

- ❖ Course Module : MIT3206 - Mobile Computing
- ❖ Course Lecturer : Senior Lecturer Gihan P. Seneviratne Sir

## ❖ Assignment 8 : Web View and Browsing Internal Storage

### ❖ GitHub Private Repository Link :

<https://github.com/NavinduMadusanka/Assignment8-MIT3206-22550119.git>

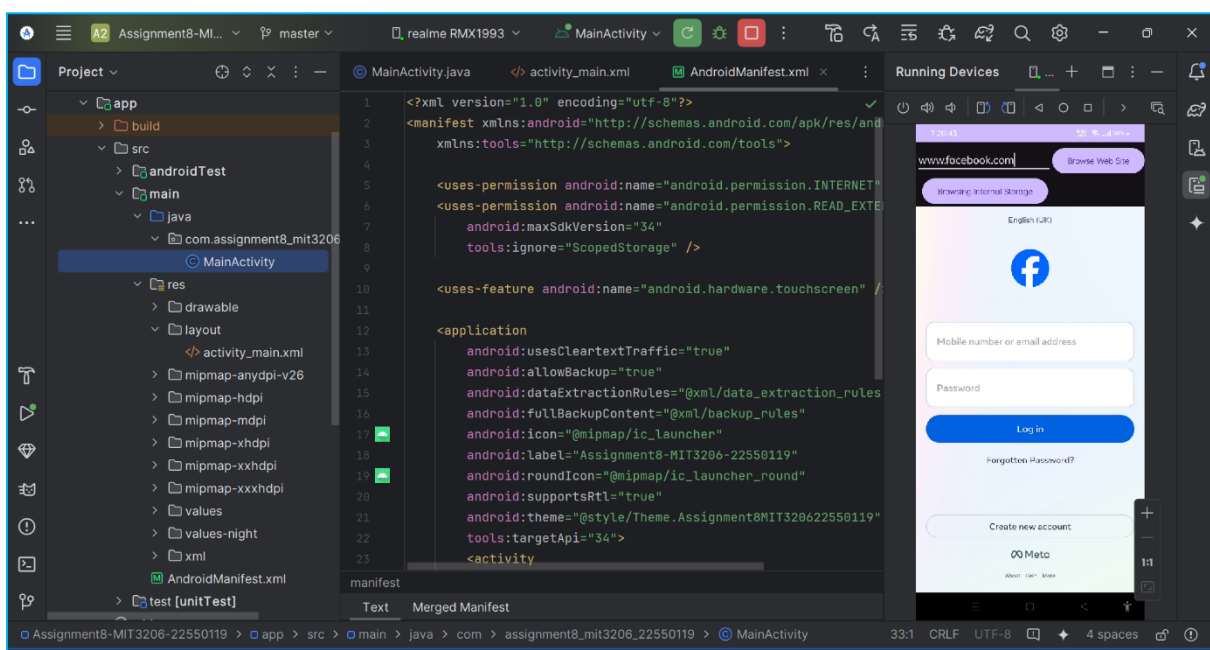
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Assignment8-MIT3206-22550119

## Assignment 8 : Web View and Browsing Internal Storage

Below is a summary of what I have learned and focused on in this assignment.

### 1. Android Components

- **API level**

| Android Version | API Level | Version Name |
|-----------------|-----------|--------------|
| Android 7.0     | 24        | Nougat       |

- **Class**

WebView Class (An extension of Android's View Class)

- **Common Control Methods are using in WebView**

| No | Method         | Description                                     |
|----|----------------|---|
| 1  | canGoBack()    | WebView has a backward.                         |
| 2  | canGoForward() | WebView has a forward.                          |
| 3  | clearHistory() | Clear the WebView forward and backward history. |
| 4  | destroy()      | Destroy the internal state of WebView.          |
| 5  | getProgress()  | Gets the progress of the current page.          |
| 6  | getTitle()     | Return the title of the current page.           |
| 7  | getUrl()       | Return the URL of the current page.             |

- **Permissions**
  - uses-permission – Access INTERNET
  - uses-permission – READ EXTERNAL STORAGE
  
- **Newly learned key points in this assignment**
  - Clicking on a link in the WebView site will not load that page into the WebView application.
  - The default browser has been loaded.  
To achieve this, I have to extend and override WebViewClient class.
  - How to disable default web browser.
  
