BOOK HAVEN

Dissertation submitted in fulfilment of the requirements for the Degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

By

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CSE 225

ANDROID APP DEVELOPMENT

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Month……April…. Year …2024…

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1. Introduction

The book information application is designed to cater to book enthusiasts by providing them with a platform to explore various literary works, gain insights into different genres, and manage their reading preferences. The book information application serves as a comprehensive companion for book enthusiasts, offering a myriad of features to enhance their reading journey. Developed using Kotlin for Android, the application aims to offer a seamless and intuitive user experience. With its user-centric design and robust functionality, the application seamlessly integrates into the user's daily life, becoming an indispensable tool for discovering, organizing, and enjoying literary treasures.

2. Modules or Activity Explanation & Screenshots

i) MainActivity: Serving as the app's gateway, MainActivity presents users with a curated list of books fetched from a predefined dataset. Leveraging RecyclerView, this activity efficiently displays each book item, including its title, author, genre, and read status. The Adapter class facilitates the binding of book data to RecyclerView's ViewHolder objects, ensuring smooth scrolling and dynamic updates.

ii) Adapter: As the intermediary between MainActivity and the RecyclerView, Adapter handles the creation of ViewHolder instances and manages the logic for populating them with book data. By inflating the layout for each item, setting up click listeners, and dynamically loading book cover images based on their titles, Adapter streamlines the presentation of book information to users.

iii) BookDetailActivity: This activity offers users a deeper dive into the selected book's details. Upon receiving the book data and associated image resource ID via Intent from MainActivity, BookDetailActivity presents a comprehensive view comprising the book's title, author, genre, summary, and cover image. Users can also choose to add the book to their reading list, triggering an action to update the app's state accordingly.

iv) FinalActivity: Following a successful addition to the reading list, FinalActivity serves as a confirmation screen, acknowledging the user's action and providing options to either return to the main screen or continue exploring the application's

offerings. Its minimalist design and clear messaging ensure a positive user experience post-interaction.

V) setData: This utility object encapsulates the logic for generating dummy book data via the SetBooks() function. By returning a list of BookData objects preloaded with titles, authors, genres, summaries, and associated image resources, setData facilitates seamless integration of sample content into the application's flow.

vi) SplashScreenActivity: Acting as the app's introduction, SplashScreenActivity displays a captivating splash screen upon launch, effectively setting the tone for the user's interaction with the application. Its brief delay before transitioning to MainActivity adds a polished touch to the overall user experience.

3. Code - Module wise or Activity Wise

i) MainActivity.kt

```
package com.example.learnersapplication

import android.os.Bundle
import android.view.View
import  androidx.appcompat.app.AppCompatActivity
import androidx.recyclerview.widget.LinearLayoutManager
import androidx.recyclerview.widget.RecyclerView

class MainActivity : AppCompatActivity() {

    private lateinit var myRecycler: RecyclerView

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)

        myRecycler = findViewById(R.id.my_recycler)
        myRecycler.adapter = Adapter(setData.SetBooks())
        myRecycler.layoutManager = LinearLayoutManager(this)
    }
}
```

ii)

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:background="@color/primary">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:background="@drawable/bg_header"
        android:orientation="horizontal"
        android:layout_marginBottom="20dp">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:text="Book Haven"
            android:gravity="start|bottom"
            android:layout_marginLeft="15dp"
            android:textColor="@color/white"
            android:textStyle="bold"
            android:textSize="25sp"
            android:fontFamily="@font/poppins_semibold"  />

    </LinearLayout>
```

```
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/my_recycler"
        android:layout_width="match_parent"
        android:layout_height="match_parent"  />

</LinearLayout>
```

iii)

