

Android Application Development

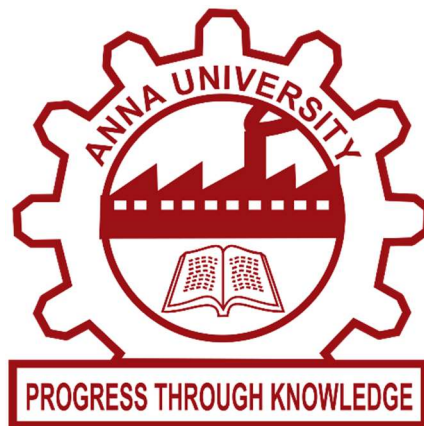
Podcast plus: A redux-inspired podcast app with dynamic themes for android

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SEMESTER - V

**B.E COMPUTER SCIENCE AND ENGINEERING ACADEMIC
YEAR-2024-2025**



**DEPARTMENT OF COMPUTER SCIENCE AND
ENGINEERING ANNA UNIVERSITY REGIONAL CAMPUS
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NOVEMBER 2024

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Podcast plus: A redux- inspired podcast app with dynamic themes for android

DESCRIPTION:

The goal of this project is to develop a Podcast Android application that offers users a comprehensive and seamless platform to discover, stream, and manage their podcast content with ease on mobile devices. The app will provide a robust set of features, including podcast browsing, advanced search capabilities, personalized recommendations, and subscription management, allowing users to easily access diverse content tailored to their interests. In addition to streaming, users can download episodes for offline listening, making content accessible even without an internet connection. This feature is particularly valuable for users who wish to continue listening during travel or in areas with limited connectivity.

Designed with podcast enthusiasts in mind, the app aims to provide an intuitive, user-friendly interface that integrates customizable settings, enhancing the overall experience by making navigation straightforward and enjoyable. High-quality streaming is prioritized to ensure that users enjoy uninterrupted and smooth playback. The app also includes features like background playback, playback speed adjustments, and customizable themes, enabling users to personalize their listening experience according to their preferences.

In a highly competitive market, this Podcast Android App will emphasize efficiency, ease of use, and visual appeal to create an immersive experience that distinguishes it from existing alternatives. The platform's focus on offering advanced discovery options, such as algorithm-driven recommendations and intelligent search filters, provides users with a rich, interactive experience, ensuring they discover new content suited to their tastes.

The overall objective of this project is to build an engaging, feature-rich platform that appeals to both casual listeners and avid podcast fans, fostering a community of listeners who can enjoy their favourite shows without friction. This application aspires to deliver a high-performance, customizable, and accessible solution that redefines the podcast experience by combining powerful functionality with an intuitive interface, thereby making it an essential tool for podcast enthusiasts.

REQUIREMENTS:

Hardware Requirements:

- **Processor:** Qualcomm Snapdragon 845 or equivalent (for smooth playback and seamless browsing)
- **Memory (RAM):** 3GB minimum
- **Storage:** Minimum 100MB available for installation and additional space for downloaded podcasts
- **Internet connection:** Required for streaming and downloading episodes

Software Requirements:

- **Operating System:** Android OS 7.0 (Nougat) or later

APP FUNCTIONALITIES:

Display of Podcast Episodes:

- The app provides a vertically scrollable list of podcast episodes.
- Each episode is presented in a card layout that includes an image, a title, and audio playback controls (Play and Pause buttons).

Podcast Episode Details:

- Each podcast episode has a title, an associated image, and a corresponding audio file that plays when selected.
- The titles include descriptive text indicating the content or topic of each episode (e.g., "Morning Inspiration: Start Your Day Right" and "Success and Sacrifice").

Audio Playback Controls:

- Each episode has a "Play" and "Pause" button to control the audio playback.
- When the "Play" button is pressed, the app starts playing the audio file associated with that episode.
- When the "Pause" button is pressed, the playback of the audio pauses.
- These controls are implemented using the MediaPlayer class to handle the audio playback.

Theme and Styling:

- The app uses a custom theme (PodcastPlayerTheme) to define the visual style.
- It includes a large, centered "PODCAST" title at the top, styled with a custom color and font.
- The cards for each episode have an elevation effect and a magenta border for emphasis.

Composable Structure:

- The app is built using Jetpack Compose, with @Composable functions organizing the UI.
- The main screen layout is split into two main sections: a header/title section and a scrollable list of episode cards.

Reusability with PodcastCard:

- The PodcastCard composable function encapsulates the layout and functionality for each podcast episode card, making it easy to add or modify episodes.
- Each PodcastCard takes the episode title, image, and audio resource ID as parameters, making it a reusable component for any number of episodes.

