

Systems Designs and Databases ICA – Carl Baines

Individual Portfolio for the Team 'LuCaRePrRy'



Teesside
University

UML System Design

Password Manager Application

'Really Good Password Manager'



Teesside
University



Team Introduction



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Really Good Password Manager.

Requirements List:



The system could auto-fill in passwords for users on sites they've added.	CouldHave	Management	Carl
The system should have 2FA for logging into the user's account.	ShouldHave	Registration	
The system must have minimal downtime, notifying the user if it's down.	MustHave	Management (Non. F)	
The system must have an easy and intuitive UI.	MustHave	User Interface (Non. F)	
The system must have master password recovery via email and SMS.	MustHave	Management	
The system could have password strength tests/checkers.	CouldHave	Security	
The system should allow the user to edit the saved accounts/passwords.	ShouldHave	Management	



Carl

Document Manager



Log In/Sign Up
Wireframes, Use Case, Sequence, Class, ERD

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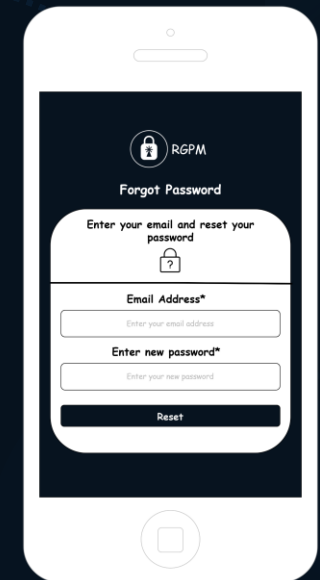
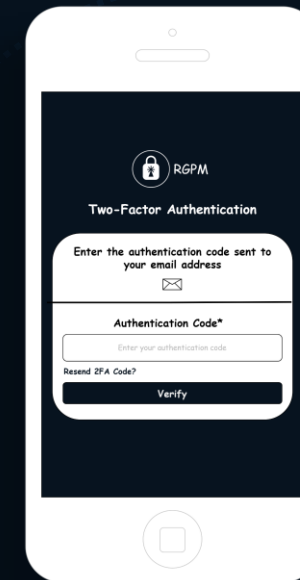
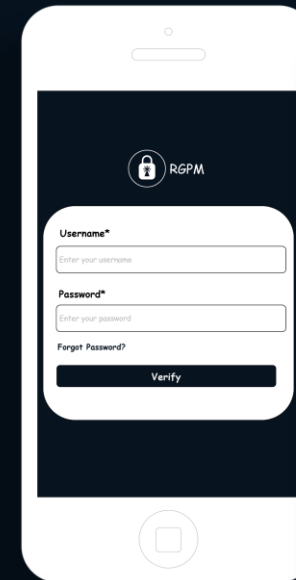
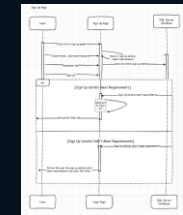
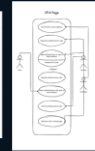
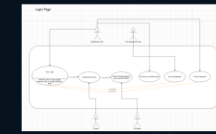
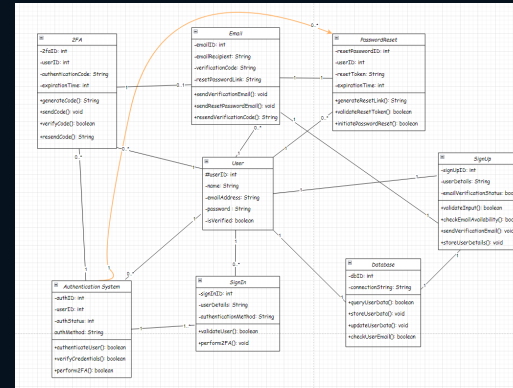
Requirements List

Functional

- The system must allow the user to create and sign in with an account.
- The system should have 2FA for logging into the user's account.
- The system must allow the user to recover their password.
- The system must be able to verify user-inputted login/sign up details by querying the database.

Non Functional

- The system must have an easy and intuitive UI.
- The system must be able to handle simultaneous logins and account creations, without the degradation of performance.
- The system should maintain high-availability uptime.



Login, 2FA and Forgot Password



System Design

Really Good Password Manager.

*** = Login Pages contain a 2FA and Forgot Password Page**



Login* and Sign-Up Pages Carl

Really Good Password Manager.

Carl | Login Page Wireframes – Requirements to address:



Requirement	MoSCoW	Requirement Type
The system must have an account system.	MustHave	Functional
The system should have 2FA for logging into the user's account.	ShouldHave	Functional
The system must allow the user to navigate to a password recovery page.	MustHave	Functional
The system must redirect the user to the home page upon successful login	MustHave	Functional
The system must be able to verify the user-inputted login details by querying its database.	MustHave	Functional
The system must have an easy and intuitive UI.	MustHave	Non-Functional
The system must be able to handle simultaneous logins, without the degradation of performance.	MustHave	Non-Functional
The system should maintain high-availability uptime.	MustHave	Non-Functional

Carl | Sign Up Page Wireframe – Requirements to address:



