Expt 8

Without song change ability

MainActivity.java

package com.example.expt8;

import android.media.MediaPlayer;

import android.os.Bundle;

import android.os.Handler;

import android.view.View;

import android.widget.Button;

import android.widget.SeekBar;

import android.widget.TextView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private MediaPlayer mediaPlayer;

private SeekBar seekBar;

private TextView statusText;

private Handler handler = new Handler();

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

// Initialize UI Elements

Button playButton = findViewById(R.id.playButton);

Button pauseButton = findViewById(R.id.pauseButton);

Button stopButton = findViewById(R.id.stopButton);

seekBar = findViewById(R.id.seekBar);

statusText = findViewById(R.id.statusText);

// Initialize MediaPlayer

mediaPlayer = MediaPlayer.create(this, R.raw.sample\_audio);

seekBar.setMax(mediaPlayer.getDuration());

// Update SeekBar Progress

handler.postDelayed(updateSeekBar, 100);

// Play Button Listener

playButton.setOnClickListener(v -> {

if (!mediaPlayer.isPlaying()) {

mediaPlayer.start();

statusText.setText("Status: Playing");

Toast.makeText(MainActivity.this, "Playing Audio", Toast.LENGTH\_SHORT).show();

updateSeekBarProgress();

}

});

// Pause Button Listener

pauseButton.setOnClickListener(v -> {

if (mediaPlayer.isPlaying()) {

mediaPlayer.pause();

statusText.setText("Status: Paused");

Toast.makeText(MainActivity.this, "Audio Paused", Toast.LENGTH\_SHORT).show();

}

});

// Stop Button Listener

stopButton.setOnClickListener(v -> {

if (mediaPlayer.isPlaying() || mediaPlayer.getCurrentPosition() > 0) {

mediaPlayer.stop();

mediaPlayer.prepareAsync();

statusText.setText("Status: Stopped");

seekBar.setProgress(0);

Toast.makeText(MainActivity.this, "Audio Stopped", Toast.LENGTH\_SHORT).show();

}

});

// SeekBar Listener for manual seeking

seekBar.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {

@Override

public void onProgressChanged(SeekBar seekBar, int progress, boolean fromUser) {

if (fromUser) {

mediaPlayer.seekTo(progress);

}

}

@Override

public void onStartTrackingTouch(SeekBar seekBar) {}

@Override

public void onStopTrackingTouch(SeekBar seekBar) {}

});

}

// Runnable to update SeekBar

private Runnable updateSeekBar = new Runnable() {

@Override

public void run() {

if (mediaPlayer != null && mediaPlayer.isPlaying()) {

seekBar.setProgress(mediaPlayer.getCurrentPosition());

handler.postDelayed(this, 500);

}

}

};

private void updateSeekBarProgress() {

handler.postDelayed(updateSeekBar, 500);

}

@Override

protected void onDestroy() {

super.onDestroy();

if (mediaPlayer != null) {

mediaPlayer.release();

mediaPlayer = null;

}

handler.removeCallbacks(updateSeekBar);

}

}

Activity\_main.xml

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

<LinearLayout

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

android:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:padding="16dp"

android:gravity="center">

<!-- Title -->

<TextView

android:id="@+id/title"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Sample Media Player"

android:gravity="center"

android:textSize="24sp"

android:textStyle="bold"

android:paddingBottom="16dp"/>

<!-- Media Progress Bar -->

<SeekBar

android:id="@+id/seekBar"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

<!-- Status TextView -->

<TextView

android:id="@+id/statusText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Status: Stopped"

android:gravity="center"

android:textSize="18sp"

android:textStyle="italic"

android:paddingBottom="10dp"/>

<!-- Play Button -->

<Button

android:id="@+id/playButton"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Play"/>

<!-- Pause Button -->

<Button

android:id="@+id/pauseButton"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Pause"

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

<!-- Stop Button -->

<Button

android:id="@+id/stopButton"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Stop"

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

</LinearLayout>

Create a folder in res folder called raw(res/raw) and insert a song named sample\_audio.mp3 in it

With song change ability

MainActivity.java  
  
package com.example.testing;

import android.media.MediaPlayer;

import android.os.Bundle;

import android.os.Handler;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.widget.SeekBar;

import android.widget.Spinner;

import android.widget.TextView;

import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

private MediaPlayer mediaPlayer;

private SeekBar seekBar;

private TextView statusText;

private Handler handler = new Handler();

private Spinner songSpinner;

