SCSX Group 3 Code Crafters

MoveInLo!

By: Eugene (U2120698A),
Iain (U2221382K), Yifei (U2201092F),
Joseph (U2223041J), Kim (U2020316D)

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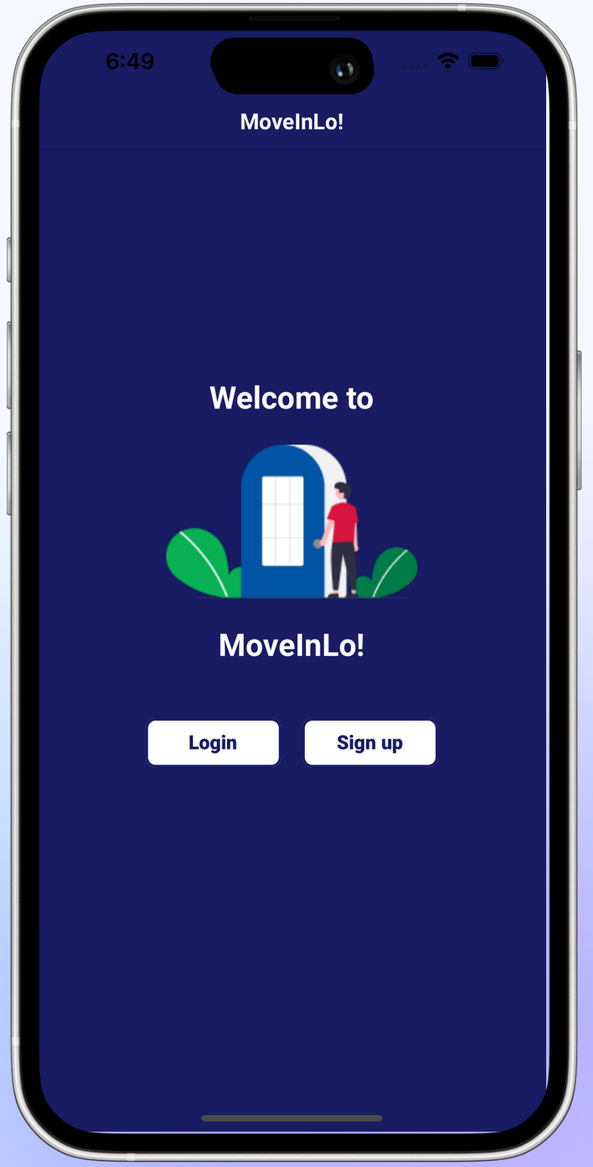


What is MoveInLo?

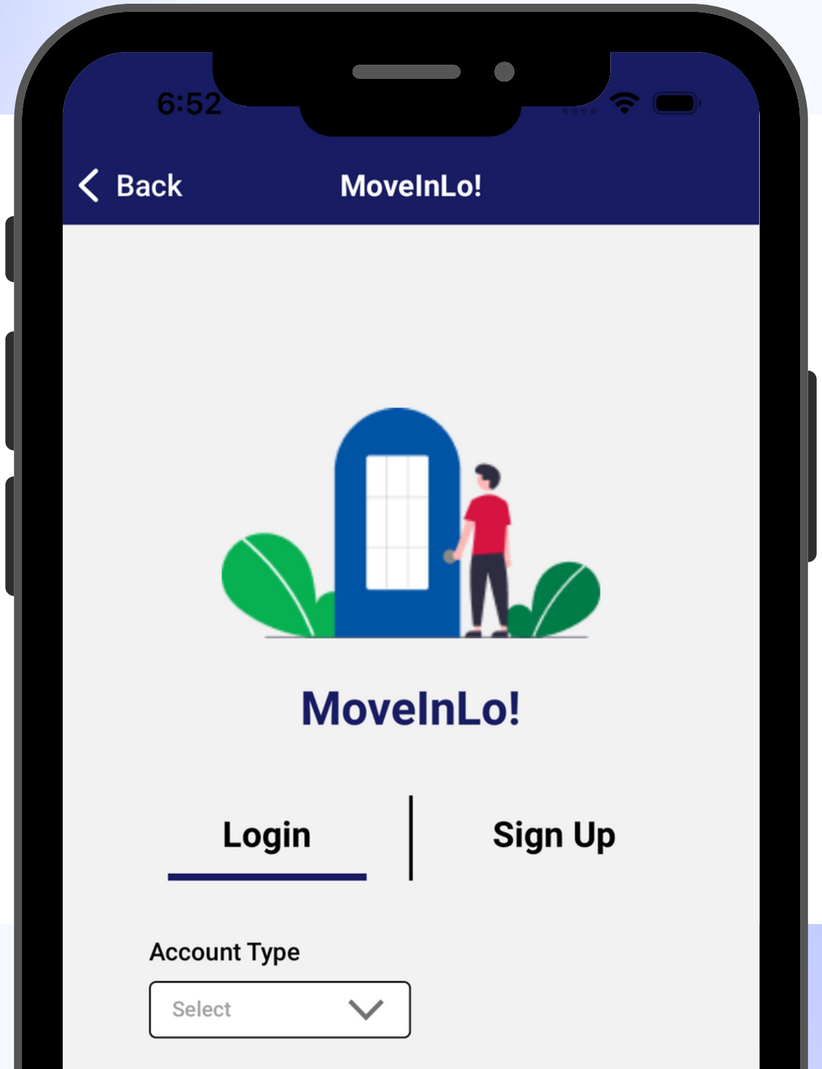
- MoveInLo is a mobile application that seeks to smoothen the process of moving in and out of university halls/ hostels for new and existing students in Singapore. MoveInLo achieves this by providing a seamless experience for moving in/ out as well as a new avenue for students to seek temporary jobs.

