

## **Daily News App – Android Studio Course Project**

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CSIS 3175-050: Introduction to Mobile App Dev

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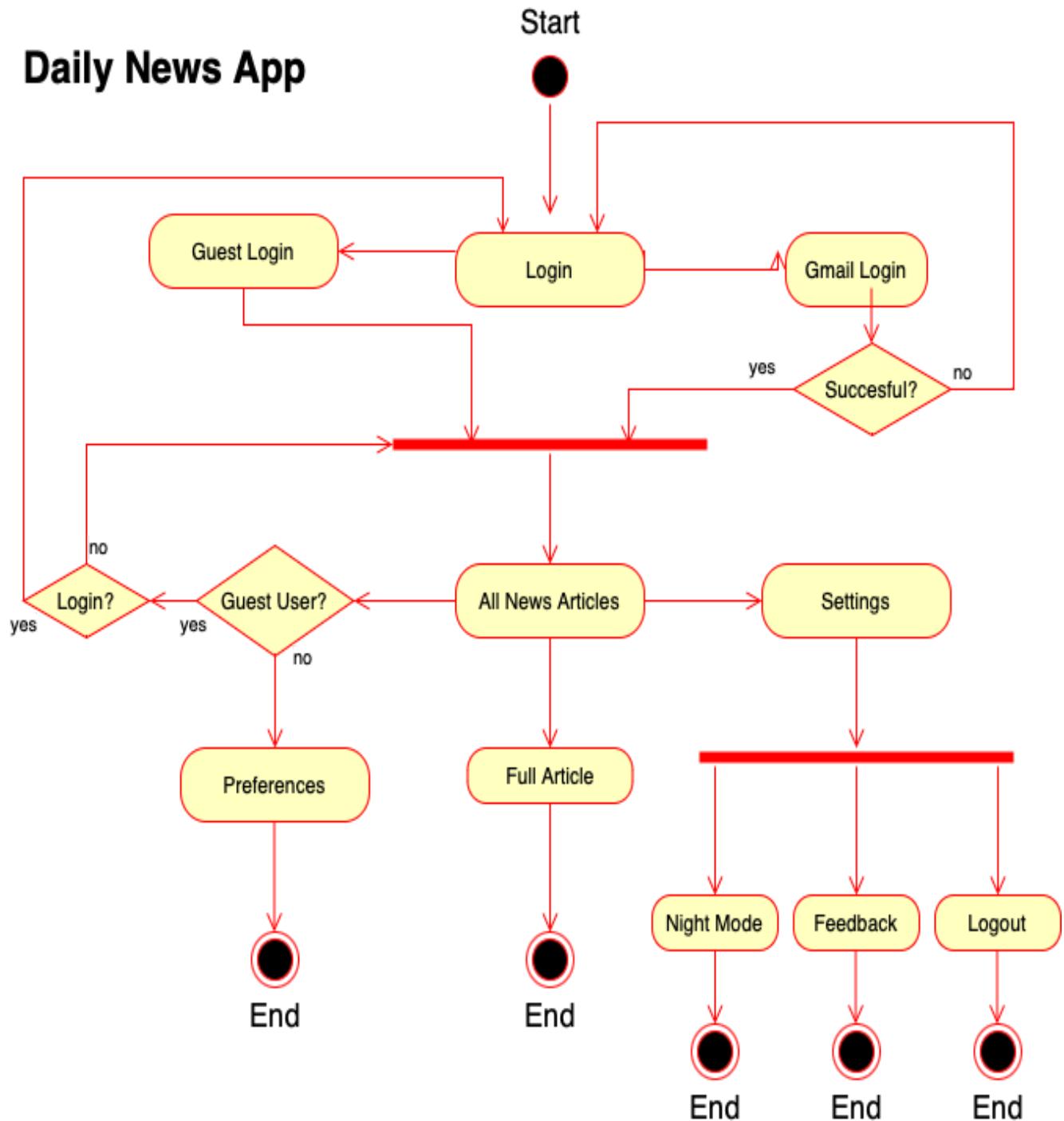
# Project Description

The project aims to develop an application that will display news articles and/or videos fetching from Third-Party API. Users can browse news articles of various categories and even choose their preferences. The app will enable users to view news descriptions, sources, authors, and headlines. The application will have two types of users at the front-end, one will be a guest user with limited functionality and the other will be via Gmail Login with full access to all the latest features.

The app will have an easy-to-use approach for designing and multiple links to access the important pages visited by users. The user will have the flexibility to change themes in their app that best suits their vision. This enables us to reach a higher audience that will be using the app. With no login info required, users can get right into the latest news stuff without the hassle of signing in if they don't want to. SQLite database will be responsible for the storage of preferences that users save when they log in via Google. This will make sure that their data is saved even after they log out. Receiving feedback from users is what helps a team grow and bring out all the latest features that'll be essential to our users. Sending feedback is easier now with just a click of a button. The app also provides information on the company's working hours if users want to reach them.

# Project Design

## Daily News App



# Implementation

## Coding

### A - AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.newsapp">
    <!-- permissions for INTERNET -->
    <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:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.NewsApp"
        android:usesCleartextTraffic="true">
        <activity
            android:name=".SettingActivity"
            android:exported="true"
            android:theme="@style/Theme.AppCompat.Light.NoActionBar">
            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        </activity>
        <activity
            android:name=".LoginActivity"
            android:exported="true"
            android:theme="@style/Theme.AppCompat.Light.NoActionBar">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
            <meta-data
                android:name="android.app.lib_name"
                android:value="" />
        
```

```

        </activity>
    <activity
        android:name=".PreferencesActivity"
        android:exported="false">
        <meta-data
            android:name="android.app.lib_name"
            android:value="" />
    </activity>
    <activity
        android:name=".ArticleViewActivity"
        android:exported="false">
        <meta-data
            android:name="android.app.lib_name"
            android:value="" />
    </activity>
    <activity
        android:name=".MainActivity"
        android:exported="true">

        <meta-data
            android:name="android.app.lib_name"
            android:value="" />
    </activity>
</application>

</manifest>

```

## B - Dependencies

```

implementation 'com.github.KwabenBerko:News-API-Java:1.0.2'

implementation 'com.android.volley:volley:1.2.1'

implementation 'com.github.bumptech.glide:glide:4.14.2'
annotationProcessor 'com.github.bumptech.glide:compiler:4.14.2'

implementation 'com.google.android.gms:play-services-auth:20.4.0'

```

## C - Layout Files

## • Activity\_article\_view.xml

```
<?xml version="1.0" encoding="utf-8"?>

<ScrollView 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="fill_parent"
    android:layout_height="fill_parent"
    android:background="@color/white">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context=".ArticleViewActivity">

        <androidx.cardview.widget.CardView
            android:id="@+id/cardView"
            android:layout_width="match_parent"
            android:layout_height="300dp"
            android:layout_marginStart="28dp"
            android:layout_marginTop="20dp"
            android:layout_marginEnd="28dp"
            app:cardCornerRadius="5dp"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/txtDate">

