

Chapter – 1

INTRODUCTION

1.1. Objectives of the Project

- To create an application to manage Book Donation.
- To apply various Views, Layout and Components to design the app.
- To display the donated Books.
- To request donated Books.
- To develop an Android Package Kit and install that in a Mobile.

1.2. Introduction

The Book Donation Management in Android App contains a user module. As you run the Book Donation Android App on your computer or laptop the emulator will appear from which the App can be accessed.

To use the Application the users, have to first Signup to the Application by entering Full name, Email Id, Usn and Password. The user can later login using the Usn and Password given while signing up to the application. After successfully logging in the users will be able to donate their books (textbooks, written or printed notes) and also request the donated books.

Chapter – 2

2. LITERATURE SURVEY

A project in Android Studio contains everything that defines your workspace for an app, from source code and assets, to test code and build configurations. When you start a new project, Android Studio creates the necessary structure for all your files and makes them visible in the Project window on the left side of the IDE.

Applications and widgets Application Programming Interface Libraries Android runtime Android Architecture reduces the time of development and can reduce the quantity of memory that is required by the appliance. In Future we are able to include a redesigned friendlier user interface because the application targets various levels of users starting from sophisticated programmer to naive users Android is most used Mobile OS worldwide.

Book Donation management system's development is done using PHP for connection with the database, Internet was used to gather information which has partially contributed to the success of this project. Due to the fact that PHP is an open-source program, development of Book Donation management system was not too difficult. However, thanks to the cyber world (Internet) that makes it possible to study and make comparison in needs of some code function.

Different Websites provided us with different codes which we used in the development of this project, referring YouTube channels was also a great source of information and assistance in realizing the goal of this project.

Chapter – 3

3. REQUIREMENTS

3.1. System Requirement

For Android Studio	
OS	64-bit Windows 10
Memory	8 GB+ RAM
Storage	8 GB of available disk space minimum (IDE + Android SDK + Android Emulator)
Processor	x86_64 CPU architecture; 2nd generation Intel Core or newer, or AMD CPU with support for a Windows Hypervisor
Other Requirements	x86_64 CPU architecture; 2nd generation Intel Core or newer, or AMD CPU with support for a Windows Hypervisor

3.2. Software Requirements

Programming Language	Java, PHP
SDK Version	Android 12
Database	MySQL (XAMPP)

3.3. Mobile Requirements to run the App

Mobile OS	Android 4.4+
Permission Required	Internet, Storage

Chapter – 4

4. DESIGN AND IMPLEMENTATION

4.1. Manifest File Code

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <uses-permission android:name="android.permission.INTERNET" />
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/Theme.BookApp"
        android:usesCleartextTraffic="true"
        tools:targetApi="31">
        <activity
            android:name=".Login"
            android:exported="true" >
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter> </activity>
        <activity
            android:name=".SignUp"
            android:exported="false" />
        <activity
            android:name=".MainActivity"
            android:exported="false" />
    </application>
</manifest>
```

4.2. Donation Java Code

```

package com.app.bookapp;

import android.content.Intent;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.os.Handler;
import android.os.Looper;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputEditText;
import com.vishnusivadas.advanced_httpurlconnection.PutData;
import org.w3c.dom.Text;

public class Donatation extends Fragment {
    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
        Bundle savedInstanceState) {
        View view = inflater.inflate(R.layout.fragment_donatation, container, false);
        TextInputEditText textInputEditTextUsername = view.findViewById(R.id.usr);
        TextInputEditText textInputEditTextBookname =
view.findViewById(R.id.bookname);
        TextInputEditText textInputEditTextsubject = view.findViewById(R.id.subject);
        TextInputEditText textInputEditTextsemester = view.findViewById(R.id.semester);
        TextInputEditText textInputEditTextbooktype = view.findViewById(R.id.type);
        TextInputEditText textInputEditTextbookMobile = view.findViewById(R.id.mobile);
        Button buttonSubmit = view.findViewById(R.id.submit);

        //progressB=findViewById(R.id.progress1);

        buttonSubmit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String bookname, subject, semester, booktype, mobile, username;
                username=String.valueOf(textInputEditTextUsername.getText());
                bookname = String.valueOf(textInputEditTextBookname.getText());
                subject = String.valueOf(textInputEditTextsubject.getText());
                semester = String.valueOf(textInputEditTextsemester.getText());
                booktype = String.valueOf(textInputEditTextbooktype.getText());
                mobile = String.valueOf(textInputEditTextbookMobile.getText());
                if (!username.equals("") && !bookname.equals("") && !subject.equals("") &&
!semester.equals("") && !booktype.equals("")&& !mobile.equals("")) {
                    //progressB.setVisibility(View.VISIBLE);
                    Handler handler = new Handler(Looper.getMainLooper());
                    handler.post(new Runnable() {
                        @Override
                        public void run() {

```

