**Thực hành lab 7**

**Lê Quốc Huy 1150070016**

**Bước 1: Tạo giao diện activity\_main.xml**

<?xml version="1.0" encoding="utf-8"?>

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"

android:orientation="vertical"

android:padding="16dp"

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<EditText

android:id="@+id/edtUrl"

android:hint="Nhập URL cần tải (http/https)"

android:inputType="textUri"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"/>

<Button

android:id="@+id/btnDownload"

android:text="Download"

android:layout\_marginTop="12dp"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"/>

</LinearLayout>

**Bước 2: Tạo dao diện notification\_download.xml**

<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"

android:padding="12dp"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<TextView

android:id="@+id/txtTitle"

android:text="Đang tải file…"

android:textStyle="bold"

android:textSize="16sp"

android:layout\_alignParentStart="true"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"/>

<TextView

android:id="@+id/txtSubtitle"

android:text="0%"

android:layout\_below="@id/txtTitle"

android:layout\_marginTop="4dp"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"/>

<ProgressBar

android:id="@+id/progress"

style="?android:attr/progressBarStyleHorizontal"

android:layout\_below="@id/txtSubtitle"

android:layout\_marginTop="8dp"

android:max="100"

android:progress="0"

android:layout\_width="match\_parent"

android:layout\_height="10dp"/>

<LinearLayout

android:id="@+id/btnRow"

android:orientation="horizontal"

android:layout\_below="@id/progress"

android:layout\_marginTop="10dp"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content">

<ImageButton

android:id="@+id/btnPause"

android:contentDescription="Pause"

android:src="@android:drawable/ic\_media\_pause"

android:layout\_width="0dp"

android:layout\_weight="1"

android:layout\_height="40dp"/>

<ImageButton

android:id="@+id/btnResume"

android:contentDescription="Resume"

android:src="@android:drawable/ic\_media\_play"

android:layout\_width="0dp"

android:layout\_weight="1"

android:layout\_height="40dp"/>

<ImageButton

android:id="@+id/btnCancel"

android:contentDescription="Cancel"

android:src="@android:drawable/ic\_menu\_close\_clear\_cancel"

android:layout\_width="0dp"

android:layout\_weight="1"

android:layout\_height="40dp"/>

</LinearLayout>

</RelativeLayout>

**Bước 3 Tạo Class MainActivity.java**

package com.example.baitapthuchanh\_lequochuy;

import android.Manifest;

import android.content.Intent;

import android.content.pm.PackageManager;

import android.net.Uri;

import android.os.Build;

import android.os.Bundle;

import android.widget.Button;

import android.widget.EditText;

import android.widget.Toast;

import androidx.activity.result.ActivityResultLauncher;

import androidx.activity.result.contract.ActivityResultContracts;

import androidx.annotation.Nullable;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.content.ContextCompat;

import com.example.baitapthuchanh\_lequochuy.download.DownloadService;

public class MainActivity extends AppCompatActivity {

private EditText edtUrl;

private Button btnDownload;

private final ActivityResultLauncher<String> notifPermLauncher =

registerForActivityResult(new ActivityResultContracts.RequestPermission(), granted -> {

// Không cần làm gì thêm; nếu không cấp quyền thì Notification có thể không hiển thị trên Android 13+

});

@Override

protected void onCreate(@Nullable Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

edtUrl = findViewById(R.id.edtUrl);

btnDownload = findViewById(R.id.btnDownload);

requestNotificationPermissionIfNeeded();

btnDownload.setOnClickListener(v -> {

String url = edtUrl.getText().toString().trim();

if (url.isEmpty() || !(url.startsWith("http://") || url.startsWith("https://"))) {

Toast.makeText(this, "Nhập URL hợp lệ (http/https)", Toast.LENGTH\_SHORT).show();

return;

}

String fileName = guessFileNameFromUrl(url);

Intent i = new Intent(this, DownloadService.class);

i.setAction(DownloadService.ACTION\_START);

i.putExtra(DownloadService.EXTRA\_URL, url);

i.putExtra(DownloadService.EXTRA\_FILE\_NAME, fileName);

if (Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.O) {

startForegroundService(i);

} else {

startService(i);

}

});

}

private void requestNotificationPermissionIfNeeded() {

if (Build.VERSION.SDK\_INT >= Build.VERSION\_CODES.TIRAMISU) {

if (ContextCompat.checkSelfPermission(this, Manifest.permission.POST\_NOTIFICATIONS)