- The inspiration for the name “MoveInLo” was drawn from the commonly-used term in Singapore national service, “ORDLo” which signifies the end of a significant milestone, yet start of a new journey.

Features and Requirements

Services

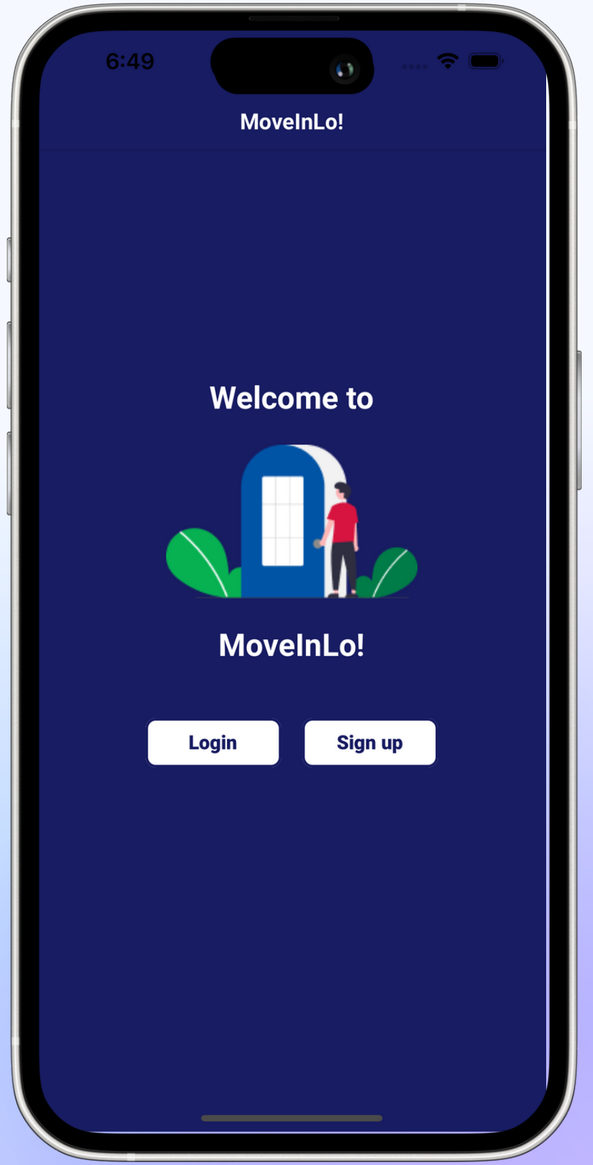
- Move In/ Out Services
- Temporary Storage
- Progress Tracker