            <androidx.constraintlayout.widget.ConstraintLayout
                android:layout_width="match_parent"
                android:layout_height="match_parent">

                <ImageView
                    android:id="@+id/imageView"
                    android:layout_width="match_parent"
                    android:layout_height="match_parent"
                    android:background="@drawable/imagenotfound"
                    android:scaleType="fitXY"
                    app:layout_constraintBottom_toBottomOf="parent"
                    app:layout_constraintEnd_toEndOf="parent"
                    app:layout_constraintStart_toStartOf="parent"
                    app:layout_constraintTop_toTopOf="parent"
                    tools:srcCompat="@tools:sample/avatars" />
            </androidx.constraintlayout.widget.ConstraintLayout>

        </androidx.cardview.widget.CardView>

        <TextView
            android:id="@+id/txtSource"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginStart="28dp"
            android:layout_marginTop="32dp"
            android:layout_marginEnd="28dp"
            android:text="Source">
    
```

```
        android:textColor="@color/black"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/txtTitle"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="28dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="28dp"
    android:text="Title"
    android:textColor="@color/black"
    android:textSize="24sp"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/cardView" />

<TextView
    android:id="@+id/txtDate"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="28dp"
    android:layout_marginTop="20dp"
    android:text="Date"
    android:textColor="@color/black"
    android:textSize="18sp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/txtSource" />

<TextView
    android:id="@+id/txtDesc"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="28dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="28dp"
    android:text="Description"
    android:textColor="@color/ash_grey"
    android:textSize="20sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/txtTitle" />

<TextView
    android:id="@+id/txtAuthor"
    android:layout_width="173dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="28dp"
    android:layout_marginTop="16dp"
    android:layout_marginBottom="30dp"
    android:text="Author: "
    android:textColor="@color/black"
```

```

        android:textSize="18sp"
        android:textStyle="bold|italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/txtDesc" />

<TextView
    android:id="@+id/txtCategory"
    android:layout_width="164dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:layout_marginEnd="28dp"
    android:layout_marginBottom="30dp"
    android:text="Category"
    android:textAlignment="viewEnd"
    android:textColor="@color/black"
    android:textSize="18sp"
    android:textStyle="bold"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="1.0"
    app:layout_constraintStart_toEndOf="@+id/txtAuthor"
    app:layout_constraintTop_toBottomOf="@+id/txtDesc" />

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

```

## ● Activity\_login.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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="@drawable/b"
    tools:context=".LoginActivity">

<TextView
    android:id="@+id/signin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginStart="50dp"
    android:layout_marginTop="100dp"
    android:layout_marginEnd="50dp"
    android:layout_marginBottom="50dp"
    android:gravity="center"
    android:text="Daily News App"
    android:textColor="@color/white"

```

```

        android:textSize="35dp"
        android:textStyle="bold" />

<Button
    android:id="@+id/loginbtn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"

    android:layout_marginLeft="90dp"
    android:layout_marginTop="300dp"

    android:backgroundTint="@color/design_default_color_secondary"
    android:padding="20dp"
    android:text="Continue as a guest"
    android:textColor="@color/white" />

<TextView
    android:id="@+id/others"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_above="@+id/socialicons"
    android:layout_centerHorizontal="true"
    android:text="or sign in with" />

<LinearLayout
    android:id="@+id/socialicons"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_alignParentBottom="true"
    android:gravity="center">

    <ImageView
        android:id="@+id/google_btn"
        android:layout_width="48dp"
        android:layout_height="48dp"
        android:layout_margin="20dp"
        android:src="@drawable/google" />

</LinearLayout>

</RelativeLayout>

```

## • Activity\_main.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"

    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/recycler_news"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

## • Activity\_preferences.xml

```

<?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:orientation="vertical"
    tools:context=".PreferencesActivity" >

    <CheckBox
        android:id="@+id/chkGeneral"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:drawableLeft="@drawable/ic_baseline_article_24"
        android:drawablePadding="10dp"
        android:text="General" />

    <CheckBox
        android:id="@+id/chkBussiness"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:drawableLeft="@drawable/ic_baseline_business_center_24"
        android:drawablePadding="10dp"
        android:text="Business" />

    <CheckBox
        android:id="@+id/chkEntertainment"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:drawableLeft="@drawable/ic_baseline_live_tv_24"
        android:drawablePadding="10dp"
        android:text="Entertainment" />

```

```

<CheckBox
    android:id="@+id/chkHealth"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"

    android:drawableLeft="@drawable/ic_baseline_local_hospital_24"
    android:drawablePadding="10dp"
    android:text="Health" />

<CheckBox
    android:id="@+id/chkScience"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:drawableLeft="@drawable/ic_baseline_biotech_24"
    android:drawablePadding="10dp"
    android:text="Science" />

<CheckBox
    android:id="@+id/chkSports"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"

    android:drawableLeft="@drawable/ic_baseline_sports_soccer_24"
    android:drawablePadding="10dp"
    android:text="Sports" />

<CheckBox
    android:id="@+id/chkTechnology"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"

    android:drawableLeft="@drawable/ic_baseline_rocket_launch_24"
    android:drawablePadding="10dp"
    android:text="Technology" />

<Button
    android:id="@+id	btnPrefSave"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="30dp"
    android:text="Save Preferences" />
</LinearLayout>

```

## ● Activity\_setting.xml

```

<?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=".SettingActivity">

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

        <ImageView
            android:id="@+id	btn_back"
            android:layout_width="50dp"
            android:layout_height="50dp"
            android:padding="14dp"
            android:src="@drawable/ic_baseline_arrow_back_24" />

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_centerHorizontal="true"
            android:layout_centerVertical="true"
            android:layout_gravity="center"
            android:text="Settings"
            android:textColor="@color/black"
            android:textSize="18sp"
            android:textStyle="bold" />
    </LinearLayout>

    <ImageView
        android:id="@+id/pic_"
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:layout_gravity="center"
        android:layout_marginTop="10dp"
        android:src="@drawable/ic_baseline_person_24" />

    <TextView
        android:id="@+id/name"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_marginTop="10dp"
        android:text="Name"
        android:textColor="@color/black"
        android:textSize="34sp"
        android:textStyle="bold" />

    <TextView
        android:id="@+id/email"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="email"
        android:textColor="@color/black"
        android:textSize="22sp" />
```

```

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginTop="40dp"
    android:layout_marginEnd="20dp"
    android:orientation="vertical"
    android:padding="15dp">

    <RelativeLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_centerVertical="true"

            android:layout_marginStart="40dp"
            android:text="Night Mode"
            android:textColor="@color/black"
            android:textSize="18sp"
            android:textStyle="bold" />

        <Switch
            android:id="@+id/myswitch"
            android:layout_width="wrap_content"

            android:layout_height="wrap_content"
            android:layout_alignParentEnd="true"
            android:layout_centerVertical="true"
            android:switchMinWidth="50dp"
            tools:ignore="TouchTargetSizeCheck" />

    </RelativeLayout>

</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginTop="20dp"
    android:layout_marginEnd="20dp"
    android:orientation="vertical"
    android:padding="15dp">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_centerVertical="true"