```
package com.example.learnersapplication

import android.content.Intent
import android.view.LayoutInflater
import android.view.View
import android.view.ViewGroup
import android.widget.ImageView
import android.widget.TextView
import  androidx.recyclerview.widget.RecyclerView

class Adapter(var book: List<BookData>) :
RecyclerView.Adapter<Adapter.myViewHolder>()  {

    class myViewHolder(view: View) : RecyclerView.ViewHolder(view) {
        val title = view.findViewById<TextView>(R.id.title)
        val bookimg = view.findViewById<ImageView>(R.id.book_img)
        val author = view.findViewById<TextView>(R.id.author)
        val genre = view.findViewById<TextView>(R.id.genre)
        val read = view.findViewById<TextView>(R.id.read)
    }

    override fun onCreateViewHolder(parent: ViewGroup, viewType:
Int): myViewHolder {
        val itemView = LayoutInflater.from(parent.context)
            .inflate(R.layout.view, parent, false)
        return myViewHolder(itemView)
    }

    override fun onBindViewHolder(holder: myViewHolder, position:
Int) {
        var dummyImage: Int? = null
        holder.itemView.setOnClickListener {
            val intent = Intent(holder.itemView.context,
BookDetail::class.java)
            intent.putExtra("book", book[position])
            intent.putExtra("bookImage", dummyImage)
            holder.itemView.context.startActivity(intent)

        }
        holder.title.text = book[position].title
        holder.author.text = book[position].author
        holder.genre.text = book[position].genre
        holder.read.text = book[position].read

        when (book[position].title!!) {
            "Gitanjali" -> {
                dummyImage = R.drawable.gitanjali
            }

            "Pride and Prejudice" -> {
```

```
                dummyImage = R.drawable.p_p
            }

            "Inner Engineering" -> {
                dummyImage = R.drawable.inner_engineering
            }

            "Why I am a Hindu" -> {
                dummyImage = R.drawable.why_i_am_a_hindu
            }

            "1984" -> {
                dummyImage = R.drawable._984_gearge_orwell
            }

            "Thus says Kabir" -> {
                dummyImage = R.drawable.thus_says_kabir
            }

            "Count of Monte Cristo" -> {
                dummyImage = R.drawable.the_count_of_monte_cristo
            }

            "The Hobbit" -> {
                dummyImage = R.drawable.the_hobbit
            }

            "Catcher in the Rye" -> {
                dummyImage = R.drawable.the_catcher_in_the_rye
            }

            "Tale of two Cities" -> {
                dummyImage = R.drawable.tale_of_two_cities
            }
        }
        holder.bookimg.setImageResource(dummyImage!!)

    }

    override fun getItemCount(): Int {
        return book.size
    }
}
```

iv)

```
<?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="wrap_content"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_marginStart="20dp"
    android:layout_marginBottom="15dp"
    android:gravity="center_vertical"
    android:padding="10dp">

    <ImageView
        android:id="@+id/book_img"
        android:layout_width="100dp"
        android:layout_height="100dp"
```

```
        android:elevation="30dp"
        android:src="@drawable/gitanjali" />

    <androidx.cardview.widget.CardView
        android:layout_width="match_parent"
        android:layout_height="125dp"
        android:layout_marginStart="-60dp"
        android:layout_marginEnd="10dp"
        android:backgroundTint="@color/secondary"
        app:cardCornerRadius="5dp"
        app:cardElevation="20dp">

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="center_vertical"
            android:layout_marginStart="80dp"
            android:orientation="vertical">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="horizontal">

                <TextView
                    android:id="@+id/title"
                    android:layout_width="0dp"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:fontFamily="@font/poppins_semibold"
                    android:text="Gitanjali"
                    android:textColor="@color/white"
                    android:textSize="23sp"
                    android:textStyle="bold"
                    android:textAlignment="center" />

            </LinearLayout>

            <TextView
                android:id="@+id/author"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginTop="-7dp"
                android:fontFamily="@font/poppins_regular"
                android:text="Rabindranath Tagore"
                android:textColor="@color/subtext"
                android:textSize="12sp" />

            <View
                android:layout_width="30dp"
                android:layout_height="1dp"
                android:layout_marginTop="5dp"
                android:background="#03A9F4"
                android:orientation="vertical" />

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="10dp"
                android:orientation="horizontal">
```

```
                <TextView
                    android:id="@+id/genre"
                    android:layout_width="wrap_content"
                    android:layout_height="match_parent"
                    android:layout_marginStart="2dp"
                    android:fontFamily="@font/poppins_regular"
                    android:text="Poem"
                    android:textColor="@color/subtext"
                    android:textSize="12sp" />