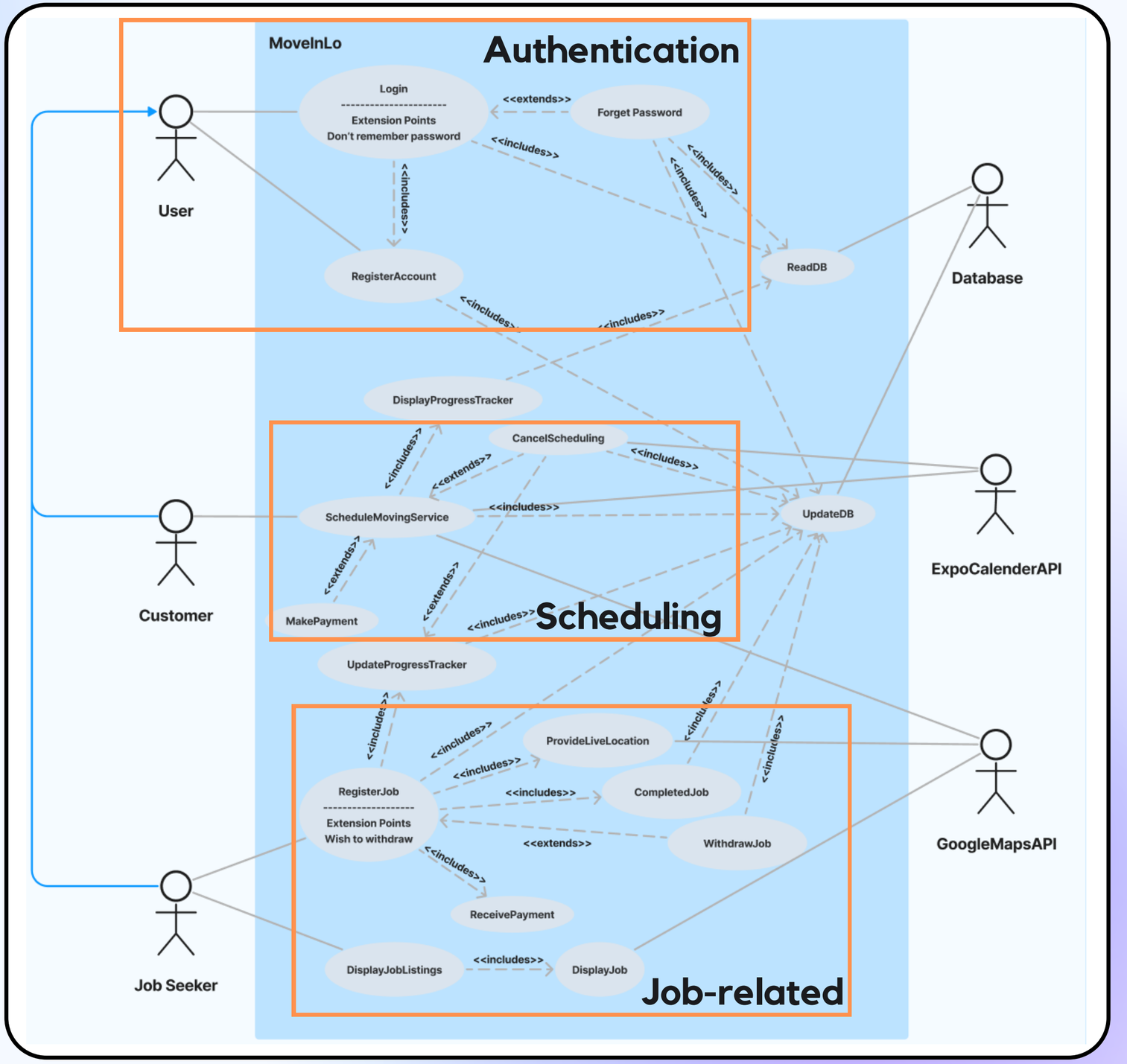
Users

- Job Seekers
- Customers

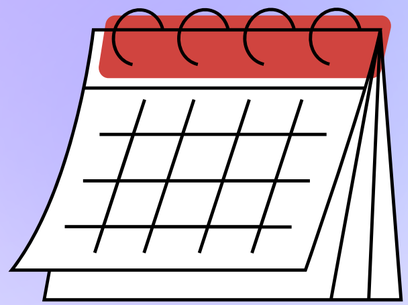
2. Overview



Use Case Diagram



APIs Used

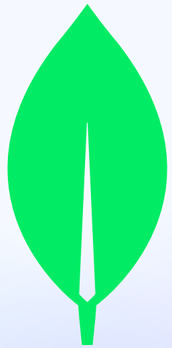


Expo Calendar

Functionalities
Request Calendar Permission
CRUD event

Google Maps API

Functionalities
Request Location Permission
Geolocation
Reverse Geolocation

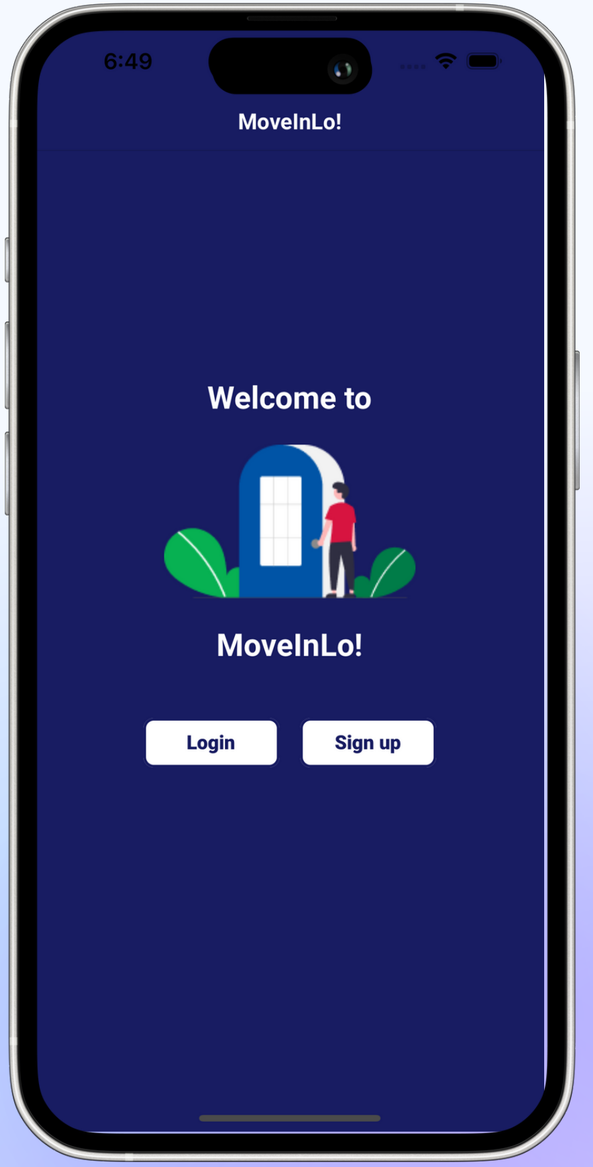


MongoDB Atlas API

Functionalities
