B08170024 資工三甲 魏旭鴻

package com.italkutalk.lab11\_1

import android.content.pm.PackageManager

import android.media.MediaPlayer

import android.media.MediaRecorder

import android.net.Uri

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.widget.Button

import android.widget.TextView

import androidx.core.app.ActivityCompat

import java.io.File

import java.util.\*

class MainActivity : AppCompatActivity() {

private val recorder = MediaRecorder()

private val player = MediaPlayer()

private lateinit var folder: File

private var fileName = ""

//回傳權限要求後的結果

override fun onRequestPermissionsResult(

requestCode: Int,

permissions: Array<out String>,

grantResults: IntArray

) {

//判斷是否有結果且識別標籤相同

if (grantResults.isNotEmpty() && requestCode == 0) {

//取出結果並判斷是否允許權限

val result = grantResults[0]

if (result == PackageManager.PERMISSION\_DENIED)

finish() //若拒絕給予錄音權限，則關閉應用程式

else {

//因允許錄音權限，所以正常執行應用程式

setFolder()

setListener()

}

}

}

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity\_main)

//宣告錄音權限

val permission = android.Manifest.permission.RECORD\_AUDIO

//判斷使用者是否已允許錄音權限

if (ActivityCompat.checkSelfPermission(this, permission)

!= PackageManager.PERMISSION\_GRANTED) {

//向使用者要求權限

ActivityCompat.requestPermissions(this,

arrayOf(permission), 0)

} else {

//因已允許錄音權限，所以正常執行應用程式

setFolder()

setListener()

}

}

override fun onDestroy() {

recorder.release() //釋放錄音器佔用資源

player.release() //釋放播放器佔用資源

super.onDestroy()

}

private fun setFolder() { //設定資料夾

folder = File(filesDir.absolutePath+"/record") //定義資料夾名稱

if (!folder.exists()) {

folder.mkdirs() //建立存放錄音檔的資料夾

}

}

private fun setListener() { //設定監聽器

//將變數與 XML 元件綁定

val btn\_record = findViewById<Button>(R.id.btn\_record)

val btn\_stop\_record = findViewById<Button>(R.id.btn\_stop\_record)

val btn\_play = findViewById<Button>(R.id.btn\_play)

val btn\_stop\_play = findViewById<Button>(R.id.btn\_stop\_play)

val textView = findViewById<TextView>(R.id.textView)

btn\_record.setOnClickListener { //設定開始錄音的監聽器

fileName = "${Calendar.getInstance().time.time}" //定義檔案名稱為目前時間

recorder.setAudioSource(MediaRecorder.AudioSource.MIC) //聲音來源為麥克風

recorder.setOutputFormat(MediaRecorder.OutputFormat.MPEG\_4) //設定輸出格式

recorder.setAudioEncoder(MediaRecorder.AudioEncoder.AMR\_NB) //設定編碼器

recorder.setOutputFile(File(folder, fileName).absolutePath) //設定輸出路徑

recorder.prepare() //準備錄音

recorder.start() //開始錄音

textView.text = "錄音中..."

btn\_record.isEnabled = false //關閉錄音按鈕

btn\_stop\_record.isEnabled = true //開啟停止錄音按鈕

btn\_play.isEnabled = false //關閉播放按鈕

btn\_stop\_play.isEnabled = false //關閉停止播放按鈕

}

btn\_stop\_record.setOnClickListener { //設定停止錄音的監聽器

try { //若使用模擬器停止錄音容易產生例外，所以使用 try-catch 處理

val file = File(folder, fileName) //定義錄音檔案

recorder.stop() //結束錄音

textView.text = "已儲存至${file.absolutePath}"

btn\_record.isEnabled = true //開啟錄音按鈕

btn\_stop\_record.isEnabled = false //關閉停止錄音按鈕

btn\_play.isEnabled = true //開啟播放按鈕

btn\_stop\_play.isEnabled = false //關閉停止播放按鈕

} catch (e: Exception) {

e.printStackTrace()

recorder.reset() //重置錄音器

textView.text = "錄音失敗"

btn\_record.isEnabled = true //開啟錄音按鈕

btn\_stop\_record.isEnabled = false //關閉停止錄音按鈕

btn\_play.isEnabled = false //關閉播放按鈕

btn\_stop\_play.isEnabled = false //關閉停止播放按鈕

}

}

btn\_play.setOnClickListener { //設定開始播放的監聽器

val file = File(folder, fileName) //定義播放檔案

player.setDataSource(applicationContext, Uri.fromFile(file)) //設定音訊來源

player.setVolume(1f, 1f) //設定左右聲道音量

player.prepare() //準備播放

player.start() //開始播放

textView.text = "播放中..."

btn\_record.isEnabled = false //關閉錄音按鈕

btn\_stop\_record.isEnabled = false //關閉停止錄音按鈕

btn\_play.isEnabled = false //關閉播放按鈕

btn\_stop\_play.isEnabled = true //開啟停止播放按鈕

}

btn\_stop\_play.setOnClickListener { //設定停止播放的監聽器

player.stop() //停止播放

player.reset() //重置播放器

textView.text = "播放結束"

btn\_record.isEnabled = true //開啟錄音按鈕

btn\_stop\_record.isEnabled = false //關閉停止錄音按鈕

btn\_play.isEnabled = true //開啟播放按鈕

btn\_stop\_play.isEnabled = false //關閉停止播放按鈕

}

player.setOnCompletionListener { //設定播放器播放完畢的監聽器

it.reset() //重置播放器

textView.text = "播放結束"

btn\_record.isEnabled = true //開啟錄音按鈕

btn\_stop\_record.isEnabled = false //關閉停止錄音按鈕

btn\_play.isEnabled = true //開啟播放按鈕

btn\_stop\_play.isEnabled = false //關閉停止播放按鈕

}

}

}

<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:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:textSize="22sp"  
 android:text="請開始錄音"  
 android:textColor="@android:color/black"  
 android:textStyle="bold"  
 android:layout\_margin="32dp"  
 android:gravity="center"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"/>  
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 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
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 android:layout\_marginStart="8dp"  
 android:layout\_marginEnd="8dp"  
 app:layout\_constraintTop\_toBottomOf="@+id/textView">  
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 android:layout\_width="0dp"  
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 android:layout\_marginEnd="4dp"  
 android:text="錄音" />  
 <Button  
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 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:layout\_marginEnd="4dp"  
 android:enabled="false"  
 android:text="停止錄音" />  
 <Button  
 android:id="@+id/btn\_play"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:layout\_marginEnd="4dp"  
 android:enabled="false"  
 android:text="播放" />  
 <Button  
 android:id="@+id/btn\_stop\_play"  
 android:layout\_width="0dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_weight="1"  
 android:enabled="false"  
 android:text="停止播放" />  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>