                <TextView
                    android:id="@+id/read"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_marginStart="2dp"
                    android:fontFamily="@font/poppins_regular"
                    android:text="read"
                    android:textColor="@color/subtext"
                    android:textSize="12sp" />
            </LinearLayout>


        </LinearLayout>

    </androidx.cardview.widget.CardView>

</LinearLayout>
```

v)

```
package com.example.learnersapplication

import android.content.Intent
import android.os.Bundle
import android.view.View
import android.widget.Button
import android.widget.ImageView
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity

class BookDetail : AppCompatActivity() {

    private lateinit var obj: BookData
    private var bookImg: Int? = null

    private lateinit var titleInfo: TextView
    private lateinit var genreInfo: TextView
    private lateinit var readInfo: TextView
    private lateinit var overviewInfo: TextView
    private lateinit var authorInfo: TextView
    private lateinit var bookImgInfo: ImageView
    private lateinit var buttonInfo: Button

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_book_detail)

        titleInfo = findViewById(R.id.title_info)
        genreInfo = findViewById(R.id.genre_info)
        readInfo = findViewById(R.id.read_info)
        overviewInfo = findViewById(R.id.overview_info)
```

```
        authorInfo = findViewById(R.id.author_info)
        bookImgInfo = findViewById(R.id.book_img_info)
        buttonInfo = findViewById(R.id.button_info)

        obj = intent.getParcelableExtra("book")!!
        bookImg = intent.getIntExtra("bookImage", -1)
        setData(obj, bookImg!!)

        buttonInfo.setOnClickListener {
            val intent = Intent(this, finalActivity::class.java)
            startActivity(intent)
        }
    }

    private fun setData(obj: BookData, bookImg: Int) {
        titleInfo.text = obj.title
        genreInfo.text = obj.genre
        readInfo.text = obj.read
        overviewInfo.text = obj.overview
        authorInfo.text = obj.author
        bookImgInfo.setImageResource(bookImg)

    }
}
```

vi)

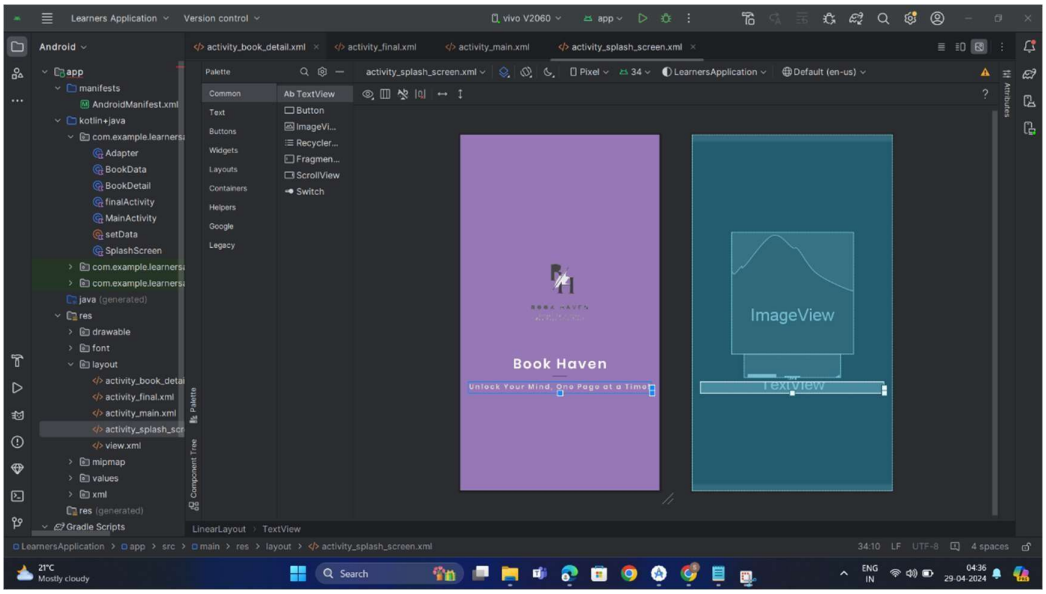
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@color/primary"
    android:orientation="vertical"
    tools:context=".BookDetail">

    <ImageView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:src="@drawable/bg_info"
        android:adjustViewBounds="true" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="-50dp"
        android:orientation="vertical">

        <ImageView
            android:id="@+id/book_img_info"
            android:layout_width="110dp"
            android:layout_height="110dp"
            android:layout_gravity="center_horizontal"
            android:src="@drawable/gitanjali"
            android:elevation="40dp" />

        <androidx.cardview.widget.CardView
            android:layout_width="match_parent"
            android:layout_height="match_parent"
```