CRUD operations
Aggregate pipelines

REAL-TIME Updates to Database & Device Calendar!

3. Software Engineering Practices

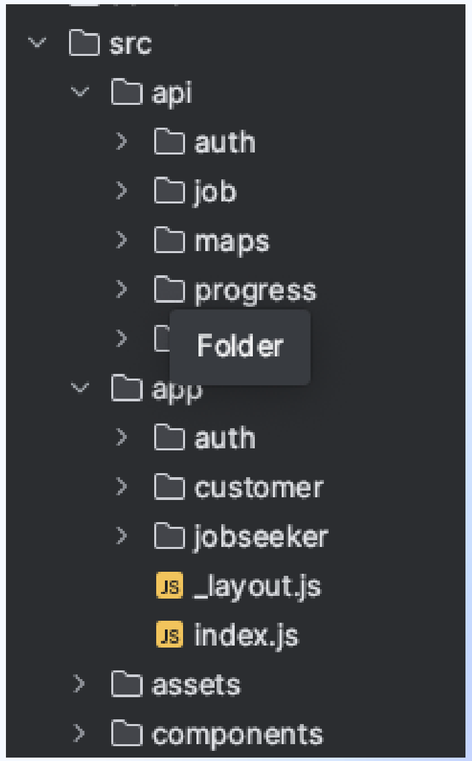


Software Engineering Practices

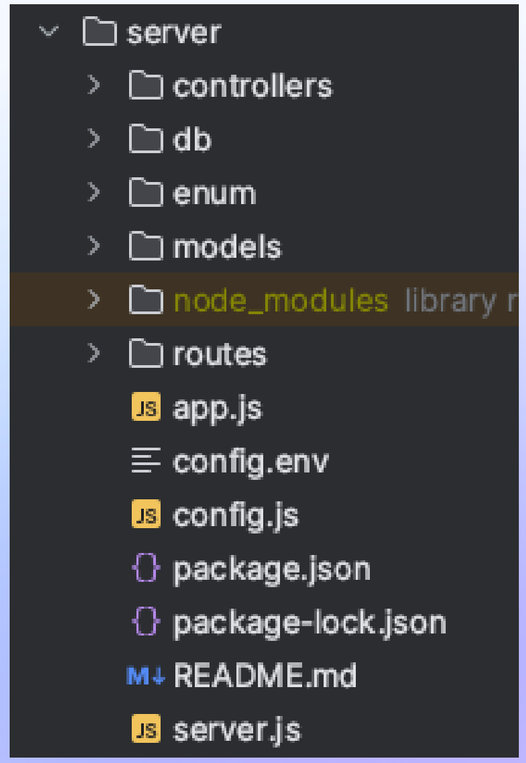
Client-Server Architecture (with Model-View-Controller)

- **Separation of concerns** between business logic
- **Concurrent** development speeds up app delivery
- **Ease of Readability** for future develop