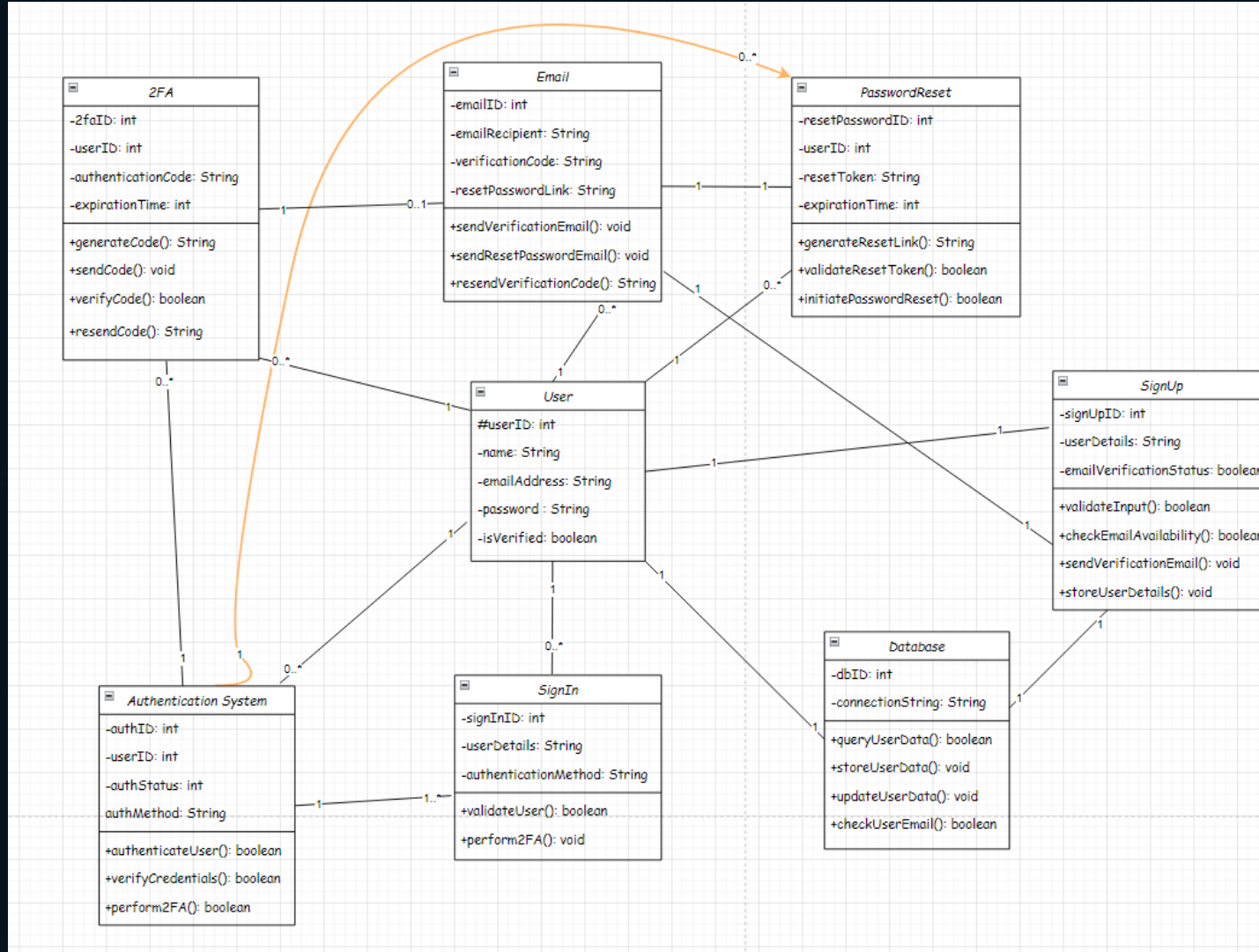
Requirement	MoSCoW	Requirement Type
The system must allow the user to create an account.	MustHave	Functional
The system must validate the user-inputted email by querying its database - to check if it is already registered.	MustHave	Functional
The system must send a verification email to the user to verify account creation.	MustHave	Functional
The system must store account details within its database.	MustHave	Functional
The system could provide the option for the user to enable two-factor authentication after signing up.	CouldHave	Functional
The system must redirect the user back to the sign-in page after successful account creation.	MustHave	Functional
The system must have an easy and intuitive UI.	MustHave	Non-Functional
The system should be able to withstand simultaneous user registrations without performance degradation.	MustHave	Non-Functional
The system should maintain high-availability uptime.	MustHave	Non-Functional

Carl | User Stories:

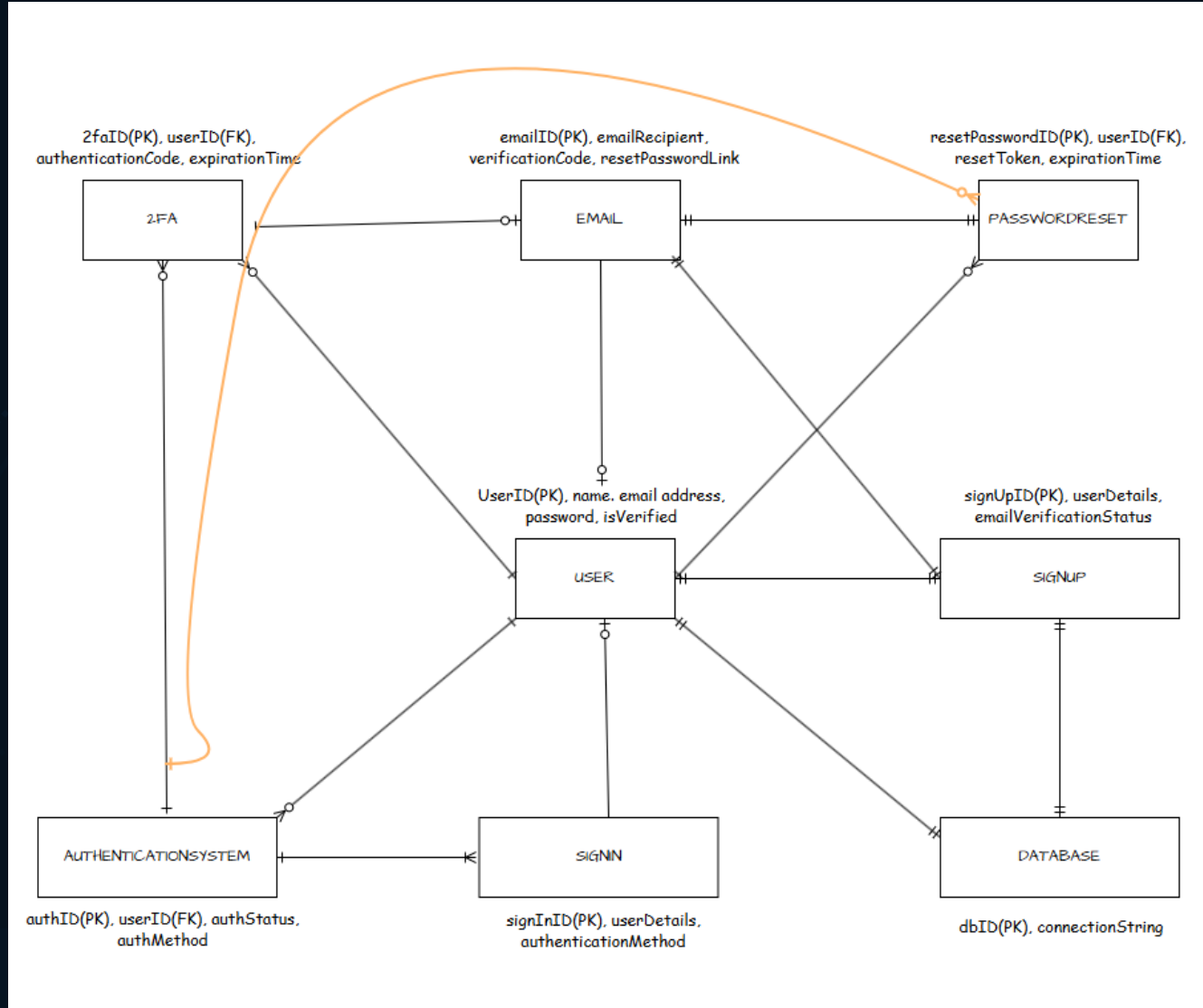


Story	MoSCoW	Acceptance Criteria
As a user who values convenience, I want the system to autofill passwords for me so that I can log on to websites with ease.	CouldHave	<ol style="list-style-type: none">1. Websites navigated to where the user has saved credentials.2. The autofill feature could pop-up and offer to fill in the user's password.
As a user who values security, I want the system to provide two-factor authentication when I log on.	MustHave	<ol style="list-style-type: none">1. The system must detect when valid login details are provided.2. The system sends a 2FA code to the user via email or SMS.3. The system must validate the 2FA code user input and permit/prevent access accordingly.
As a user who relies on constant availability, I want the system to always be available, with minimal downtime for maintenance, so that I can always use it when required.	MustHave	<ol style="list-style-type: none">1. The system must provide a notification when the application is undergoing maintenance.2. The system must provide information about the maintenance e.g. duration.
As a user who appreciates design, I want the user interface to be intuitive so that I can navigate the application with ease.	MustHave	<ol style="list-style-type: none">1. The layout and the design of the system's UI must follow a consistent structure throughout.2. The system's main navigation menu/header/footer must be clearly visible and accessible from every page.3. The system should provide real-time validation and error handling for input fields when incorrect user data is entered.
