***Qt Entrance Test***

***Nexlesoft Cooperation, May 2022***

# Overview

You need to implement the following **screens** & and sidemenu for this examination using real APIs integration. See [**UI section**](#_UI_Requirements) for more information.

|  |  |  |
| --- | --- | --- |
| **Sign Up** | **Sign In** | **Blank dashboard** |
| Graphical user interface, text, application  Description automatically generated | Graphical user interface, application  Description automatically generated |  |

When the user opens the app, the Sign-In screen appears. Users can switch to the Sign-up screen by clicking on **Create an account**. Once user logged into the app successfully or signed up successfully, the blank dashboard screen shows.

On the dashboard screen, the user can open the left menu using hamburger icon (sidemenu) and do logout.

# General examination requirements

* Technologies
  + Use **Qt / QML, Qt / C++**
* Design
  + Follow the design from Figma to implement this test: <https://www.figma.com/file/U2iq3TMMraabKGYwHbGZZk/?node-id=246%3A1334>
  + Please make sure you follow the design as close as possible.
* API integration
  + You can use the real APIs in our development server to implement the required screens. Refer to the [**API Reference**](#_API_Reference) section
* Others
  + It’s a plus if the code implementation is covered by unit tests
* Test submission
  + The implementation is uploaded to personal GitHub repo. Then send the repo link back to Nexle for review.
  + The repo should also contain the screenshots of the app you did.

# UI Requirements

## Signup screen

* First name, last name, email, and password are required fields.
  + First name rule
    - The first name is required.
  + Last name rule
    - The last name is required.
  + Email rule:
    - The email is required.
    - The email is valid.
  + Password rule:
    - The password is required.
    - The password must be between 6-18 characters.
    - The password must contain at least one digit, one special character, and one letter.

You will see in the design how to show the validation errors on the Sign-up and Sign-In screens.

* The validation error messages only show when the user clicks the **Sign Up** button and the validation doesn’t match
* The validation error messages will disappear when the user start inputting.
* If there’s no validation error, when the Signup button is clicked, the app calls signup API
* If signup is successful, the app
  + Gets the token from the signup API saves for later uses.
  + Navigate to the Dashboard screen which is defined next.

## Sign-In screen

* Email and password are required fields.
  + Email rule:
    - The email is required
    - The email is valid
  + Password rule:
    - The password is required
    - The password must be between 6-18 characters.
    - The password must contain at least one digit, one special character, and one letter.
* The validation error messages only show when the user clicks the **Login** button and the validation doesn’t match
* The validation error messages will disappear when the user start inputting.
* If there’s no validation error, when the Login button is clicked, the app calls login API to log in and saves the token to the local storage. The token will be used for next API calls
  + If there’s a saved token and hasn’t expired yet, the app automatically logs the user in.
  + If there’s saved token and has expired, the app logout the user to Sign in screen.
* If the user logged in successfully, the app navigates to the dashboard screen.

## Dashboard screen

* This screen is an authenticated screen. It can be seen in either of the following cases
  + When login successfully
  + When signup successfully
  + When user launches the app after successfully logged-in/signed-up
* This screen has the default avatar at the top right corner.
* User can open left menu from hamburger icon and do Logout from there.
* When Logout is clicked, the app calls Logout API.
* If the Logout API is successful, the app does the following:
  + Clear the token saved in the local storage
  + Navigate the user back to the Sign in screen

## Sidemenu

* This sidemenu appears when the user taps to the hamburger menu and logout. Check [design section](#_UI_Requirements) for more information

# API Reference

## Login API

* URL
  + <http://streaming.nexlesoft.com:4000/api/auth/signin>
* Method: POST
* Request payload:
  + email (string)
  + password (string)

E.g.

**{**

**"email": "test1@gmail.com",**

**"password": "12345678"**

**}**

* Response
  + \_id (string)
  + firstName (string)
  + lastName (string)
  + displayName (string)
  + token (string)
  + refreshToken (string)

E.g.

**{**

**"\_id": "5f64ac99e52d546e14a868b3",**

**"email": "test1@gmail.com",**

**"admin": false,**

**"firstName": "Trung",**

**"lastName": "Huynh",**

**"createdAt": "2020-09-18T12:48:25.081Z",**

**"updatedAt": "2020-09-18T12:48:25.086Z",**

**"\_\_v": 0,**

**"displayName": "Huynh Trung",**

**"token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJfaWQiOiI1ZjY0YWM5OWU1MmQ1NDZlMTRhODY4YjMiLCJpYXQiOjE2NTIxODkwODQsImV4cCI6MTY1MjI3NTQ4NH0.OPwHPF0d0hjnLQaLtfde8tUj8Vo7VJAuAiXF-N5dDGw",**

**"refreshToken": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJfaWQiOiI1ZjY0YWM5OWU1MmQ1NDZlMTRhODY4YjMiLCJpYXQiOjE2NTIxODkwODQsImV4cCI6MTY1NDc4MTA4NH0.vQJqt9i5fzj2sUqXDUqKjWcFu53wejdpf5ds-8VG8LE"**

**}**

## Signup API

* URL
  + <http://streaming.nexlesoft.com:4000/api/auth/signup>
* Method: POST
* Request Payload
  + firstName (string)
  + lastName (string)
  + email (string)
  + password (string)

E.g.

**{**

**"firstName": "Trung",**

**"lastName": "Huynh",**

**"email": "test2@gmail.com",**

**"password": "12345678"**

**}**

* Response
  + \_id (string)
  + firstName (string)
  + lastName (string)
  + displayName (string)
  + token (string)
  + refreshToken (string)

E.g.

**{**

**"\_id": "627a67b3dfcfa579ffcc525e",**

**"email": "test2@gmail.com",**

**"admin": false,**

**"firstName": "Trung",**

**"lastName": "Huynh",**

**"createdAt": "2022-05-10T13:25:07.366Z",**

**"updatedAt": "2022-05-10T13:25:07.369Z",**

**"\_\_v": 0,**

**"displayName": "Huynh Trung",**

**"token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJfaWQiOiI2MjdhNjdiM2RmY2ZhNTc5ZmZjYzUyNWUiLCJpYXQiOjE2NTIxODkxMDcsImV4cCI6MTY1MjI3NTUwN30.M1xmyufSX4mPPasyW4X84gfSS5LSxo5Id7p\_nFXVuzw",**

**"refreshToken": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJfaWQiOiI2MjdhNjdiM2RmY2ZhNTc5ZmZjYzUyNWUiLCJpYXQiOjE2NTIxODkxMDcsImV4cCI6MTY1NDc4MTEwN30.dXNHuRZ54Kt3m2ivDg4NqrJMpsvGencE0gmacRCuO3M"**

**}**

## Logout API

* URL
  + <http://streaming.nexlesoft.com:4000/api/auth/logout>
* Method: POST
* Request header
  + Authorization: {token}
* Response (empty body)
  + Status: 200 for success