PROGRAM:

MainActivity.java

```
package com.example.podcastplayer

import android.content.Context
import android.media.MediaPlayer
import android.os.Bundle
import androidx.activity.ComponentActivity
import androidx.activity.compose.setContent
import androidx.compose.foundation.BorderStroke
import androidx.compose.foundation.Image
import androidx.compose.foundation.layout.*
import androidx.compose.foundation.rememberScrollState
import androidx.compose.foundation.verticalScroll
import androidx.compose.material.*
import androidx.compose.runtime.*
import androidx.compose.ui.Alignment
import androidx.compose.ui.Modifier
import androidx.compose.ui.graphics.Color
import androidx.compose.ui.res.painterResource
import androidx.compose.ui.text.font.FontWeight
import androidx.compose.ui.text.style.TextAlign
```

```
import androidx.compose.ui.unit.dp
import androidx.compose.ui.unit.em
import androidx.compose.ui.unit.sp
import com.example.podcastplayer.ui.theme.PodcastPlayerTheme
class MainActivity : ComponentActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContent {
            PodcastPlayerTheme {
                Surface(
                    modifier = Modifier.fillMaxSize(),
                    color = MaterialTheme.colors.background
                ) {
                    playAudio(this)
                }
            }
        }
    }
}

@Composable
fun playAudio(context: Context) {
    Column(modifier = Modifier.fillMaxSize()) {
        Column(
            horizontalAlignment = Alignment.CenterHorizontally,
```



```
        verticalArrangement = Arrangement.Center
    ) {
        Text(
            text = "PODCAST",
            modifier = Modifier.fillMaxWidth(),
            textAlign = TextAlign.Center,
            color = Color(0xFF6a3ef9),
            fontWeight = FontWeight.Bold,
            fontSize = 36.sp,
            style = MaterialTheme.typography.h1,
            letterSpacing = 0.1.em
        )
    }
    Column(
        modifier = Modifier
            .fillMaxSize()
            .verticalScroll(rememberScrollState())
    ) {
        PodcastCard(
            context = context,
            title = " Take it Easy with RJ Balaji",
            audioResId = R.raw.audio,
            imageResId = R.drawable.img
        )
    }
}
```

```
PodcastCard(  
    context = context,  
    title = "Motivational Quote: Push Yourself",  
    audioResId = R.raw.audio_1,  
    imageResId = R.drawable.img_1  
)
```

```
PodcastCard(  
    context = context,  
    title = "Morning Inspiration: Start Your Day Right",  
    audioResId = R.raw.audio_2,  
    imageResId = R.drawable.img_2  
)
```

```
PodcastCard(  
    context = context,  
    title = "Daily Reminder: Embrace Change",  
    audioResId = R.raw.audio_3,  
    imageResId = R.drawable.img_3  
)
```

```
PodcastCard(  
    context = context,  
    title = "Success and Sacrifice",  
    audioResId = R.raw.audio_4,  
    imageResId = R.drawable.img_4  
)
```

```

PodcastCard(
    context = context,
    title = " RJ Balaji's Cross-Talk on 92.7 Big FM",
    audioResId = R.raw.audio_5,
    imageResId = R.drawable.img_5
)
}
}
}

@Composable
fun PodcastCard(context: Context, title: String, audioResId: Int,
imageResId: Int) {
    Card(
        elevation = 12.dp,
        border = BorderStroke(1.dp, Color.Magenta),
        modifier = Modifier
            .padding(16.dp)
            .fillMaxWidth()
            .height(250.dp)
    ) {
        val mp: MediaPlayer = MediaPlayer.create(context, audioResId)

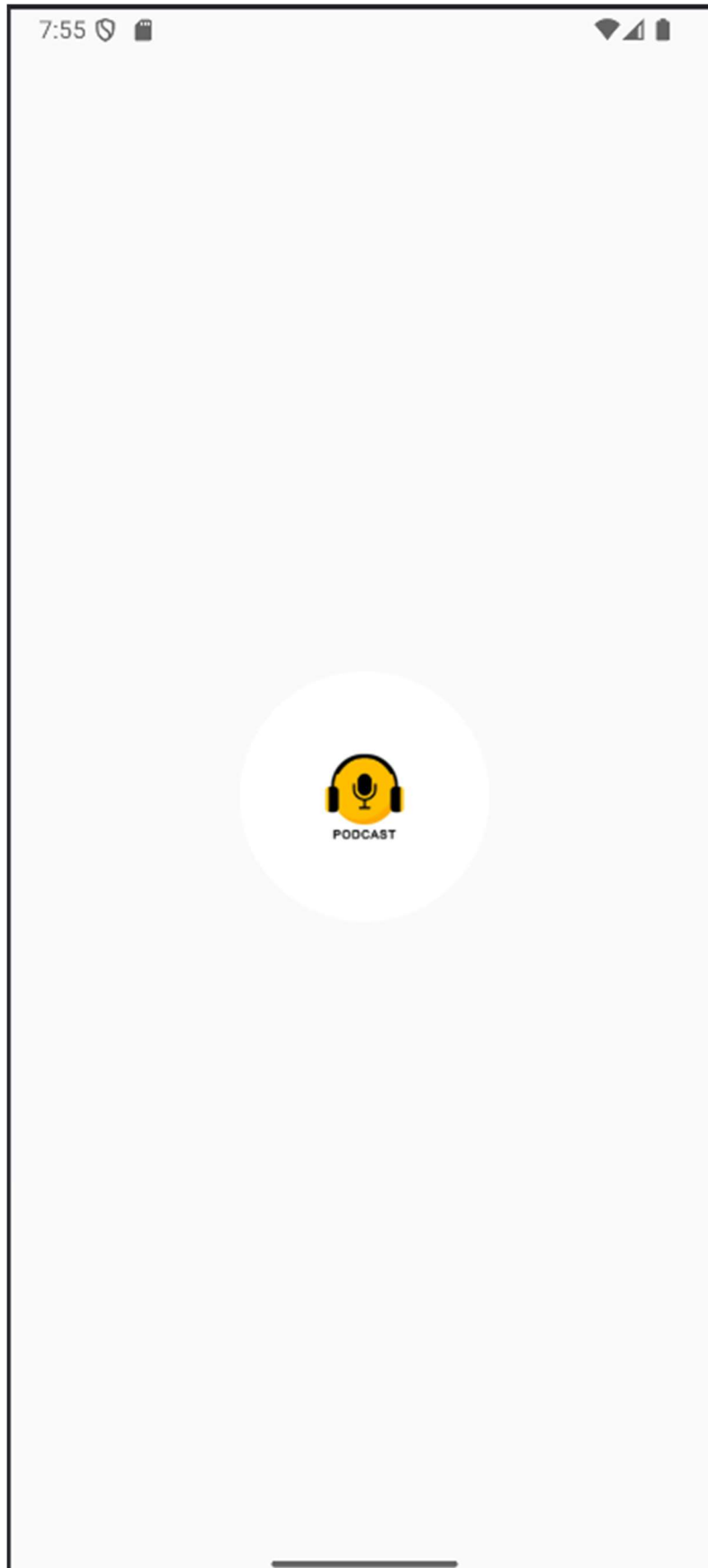
        Column(
            modifier = Modifier.fillMaxSize(),