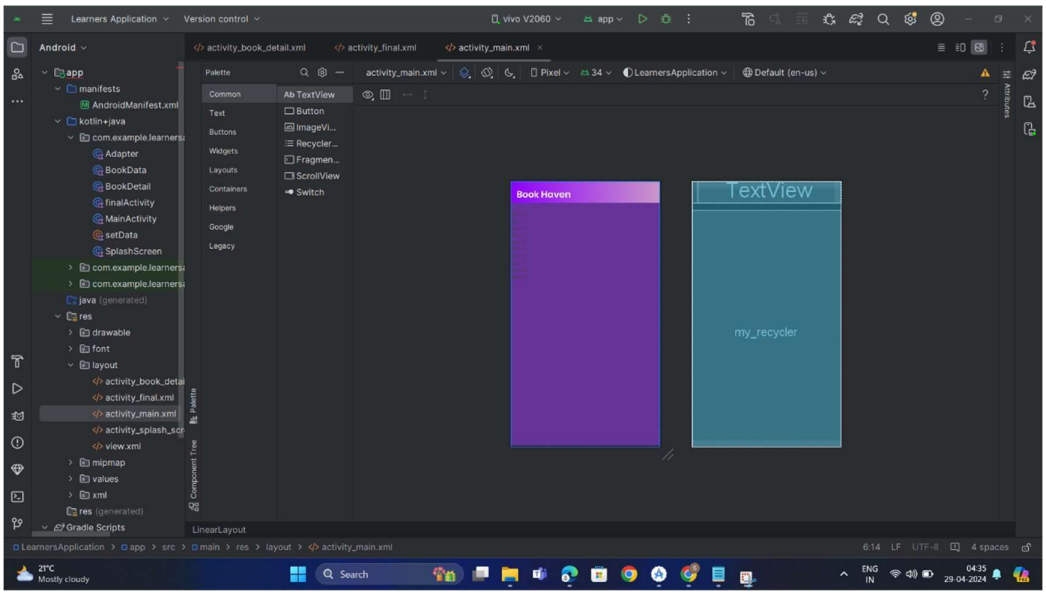
```
            android:layout_marginLeft="15dp"
            android:layout_marginRight="15dp"
            android:layout_marginTop="-50dp"
            android:backgroundTint="@color/secondary"
            app:cardCornerRadius="10dp"
            app:cardElevation="10dp">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:orientation="vertical"
                android:gravity="center_horizontal"
                android:paddingTop="60dp">

                <TextView
                    android:id="@+id/title_info"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:fontFamily="@font/poppins_semibold"
                    android:text="Gitanjali"
                    android:textColor="@color/white"
                    android:textSize="24sp"
                    android:textStyle="bold" />

                <TextView
                    android:id="@+id/author_info"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_marginTop="-5dp"
                    android:fontFamily="@font/poppins_regular"
                    android:text="Rabindranath Tagore"
                    android:textColor="@color/subtext"
                    android:textSize="14sp" />

                <View
                    android:layout_width="30dp"
                    android:layout_height="1dp"
                    android:layout_marginTop="5dp"
                    android:background="#a020f0"
                    android:orientation="vertical" />

                <LinearLayout
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_marginTop="10dp"
                    android:layout_marginBottom="15dp"
                    android:orientation="horizontal">

                    <TextView
                        android:id="@+id/genre_info"
                        android:layout_width="wrap_content"
                        android:layout_height="match_parent"
                        android:layout_marginStart="4dp"
                        android:fontFamily="@font/poppins_regular"
                        android:text="Poem"
                        android:textColor="@color/subtext"
                        android:textSize="14sp" />

                    <TextView
                        android:id="@+id/read_info"
                        android:layout_width="wrap_content"
```