```

        String[] field = new String[6];
        field[0] = "username";
        field[1] = "bookname";
        field[2] = "subject";
        field[3] = "semester";
        field[4] = "booktype";
        field[5] = "mobile";
        //Creating array for data
        String[] data = new String[6];
        data[0] = username;
        data[1] = bookname;
        data[2] = subject;
        data[3] = semester;
        data[4] = booktype;
        data[5] = mobile;
        PutData putData = new
PutData("http://117.247.182.134:8081/ic/mad/Bookapp/donate.php", "POST", field,
data);

        if (putData.startPut()) {
            if (putData.onComplete()) {

                String result = putData.getResult();
                if (result.equals("Submit Success")){

Toast.makeText(getActivity().getApplicationContext(),result,Toast.LENGTH_SHORT).sh
ow();

                    Intent intent=new
Intent(getActivity().getApplicationContext(),Donatation.class);
                    startActivity(intent);
                    getActivity().finish();

                }
                else {

Toast.makeText(getActivity().getApplicationContext(),result,Toast.LENGTH_SHORT).sh
ow();

                }

            }
        }
    });
}
else {
    Toast.makeText(getActivity().getApplicationContext(),"All fields are
required", Toast.LENGTH_SHORT).show();
}
}
});
return view;
}
}

```

4.3. Donation XML Code

```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView 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"
    android:fillViewport="true">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        tools:context=".Donation">
        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:fontFamily="@font/poppinsbold"
            android:gravity="center"
            android:text="@string/donate"
            android:layout_marginTop="40sp"
            android:textSize="30sp"
            android:textColor="#4CAF50"
        />
        <com.google.android.material.textfield.TextInputLayout
            android:id="@+id/textInputLayoutUsername"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center"
            android:layout_marginLeft="30dp"
            android:layout_marginTop="30dp"
            android:layout_marginRight="30dp"
            android:hint="@string/usn"
        >
```

```

        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/usr"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:fontFamily="@font/poppinsmedium"
            android:maxLength="10"
            android:required="true"
        />

    </com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/textInputLayoutBookname"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
    android:layout_marginRight="30dp"
    android:hint="@string/book_name" >

    <com.google.android.material.textfield.TextInputEditText
        android:id="@+id/bookname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="5dp"
        android:fontFamily="@font/poppinsmedium"
        android:maxLength="50"
        android:required="true" />

</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/textInputLayoutSubject"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
    android:layout_marginRight="30dp"
    android:hint="@string/subject" >

```

```
<com.google.android.material.textfield.TextInputEditText
    android:id="@+id/subject"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="5dp"
    android:fontFamily="@font/poppinsmedium"
    android:maxLength="50"
    android:required="true"
/>

</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/textInputLayoutSem"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
    android:layout_marginRight="30dp"
    android:hint="@string/semester"
>

<com.google.android.material.textfield.TextInputEditText
    android:id="@+id/semester"
    android:layout_marginTop="5dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:fontFamily="@font/poppinsmedium"
    android:maxLength="5"
    android:required="true"
/>

</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/textInputLayoutType"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
```

```

        android:layout_marginRight="30dp"
        android:hint="@string/book_type"
        tools:layout_editor_absoluteX="0dp">
        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/type"
            android:layout_marginTop="5dp"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:fontFamily="@font/poppinsmedium"
            android:maxLength="25"
            android:required="true"

            />
        </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        android:id="@+id/textInputLayoutMobile"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="30dp"
        android:layout_marginRight="30dp"
        android:hint="Mobile number"
        tools:layout_editor_absoluteX="0dp">
        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/mobile"
            android:layout_marginTop="5dp"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:fontFamily="@font/poppinsmedium"
            android:maxLength="10"
            android:required="true"
            android:inputType="number"