```

```

        android:layout_marginStart="40dp"
        android:text="Preferences"
        android:textColor="@color/black"
        android:textSize="18sp"
        android:textStyle="bold" />

    <ImageView
        android:id="@+id/preference_btn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"

        android:src="@drawable/ic_baseline_chevron_right_24" />

    </RelativeLayout>

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_centerVertical="true"

            android:layout_marginStart="40dp"
            android:text="About us"
            android:textColor="@color/black"
            android:textSize="18sp"
            android:textStyle="bold" />

        <ImageView
            android:id="@+id/about_btn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentEnd="true"

            android:src="@drawable/ic_baseline_chevron_right_24" />

        </RelativeLayout>

        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_centerVertical="true"

                android:layout_marginStart="40dp"
                android:text="Contact us"
                android:textColor="@color/black"

```

```

        android:textSize="18sp"
        android:textStyle="bold" />

<ImageView
    android:id="@+id/contact_btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"

    android:src="@drawable/ic_baseline_chevron_right_24" />

</RelativeLayout>

<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content">

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerVertical="true"

    android:layout_marginStart="40dp"
    android:text="Feedback"
    android:textColor="@color/black"
    android:textSize="18sp"
    android:textStyle="bold" />

<ImageView
    android:id="@+id/feedback_btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentEnd="true"
    android:layout_centerVertical="true"

    android:src="@drawable/ic_baseline_chevron_right_24" />

</RelativeLayout>

</LinearLayout>

<Button
    android:id="@+id/log_out"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_marginTop="20dp"
    android:text="Logout" />

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"

```

```

        android:layout_marginTop="30dp"

        android:text='Copyright \u00a9 2022'
        android:textColor="@color/black" />
    </LinearLayout>

```

## • Custom\_layout1.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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="wrap_content"
    android:id="@+id/root_vg"
    >

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <ImageView
            android:id="@+id	btn_close"
            android:layout_width="40dp"
            android:layout_height="38dp"
            android:layout_alignParentEnd="true"
            android:layout_alignParentRight="true"
            android:layout_marginTop="2dp"
            android:layout_marginEnd="2dp"

            android:layout_marginRight="2dp"
            android:src="@drawable/ic_close_24" />
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical">

            <TextView
                android:id="@+id/txtDesc"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_gravity="center_horizontal"

                android:layout_margin="30dp"
                android:gravity="center_horizontal"
                android:paddingStart="12dp"
                android:paddingEnd="12dp"
                android:text="We are students from Douglas College
who created this app as part of our course project.\n\nOur Names:
\nDhaval Dandekar\nPrabhjot Wilku\n\n
                Our mission was to create a simple and easy to

```

understand News Application to bring all the current updates to you at the click of a button.\n We plan on updating the app with more features to make it fun and reliable for everyone!"

```

        android:textColor="@color/always_black"
        android:textSize="20sp" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:gravity="center_horizontal"
        android:layout_marginBottom="8dp"
        android:layout_marginTop="12dp"/>

    </LinearLayout>
</RelativeLayout>

</RelativeLayout>
```

## ● Custom\_layout2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    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="wrap_content"
    android:id="@+id/root_vg"
    >

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <ImageView
            android:id="@+id	btn_close"
            android:layout_width="43dp"
            android:layout_height="43dp"
            android:layout_alignParentEnd="true"
            android:layout_alignParentRight="true"
            android:layout_marginTop="5dp"
            android:layout_marginEnd="2dp"

            android:layout_marginRight="2dp"
            android:src="@drawable/ic_close_24" />

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

```

<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="20dp"
    android:layout_marginBottom="20dp"

    android:text="Contact Info"
    android:textColor="@color/always_black"
    android:textSize="24sp"
    android:textStyle="bold" />

<TextView

    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:layout_margin="10dp"
    android:gravity="center_horizontal"
    android:paddingStart="12dp"
    android:paddingEnd="12dp"
    android:text="Customer Service : 323232353"
    android:textColor="@color/always_black" />

<TextView

    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:layout_margin="10dp"

    android:gravity="center_horizontal"
    android:paddingStart="12dp"
    android:paddingEnd="12dp"
    android:text="Email : newsappcsis3175@gmail.com"
    android:textColor="@color/always_black" />

<TextView
    android:id="@+id/txtDesc"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:layout_margin="10dp"

    android:gravity="center_horizontal"
    android:paddingStart="12dp"
    android:paddingEnd="12dp"
    android:text="Working Hours : 9AM - 5PM Weekdays
"
    android:textColor="@color/always_black" />

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"

```

```

        android:layout_marginTop="12dp"
        android:layout_marginBottom="8dp"
        android:gravity="center_horizontal"
        android:orientation="horizontal" />

    </LinearLayout>
</RelativeLayout>

</RelativeLayout>

```

## ● Recyclerview\_row.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="wrap_content"
    android:padding="10dp">

    <androidx.cardview.widget.CardView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="10dp"
        android:layout_marginTop="10dp"
        android:layout_marginEnd="10dp"
        android:layout_marginBottom="10dp"
        android:fadeScrollbars="true"
        app:cardBackgroundColor="@color/white"
        app:cardCornerRadius="5dp"
        app:cardElevation="5dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <LinearLayout
            android:id="@+id/rowItem"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical">

            <ImageView
                android:id="@+id/img_article"
                android:layout_width="match_parent"
                android:layout_height="196dp"
                android:background="@drawable/imagenotfound"
                android:scaleType="fitXY"
                tools:srcCompat="@tools:sample/avatars" />

```

```

<TextView
    android:id="@+id/txt_title"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:padding="10dp"
    android:text="Maple syrup thrown in painting
Vancouver Art Gallery | CTV news vancouver"
    android:textSize="24sp"
    android:textStyle="bold" />

<androidx.constraintlayout.widget.ConstraintLayout
    android:layout_width="match_parent"
    android:layout_height="68dp">

    <TextView
        android:id="@+id/txt_link"
        android:layout_width="292dp"
        android:layout_height="44dp"
        android:padding="10dp"
        android:text="Anonymous"
        android:textAlignment="textStart"
        android:textSize="16sp"
        android:textStyle="italic"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    </androidx.constraintlayout.widget.ConstraintLayout>

    </LinearLayout>
</androidx.cardview.widget.CardView>
</androidx.constraintlayout.widget.ConstraintLayout>

```

## • Options\_menu.xml

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
      xmlns:app="http://schemas.android.com/apk/res-auto">

    <item android:id="@+id/itemRefresh"
          android:icon="@drawable/ic_baseline_refresh_24"
          android:title="Refresh"
          app:showAsAction="always"/>

    <item android:id="@+id/itemPrefs"
          android:icon="@drawable/ic_bookmark"
          android:title="My Preferences"
          />