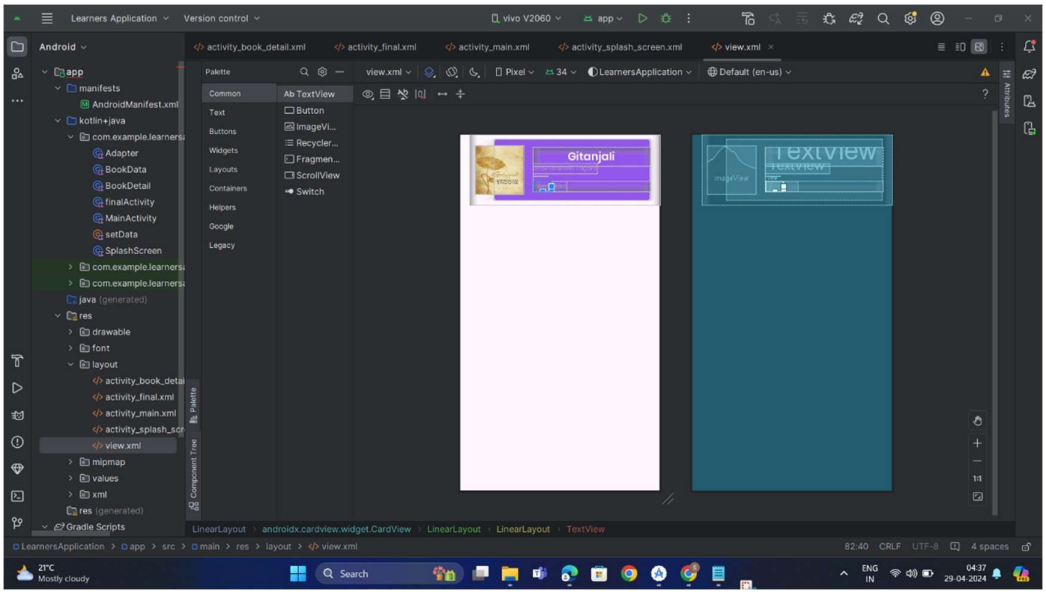
```
                        android:layout_height="wrap_content"
                        android:layout_marginStart="4dp"
                        android:fontFamily="@font/poppins_regular"
                        android:text="Abstract"
                        android:textColor="@color/subtext"
                        android:textSize="14sp" />
                </LinearLayout>

            </LinearLayout>

        </androidx.cardview.widget.CardView>

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <ScrollView
            android:layout_width="match_parent"
            android:layout_height="0dp"
            android:layout_marginLeft="10dp"
            android:layout_marginRight="10dp"
            android:layout_weight="1"
            android:padding="14dp">

            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="vertical">

                <TextView
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:fontFamily="@font/poppins_semibold"
                    android:text="Overview"
                    android:textAllCaps="true"
                    android:textStyle="bold"
                    android:letterSpacing="0.1"
                    android:textColor="@color/white" />

                <View
                    android:layout_width="30dp"
                    android:layout_height="1dp"
                    android:layout_marginTop="5dp"
                    android:background="#a020f0"
                    android:orientation="vertical" />

                <TextView
                    android:id="@+id/overview_info"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_marginTop="10dp"
                    android:fontFamily="@font/poppins_regular"
                    android:letterSpacing="0.1"
                    android:lineSpacingExtra="1dp"
                    android:text="Gītāñjali, a collection of poetry,
the most famous work by Rabindranath Tagore, published in India in
1910. Tagore then translated it into prose poems in English, as
Gitanjali: Song Offerings, and it was published in 1912 with an
```