- **tools:targetApi="34" in AndroidManifest.xml**
  
- **android:usesCleartextTraffic="true" in AndroidManifest.xml**
  
- **uses-feature android:name="android.hardware.touchscreen"**

## **2. Functionality of the mobile application**

- Just specify a URL on the URL field and press the “Browse Web Site” button that appears, to launch the website.
- Browse Local files - Touch on the “Browsing Internal Storage” button, to launch the Local files.

### 3. Running the Application on my android mobile device

I was running the android app for testing in my android mobile device.

My android mobile device is Realme X2 RMX1993.

Below is a Screenshots of my android mobile device (Realme X2 RMX1993) while the app was running.

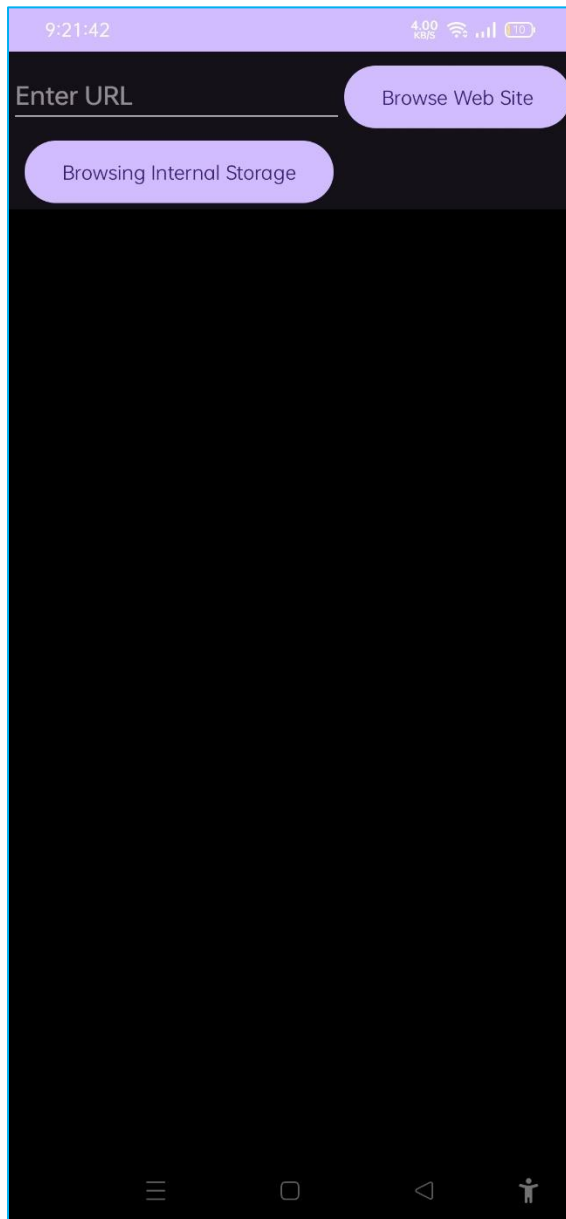


Photo 1 : Assignment8-MIT3206-22550119 Web View in Realme X2 RMX1993

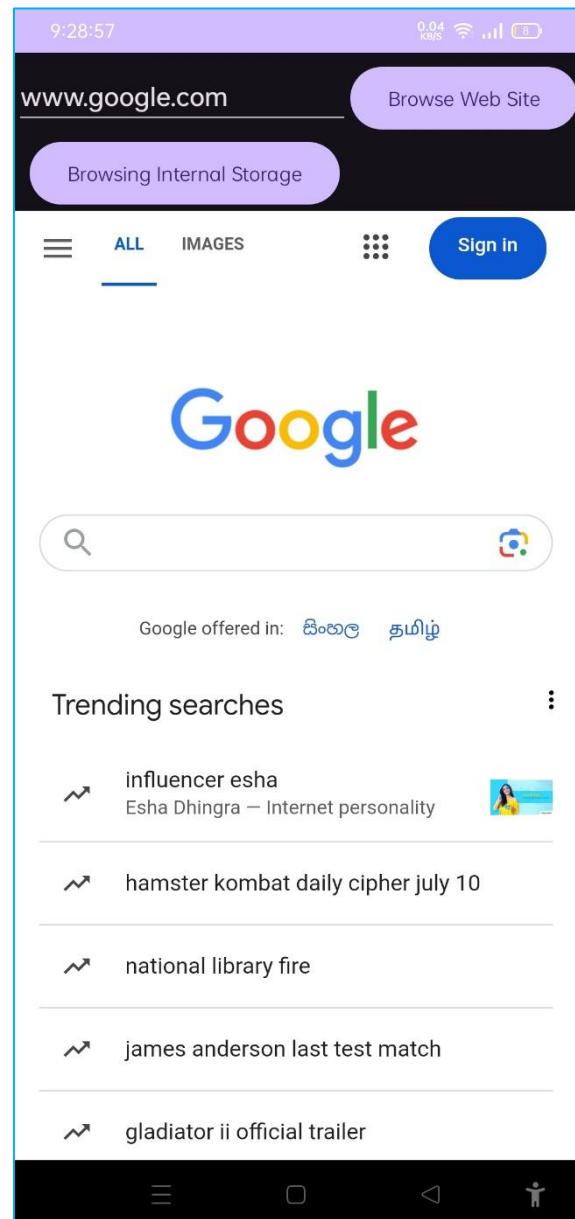
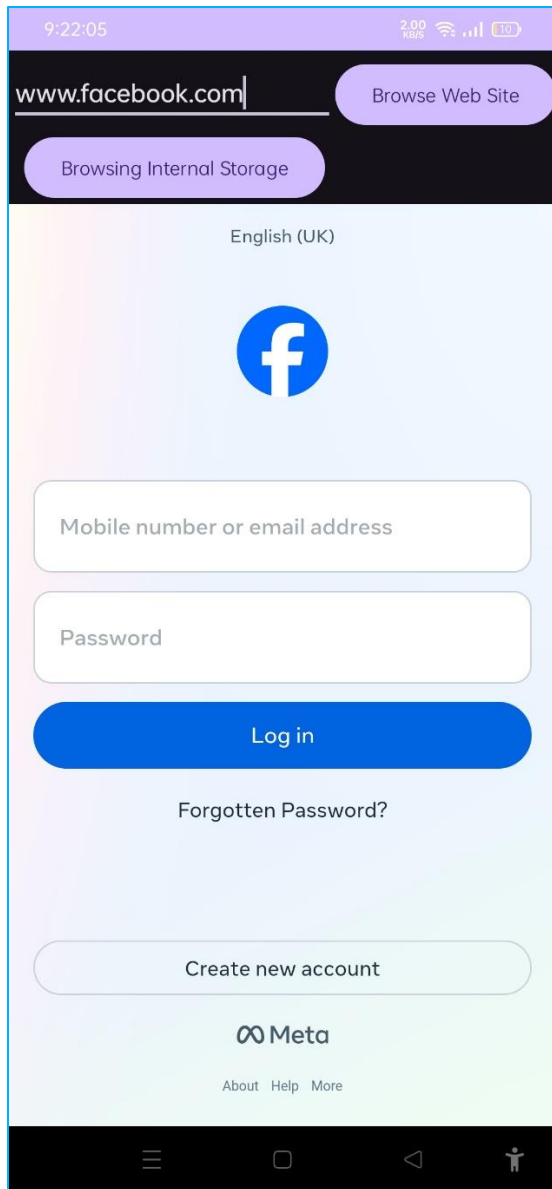
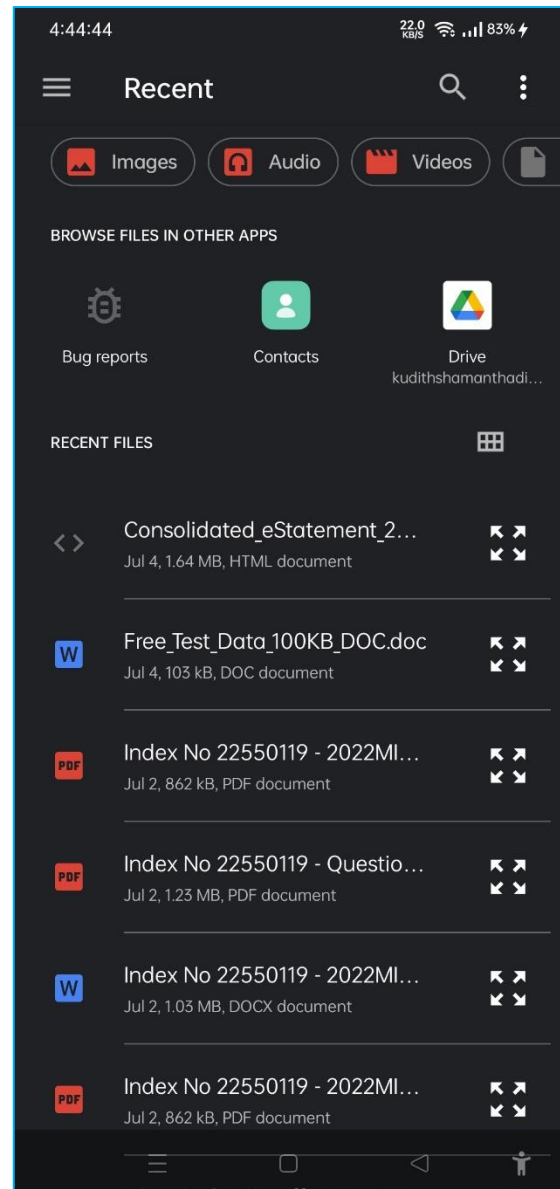


