Campus: Rua Manoel João Gonçalves, 410/412 – Alcântara CEP: 24711-080

Curso: Desenvolvimento Full-Stack

Disciplina: RPG0025 - Lidando com sensores em dispositivos móveis

Turma: 9001

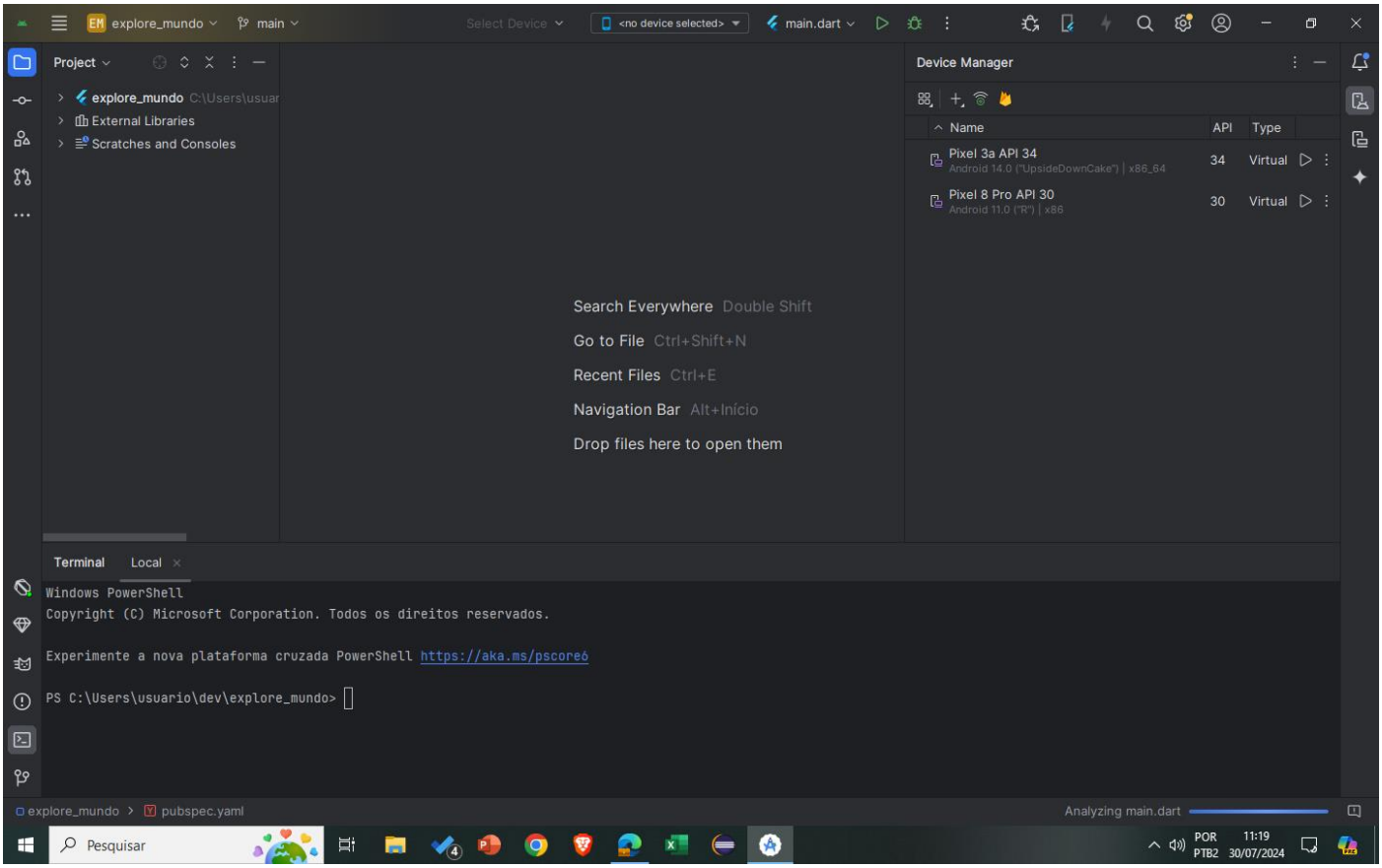
Semestre letivo: 2024.2 FLEX

Integrante:

