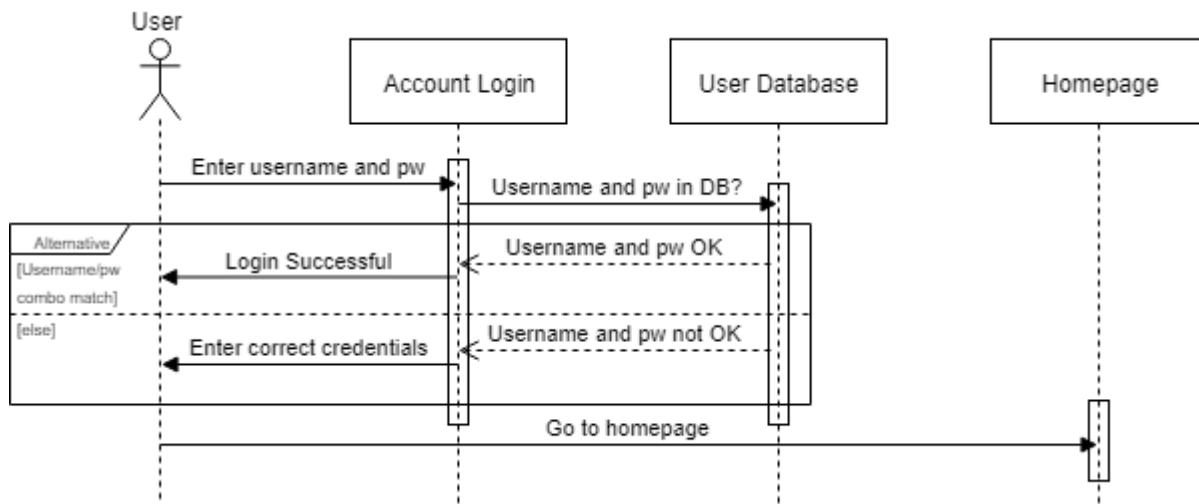
## 4 Behavior Models

### 4.1 Sequence Diagram: Account Creation



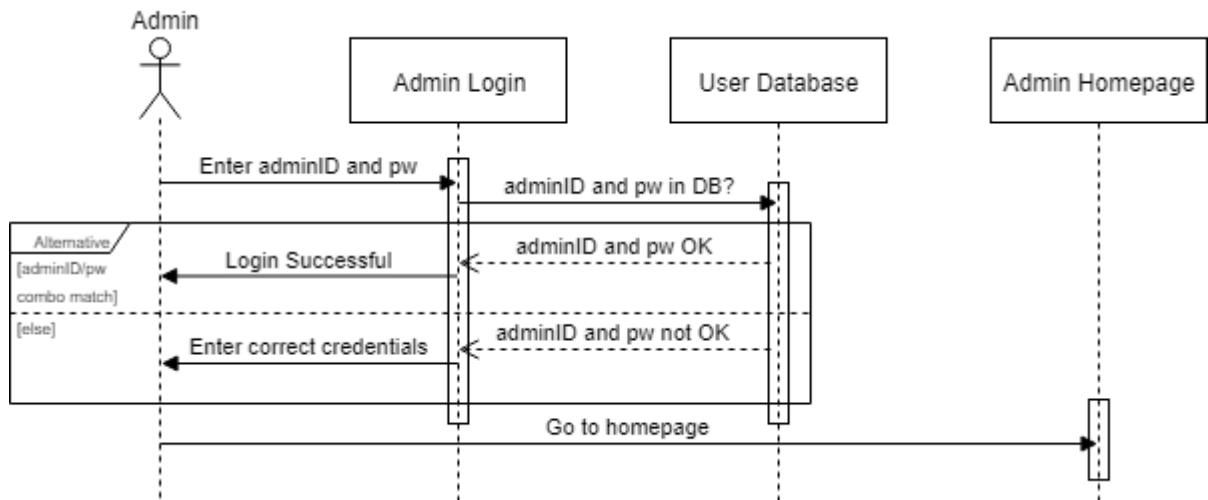
**Figure 4.1.** Sequence diagram showing the process of how a user would go about creating an account with **SubScurple**.