Photo 2 : Assignment8-MIT3206-22550119 Web View in Realme X2 RMX1993



**Photo 3 : Assignment8-MIT3206-22550119 Web View in Realme X2 RMX1993**



**Photo 4 : Assignment8-MIT3206-22550119 Browsing Internal Storage in Realme X2 RMX1993**

## 4. Main Coding files

- **MainActivity.java**

```
package com.assignment8_mit3206_22550119;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.webkit.WebChromeClient;
import android.webkit.WebSettings;
import android.webkit.WebView;
import android.webkit.WebViewClient;
import android.widget.Button;
import android.widget.EditText;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText urlEditText;
    private Button browseWebButton;
    private Button browseLocalFilesButton;
    private WebView webView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        urlEditText = findViewById(R.id.url_edit_text);
        browseWebButton = findViewById(R.id.browse_web_button);
        browseLocalFilesButton = findViewById(R.id.browse_local_files_button);
        webView = findViewById(R.id.web_view);

        WebSettings webSettings = webView.getSettings();
        webSettings.setJavaScriptEnabled(true);

        webView.setWebViewClient(new WebViewClient() {
            @Override
            public boolean shouldOverrideUrlLoading(WebView view, String url) {
                view.loadUrl(url);
                return true;
            }
        });
    }
}
```

```
webView.setWebChromeClient(new WebChromeClient());

browseWebButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        String url = urlEditText.getText().toString();
        if (!url.startsWith("http://") && !url.startsWith("https://")) {
            url = "http://" + url;
        }
        webView.loadUrl(url);
    }
});

browseLocalFilesButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        Intent intent = new Intent(Intent.ACTION_GET_CONTENT);
        intent.setType("*/*");
        startActivityForResult(intent, 1);
    }
});

@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    if (requestCode == 1 && resultCode == RESULT_OK) {
        Uri uri = data.getData();
        webView.loadUrl(uri.toString());
    }
}
}
```

- **activity\_main.xml**

```
<?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="match_parent"
    android:orientation="vertical">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginTop="5dp">
```

```
<EditText
    android:id="@+id/url_edit_text"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:textStyle="bold"
    android:hint="Enter URL"
    android:inputType="textUri" />

<Button
    android:id="@+id/browse_web_button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textStyle="bold"
    android:text="Browse Web Site" />

</LinearLayout>

<Button
    android:id="@+id/browse_local_files_button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textStyle="bold"
    android:layout_marginLeft="10dp"
    android:text="Browsing Internal Storage" />

<WebView
    android:id="@+id/web_view"
    android:layout_width="match_parent"
    android:textStyle="bold"
    android:layout_height="0dp"
    android:layout_weight="1" />

</LinearLayout>
```



- **AndroidManifest.xml**

```
<?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" />
    <uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE"
        android:maxSdkVersion="34"
        tools:ignore="ScopedStorage" />

    <uses-feature android:name="android.hardware.touchscreen" />

    <application
        android:usesCleartextTraffic="true"
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="Assignment8-MIT3206-22550119"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Assignment8MIT320622550119"
        tools:targetApi="34">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```