As a user who wants account security, I want the application to provide master password recovery via email or SMS, so that my account can be recovered if I forget my password.	MustHave	<ol style="list-style-type: none">1. The system must send out a forgot password link via email or SMS.2. The system must replace the existing password with the changed password, provided it fulfils requirements, to facilitate login.
As a user who prioritises security, I want the system to provide password strength checks so that it is ensured that I use a secure password.	CouldHave	<ol style="list-style-type: none">1. The system could check the stored password by executing a password strength check.2. The system could alert the user if the password is considered insecure.
As a user who values control over my passwords, I want the system to allow me to edit my saved/stored passwords for quality of life.	ShouldHave	<ol style="list-style-type: none">1. The system should provide an input field to edit a password.2. The system should replace the existing password with the edited one, providing it meets requirements.

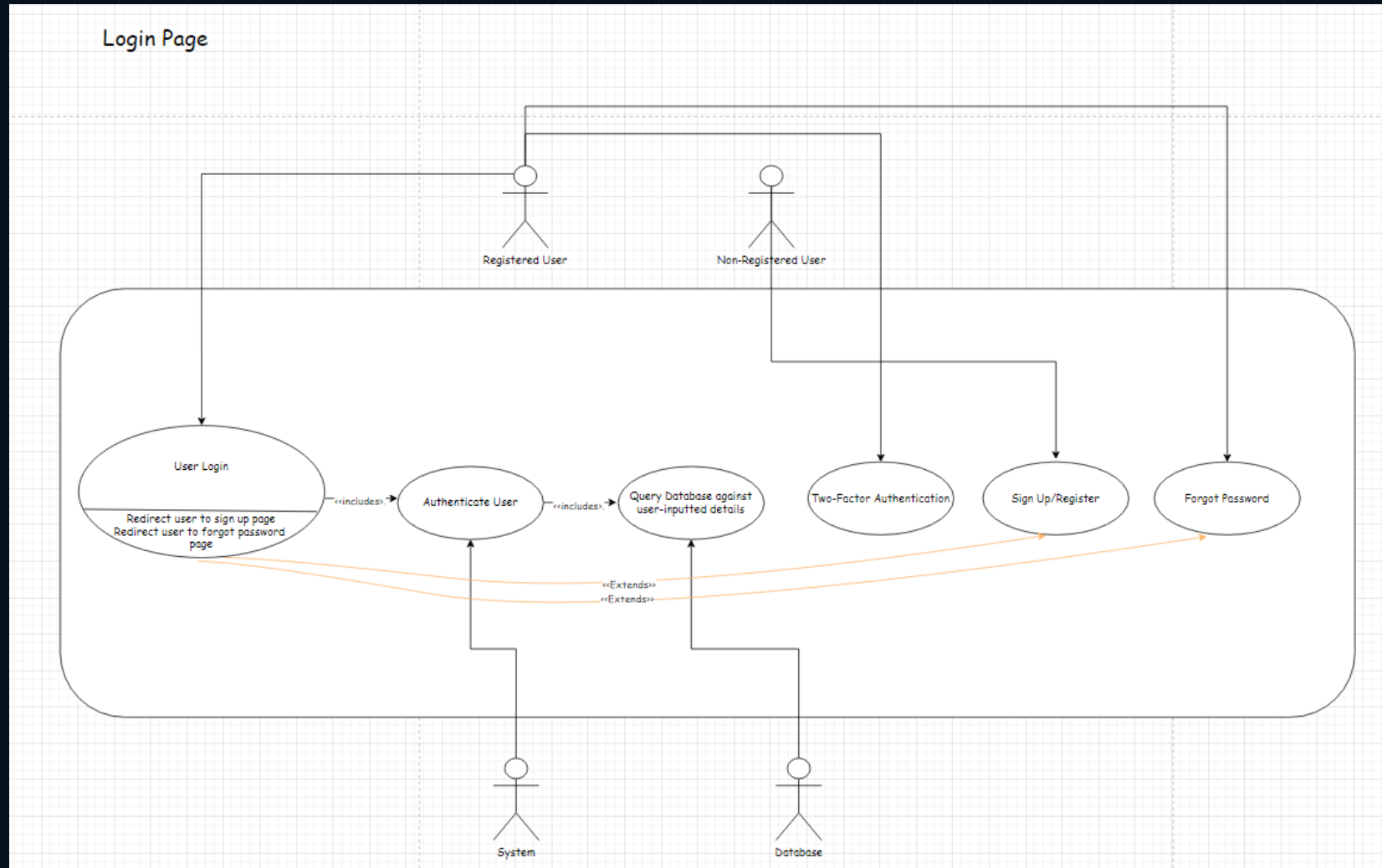
Carl | Login/Sign Up Master Class Diagram