Nome: Samir Campos Lima Matrícula: 2022.11.47141-1

Link do repositório no GIT: [samircamposlima/Miss-o-Pr-tica-N-vel-3-Mundo-4 (github.com)]

Microatividade 1: Implementar a visão geral e melhores práticas para acesso a sensores



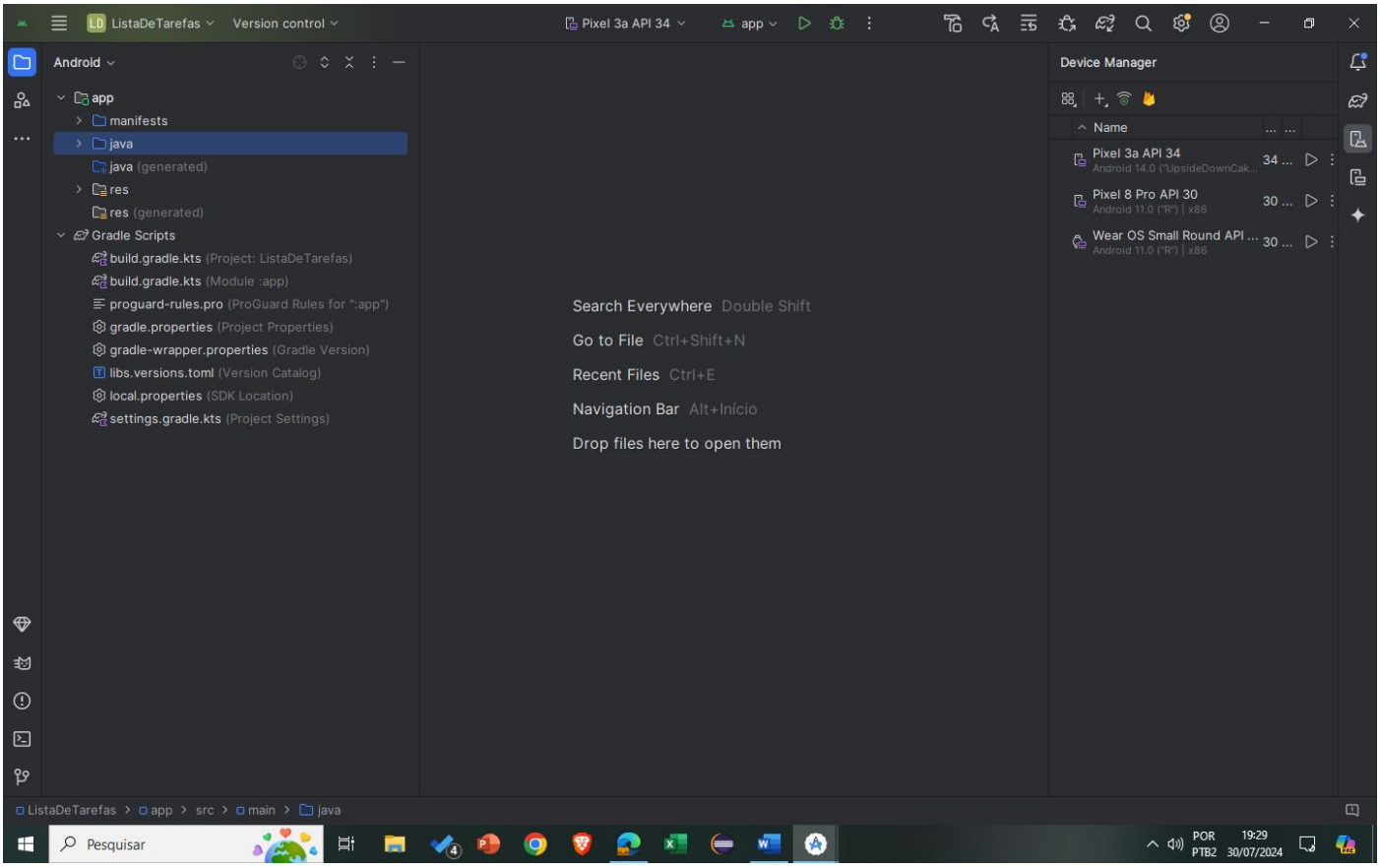
Microatividade 2: Criando um novo projeto no Android Studio

