

## Lab 2 on Mobile Programming

### 1 Requirement

The objective of the second lab is to practice some UI components.

The requirement of your report:

- Each one should provide an individual report by **20h00, 20 Nov**;
- Screenshots of your codes, both `xml` and `java`;
- **Screenshots of your application**, containing **each stage of operation**, and **explanation** on the results;
- \*If you want to add new functions to the application, explain your design and results;
- Send me by email: qiong.liu@cyu.fr, and name your report as `MP.TP2.Prenom.Nom.pdf`.
- The report of TP1 weights 20% of your final note.
- This project is a bit complex. When writing code, try to build and run your project frequently, rather than writing a large amount of code before running it. This approach allows you to catch and fix errors early, making it easier to locate bugs and reducing the risk of your project crashing.

### 2 Healthy Lifestyle Self-Assessment

To help users self-assess their lifestyle habits and provide suggestions for improvement based on their current habits in areas such as sleep, diet, physical activity, and mental well-being.

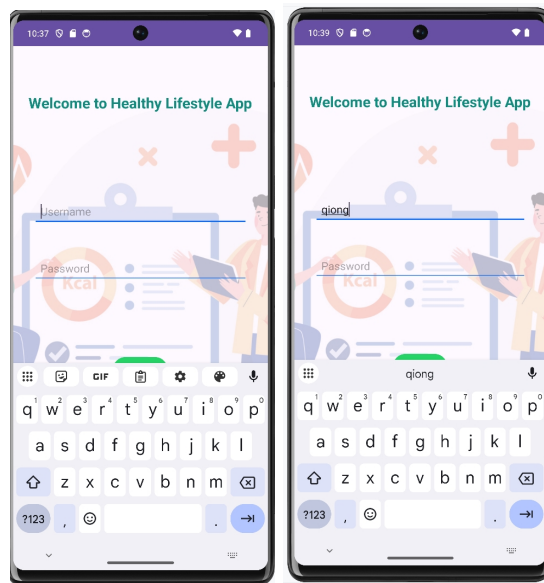


Figure 1: Login Activity

- The application has three activities.
- The **Login Activity (MainActivity1)** includes the following features [points:5/20]:
  - A `TextView` is used to display a title.
  - `EditText` fields are provided to enter the user name and password.
  - A `Button` labeled **Login** allows navigation to the next activity. <sup>1</sup>
  - Before proceeding, the app checks if both login fields are filled. If valid, a `Intent` is used to navigate to the next activity.
  - With or without background image, do not impact your note.

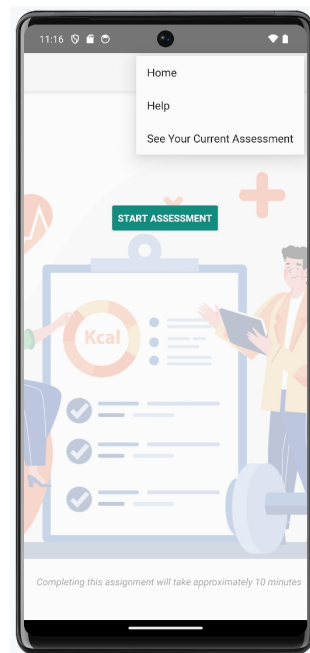


Figure 2: Menu

- The second activity includes the following features [points:6/20]:
  - A menu with items labeled "Home", "Help", and "See Your Current Assessment".
  - A **Button** that allows navigation to the next activity.
  - When you click "Home", we can return to MainActivity.
  - A tip displayed as an informational text reminds users that completing this assignment will take approximately 10 minutes. (optional, do not include in your note)
- The **Test Activity (MainActivity3)** includes three fragments [points:9/20]:
  - Fragment 1 gives instructions to select questions [points:3/20];
  - Fragment 2 provides question on physical assignments. If user select "Yes", then the results should display [points:3/20];
  - Fragment 3 provides question on mental assignments. If user select "Yes", then the results should display [points:1/20];
  - Fragment 4 summarize the total score [points:2/20].
  - (Not necessary) Optional: Each selected item is assigned 1 point, and the total score is calculated based on the user's responses. Using conditional logic (if-else statements), the app assesses the user's health status as Healthy, Sub-healthy, or In Need of Medical Attention in Fragment 4. Optionally, the app can also provide personalized advice based on the user's score [bonus: 3/20].

## Appendix

### Physical Test:

- |                               |       |
|-------------------------------|-------|
| • Severe difficulty breathing | (+10) |
| • Severe chest pain           | (+10) |
| • Extreme fatigue             | (+5)  |
| • Confusion or disorientation | (+8)  |
| • Loss of consciousness       | (+10) |
| • Persistent high fever       | (+7)  |
| • Dry cough                   | (+5)  |
| • Sore throat                 | (+3)  |

<sup>1</sup>In the next lecture, we will explore how to use a database to verify the correctness of login information.