```

```
        horizontalAlignment = Alignment.CenterHorizontally
    ) {
        Image(
            painter = painterResource(id = imageResId),
            contentDescription = null,
            modifier = Modifier
                .height(150.dp)
                .width(200.dp)
        )
        Text(
            text = title,
            textAlign = TextAlign.Center,
            modifier = Modifier.padding(start = 20.dp, end = 20.dp)
        )
        Row {
            IconButton(onClick = { mp.start() }, modifier =
Modifier.size(35.dp)) {
                Icon(
                    painter = painterResource(id = R.drawable.play),
                    contentDescription = "Play"
                )
            }
            IconButton(onClick = { mp.pause() }, modifier =
Modifier.size(35.dp)) {
```

```
        Icon(  
            painter = painterResource(id = R.drawable.pause),  
            contentDescription = "Pause"  
        )  
    }  
}  
}  
}  
}
```

OUTPUT:



7:56



LOGIN



username



password

Log In

[Sign up](#)


[Forgot password ?](#)


7:56




Sign Up



 username

 password

 email

Register

Have an account? [Log in](#)

7:58



Sign Up



User registered successfully

Register

Have an account? [Log in](#)

7:59



LOGIN



Successfully log in

Log In

[Sign up](#)

[Forgot password ?](#)

9:45



PODCAST



Take it Easy with RJ Balaji



Motivational Quote: Push Yourself



Morning Inspiration: Start Your Day Right



9:46



PODCAST



Daily Reminder: Embrace Change



Success and Sacrifice



RJ Balaji's Cross-Talk on 92.7 Big FM