    <item android:id="@+id/itemSettings"
          android:icon="@drawable/ic_bookmark"
          android:title="Settings"
          />

```

```

        />

<item android:id="@+id/itemLogout"
      android:icon="@drawable/ic_baseline_logout_24"
      android:title="Logout" />

</menu>

```

## D - Java Files

- ArticleViewActivity.java

```

package com.example.newsapp;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.ImageView;
import android.widget.TextView;

import com.bumptech.glide.Glide;

public class ArticleViewActivity extends AppCompatActivity {

    TextView
txtTitle,txtDesc,txtSource,txtDate,txtAuthor,txtCategory;
    ImageView newsImage;

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

        String title = getIntent().getStringExtra("title");
        String author = getIntent().getStringExtra("author");
        String imgUrl = getIntent().getStringExtra("image");
        String description =
getIntent().getStringExtra("description");
        String publishDate =
getIntent().getStringExtra("published_at");
        String source = getIntent().getStringExtra("source");
        String category = getIntent().getStringExtra("category");
    }
}

```

```

        txtTitle = findViewById(R.id.txtTitle);
        txtAuthor = findViewById(R.id.txtAuthor);
        txtCategory = findViewById(R.id.txtCategory);
        txtSource = findViewById(R.id.txtSource);
        txtDesc = findViewById(R.id.txtDesc);
        txtDate = findViewById(R.id.txtDate);

        newsImage = findViewById(R.id.imageView);

        txtTitle.setText(title);
        txtAuthor.setText("Author: " + author);
        txtCategory.setText("Category: " + category.toUpperCase());
        txtSource.setText(source.toUpperCase());
        txtDesc.setText(description);
        txtDate.setText("Date: " + publishDate.substring(0,10));

        Glide.with(this).load(imgUrl).into(newsImage);
    }
}

```

## ● DatabaseHandler.java

```

package com.example.newsapp;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import java.util.ArrayList;
import java.util.List;

public class DatabaseHandler extends SQLiteOpenHelper {
    private static final int DATABASE_VERSION = 1;
    private static final String DATABASE_NAME = "newsPrefsManager";
    private static final String TABLE_SAVED_PREFS = "preferences";
    private static final String KEY_ID = "email";
    private static final String KEY_GENERAL = "general";
    private static final String KEY_BUSINESS = "business";
    private static final String KEY_ENTERTAIN = "entertainment";
    private static final String KEY_HEALTH = "health";
    private static final String KEY_SCIENCE = "science";
    private static final String KEY_SPORTS = "sports";
    private static final String KEY_TECH = "technology";
    private static final String KEY_PREFSTR = "preferences";

    public DatabaseHandler(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
        //3rd argument to be passed is CursorFactory instance
    }
}

```

```

    }

    // Creating Tables
    @Override
    public void onCreate(SQLiteDatabase db) {
        String CREATE_CONTACTS_TABLE = "CREATE TABLE " +
        TABLE_SAVED_PREFS + "("
            + KEY_ID + " TEXT PRIMARY KEY," + KEY_GENERAL + " "
        TEXT, "
            + KEY_BUSINESS + " TEXT," + KEY_ENTERTAIN + "
        TEXT, "
            + KEY_HEALTH + " TEXT," + KEY_SPORTS + " TEXT,"
            + KEY_SCIENCE + " TEXT," + KEY_TECH + " TEXT," +
        KEY_PREFSTR + " TEXT" + ")";
        db.execSQL(CREATE_CONTACTS_TABLE);
    }

    // Upgrading database
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        // Drop older table if existed
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_SAVED_PREFS);

        // Create tables again
        onCreate(db);
    }

    // code to add the new contact
    void addPreference(String[] record) {

        String sqlInsert = "INSERT OR REPLACE INTO " +
        TABLE_SAVED_PREFS + " VALUES(?,?,?,?,?,?,?,?,?,?)";
        SQLiteDatabase db = this.getWritableDatabase();

        db.execSQL(sqlInsert, new
String[]{record[0], record[1], record[2], record[3], record[4], record[5],
        record[6], record[7], record[8]});

        db.close();
    }

    public String[] findProduct(String email) {
        String query = "Select * FROM " + TABLE_SAVED_PREFS + " "
WHERE " + KEY_ID + " = " + email + "\'";
        SQLiteDatabase db = this.getWritableDatabase();

        Cursor cursor = db.rawQuery(query, null);
        String[] prefs = new String[9];

        if (cursor.moveToFirst()) {
            cursor.moveToFirst();
            for (int i=0;i<cursor.getColumnCount();i++) {

```

```

        prefs[i]=cursor.getString(i);
    }
    cursor.close();
} else {
    prefs = null;
}
db.close();
return prefs;
}

}

```

## ● LoginActivity.java

```

package com.example.newsapp;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.util.Log;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import com.google.android.gms.auth.api.signin.GoogleSignIn;
import com.google.android.gms.auth.api.signin.GoogleSignInAccount;
import com.google.android.gms.auth.api.signin.GoogleSignInClient;
import com.google.android.gms.auth.api.signin.GoogleSignInOptions;
import com.google.android.gms.common.api.ApiException;
import com.google.android.gms.tasks.Task;
import com.google.android.material.button.MaterialButton;

public class LoginActivity extends AppCompatActivity {

    GoogleSignInOptions gso;
    GoogleSignInClient gsc;
    ImageView googleBtn;

    Button btnGuest;

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

        btnGuest = findViewById(R.id.loginbtn);

        googleBtn = findViewById(R.id.google_btn);
    }
}

```

```

        SharedPreferences sharedPreferences =
getSharedPreferences("MyUser", MODE_PRIVATE);
        if(sharedPreferences.contains("user")){
            Intent i = new
Intent(LoginActivity.this,MainActivity.class);
            startActivity(i);
        }

        gso = new
GoogleSignInOptions.Builder(GoogleSignInOptions.DEFAULT_SIGN_IN).re
questEmail().build();
        gsc = GoogleSignIn.getClient(this,gso);

        GoogleSignInAccount acct =
GoogleSignIn.getLastSignedInAccount(this);
        if(acct!=null){
            navigateToSecondActivity();
        }

        googleBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                signIn();
            }
        });

        btnGuest.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                SharedPreferences sharedPreferences =
getSharedPreferences("MyUser",MODE_PRIVATE);

                SharedPreferences.Editor editor =
sharedPreferences.edit();
                editor.putString("user","Guest");
                editor.putString("mode","light");
                editor.apply();
                Intent intent = new
Intent(LoginActivity.this,MainActivity.class);
                intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
                startActivity(intent);
                finish();
            }
        });

    }

    void signIn(){
        Intent signInIntent = gsc.getSignInIntent();
        startActivityForResult(signInIntent,1000);
    }