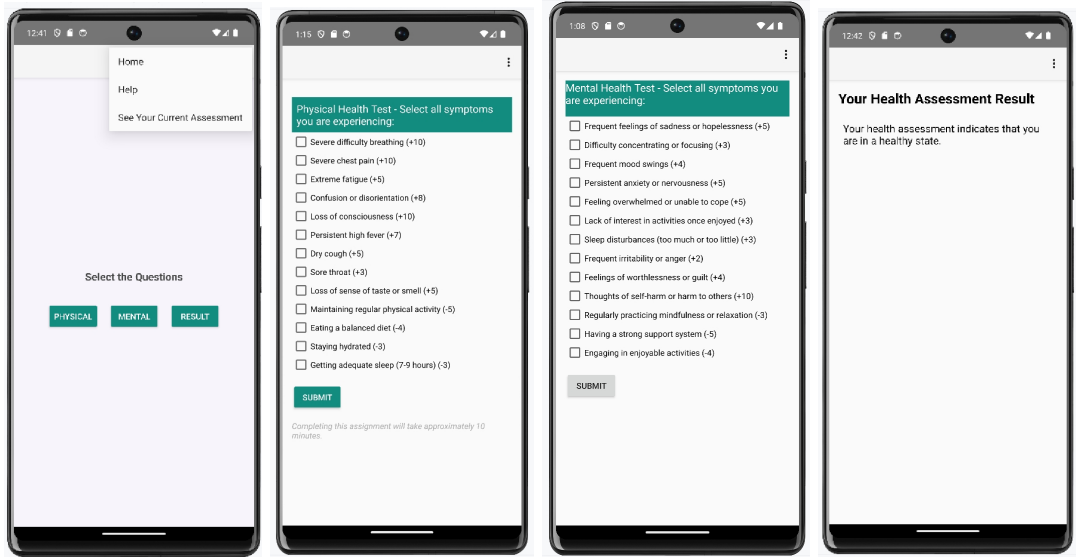


Figure 3: Third Activity (four fragments)

- Loss of sense of taste or smell
  - Headache
  - Muscle or joint pain
  - Runny or stuffy nose
  - Nausea or vomiting
  - Diarrhea
  - Chills or shivers
  - Abdominal pain
  - Skin rash
  - Red or irritated eyes
  - Difficulty sleeping
  - Maintaining regular physical activity
  - Eating a balanced diet
  - Staying hydrated
  - Getting adequate sleep (7-9 hours)

**Mental Health Examples:**

  - Frequent feelings of sadness or hopelessness
  - Difficulty concentrating or focusing
  - Frequent mood swings
  - Persistent anxiety or nervousness
  - Feeling overwhelmed or unable to cope
  - Lack of interest in activities once enjoyed
  - Sleep disturbances (too much or too little)
  - Frequent irritability
  - Positive social interactions or support
  - Practicing mindfulness or relaxation techniques
  - Engaging in enjoyable activities regularly
- (+5)
  - (+2)
  - (+2)
  - (+1)
  - (+4)
  - (+4)
  - (+3)
  - (+5)
  - (+2)
  - (+2)
  - (+1)
  - (-5)
  - (-4)
  - (-3)
  - (-3)
  - (+5)
  - (+3)
  - (+4)
  - (+5)
  - (+5)
  - (+3)
  - (+3)
  - (+2)
  - (-3)
  - (-2)
  - (-4)

3 Tips

There are some tips that might useful for you.

### 3.1 Layout

- Login Activity:

- ImageView to adapt your screen:

```
1 <ImageView
2     android:id="@+id/background_image"
3     android:layout_width="0dp"
4     android:layout_height="0dp"
5     android:alpha="0.3"
6     android:scaleType="centerCrop"
7     android:src="@drawable/health_care"
8     app:layout_constraintBottom_toBottomOf="parent"
9     app:layout_constraintEnd_toEndOf="parent"
10    app:layout_constraintHorizontal_bias="0.0"
11    app:layout_constraintStart_toStartOf="parent"
12    app:layout_constraintTop_toTopOf="parent"
13    app:layout_constraintVertical_bias="0.0" />
```

- EditText to input your user name and password

```
1 <EditText
2     android:id="@+id/username"
3     android:layout_width="0dp"
4     android:layout_height="wrap_content"
5     android:layout_marginStart="32dp"
6     android:layout_marginTop="136dp"
7     android:layout_marginEnd="32dp"
8     android:backgroundTint="@color/classic_blue"
9     android:hint="Username"
10    android:inputType="textPersonName"
11    android:padding="12dp"
12    app:layout_constraintEnd_toEndOf="parent"
13    app:layout_constraintHorizontal_bias="0.0"
14    app:layout_constraintStart_toStartOf="parent"
15    app:layout_constraintTop_toBottomOf="@id/welcome_text" />
```