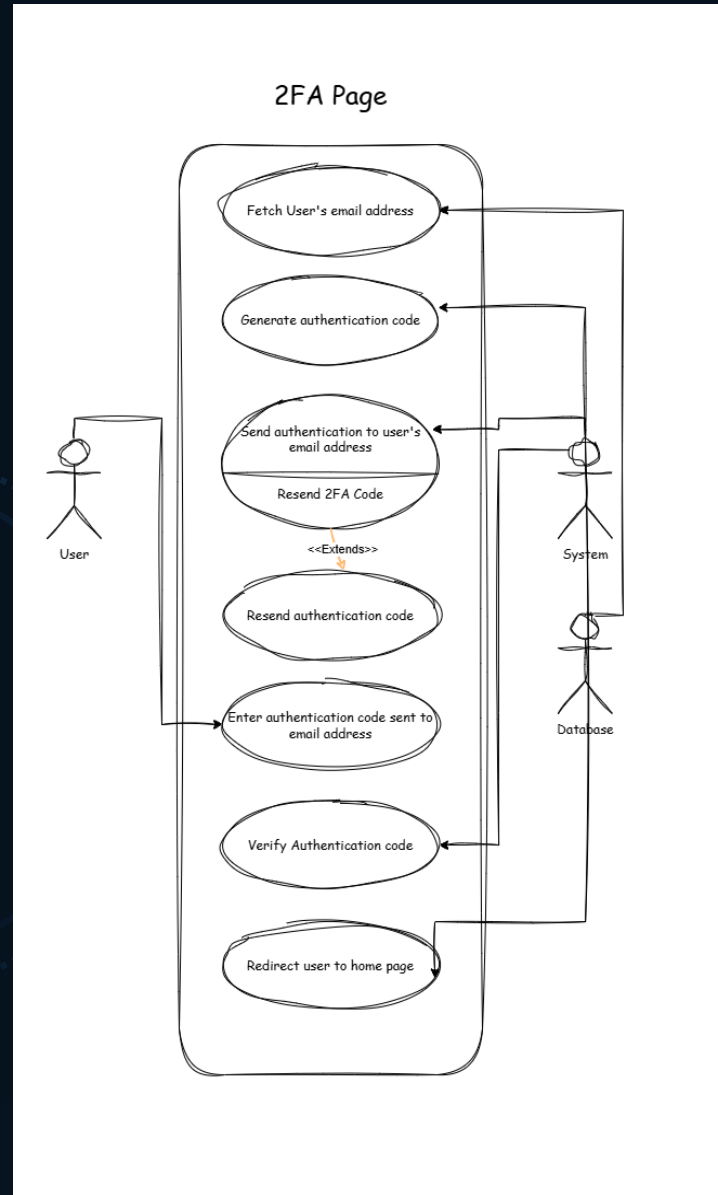
Carl | Login/Sign Up Master ERD Diagram



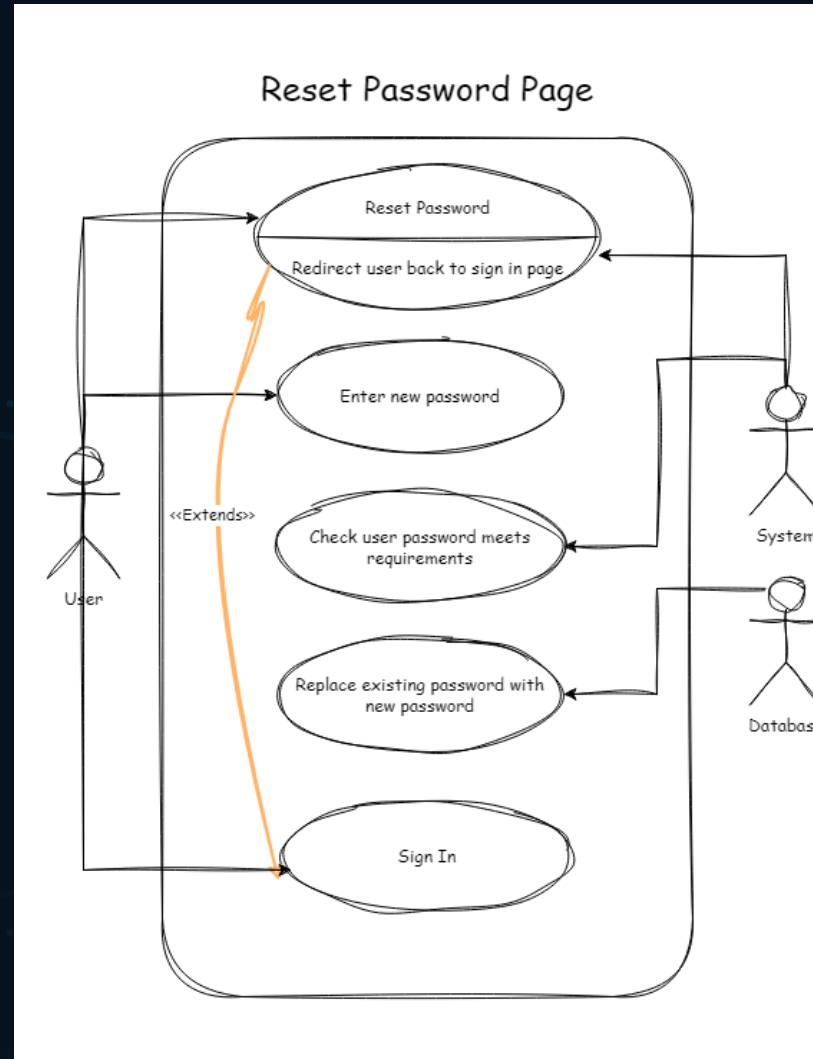
Carl | Login Page Use Case Diagram:



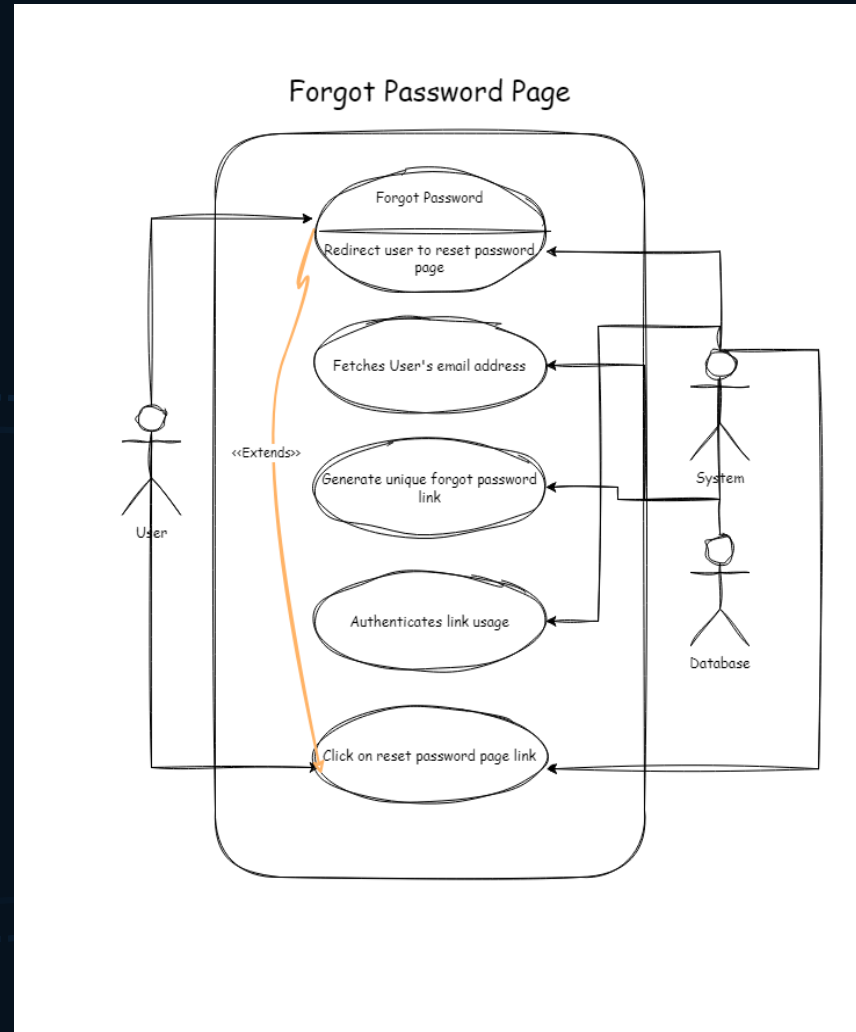
Carl | 2FA Page Use Case Diagram:



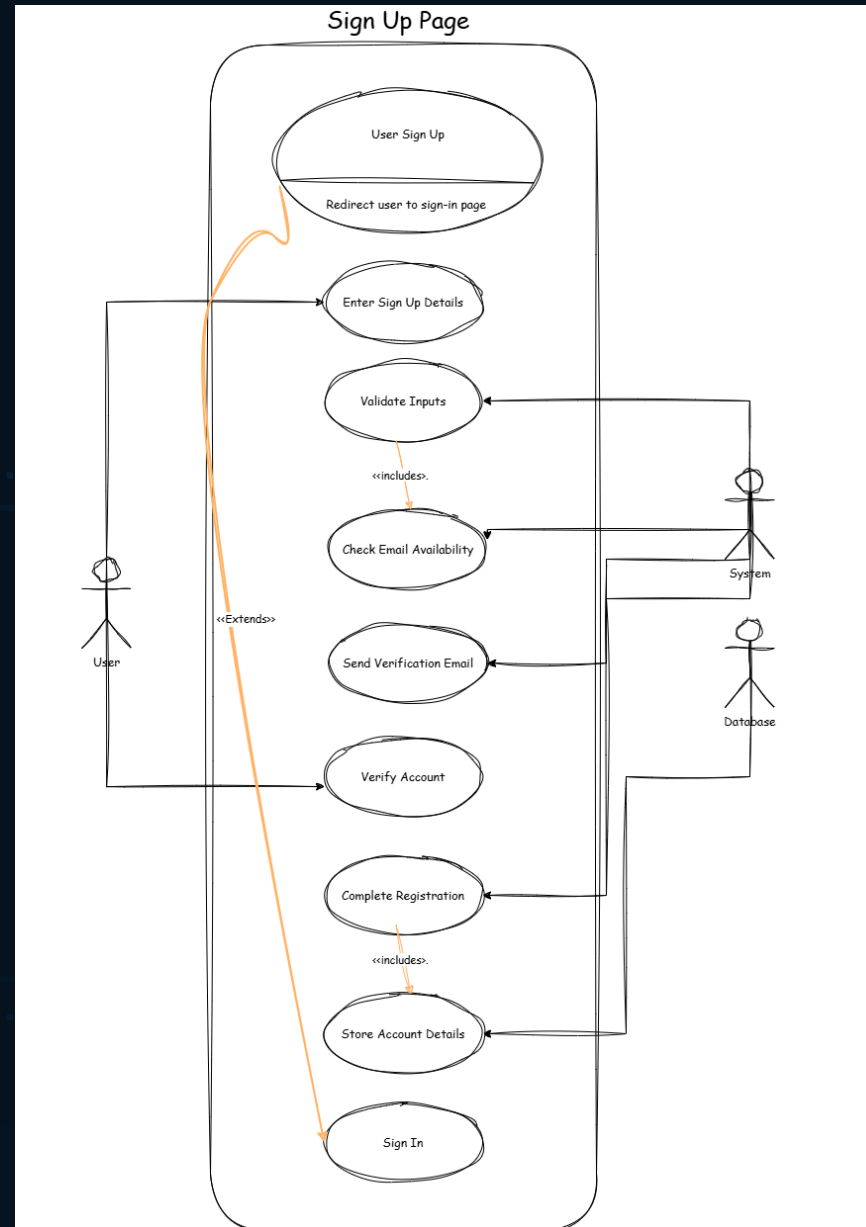
Carl | Reset Password Page Use Case Diagram:



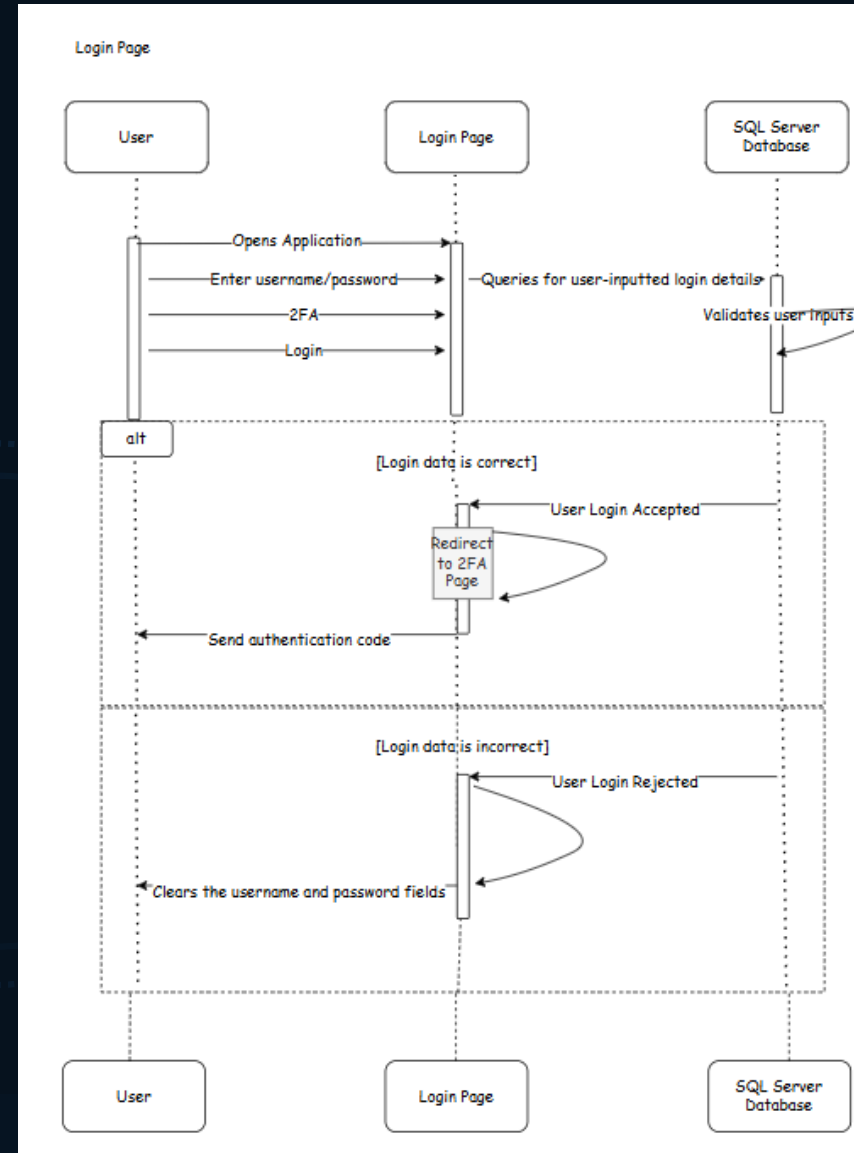
Carl | Forgot Password Page Use Case Diagram:



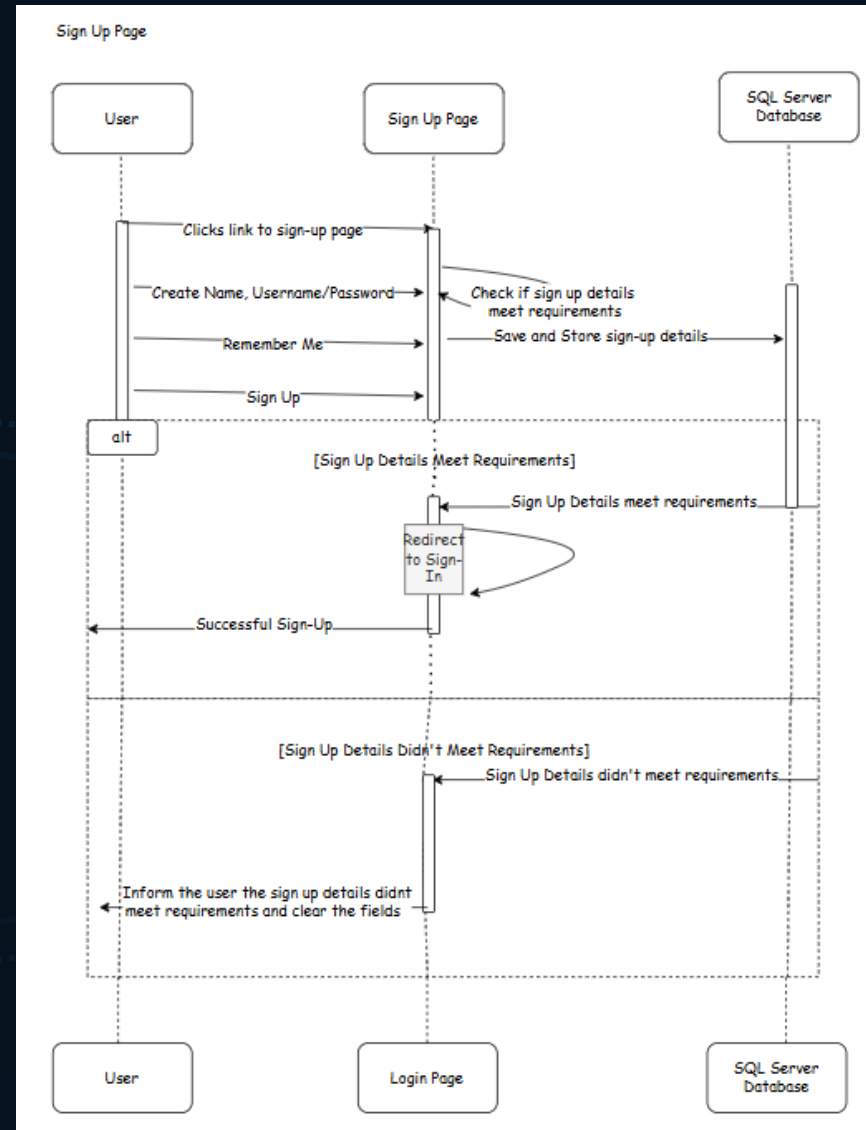
Carl | Sign Up Page Use Case Diagram:



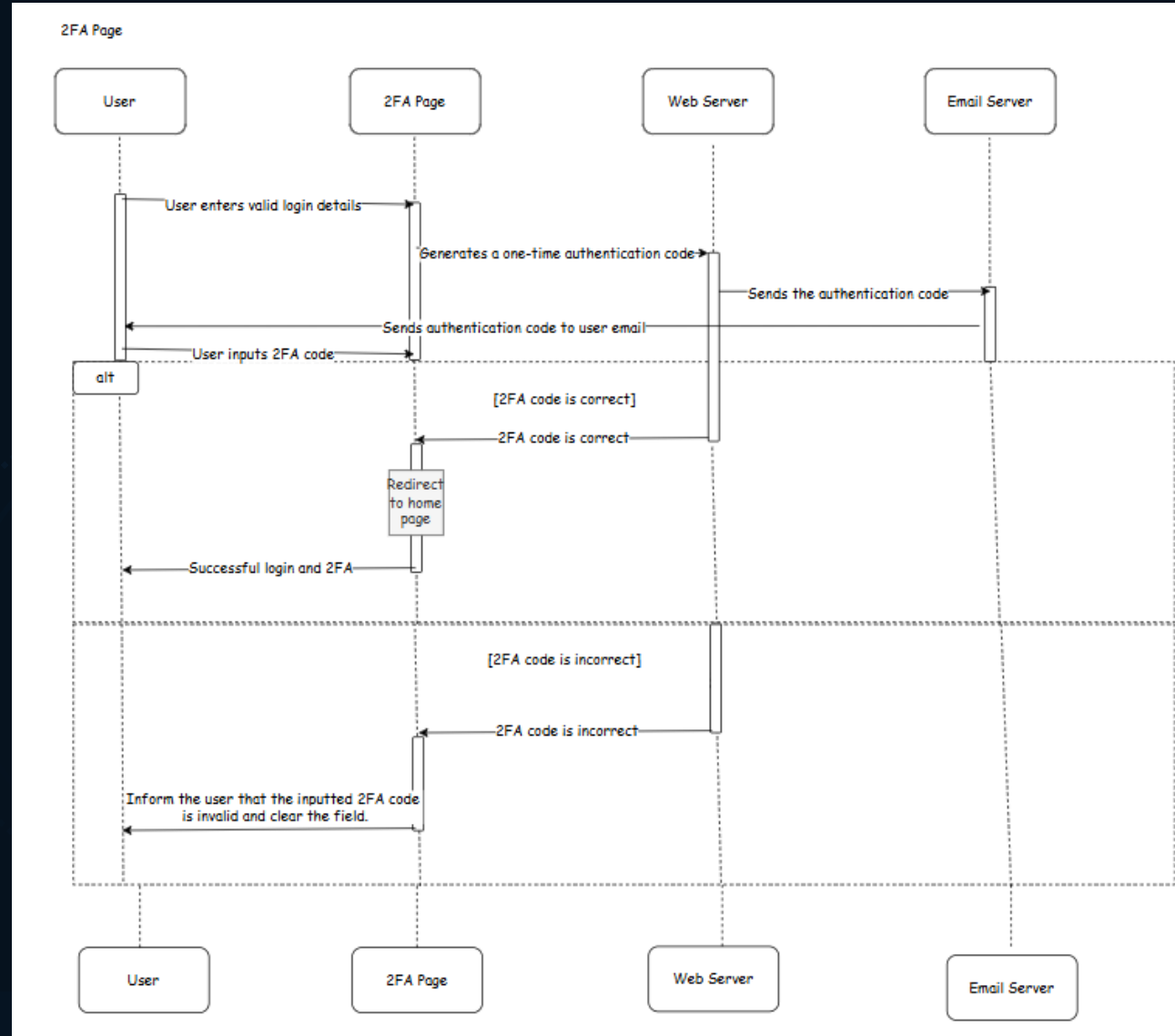
Carl | Login Page Sequence Diagram:



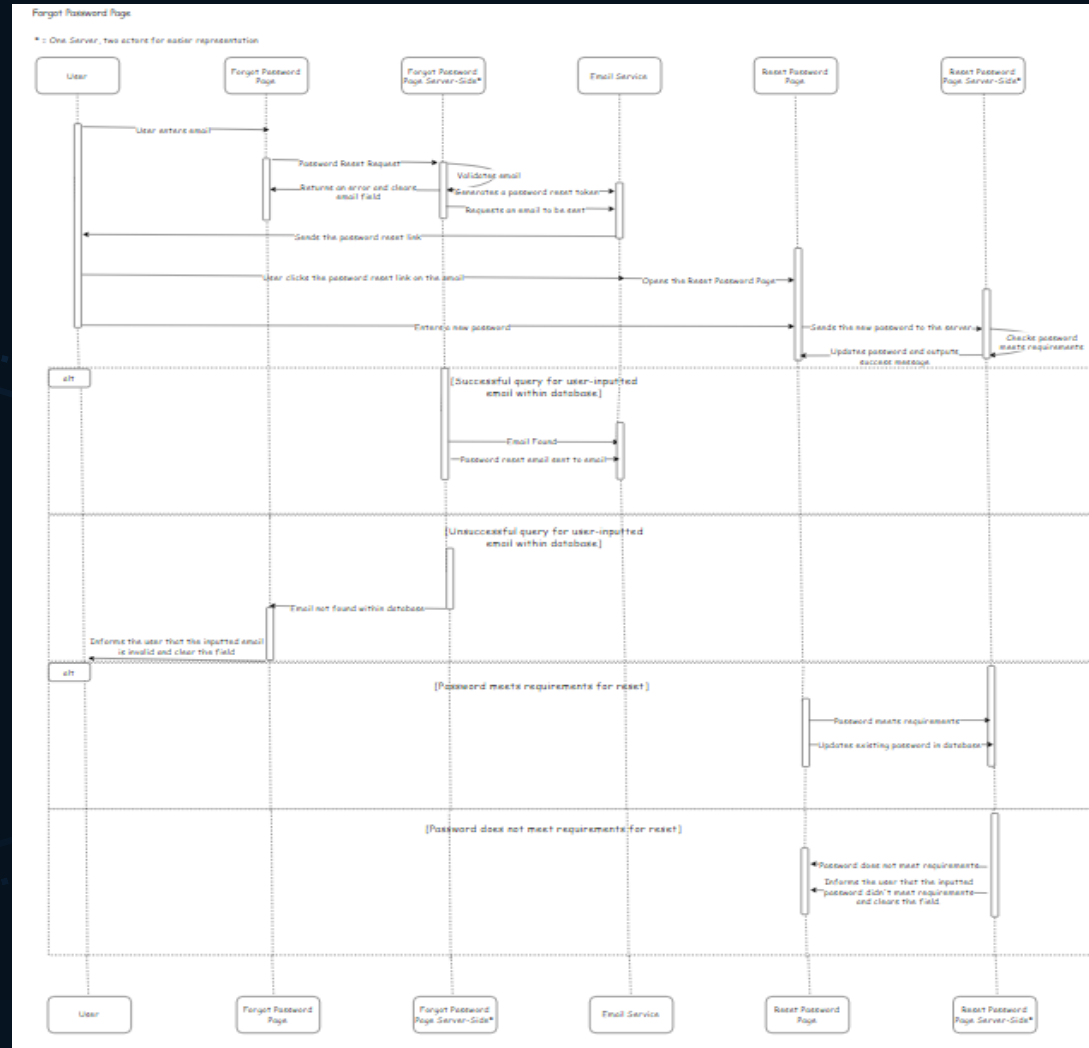
Carl | Sign Up Page Sequence Diagram:



Carl | 2FA Page Sequence Diagram:



Carl | Reset/Forgot Password Pages Sequence Diagram:



Carl | Login Page Wireframe:



Carl | 2FA Page Wireframe:



Search icon

RGPM

Two-Factor Authentication

Enter the authentication code sent to your email address

Screen reader icon | Email icon

Authentication Code*

Enter your authentication code

Resend 2FA Code?

Verify

Zoom In/Zoom Out Buttons

Resend 2FA Code Link

Verify 2FA Button

Screen Reader Button

Input Field for
Authentication Code

Carl | Forgot Password Page Wireframe:



**Email Address
Input Field**

Zoom In/Zoom Out Buttons

Screen Reader Button

**Send Forgot
Password Email
Button**

Carl | Reset Password Page Wireframe:



**New Password
Input Field**

Zoom In/Zoom Out Buttons

Screen Reader Button

**Password
Strength Checker**

**Reset Password
Button**

Carl | Sign Up Page Wireframe:



sign Up Input
Fields

Zoom In/Zoom Out Buttons

Screen Reader Button

Remember Me Checkbox
Sign Up Button

Carl | A better UML portfolio I found online:



https://www.behance.net/gallery/86586833/Netflix-Redesign-UX-Case-Study-2019?tracking_source=search_projects|UML+diagrams+design&l=4