## 4.2 Sequence Diagram: Account Login



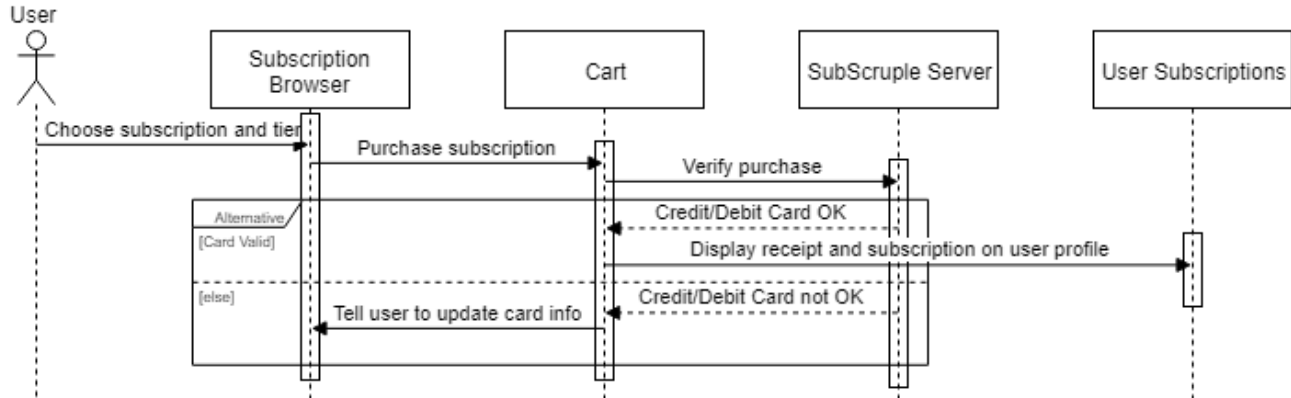
**Figure 4.2.** Sequence diagram showing the process of how a user would go about logging into their account with **SubScurple**.

### 4.3 Sequence Diagram: Admin Account Login



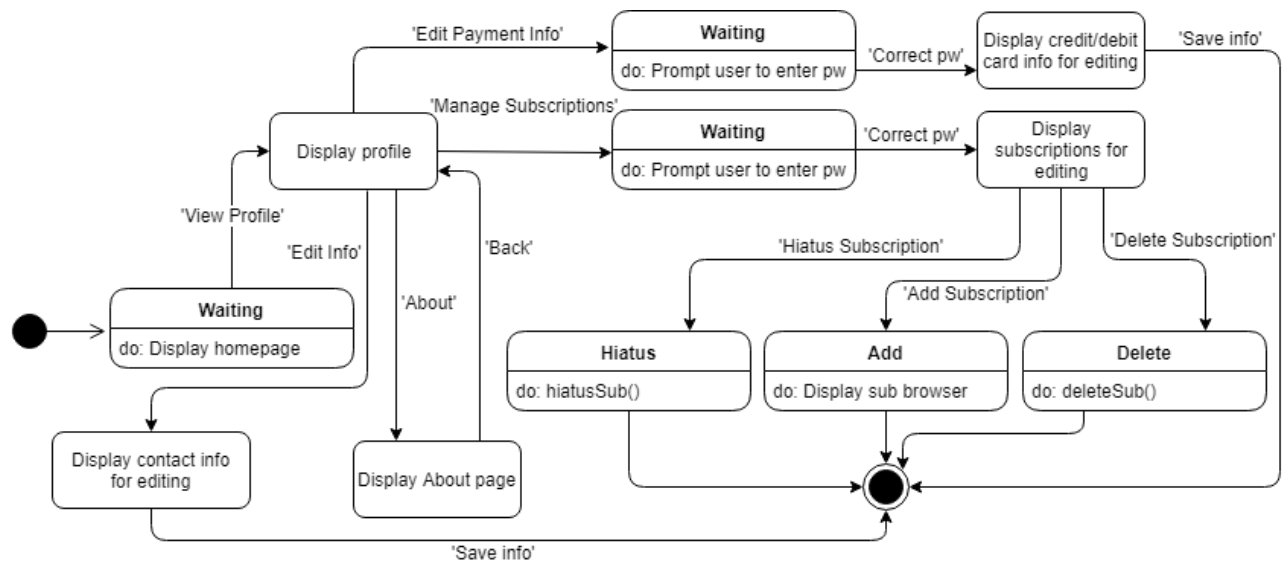
**Figure 4.3.** Sequence diagram showing the process of how an administrator would go about logging into their account with **SubScurple**.