    @Override
    protected void onActivityResult(int requestCode, int

```

```

resultCode, Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    if(requestCode == 1000){
        Task<GoogleSignInAccount> task =
        GoogleSignIn.getSignedInAccountFromIntent(data);

        try {
            task.getResult(ApiException.class);
            navigateToSecondActivity();
        } catch (ApiException e) {
            e.printStackTrace();
            Toast.makeText(getApplicationContext(), "LogIn Failed",
                    Toast.LENGTH_SHORT).show();
        }
    }
}

void navigateToSecondActivity(){
    GoogleSignInAccount acct =
    GoogleSignIn.getLastSignedInAccount(this);
    if(acct!=null){
        SharedPreferences sharedpreferences =
        getSharedPreferences("MyUser", MODE_PRIVATE);
        SharedPreferences.Editor editor =
        sharedpreferences.edit();
        editor.putString("user",acct.getEmail());
        // editor.putString("mode","light");
        editor.apply();
        DatabaseHandler db = new DatabaseHandler(this);

        if (db.findProduct(acct.getEmail()) == null){
            String[] record =
{acct.getEmail(),"false","false","false","false","false","false","false"};
            db.addPreference(record);
        }
    }
    Intent intent = new
Intent(LoginActivity.this,MainActivity.class);
    intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
    startActivity(intent);
    finish();
}
}

```

## ● MainActivity.java

```

package com.example.newsapp;

import static android.content.ContentValues.TAG;

```

```

import androidx.annotation.NonNull;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.app.ProgressDialog;
import android.content.DialogInterface;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.util.Log;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.CheckBox;
import android.widget.Toast;

import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;
import com.google.android.gms.auth.api.signin.GoogleSignIn;
import com.google.android.gms.auth.api.signin.GoogleSignInClient;
import com.google.android.gms.auth.api.signin.GoogleSignInOptions;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.kwabenaberko.newsapilib.NewsApiClient;
import
com.kwabenaberko.newsapilib.models.request.EverythingRequest;
import com.kwabenaberko.newsapilib.models.response.ArticleResponse;

import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;

import java.util.ArrayList;
import java.util.Locale;

public class MainActivity extends AppCompatActivity implements
NewsInterface{

    public String username;

    ArrayList<NewsModel> newsModels = new ArrayList<>();

    private static final String API_KEY =
"http://api.medialab.com/v1/news?access_key=c3468d18429b8d77f80af
4dde066aac0";

    RecyclerView recyclerView;

    SharedPreferences sharedPreferences;

```

```

String request;

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

    recyclerView = findViewById(R.id.recycler_news);

    recyclerView.setHasFixedSize(true);
    recyclerView.setLayoutManager(new
LinearLayoutManager(this));

    setNewsModels();

}

@Override
public boolean onCreateOptionsMenu(Menu menu) {
    MenuInflater inflater = getMenuInflater();
    inflater.inflate(R.menu.options_menu,menu);
    return true;
}

@Override
public boolean onOptionsItemSelected(@NonNull MenuItem item) {

    Intent intent;

    switch (item.getItemId()){
        case R.id.itemRefresh:
            //code for refresh

            intent = new
Intent(MainActivity.this,MainActivity.class);
            startActivity(intent);

            return true;
        case R.id.itemPrefs:
            //code for preferences

            sharedPreferences = getSharedPreferences("MyUser",
MODE_PRIVATE);

            if(sharedPreferences.getString("user","")=="Guest"
|| sharedPreferences.getString("user","");
){

                androidx.appcompat.app.AlertDialog.Builder
builder = new
androidx.appcompat.app.AlertDialog.Builder(MainActivity.this);
                builder.setTitle("Uh...oh!");
                builder.setMessage("Looks like you are logged
in as Guest. We cannot save preferences on your Guest Account.Do
you want to LogIn?");
                builder.setPositiveButton("Yes", new

```

```

DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog,
    int which) {
        SharedPreferences =
getSharedPreferences("MyUser", MODE_PRIVATE);
        SharedPreferences.Editor editor =
sharedPreferences.edit();
        editor.remove("user");
        editor.apply();
        Intent intent = new
Intent(MainActivity.this, LoginActivity.class);

        intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
        startActivity(intent);
        finish();
    }
});
builder.setNegativeButton("No", new
DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog,
    int which) {
        Intent intent = new
Intent(MainActivity.this, MainActivity.class);

        intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
        startActivity(intent);
        finish();
    }
});
AlertDialog dialog = builder.create();
dialog.show();
} else{
    intent = new
Intent(MainActivity.this, PreferencesActivity.class);
    startActivity(intent);
}
return true;

case R.id.itemSettings:
//code for logout
intent = new
Intent(MainActivity.this, SettingActivity.class);
startActivity(intent);
return true;

case R.id.itemLogout:
    androidx.appcompat.app.AlertDialog.Builder builder
= new
androidx.appcompat.app.AlertDialog(MainActivity.this);
    builder.setTitle("Logout");
    builder.setMessage("Are you sure?");
    builder.setPositiveButton("Yes", new
DialogInterface.OnClickListener() {

```

```

        @Override
        public void onClick(DialogInterface dialog, int
which) {
            SharedPreferences =
getSharedPreferences("MyUser", MODE_PRIVATE);
            Sharedpreferences.Editor editor =
sharedPreferences.edit();
            if
(sharedPreferences.getString("user", "")=="Guest" ||
sharedPreferences.getString("user", "")=="") {
                editor.remove("user");
                editor.apply();
                Intent intent = new
Intent(MainActivity.this, LoginActivity.class);

                intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
                startActivity(intent);
                finish();
            }else {
                editor.remove("user");
                editor.apply();
                signOut();
            }
        });
        builder.setNegativeButton("No", new
DialogInterface.OnClickListener() {
        @Override
        public void onClick(DialogInterface dialog, int
which) {
        }
    });
    AlertDialog dialog = builder.create();
    dialog.show();

    return true;
}

default:
    return super.onOptionsItemSelected(item);
}
}

private void setNewsModels() {
    final ProgressDialog progressDialog = new
ProgressDialog(this);
    progressDialog.setMessage("Fetching fresh articles just for
you...\"");
    progressDialog.show();

    SharedPreferences sh = getSharedPreferences("MyUser",
MODE_PRIVATE);
    username = sh.getString("user", "");
    request = API_KEY + "&countries=ca";
}

```

```

        if (username.length() <= 5) {
            request = API_KEY + "&countries=ca";
        }
        else {

            DatabaseHandler db = new DatabaseHandler(this);
            username = sh.getString("user","");
            String[] result = db.findProduct(username);

            String categories = result[result.length - 1].toLowerCase();

            if (categories.length()<=5) {
                request = API_KEY + "&countries=ca";
            }else{
                request = API_KEY +
                "&languages=en&categories="+categories.substring(0,categories.length()-1);
            }
        }

        StringRequest stringRequest = new
        StringRequest(Request.Method.GET, request,
                    new Response.Listener<String>() {
                        @Override
                        public void onResponse(String response) {
                            try {
                                JSONObject obj = new
                                JSONObject(response);

                                JSONArray resultsArr =
                                obj.getJSONArray("data");

