VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELAGAVI-590018, KARNATAKA

MOBILE APPLICATION DEVELOPMENT LABORATORY

(18CSMP68)

PROJECT REPORT

ON

"MEDIA PLAYER"

Submitted By:

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MVJ COLLEGE OF ENGINEERING
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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AIM:

Create an application to demonstrate a basic media player that allows the user to Forward, Backward, Play and Pause an audio. Also, make use of the indicator in the seek bar to move the audio forward or backward as required.

XML CODE

```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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">


    <SeekBar
        android:id="@+id/seekBar1"
        android:layout_width="296dp"
        android:layout_height="16dp"
        android:layout_marginTop="50dp"
        android:progressBackgroundTint="@color/design_default_color_on_secondary"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.495"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/imageView" />

    <ImageButton
        android:id="@+id/btnFwd"
        android:layout_width="60dp"
        android:layout_height="60dp"
        android:layout_marginTop="64dp"
        android:layout_marginEnd="68dp"
        android:layout_marginRight="68dp"
        android:layout_marginBottom="324dp"
        android:background="@drawable/pause"
```

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```
        android:backgroundTint="#FFFFFF"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintTop_toBottomOf="@+id/seekBar1"

        app:layout_constraintVertical_bias="0.0"

        tools:src="@drawable/ic_fwd"

        tools:srcCompat="@tools:sample/avatars" />


    <ImageButton

        android:id="@+id/btnBwd"

        android:layout_width="60dp"

        android:layout_height="60dp"

        android:layout_marginTop="64dp"

        android:layout_marginEnd="52dp"

        android:layout_marginRight="52dp"

        android:layout_marginBottom="324dp"

        android:backgroundTint="#FFFFFF"

        android:src="@drawable/ic_bwd"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toStartOf="@+id/btnPlay"

        app:layout_constraintHorizontal_bias="1.0"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toBottomOf="@+id/seekBar1"

        app:layout_constraintVertical_bias="0.0"

        tools:src="@drawable/ic_bwd"

        tools:srcCompat="@tools:sample/avatars" />


    <ImageButton

        android:id="@+id/btnPlay"

        android:layout_width="60dp"

        android:layout_height="60dp"
```

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```
        android:layout_marginTop="64dp"

        android:layout_marginEnd="60dp"

        android:layout_marginRight="60dp"

        android:layout_marginBottom="326dp"

        android:backgroundTint="#FFFFFF"

        android:src="@drawable/play"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toStartOf="@+id/btnFwd"

        app:layout_constraintTop_toBottomOf="@+id/seekBar1"

        app:layout_constraintVertical_bias="0.0"

        tools:src="@drawable/play"

        tools:srcCompat="@tools:sample/avatars" />


    <ImageView

        android:id="@+id/imageView"

        android:layout_width="198dp"

        android:layout_height="193dp"

        android:layout_marginTop="24dp"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.497"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toTopOf="parent"

        tools:srcCompat="@tools:sample/avatars" />



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

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Java CODE

```java
package com.example.mediaplayer;


import androidx.appcompat.app.AppCompatActivity;


import android.media.MediaMetadata;

import android.media.MediaMetadataRetriever;

import android.media.MediaPlayer;

import android.os.Bundle;

import android.os.Handler;

import android.provider.ContactsContract;

import android.view.MotionEvent;

import android.view.View;

import android.widget.ImageButton;

import android.widget.ImageView;

import android.widget.SeekBar;

import android.widget.TextView;

import android.widget.Toast;


import java.io.IOException;


public class MainActivity extends AppCompatActivity {

    ImageButton btnPlay, btnFwd, btnBwd;


    ImageView img;

    SeekBar seekBar;

    Handler mHandler = new Handler();

    Runnable mRunnable;
```

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```java
MediaPlayer mediaPlayer;


@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    img = (ImageView) findViewById(R.id.imageView);
    btnPlay = (ImageButton) findViewById(R.id.btnPlay);
    btnFwd = (ImageButton) findViewById(R.id.btnFwd);
    btnBwd = (ImageButton) findViewById(R.id.btnBwd);
    btnPlay = (ImageButton) findViewById(R.id.btnPlay);


    btnPlay.setImageResource(R.drawable.play);
    btnBwd.setImageResource(R.drawable.rewind);
    btnFwd.setImageResource(R.drawable.forward);
    img.setImageResource(R.drawable.media1);




    mediaPlayer = MediaPlayer.create(this, R.raw.song1);
    seekBar = findViewById(R.id.seekBar1);


    // MediaMetadataRetriever mn= new MediaMetadataRetriever();
    // mn.setDataSource(String.valueOf(R.raw.song2));



    btnPlay.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            // stopPlaying();
            // Toast.makeText(MainActivity.this, "Playing audio from Asset directory",
Toast.LENGTH_SHORT).show();
```

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```java
            if (!mediaPlayer.isPlaying()) {

                mediaPlayer.start();

                getAudioStats();

                //txt2.setText(String.valueOf(mediaPlayer.getDuration()/100000));

                //
Stitle.setText(mn.extractMetadata(MediaMetadataRetriever.METADATA_KEY_TITLE));

                btnPlay.setImageResource(R.drawable.pause);

                updateSeekBar();

            } else {

                mediaPlayer.pause();

                btnPlay.setImageResource(R.drawable.play);

            }

            // initializeSeekBar();

        }

    });


    seekBar.setOnTouchListener((v, event) -> {

        SeekBar s = (SeekBar) v;

        int position = (mediaPlayer.getDuration() / 100) * s.getProgress();

        mediaPlayer.seekTo(position);

        return false;

    });


    btnFwd.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            if (mediaPlayer.getDuration() > mediaPlayer.getCurrentPosition() + 10000) {

                mediaPlayer.seekTo(mediaPlayer.getCurrentPosition() + 10000);

                updateSeekBar();

            }


        }
```

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```java
        });
        btnBwd.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (mediaPlayer.getCurrentPosition() > 10000) {
                    mediaPlayer.seekTo(mediaPlayer.getCurrentPosition() - 10000);
                    updateSeekBar();
                    getAudioStats();

                }
            }
        });
    }


    private void updateSeekBar(){
        if(mediaPlayer.isPlaying()){

seekBar.setProgress((int)((float)mediaPlayer.getCurrentPosition()/mediaPlayer.getDuration()*100));
            mHandler.postDelayed(updater,1000);
        }
    }


    protected void getAudioStats(){
        int duration  = mediaPlayer.getDuration()/1000; // In milliseconds
        int due = (mediaPlayer.getDuration() - mediaPlayer.getCurrentPosition())/1000;
        //int pass = duration - due;


        //mPass.setText("" + pass + " seconds");
        //mDuration.setText("" + duration + " seconds");
        // txt1.setText("" + due);
    }
```

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```java
    private Runnable updater = new Runnable() {

      @Override

      public void run() {

        updateSeekBar();

      }

    };

    private void stopPlaying () {

      // If media player is not null then try to stop it

      if (mediaPlayer != null) {

        mediaPlayer.stop();

        mediaPlayer.release();

        mediaPlayer = null;

        Toast.makeText(this, "Stop playing.", Toast.LENGTH_SHORT).show();

        if (mHandler != null) {

          mHandler.removeCallbacks(mRunnable);

        }

      }

    }

}
```

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