            />
    </com.google.android.material.textfield.TextInputLayout>

    <ProgressBar

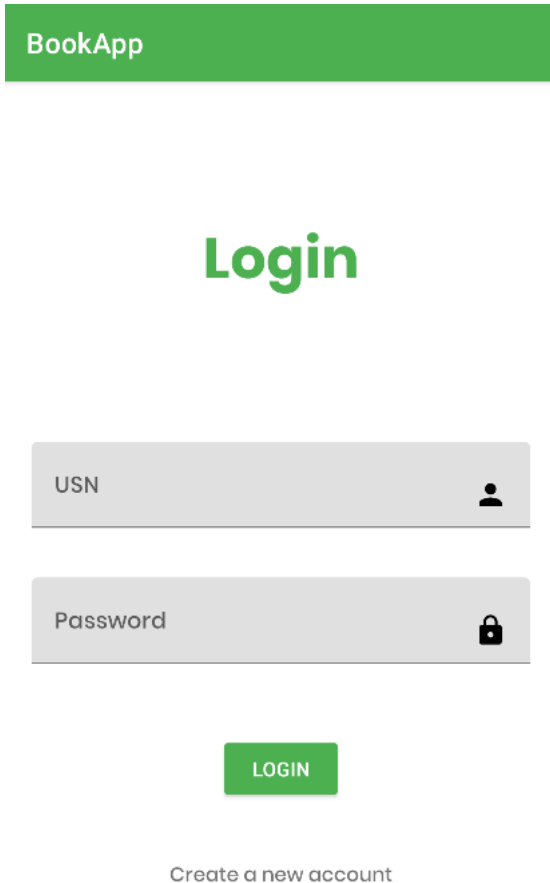
```

```
        android:id="@+id/progress1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:visibility="gone"/>
    <Button
        android:id="@+id/submit"
        style="@style/Widget.AppCompat.Button.Colored"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:layout_gravity="center"
        android:text="@string/submit" />
</LinearLayout>
</ScrollView>
```

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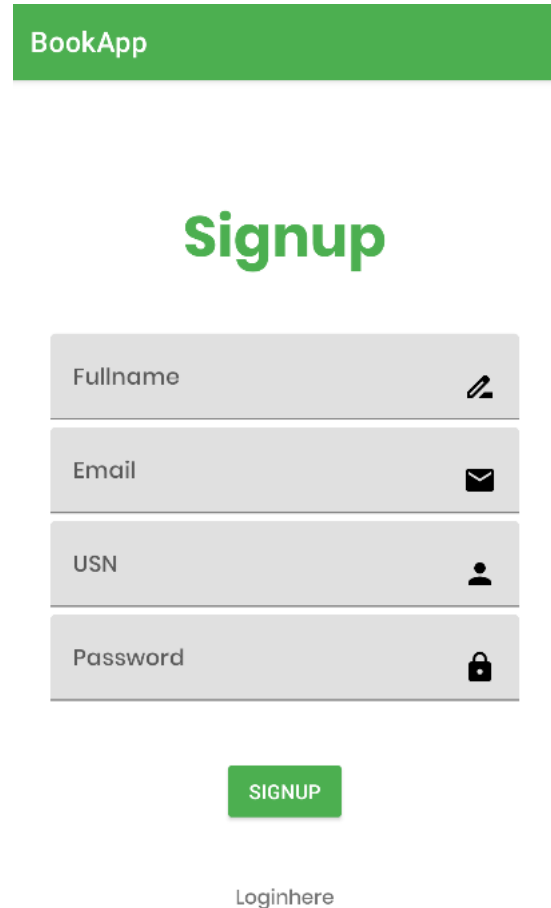
5. RESULT

5.1. SNAPSHOTS



The screenshot shows the 'Login' page of the 'BookApp'. At the top is a green header bar with the text 'BookApp'. Below the header, the word 'Login' is displayed in a large, bold, green font. There are two input fields: the first is labeled 'USN' with a user icon on the right, and the second is labeled 'Password' with a lock icon on the right. Below these fields is a green button labeled 'LOGIN'. At the bottom, there is a link that says 'Create a new account'.

Fig 5.1: Login Page – Pops up when user opens the App