                                for (int i = 0; i <
                                resultsArr.length(); i++) {

                                    JSONObject resultsArrObject =
                                    resultsArr.getJSONObject(i);

                                    String title =
                                    resultsArrObject.getString("title");
                                    String author =
                                    resultsArrObject.getString("author");
                                    String imgUrl =
                                    resultsArrObject.getString("image");
                                    String description =
                                    resultsArrObject.getString("description");
                                    String publishDate =
                                    resultsArrObject.getString("published_at");
                                    String source =
                                    resultsArrObject.getString("source");
                                    String category =
                                    resultsArrObject.getString("category");

                                    if (author==null || author==""
                                    ||

```

```

author=="null") {
                author = "Anonymous";
            }

            newsModels.add(new
NewsModel(title,author,imgUrl,description,publishDate,source,catego
ry));
        }

        News_RecyclerAdapter adapter = new
News_RecyclerAdapter(MainActivity.this,newsModels,MainActivity.this
);
        recyclerView.setAdapter(adapter);
        progressDialog.dismiss();

    } catch (JSONException e) {
        e.printStackTrace();
    }
}

,
new Response.ErrorListener() {
    @Override
    public void onErrorResponse(VolleyError error)
{
    //displaying the error in toast if occur
    Toast.makeText(getApplicationContext(),
"Something went wrong", Toast.LENGTH_LONG).show();
}
});

RequestQueue requestQueue = Volley.newRequestQueue(this);

requestQueue.add(stringRequest);
}

void signOut(){
    GoogleSignInOptions gso = new
GoogleSignInOptions.Builder(GoogleSignInOptions.DEFAULT_SIGN_IN).re
questEmail().build();
    GoogleSignInClient gsc = GoogleSignIn.getClient(this,gso);
    gsc.signOut().addOnCompleteListener(new
OnCompleteListener<Void>() {
    @Override
    public void onComplete(Task<Void> task) {
        finish();
        Intent intent = new
Intent(MainActivity.this,LoginActivity.class);
        intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
        startActivity(intent);
    }
});
}

@Override
public void onArticleClick(int position) {

```

```

        Intent intent = new
Intent(MainActivity.this,ArticleViewActivity.class);

intent.putExtra("title",newsModels.get(position).getTitle());
intent.putExtra("author",newsModels.get(position).getAuthor());
intent.putExtra("image",newsModels.get(position).getImage());
intent.putExtra("description",newsModels.get(position).getDescription());
intent.putExtra("published_at",newsModels.get(position).getPublishDate());
intent.putExtra("source",newsModels.get(position).getSource());
intent.putExtra("category",newsModels.get(position).getCategory());

        startActivity(intent);
    }

}

```

## ● News\_RecyclerAdapter.java

```

package com.example.newsapp;

import android.content.Context;
import android.content.Intent;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.CheckBox;
import android.widget.ImageView;
import android.widget.LinearLayout;
import android.widget.TextView;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;

import com.bumptech.glide.Glide;

import java.util.ArrayList;

public class News_RecyclerAdapter extends
RecyclerView.Adapter<News_RecyclerAdapter.myViewHolder> {

    private final NewsInterface newsInterface;

```

```

    Context context;
    ArrayList<NewsModel> newsModels;

    public News_RecyclerAdapter(Context context,
ArrayList<NewsModel> newsModels, NewsInterface newsInterface) {

        this.context = context;
        this.newsModels = newsModels;
        this.newsInterface = newsInterface;

    }

    @NonNull
    @Override
    public News_RecyclerAdapter.myViewHolder
onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {

        LayoutInflater inflater = LayoutInflater.from(context);
        View view =
inflater.inflate(R.layout.recyclerview_row,parent,false);

        return new
News_RecyclerAdapter.myViewHolder(view,newsInterface);
    }

    @Override
    public void onBindViewHolder(@NonNull myViewHolder holder, int
position) {

holder.txtTitle.setText(newsModels.get(position).getTitle());
        holder.txtAuthor.setText("- " +
newsModels.get(position).getSource().toUpperCase());

Glide.with(context).load(newsModels.get(position).getImage()).into(
holder.image);

    }

    @Override
    public int getItemCount() {
        return newsModels.size();
    }

    public static class myViewHolder extends
RecyclerView.ViewHolder{

        ImageView image;
        TextView txtTitle,txtAuthor;

        public myViewHolder(@NonNull View itemView, NewsInterface
newsInterface) {
            super(itemView);

```

```

        image = itemView.findViewById(R.id.img_article);
        txtTitle = itemView.findViewById(R.id.txt_title);
        txtAuthor = itemView.findViewById(R.id.txt_link);

        itemView.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View view) {
        if(newsInterface != null){
            int pos = getAdapterPosition();
            if (pos != RecyclerView.NO_POSITION) {
                newsInterface.onArticleClick(pos);
            }
        }
    }
});
}
}

```

## • NewsInterface.java

```

package com.example.newsapp;

public interface NewsInterface {
    void onArticleClick(int position);
}

```

## • NewsModel.java

```

package com.example.newsapp;

public class NewsModel {
    private String title;
    private String author;
    private String image;
    private String description;
    private String publishDate;
    private String source;
    private String category;

    public NewsModel() {
    }

    public NewsModel(String title, String author, String image,
String description, String publishDate, String source, String

```

```

category) {
    this.title = title;
    this.author = author;
    this.image = image;
    this.description = description;
    this.publishDate = publishDate;
    this.source = source;
    this.category = category;
}

public String getTitle() {return title;}

public String getAuthor() {return author;}

public String getImage() {
    return image;
}

public String getDescription() {return description;}

public String getPublishDate() {return publishDate;}

public String getSource() {return source;}

public String getCategory() {return category;}

public void setTitle(String title) {
    this.title = title;
}

public void setAuthor(String author) {
    this.author = author;
}

public void setImage(String image) {
    this.image = image;
}

public void setDescription(String description) {
    this.description = description;
}

public void setPublishDate(String publishDate) {
    this.publishDate = publishDate;
}

public void setSource(String source) {
    this.source = source;
}

public void setCategory(String category) {
    this.category = category;
}

}

```

## ● PreferencesActivity.java

```
package com.example.newsapp;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AppCompatDelegate;

import android.content.DialogInterface;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.Switch;
import android.widget.Toast;

import com.google.android.gms.auth.api.signin.GoogleSignIn;
import com.google.android.gms.auth.api.signin.GoogleSignInAccount;

public class PreferencesActivity extends AppCompatActivity {

    CheckBox
    chkGeneral, chkBusiness, chkEntertainment, chkHealth, chkScience, chkSports, chkTechnology;
    Button btnPrefSave;

    SharedPreferences sharedPreferences;