Client

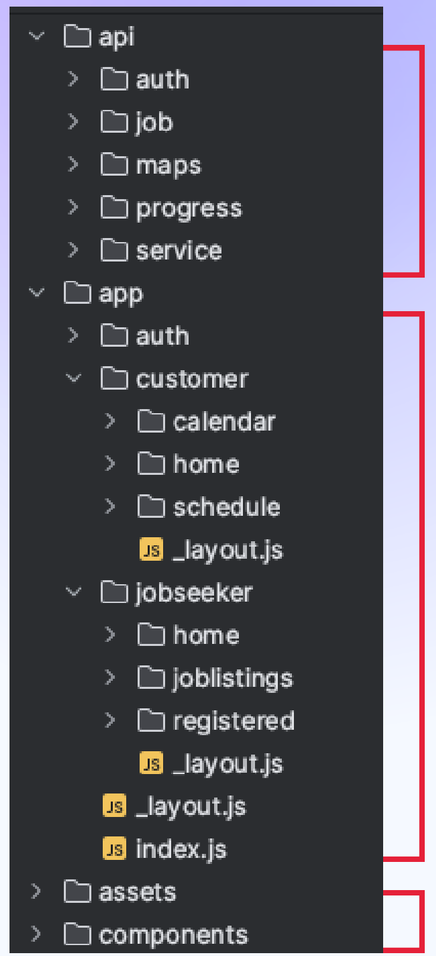


Server



Software Engineering Practices

Client



API Handlers

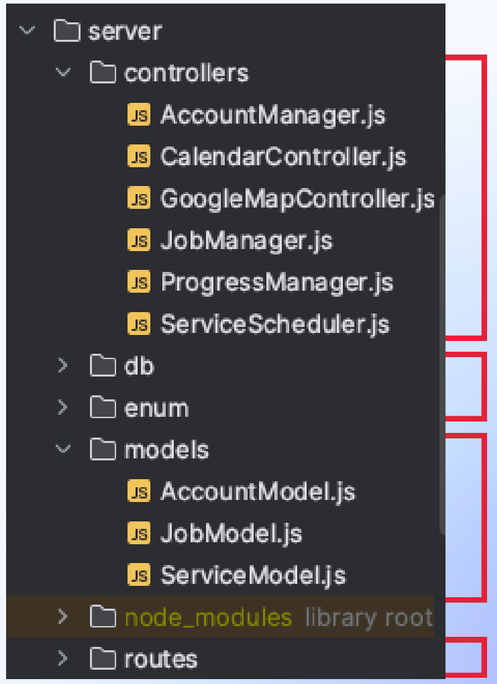
MVC (View)

- **Pages for routing**
- **Clean directory structure**

Assets (images, etc)

Reusable Components

Server



MVC (Controller)

Enum & Database

MVC (Model)

API routes

Design Patterns

Creational Pattern

- Singleton Pattern

Behavioural Pattern

- Chain of Responsibility Pattern
- Command Pattern

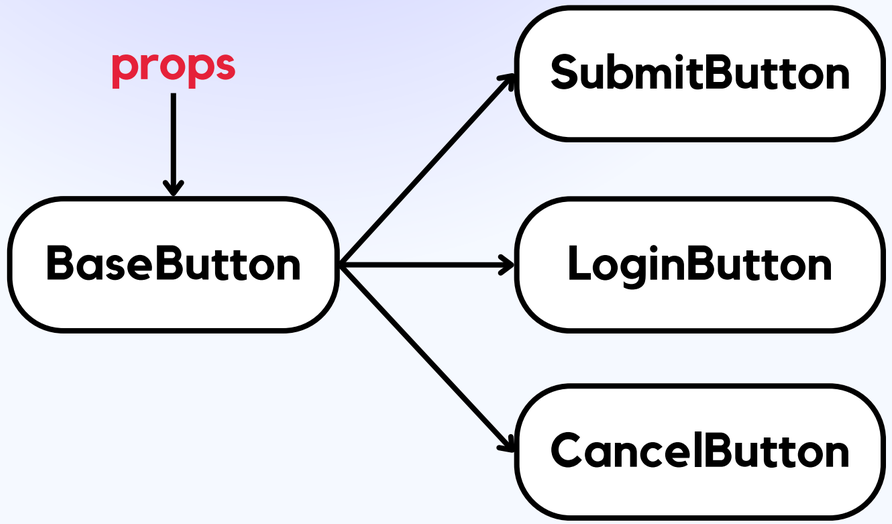
Structural Pattern

- Higher-Level Order Component

Design Patterns

Higher-Level Order Pattern

- Component Reusability
- Customizable to fit different functionalities




```
25+ usages  iujinwee +1
const BaseButton = ({
  title,
  primary,
  secondary,
  width,
  height,
  link,
  onPress,
  textSize,
  ...props
}) => {
  const { theme } = useTheme();
  const StyledPressable : ForwardRef<InferRef  = styled(Pressable);

  1 usage  iujinwee
  const onPressHandler = () : void  => {...};

  return (
    <StyledPressable
      onPress={onPress || onPressHandler}
      className={`border-2 border-primary rounded-lg justify-center items-center
      font-RobotoBold hover:scale-150`}
      style={{...}}
    >
      <Text
        className="font-RobotoBlack text-base"
        style={{...}}
      >
        {title}
      </Text>
    </StyledPressable>
  );
};
```