!= PackageManager.PERMISSION\_GRANTED) {

notifPermLauncher.launch(Manifest.permission.POST\_NOTIFICATIONS);

}

}

}

private String guessFileNameFromUrl(String url) {

try {

Uri u = Uri.parse(url);

String last = u.getLastPathSegment();

if (last == null || last.trim().isEmpty()) return "download.bin";

return last;

} catch (Exception e) {

return "download.bin";

}

}

}

**Bước 4 Tạo ClassDownloadActionReceiver.java**

package com.example.baitapthuchanh\_lequochuy.download;

import android.content.BroadcastReceiver;

import android.content.Context;

import android.content.Intent;

public class DownloadActionReceiver extends BroadcastReceiver {

@Override

public void onReceive(Context context, Intent intent) {

String action = intent.getAction();

Intent service = new Intent(context, DownloadService.class);

if (action != null) {

service.setAction(action);

// Forward các extra cần thiết (ví dụ URL, fileName) nếu có

if (intent.hasExtra(DownloadService.EXTRA\_URL)) {

service.putExtra(DownloadService.EXTRA\_URL,

intent.getStringExtra(DownloadService.EXTRA\_URL));

}

if (intent.hasExtra(DownloadService.EXTRA\_FILE\_NAME)) {

service.putExtra(DownloadService.EXTRA\_FILE\_NAME,

intent.getStringExtra(DownloadService.EXTRA\_FILE\_NAME));

}

// Khởi chạy Service để xử lý action

if (android.os.Build.VERSION.SDK\_INT >= android.os.Build.VERSION\_CODES.O) {

context.startForegroundService(service);

} else {

context.startService(service);

}

}

}

}

**Bước 5: Tạo class DownloadActionReceiver.java**

package com.example.baitapthuchanh\_lequochuy.download;

import android.content.BroadcastReceiver;

import android.content.Context;

import android.content.Intent;

public class DownloadActionReceiver extends BroadcastReceiver {

@Override

public void onReceive(Context context, Intent intent) {

String action = intent.getAction();

Intent service = new Intent(context, DownloadService.class);

if (action != null) {

service.setAction(action);

// Forward các extra cần thiết (ví dụ URL, fileName) nếu có

if (intent.hasExtra(DownloadService.EXTRA\_URL)) {

service.putExtra(DownloadService.EXTRA\_URL,

intent.getStringExtra(DownloadService.EXTRA\_URL));

}

if (intent.hasExtra(DownloadService.EXTRA\_FILE\_NAME)) {

service.putExtra(DownloadService.EXTRA\_FILE\_NAME,

intent.getStringExtra(DownloadService.EXTRA\_FILE\_NAME));

}

// Khởi chạy Service để xử lý action

if (android.os.Build.VERSION.SDK\_INT >= android.os.Build.VERSION\_CODES.O) {

context.startForegroundService(service);

} else {

context.startService(service);

}

}

}

}

**Bước 6: Chỉnh sửa AndroidManifest.xml**

<?xml version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

package="com.example.baitapthuchanh\_lequochuy">

<!-- Quyền bắt buộc -->

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

<uses-permission android:name="android.permission.FOREGROUND\_SERVICE" />

<!-- Android 14+ cần chỉ rõ loại foreground service (data sync) -->

<uses-permission android:name="android.permission.FOREGROUND\_SERVICE\_DATA\_SYNC" />

<!-- Android 13+ cần xin runtime permission để hiện Notification -->

<uses-permission android:name="android.permission.POST\_NOTIFICATIONS" />

<application

android:allowBackup="true"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.Baitapthuchanh\_Lequochuy">

<activity

android:name=".MainActivity"

android:exported="true"

android:theme="@style/Theme.Baitapthuchanh\_Lequochuy">

<intent-filter>

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

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

</intent-filter>

</activity>

<!-- Foreground Download Service -->

<service

android:name=".download.DownloadService"

android:exported="false"

android:foregroundServiceType="dataSync" />

<!-- Receiver nhận action từ các nút trong Notification -->

<receiver

android:name=".download.DownloadActionReceiver"

android:exported="false" />

</application>

</manifest>

**Kết quả**

A screenshot of a computer

AI-generated content may be incorrect.