Estrutura de pagina:

```
ListaDeTarefas/
├── app/
│   ├── build/
│   ├── libs/
│   ├── src/
│   │   ├── androidTest/
│   │   │   └── java/
│   │   │       └── com/example/listadetarefas/
│   │   │           └── ExampleInstrumentedTest.java
│   │   ├── main/
│   │   │   ├── AndroidManifest.xml
│   │   │   ├── java/
│   │   │   │   └── com/example/listadetarefas/
│   │   │   │       ├── MainActivity.java
│   │   │   ├── res/
│   │   │   │   ├── drawable/
│   │   │   │   ├── layout/
│   │   │   │   │   └── activity_main.xml
│   │   │   │   ├── mipmap-anydpi-v26/
│   │   │   │   ├── mipmap-hdpi/
│   │   │   │   ├── mipmap-mdpi/
│   │   │   │   ├── mipmap-xhdpi/
│   │   │   │   ├── mipmap-xxhdpi/
│   │   │   │   ├── mipmap-xxxhdpi/
│   │   │   │   ├── values/
│   │   │   │   ├── values-night/
│   │   ├── test/
│   │   │   └── java/
│   │   │       └── com/example/listadetarefas/
│   │   │           └── ExampleUnitTest.java
│   ├── build.gradle
│   └── proguard-rules.pro
├── build.gradle
├── settings.gradle
└── gradle/
    └── wrapper/
        ├── gradle-wrapper.jar
        └── gradle-wrapper.properties
```

Continua ao lado------→

- Resultados esperados



Microatividade 3: Arquivos de Lógica e Configurações

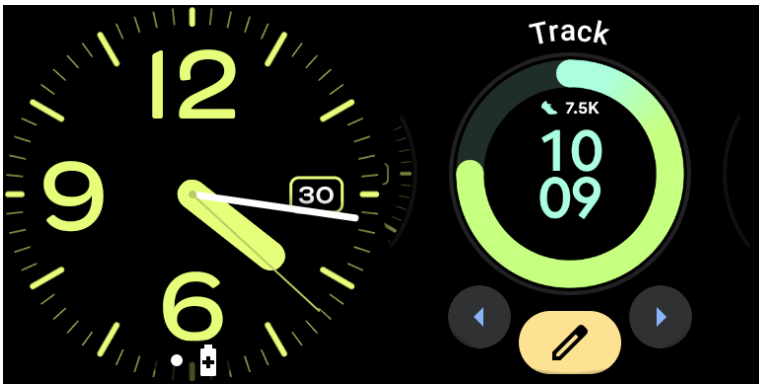
```
------------------------------AndroidManifest.xml-----------------------------------

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <uses-permission android:name="android.permission.BODY_SENSORS"/>

    <uses-permission android:name="android.permission.WAKE_LOCK"/>

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.ListaDeTarefas"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true" >

            <intent-filter>

                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />

            </intent-filter>
            </activity>
    </application>

</manifest>
```

```
-------------------------..\res\layout\activity_main.xml-------------------------------

<Button
    android:id="@+id/button"
    android:layout_width="94dp"
    android:layout_height="0dp"
    android:text="@string/button"
    tools:layout_editor_absoluteX="156dp"
    tools:layout_editor_absoluteY="591dp"
    tools:ignore="MissingConstraints" />

<ListView
    android:layout_width="406dp"
    android:layout_height="401dp"
    tools:layout_editor_absoluteX="2dp"
    tools:layout_editor_absoluteY="111dp"
    tools:ignore="MissingConstraints" />
```