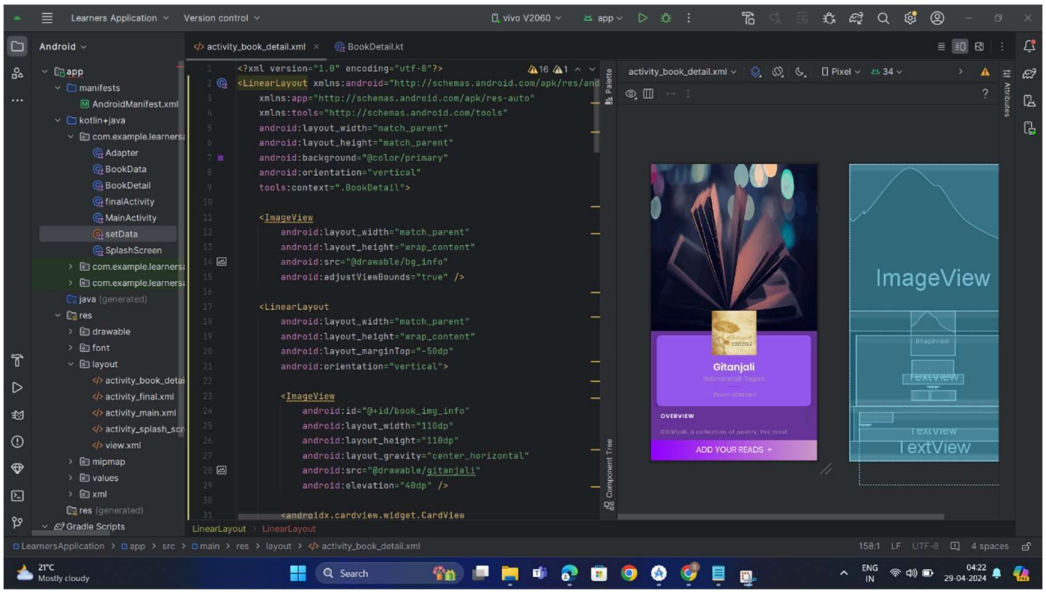
```
introduction by William Butler Yeats."
                    android:textColor="@color/subtext"
                    android:textSize="13sp" />
            </LinearLayout>

        </ScrollView>

        <TextView
            android:id="@+id/button_info"
            android:layout_width="match_parent"
            android:layout_height="50dp"
            android:background="@drawable/bg_footer"
            android:elevation="10dp"
            android:fontFamily="@font/poppins_regular"
            android:gravity="center"
            android:text="Add your Reads +"
            android:textAllCaps="true"
            android:textColor="@color/white"
            android:textSize="20sp" />
    </LinearLayout>


</LinearLayout>
```