Design Patterns

Chain of Responsibility Pattern

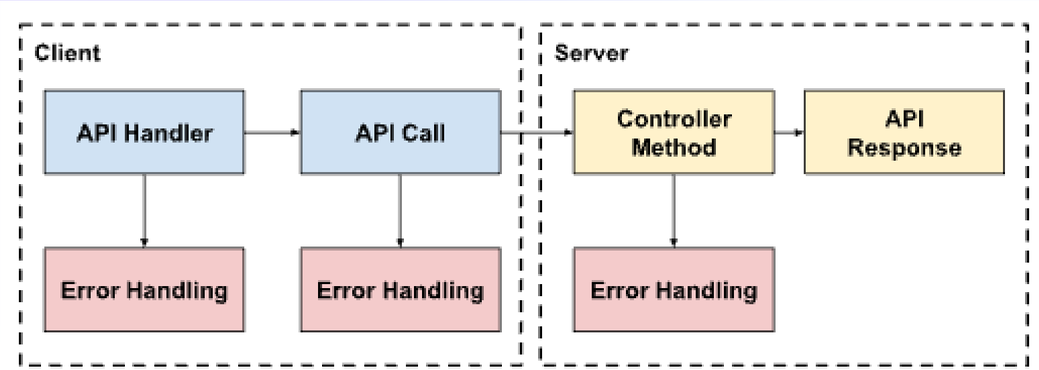


Figure 19: Use of API Handlers

```
useEffect( effect: () : void => {
  1 usage  JosephT631
  async function prepare() : Promise<void> {
    try {
      await fetchAccount(notes);
      await fetchAllData(notes);
    } catch (e) {
      console.warn(e);
    } finally {
      // Tell the application to render
      setAppIsReady( value: true);
    }
  }
  if (!appIsReady) {
    prepare();
  }
}, deps: [idStore]);
```

- Facilitates Error-handling
- Better code maintainability

Design Patterns

Command Pattern

- **Encapsulates different actions**
- **Trigger actions without knowledge of specific details**

```
3 usages   iujinwee
const inputHandler = (input, field) : void  => {
  setAccountInfo( value: (prevState : {...} ) => ({ ...prevState, [field]: input }));
  setShowAlert( value: false);
};
```

Traceability

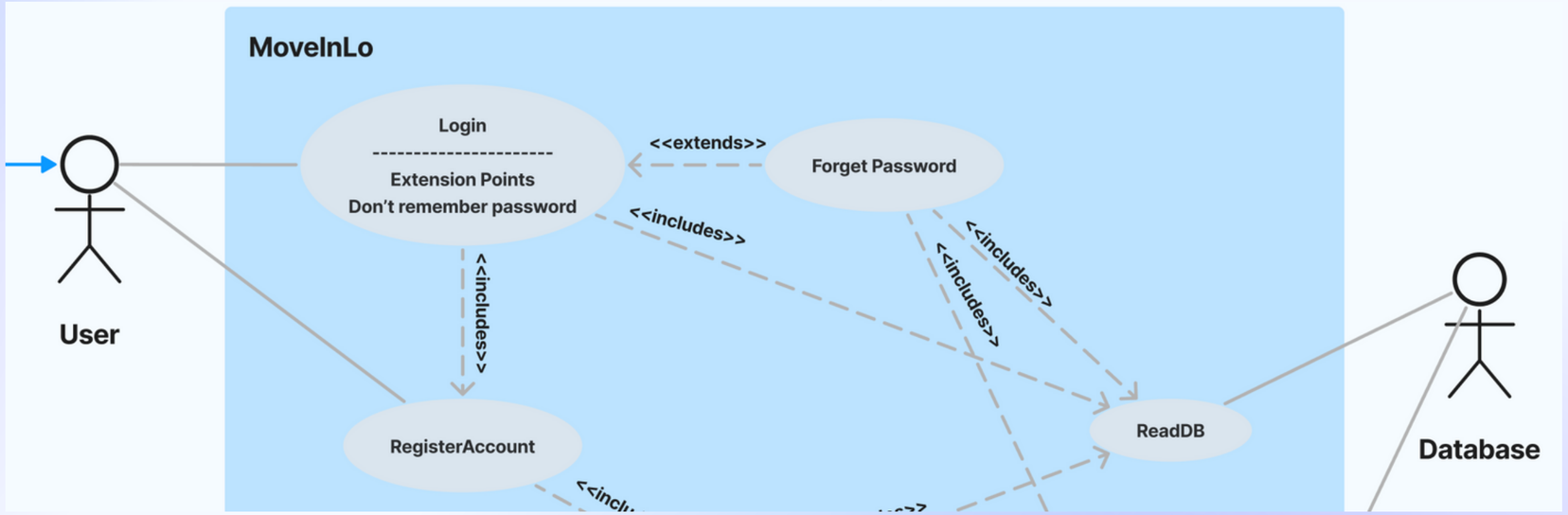
Authentication part - forget password

Forget Password
Description: The app must allow the current user to change their own password.