- Resultados esperados

Microatividade 4: Criando um emulador

- Resultados esperados



Microatividade 5: Fazer capturas de telas com app complementar

```
--------------------------------AndroidManifest.xml---------------------------------

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:tools="http://schemas.android.com/tools"
    xmlns:android="http://schemas.android.com/apk/res/android">

    <uses-feature android:name="android.hardware.type.watch" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@android:style/Theme.DeviceDefault">
        <meta-data
            android:name="com.google.android.wearable.standalone"
            android:value="true" />
        <activity
            android:name=".MainActivity"
            android:exported="true"
            android:taskAffinity=""
            android:theme="@android:style/Theme.DeviceDefault.NoActionBar" >

        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
        </activity>
    </application>
    <uses-permission android:name="android.permission.BLUETOOTH"
        tools:ignore="ManifestOrder" />
    <uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
    <uses-feature android:name="android.hardware.bluetooth" />
    <uses-feature android:name="android.hardware.bluetooth_le" />
</manifest>
```

```
------------------------------AudioDeviceMonitor.java---------------------------------

package com.example.doma;

import android.content.Context;
import android.media.AudioDeviceCallback;
import android.media.AudioDeviceInfo;
import android.media.AudioManager;

public class AudioDeviceMonitor {
    private final AudioManager audioManager;

    public AudioDeviceMonitor(Context context) {
        this.audioManager = (AudioManager)
context.getSystemService(Context.AUDIO_SERVICE);
        AudioHelper audioHelper = new AudioHelper(context);
    }

    public void startMonitoring() {
        audioManager.registerAudioDeviceCallback(new AudioDeviceCallback() {
            @Override
            public void onAudioDevicesAdded(AudioDeviceInfo[] addedDevices) {
                super.onAudioDevicesAdded(addedDevices);
                for (AudioDeviceInfo device : addedDevices) {
                    if (device.getType() != AudioDeviceInfo.TYPE_BLUETOOTH_A2DP) {
                        continue;
                    }

                }
            }

            @Override
            public void onAudioDevicesRemoved(AudioDeviceInfo[] removedDevices) {
                super.onAudioDevicesRemoved(removedDevices);
                for (AudioDeviceInfo device : removedDevices) {
                    if (device.getType() == AudioDeviceInfo.TYPE_BLUETOOTH_A2DP) {
                        continue;
                    }

                }
            }
        }, null);
    }
}
```

----------AudioHelper.java----------

```java
package com.example.doma;

import android.content.Context;
import android.media.AudioDeviceInfo;
import android.media.AudioManager;
import android.content.pm.PackageManager;

public class AudioHelper {
    private final AudioManager audioManager;
    private final Context context;

    public AudioHelper(Context context) {
        this.audioManager = (AudioManager)
context.getSystemService(Context.AUDIO_SERVICE);
        this.context = context;
    }

    public boolean isAudioOutputAvailable(int type) {
        if
(!context.getPackageManager().hasSystemFeature(PackageManager.FEATURE_AUDIO_OUTPUT)) {
            return false;
        }
        AudioDeviceInfo[] devices =
audioManager.getDevices(AudioManager.GET_DEVICES_OUTPUTS);
        for (AudioDeviceInfo device : devices) {
            if (device.getType() == type) {
                return true;
            }
        }
        return false;
    }
}
```

----------BluetoothHelper.java----------

```java
package com.example.doma;

import static android.content.Intent.FLAG_ACTIVITY_NEW_TASK;

import android.content.Context;
import android.content.Intent;
import android.provider.Settings;

public class BluetoothHelper {
    public static void openBluetoothSettings(Context context) {
        Intent intent = new Intent(Settings.ACTION_BLUETOOTH_SETTINGS);
        intent.addFlags(FLAG_ACTIVITY_NEW_TASK | Intent.FLAG_ACTIVITY_CLEAR_TASK);
        context.startActivity(intent);
    }
}
```

```
----------------------------------activity_main.xml---------------------------------
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:visibility="visible"
    tools:context=".MainActivity"
    tools:visibility="visible">
    <Button
        android:id="@+id/check_audio_button"
        android:layout_width="174dp"
        android:layout_height="41dp"
        android:layout_marginStart="7dp"
        android:layout_marginTop="29dp"
        android:layout_marginEnd="7dp"
        android:text="@string/check_audio_outputs"
        app:layout_constraintBottom_toTopOf="@+id/bluetooth_settings_button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.566"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_chainStyle="packed"
        tools:ignore="MissingConstraints" />
    <Button
        android:id="@+id/bluetooth_settings_button"
        android:layout_width="174dp"
        android:layout_height="41dp"
        android:layout_below="@id/check_audio_button"
        android:layout_marginStart="7dp"
        android:layout_marginEnd="7dp"
        android:layout_marginBottom="29dp"
        android:text="@string/open_bluetooth_settings"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/check_audio_button"
        app:layout_constraintVertical_bias="0.5"
        tools:ignore="MissingConstraints" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        app:layout_constraintGuide_begin="20dp" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        app:layout_constraintGuide_begin="20dp" />

    <androidx.constraintlayout.widget.Guideline
        android:id="@+id/guideline3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        app:layout_constraintGuide_end="207dp" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

- Resultados esperados