// Song mapping

private final String[] songNames = {"mysong", "song2"};

private final int[] songResIds = {R.raw.mysong, R.raw.song2};

private int selectedSongIndex = 0; // default selection

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button playButton = findViewById(R.id.playButton);

Button pauseButton = findViewById(R.id.pauseButton);

Button stopButton = findViewById(R.id.stopButton);

seekBar = findViewById(R.id.seekBar);

statusText = findViewById(R.id.statusText);

songSpinner = findViewById(R.id.songSpinner);

// Setup Spinner

ArrayAdapter<String> adapter = new ArrayAdapter<>(this, android.R.layout.simple\_spinner\_item, songNames);

adapter.setDropDownViewResource(android.R.layout.simple\_spinner\_dropdown\_item);

songSpinner.setAdapter(adapter);

songSpinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {

@Override

public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {

selectedSongIndex = position;

stopAndReleaseMediaPlayer();

mediaPlayer = MediaPlayer.create(MainActivity.this, songResIds[selectedSongIndex]);

seekBar.setMax(mediaPlayer.getDuration());

Toast.makeText(MainActivity.this, "Selected: " + songNames[position], Toast.LENGTH\_SHORT).show();

}

@Override

public void onNothingSelected(AdapterView<?> parent) {}

});

// Play Button

playButton.setOnClickListener(v -> {

if (mediaPlayer != null && !mediaPlayer.isPlaying()) {

mediaPlayer.start();

statusText.setText("Status: Playing");

updateSeekBarProgress();

}

});

// Pause Button

pauseButton.setOnClickListener(v -> {

if (mediaPlayer != null && mediaPlayer.isPlaying()) {

mediaPlayer.pause();

statusText.setText("Status: Paused");

}

});

// Stop Button

stopButton.setOnClickListener(v -> {

if (mediaPlayer != null && (mediaPlayer.isPlaying() || mediaPlayer.getCurrentPosition() > 0)) {

mediaPlayer.stop();

mediaPlayer.prepareAsync();

mediaPlayer.setOnPreparedListener(mp -> seekBar.setMax(mp.getDuration()));

statusText.setText("Status: Stopped");

seekBar.setProgress(0);

}

});

// SeekBar Listener

seekBar.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {

@Override

public void onProgressChanged(SeekBar seekBar, int progress, boolean fromUser) {

if (fromUser && mediaPlayer != null) {

mediaPlayer.seekTo(progress);

}

}

@Override public void onStartTrackingTouch(SeekBar seekBar) {}

@Override public void onStopTrackingTouch(SeekBar seekBar) {}

});

}

private final Runnable updateSeekBar = new Runnable() {

@Override

public void run() {

if (mediaPlayer != null && mediaPlayer.isPlaying()) {

seekBar.setProgress(mediaPlayer.getCurrentPosition());

handler.postDelayed(this, 500);

}

}

};

private void updateSeekBarProgress() {

handler.postDelayed(updateSeekBar, 500);

}

private void stopAndReleaseMediaPlayer() {

if (mediaPlayer != null) {

if (mediaPlayer.isPlaying()) {

mediaPlayer.stop();

}

mediaPlayer.release();

mediaPlayer = null;

handler.removeCallbacks(updateSeekBar);

seekBar.setProgress(0);

statusText.setText("Status: Stopped");

}

}

@Override

protected void onDestroy() {

super.onDestroy();

stopAndReleaseMediaPlayer();

}

}

Activity\_main.xml

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

<LinearLayout

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android:text="Sample Media Player"

android:gravity="center"

android:textSize="24sp"

android:textStyle="bold"

android:paddingBottom="16dp"/>

<!--Spinner-->

<Spinner

android:id="@+id/songSpinner"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

<!-- Media Progress Bar -->

<SeekBar

android:id="@+id/seekBar"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

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

<!-- Status TextView -->

<TextView

android:id="@+id/statusText"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Status: Stopped"

android:gravity="center"

android:textSize="18sp"

android:textStyle="italic"

android:paddingBottom="10dp"/>

<!-- Play Button -->

<Button

android:id="@+id/playButton"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Play"/>

<!-- Pause Button -->

<Button

android:id="@+id/pauseButton"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Pause"

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

<!-- Stop Button -->

<Button

android:id="@+id/stopButton"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:text="Stop"

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

</LinearLayout>

Create a folder in res folder called raw(res/raw) and insert a song named mysong.mp3 and song2.mp3 in it