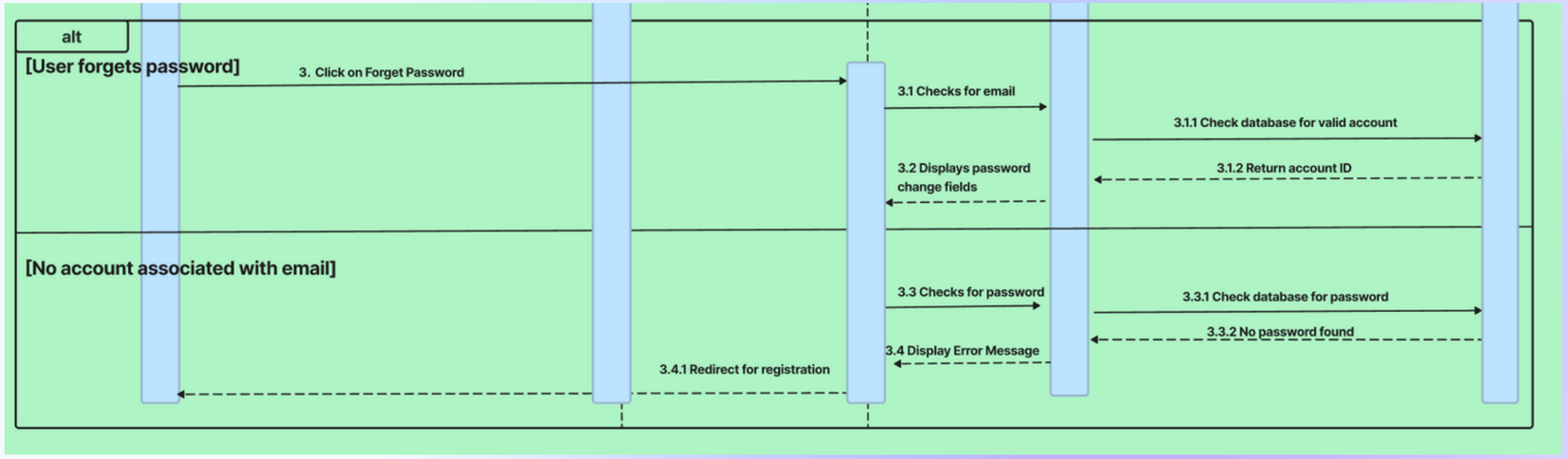
Input: Email, Customer type

Output: Password successfully changed

Use Case Diagram



Sequence Diagram for 'Forget Password'



Authentication part
- forget password

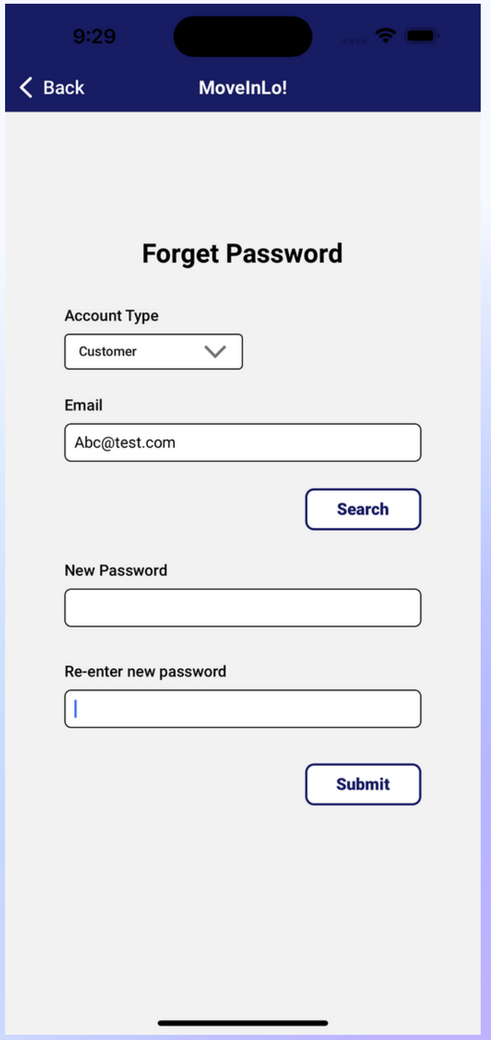
Traceability

Use Case Description

Use Case ID:	A0005		
Use Case Name:	Forget Password		
Created By:	CodeCrafters	Last Updated By:	CodeCrafters
Date Created:	10th Sep 2023	Date Last Updated:	11th Sep 2023

Actor:	User
Description:	On the login page, if the user does not remember their password, they can reset it through email.
Preconditions:	The user has an account.
Postconditions:	The user's current password is changed to the new password.
Priority:	-
Frequency of Use:	By the intention of the user.
Flow of Events:	1. The user presses the "Forget Password" button. 2. App verifies email and the user presses on "Change Password" button. 3. The user is prompted to enter a new password. 4. The user enters a new password. 5. App checks if the new password is valid. 6. App replaces the old password with the new one in the database. 7. Password is reset.
Alternative Flows:	7. App checks that the password is invalid. 8. Back to step 5.
Exceptions:	1. The user's email is not linked to any valid account. 2. The user does not have access to his/her own email.
Includes:	-
Special Requirements:	-
Assumptions:	The email belongs to the user's account.
Notes and Issues:	-