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

        chkGeneral = findViewById(R.id.chkGeneral);
        chkBusiness = findViewById(R.id.chkBusiness);
        chkEntertainment = findViewById(R.id.chkEntertainment);
        chkHealth = findViewById(R.id.chkHealth);
        chkScience = findViewById(R.id.chkScience);
        chkSports = findViewById(R.id.chkSports);
        chkTechnology = findViewById(R.id.chkTechnology);

        btnPrefSave = findViewById(R.id.btnPrefSave);

        DatabaseHandler db = new DatabaseHandler(this);

        sharedPreferences = getSharedPreferences("MyUser",
        MODE_PRIVATE);

        GoogleSignInAccount acct =
        GoogleSignIn.getLastSignedInAccount(this);
    }
}
```

```

String[] result =db.findProduct(acct.getEmail());

chkGeneral.setChecked(Boolean.parseBoolean(result[1]));
chkBusiness.setChecked(Boolean.parseBoolean(result[2]));

chkEntertainment.setChecked(Boolean.parseBoolean(result[3]));
chkHealth.setChecked(Boolean.parseBoolean(result[4]));
chkScience.setChecked(Boolean.parseBoolean(result[5]));
chkSports.setChecked(Boolean.parseBoolean(result[6]));
chkTechnology.setChecked(Boolean.parseBoolean(result[7]));

btnPrefSave.setOnClickListener(new
View.OnClickListener() {
    @Override
    public void onClick(View view) {

        String preferences = "";
        String[] record = new String[9];
        record[0] =
sharedPreferences.getString("user", "");

        if (chkGeneral.isChecked()){
            preferences+="General,";
            record[1]="true";
        }else {
            record[1]="false";
        }
        if (chkBusiness.isChecked()){
            preferences+="Business,";
            record[2]="true";
        }else {
            record[2]="false";
        }
        if (chkEntertainment.isChecked()){
            preferences+="Entertainment,";
            record[3]="true";
        }else {
            record[3]="false";
        }
        if (chkHealth.isChecked()){
            preferences+="Health,";
            record[4]="true";
        }else {
            record[4]="false";
        }
        if (chkScience.isChecked()){
            preferences+="Science,";
            record[5]="true";
        }else {
            record[5]="false";
        }
        if (chkSports.isChecked()){
            preferences+="Sports,";
            record[6]="true";
        }else {
            record[6]="false";
        }
    }
})

```

```

        }
        if (chkTechnology.isChecked()) {
            preferences+="Technology,";
            record[7]="true";
        }else {
            record[7]="false";
        }

        record[8] = preferences;

        DatabaseHandler db = new
DatabaseHandler(getApplicationContext());
        db.addPreference(record);

        Intent intent = new
Intent(PreferencesActivity.this,MainActivity.class);
        startActivity(intent);

    });
}
}
}

```

## • SettingActivity.java

```

package com.example.newsapp;

import android.app.Dialog;
import android.content.DialogInterface;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.Switch;
import android.widget.TextView;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AppCompatDelegate;

import com.google.android.gms.auth.api.signin.GoogleSignIn;
import com.google.android.gms.auth.api.signin.GoogleSignInAccount;
import com.google.android.gms.auth.api.signin.GoogleSignInClient;
import com.google.android.gms.auth.api.signin.GoogleSignInOptions;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;

public class SettingActivity extends AppCompatActivity {

    GoogleSignInOptions gso;

```

```

GoogleSignInClient gsc;
TextView name, email;
Button logOut ;
ImageView pic, btn_back;
Switch aSwitch;
ImageView btn_pref, btn_about, btn_contact, btn_feedback;
SharedPreferences sharedpreferences;
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_setting);

    name = findViewById(R.id.name);
    email = findViewById(R.id.email);
    logOut = findViewById(R.id.log_out);
    pic = findViewById(R.id.pic_);
    aSwitch = findViewById(R.id.myswitch);
    btn_pref = findViewById(R.id.preference_btn);
    btn_about = findViewById(R.id.about_btn);
    btn_contact = findViewById(R.id.contact_btn);
    btn_feedback = findViewById(R.id.feedback_btn);
    btn_back = findViewById(R.id.btn_back);

    sharedpreferences = getSharedPreferences("MyUser",
    MODE_PRIVATE);

    if (sharedpreferences.getString("mode","light")=="dark"){
        aSwitch.setChecked(true);
    }else {
        aSwitch.setChecked(false);
    }

    if(sharedpreferences.getString("user","","")=="Guest" ||
    sharedpreferences.getString("user","","")==""){
        name.setText("Guest User");
        email.setText("guest@newsapp.com");
    }else{
        gso = new
        GoogleSignInOptions.Builder(GoogleSignInOptions.DEFAULT_SIGN_IN).re
        questEmail().build();
        gsc = GoogleSignIn.getClient(this,gso);

        GoogleSignInAccount acct =
        GoogleSignIn.getLastSignedInAccount(this);
        if(acct!=null){
            String personName = acct.getDisplayName();
            String personEmail = acct.getEmail();

            name.setText(personName);
            email.setText(personEmail);
        }
    }

    btn_feedback.setOnClickListener(new View.OnClickListener()

```

```

{
    @Override
    public void onClick(View view) {

        Intent intent = new Intent(Intent.ACTION_SEND);
        String[] TO = {"newsappcsis3175@gmail.com"};

        intent.putExtra(Intent.EXTRA_REFERRER, "guest@gmail.com" );
        intent.putExtra(Intent.EXTRA_EMAIL, TO );
        intent.putExtra(Intent.EXTRA_SUBJECT,
        "Feedback");
        intent.putExtra(Intent.EXTRA_TEXT, "Please
enter feedback here...");

        intent.setType("message/rfc822");

        startActivity(Intent.createChooser(intent,
        "Choose an Email client :"));
    }
});

btn_contact.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Dialog dialog = new Dialog(SettingActivity.this);
        dialog.setContentView(R.layout.custom_layout2);

        ImageView close =
dialog.findViewById(R.id.btn_close);

        close.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View view) {
        dialog.dismiss();
    }
});
        dialog.show();

    }
});
btn_about.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Dialog dialog = new Dialog(SettingActivity.this);
        dialog.setContentView(R.layout.custom_layout1);

        ImageView close =
dialog.findViewById(R.id.btn_close);

        close.setOnClickListener(new View.OnClickListener()
{
    @Override
    public void onClick(View view) {
        dialog.dismiss();
    }
});
    }
});

```

```

        }
    });
    dialog.show();
}
});

btn_pref.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

        SharedPreferences = getSharedPreferences("MyUser",
        MODE_PRIVATE);

        if(SharedPreferences.getString("user","")=="Guest"
        || SharedPreferences.getString("user","");
        ){

            androidx.appcompat.app.AlertDialog.Builder
builder = new
androidx.appcompat.app.AlertDialog.Builder(SettingActivity.this);
            builder.setTitle("Uh...oh!");
            builder.setMessage("Looks like you are logged
in as Guest. We cannot save preferences on your Guest Account.Do
you want to LogIn?");
            builder.setPositiveButton("Yes", new
DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialog,
int which) {
                    SharedPreferences =
getSharedPreferences("MyUser",MODE_PRIVATE);
                    SharedPreferences.Editor editor =
sharedPreferences.edit();
                    editor.remove("user");
                    editor.apply();
                    Intent intent = new
Intent(SettingActivity.this,LoginActivity.class);

                    intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
                    startActivity(intent);
                    finish();
                }
            });
            builder.setNegativeButton("No", new
DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialog,
int which) {
                    Intent intent = new
Intent(SettingActivity.this, MainActivity.class);

                    intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
                    startActivity(intent);
                    finish();
                }
            });
        });
    }
});

```