The screenshot shows the 'Signup' page of the 'BookApp'. At the top is a green header bar with the text 'BookApp'. Below the header, the word 'Signup' is displayed in a large, bold, green font. There are four input fields: 'Fullname' with a pencil icon, 'Email' with an envelope icon, 'USN' with a user icon, and 'Password' with a lock icon. Below these fields is a green button labeled 'SIGNUP'. At the bottom, there is a link that says 'Loginhere'.

Fig 5.2: Sign Up Page – The user can register to App here

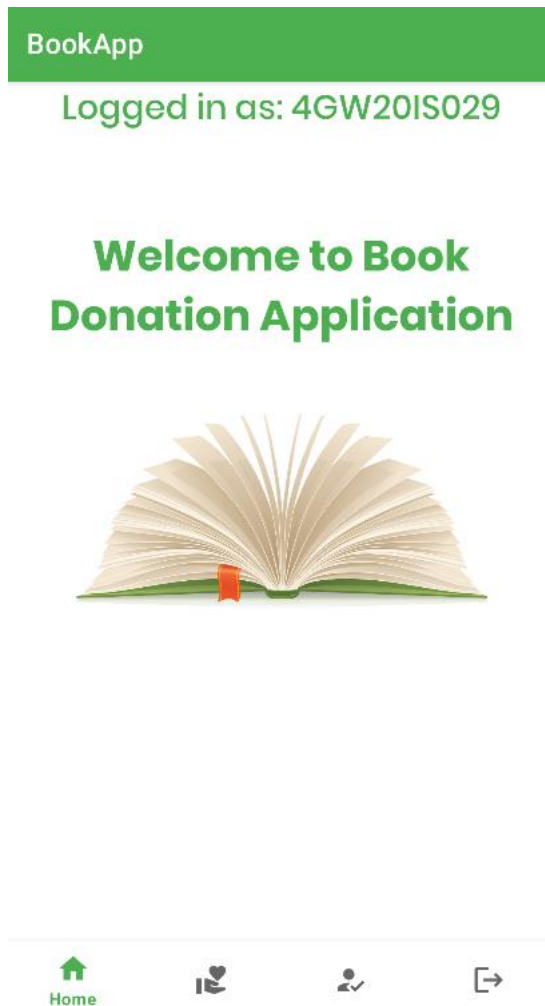


Fig 5.3: Home page - Appears when user logs in.

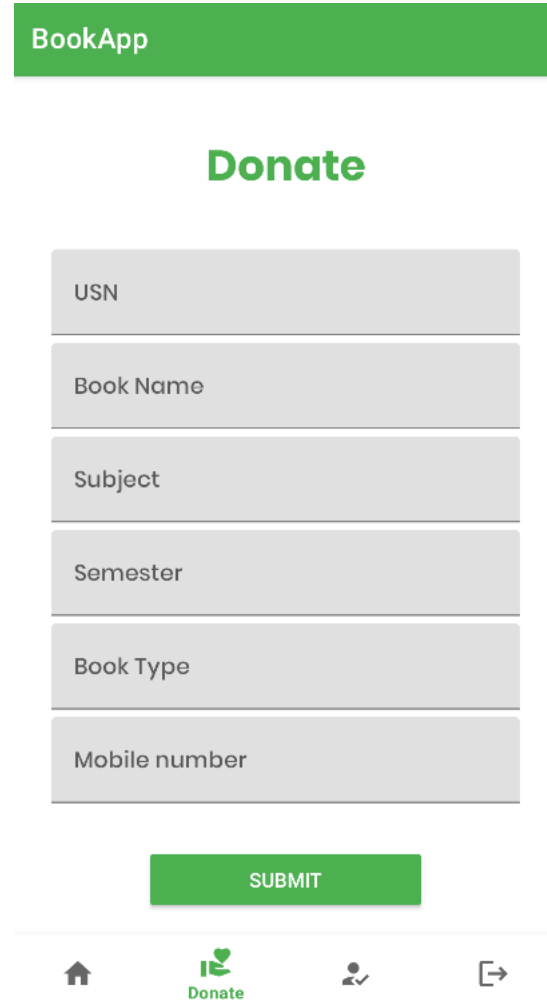


Fig 5.4: Donation page – where users can donate their books.

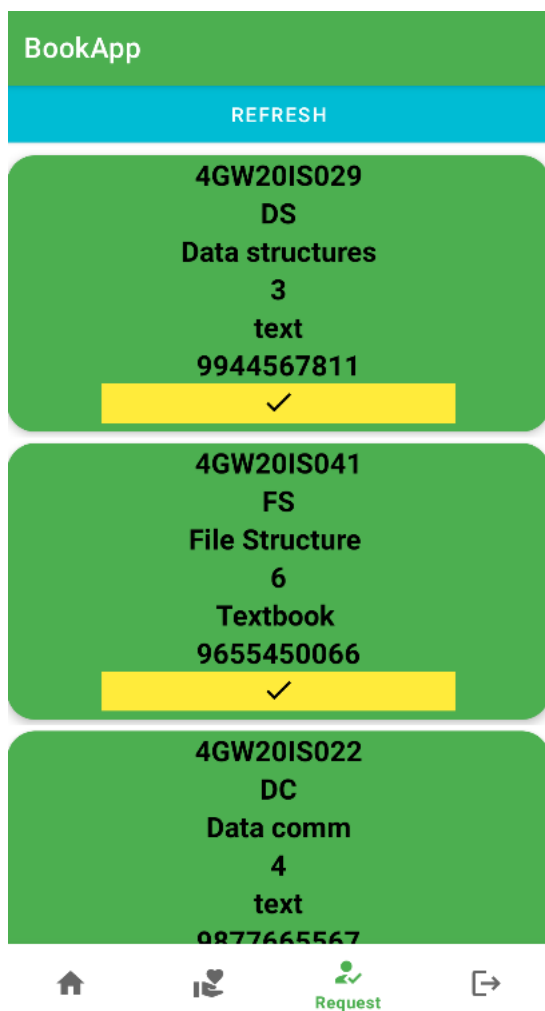


Fig 5.6: Request Page – Users can request books from here

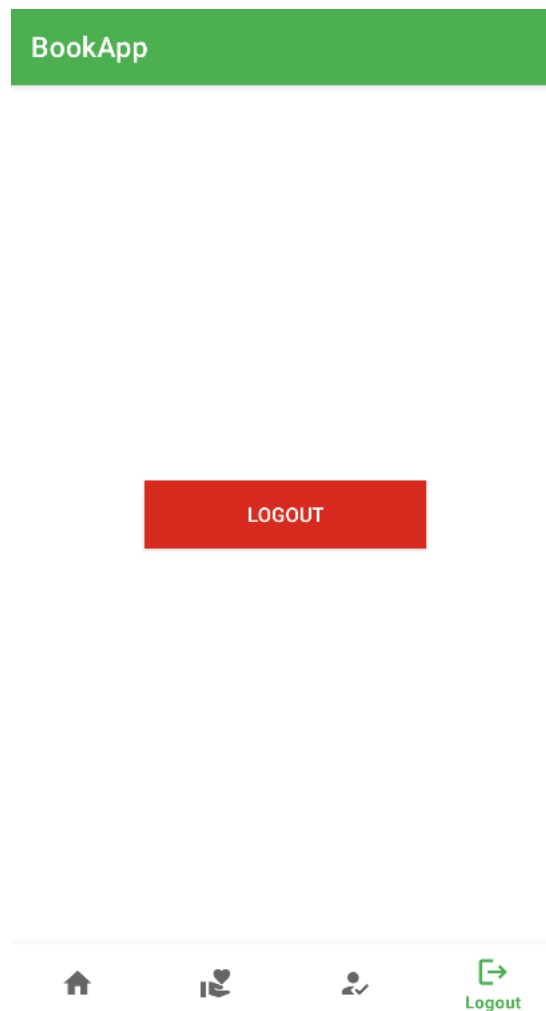


Fig 5.6: Logout Page – Users can logout from here

Chapter – 6

6. CONCLUSION AND LEARNING OUTCOME

6.1. Conclusion

The book donation application has proven to be a valuable tool in promoting literacy and providing access to books for individuals in need. Through its user-friendly interface and wide-reaching network, the application has successfully facilitated the donation process, connecting book donors with recipients in an efficient and effective manner.

Furthermore, the book donation application has contributed to sustainability efforts by promoting the reuse and recycling of books. By facilitating the redistribution of pre-owned books, it has reduced waste and promoted a greener approach to education.

6.2. Learning Outcomes

- Understood the history of Android development and what is required to build Android apps.
- Gained a basic understanding of Android application development.
- Designed and developed user Interfaces for the Android platform.

Appendix – 1

APPLICATION INSTRUCTIONS

- Our app can be downloaded from Google Chrome (GitHub)
- Open the Book Donation App.
- Create an account by Signing up.
- Provide the credentials to login (use the same username and password that was given during Signup)
- In the donation page give the details of the book you want to donate and submit.
- To request for a donated book, go to request page and select a book from the list provided by clicking (✓) button. After which you can contact the book owner.

REFERENCES

- [1] <https://youtu.be/X8oD4q3XtQQ>
 - For Login and Signup pages
- [2] https://youtu.be/_znvxVptpHY
 - For Recycler View in request page
- [3] <https://stackoverflow.com/>
 - For solving errors that occurred during development