UI Mockup



Authentication part
- forget password

Traceability

Implementation

```
const validationHandler = (field) : any  => {
  const validEmail : boolean  =
    accountInfo.email !== "" &&
    accountInfo.email.includes("@") &&
    accountInfo.email.includes(".com");

  const validType : boolean  = accountInfo.type !== "";

  const validPassword : boolean  =
    accountInfo.newPassword.length >= 8 &&
    /[A-Z]/.test(accountInfo.newPassword) &&
    /[0-9]/.test(accountInfo.newPassword) &&
    /[!@#$%^&*()_+]/.test(accountInfo.newPassword);

  const matchingPassword : boolean  =
    accountInfo.newPassword === accountInfo.passwordCheck;

  switch (field) {
    case "type":
      return invalidHandler(validType, field);

    case "email":
      return invalidHandler(validEmail, field);

    case "newPassword":
      return invalidHandler(validPassword, field);

    case "passwordCheck":
      return invalidHandler(matchingPassword, field);
  }
};
```

Validating inputs & Error handling

```
4 usages  iujinwee
const inputHandler = (input, field) : void  => {...};

4 usages  iujinwee
const invalidHandler = (bool, field) => {...};

1 usage  iujinwee
const resetHandler = () : void  => {...};

4 usages  iujinwee
const validationHandler = (field) : any  => {...};

1 usage  Eugene Wee +1
const searchHandler = async () : Promise<void>  => {...};

1 usage  Eugene Wee +1
const submitHandler = async () : Promise<void>  => {
  const validNewPassword : any  = validationHandler( field: "newPassword");
  const matchingPassword : any  = validationHandler( field: "passwordCheck");

  if (validNewPassword && matchingPassword) {
    if (accountId) {
      const updatedAccount = await postNewPassword( req: {
        id: accountId,
        body: accountInfo,
      });
      if (updatedAccount) {
        setModalVisible( value: true);
      } else {
        setShowAlert( value: true);
      }
    }
  } else {
    setShowAlert( value: true);
  }
};
```

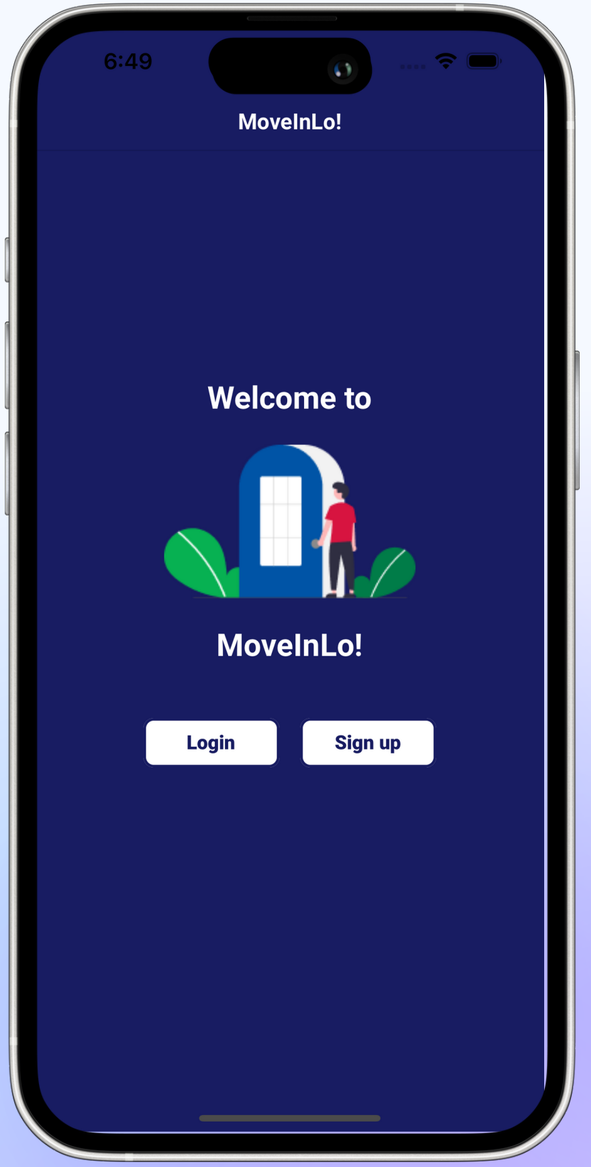
API Call to update password

Testing

Forget password

Email	New Password	Expected Output	Actual Output
Email in database	Valid password	Success	Success
Email not in database	Valid password	Error	Error: Account doesn't exists.
Email in database	Invalid password	Error	Error: Password must be at least 8 characters with 1 capital letter, 1 number and 1 special character.
Email in database	Password doesn't match	Error	Error: Both passwords must match
Missing	N/A	Error	Error: You have missing or invalid inputs!
Email in database	Missing	Error	Error: You have missing or invalid inputs!

4. Demo



Thanks!