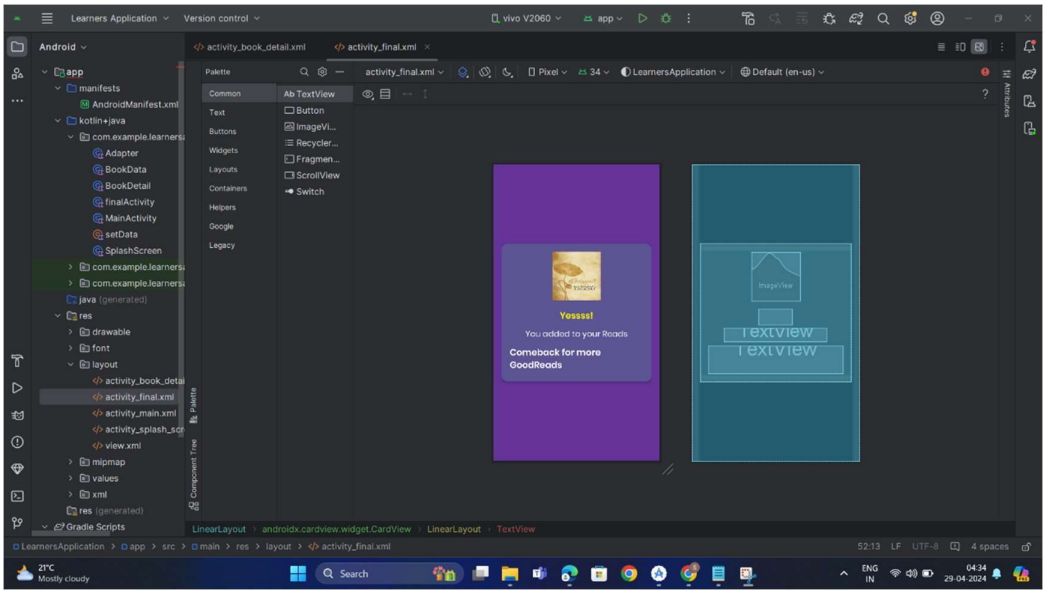
4. Screenshots

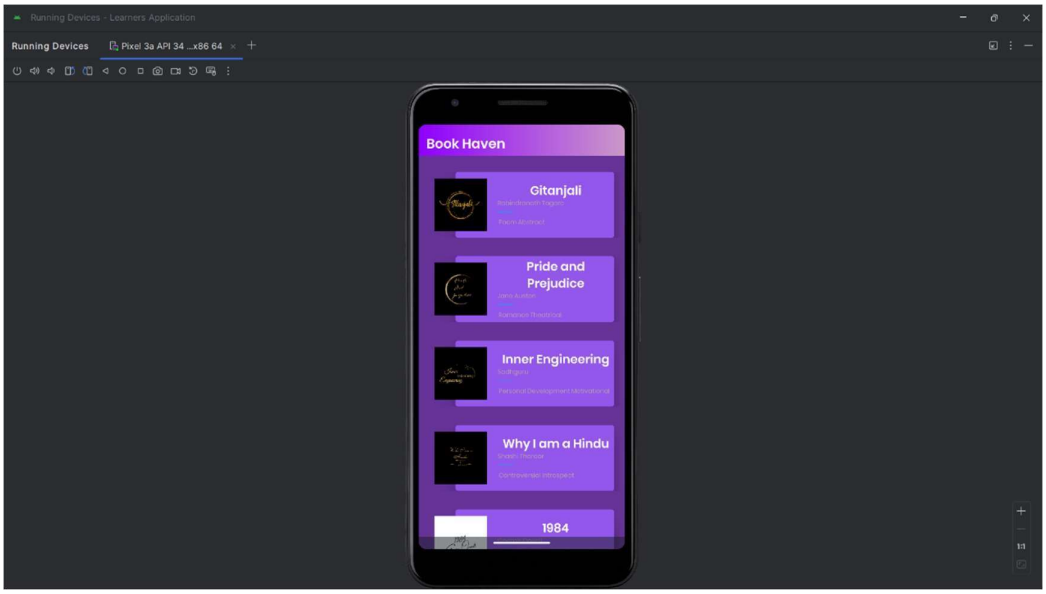





Learners Application
Version control
Android
app
manifests
AndroidManifest.xml
kotlin+java
Adapter
BookData
BookDetail
finalActivity
MainActivity
setData
SplashScreen
java (generated)
res
drawable
font
layout
mipmap
values
xml
Gradle Scripts
Palette
Common
Text
Buttons
Widgets
Layouts
Containers
Helpers
Google
Legacy
TextView
Button
Switch
Gitanjali
LinearLayout
androidx.cardview.widget.CardView
TextView


Learners Application
Version control
activity_book_detail.xml
BookDetail.kt
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/and
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"
android:background="@color/primary"
android:orientation="vertical"
tools:context=".BookDetail">
<ImageView
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:src="@drawable/bg_info"
android:adjustViewBounds="true" />
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="-50dp"
android:orientation="vertical">
<ImageView
android:id="@+id/book_img_info"
android:layout_width="110dp"
android:layout_height="110dp"
android:layout_gravity="center_horizontal"
android:src="@drawable/gitanjali"
android:elevation="40dp" />
<androidx.cardview.widget.CardView
Gitanjali
OVERVIEW
ADD YOUR READS +
ImageView
TextView





APK video
BookHaven.mp4

5. Conclusion & Future Scope

In conclusion, the book information application represents a fusion of functionality and aesthetics, providing users with a feature-rich platform to explore, engage with, and manage their literary interests. As the app continues to evolve, future enhancements may encompass a broader array of features aimed at further enriching the user experience, fostering community engagement, and promoting a deeper appreciation for literature. Whether through personalized recommendations, social sharing capabilities, or seamless integration with external book-related services, the application is poised to become a go-to destination for book lovers worldwide.

6. Project Github link

https://github.com/inashellshelley/BookReadsAndroidApplication