## 4.4 Sequence Diagram: Subscription Purchasing



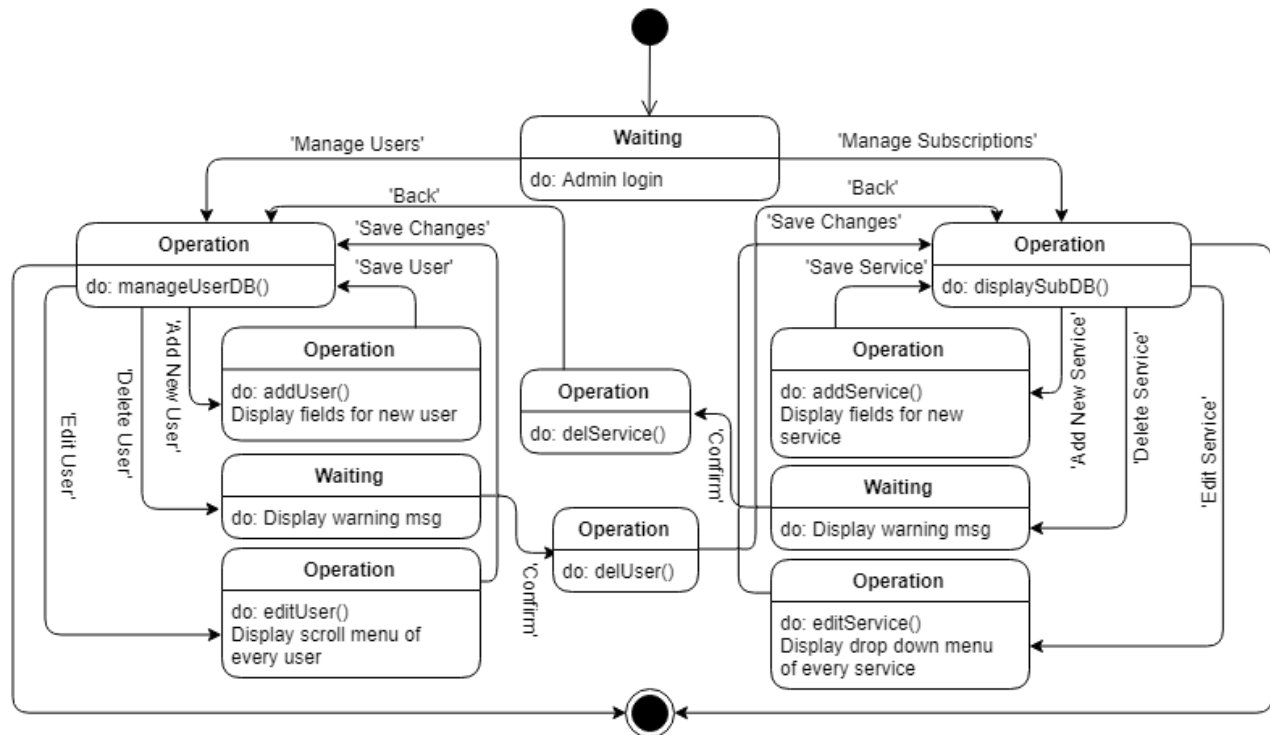
**Figure 4.4.** Sequence diagram showing the process of how a user would purchase a subscription with **SubScurple**.

## 4.5 State Diagram: Profile Management



**Figure 4.5.** State diagram for showing how a user would manage their profile, with a variety of different options.

## 4.6 State Diagram: Database Management



**Figure 4.6.** State diagram for the different functionalities an administrator can perform on the user database and the subscription database.