```

                AlertDialog dialog = builder.create();
                dialog.show();
            }else{
                finish();
                Intent intent = new
Intent(SettingActivity.this, PreferencesActivity.class);
                startActivity(intent);
            }
        });
    });

    btn_back.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Intent intent = new Intent(SettingActivity.this,
MainActivity.class);
            startActivity(intent);

        }
    });

    aSwitch.setOnClickListener(new View.OnClickListener() {

        @Override
        public void onClick(View view) {
            if(aSwitch.isChecked()){
                SharedPreferences.Editor editor =
sharedPreferences.edit();
                editor.putString("mode", "dark");
                editor.apply();

                AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT
_YES);
            }else {
                SharedPreferences.Editor editor =
sharedPreferences.edit();
                editor.putString("mode", "light");
                editor.apply();

                AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT
_NO);
            }
        }
    });

    logOut.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            androidx.appcompat.app.AlertDialog.Builder builder
= new
            androidx.appcompat.app.AlertDialog.Builder(SettingActivity.this);
            builder.setTitle("Logout");
            builder.setMessage("Are you sure?");
            builder.setPositiveButton("Yes", new

```

```

DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog, int
which) {
        SharedPreferences =
getSharedPreferences("MyUser", MODE_PRIVATE);
        SharedPreferences.Editor editor =
sharedPreferences.edit();
        if
(sharedPreferences.getString("user", "")=="Guest" ||
sharedPreferences.getString("user", "")=="") {
            editor.remove("user");
            editor.apply();
            Intent intent = new
Intent(SettingActivity.this, LoginActivity.class);

            intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |
Intent.FLAG_ACTIVITY_NEW_TASK);
            startActivity(intent);
            finish();
        } else {
            editor.remove("user");
            editor.apply();
            signOut();
        }
    }
});
builder.setNegativeButton("No", new
DialogInterface.OnClickListener() {
    @Override
    public void onClick(DialogInterface dialog, int
which) {
    }
});
AlertDialog dialog = builder.create();
dialog.show();

}
);

}

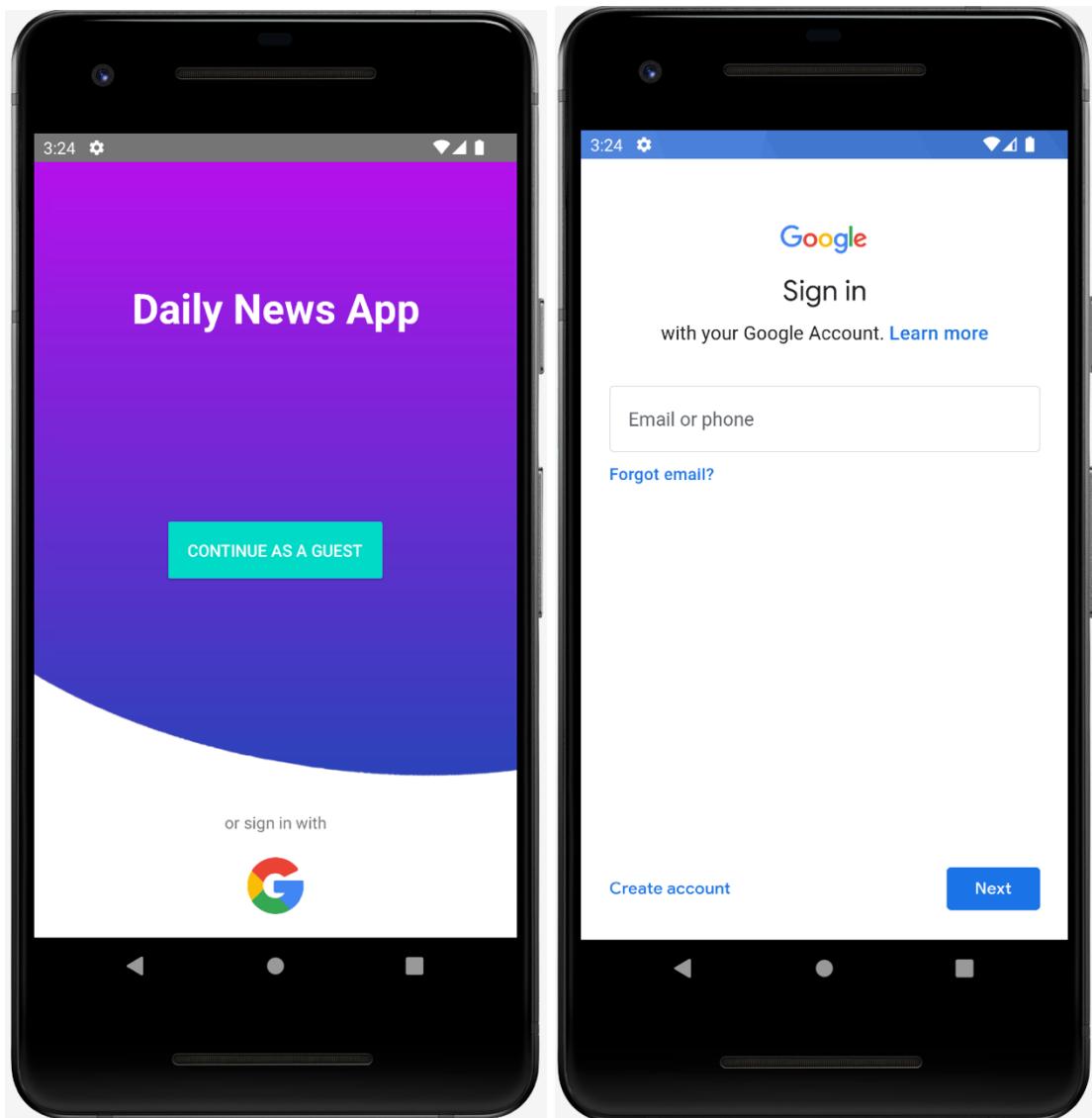
void signOut() {
    GoogleSignInOptions gso = new
GoogleSignInOptions.Builder(GoogleSignInOptions.DEFAULT_SIGN_IN).re
questEmail().build();
    GoogleSignInClient gsc = GoogleSignIn.getClient(this, gso);
    gsc.signOut().addOnCompleteListener(new
OnCompleteListener<Void>() {
        @Override
        public void onComplete(Task<Void> task) {
            finish();
            Intent intent = new
Intent(SettingActivity.this, LoginActivity.class);

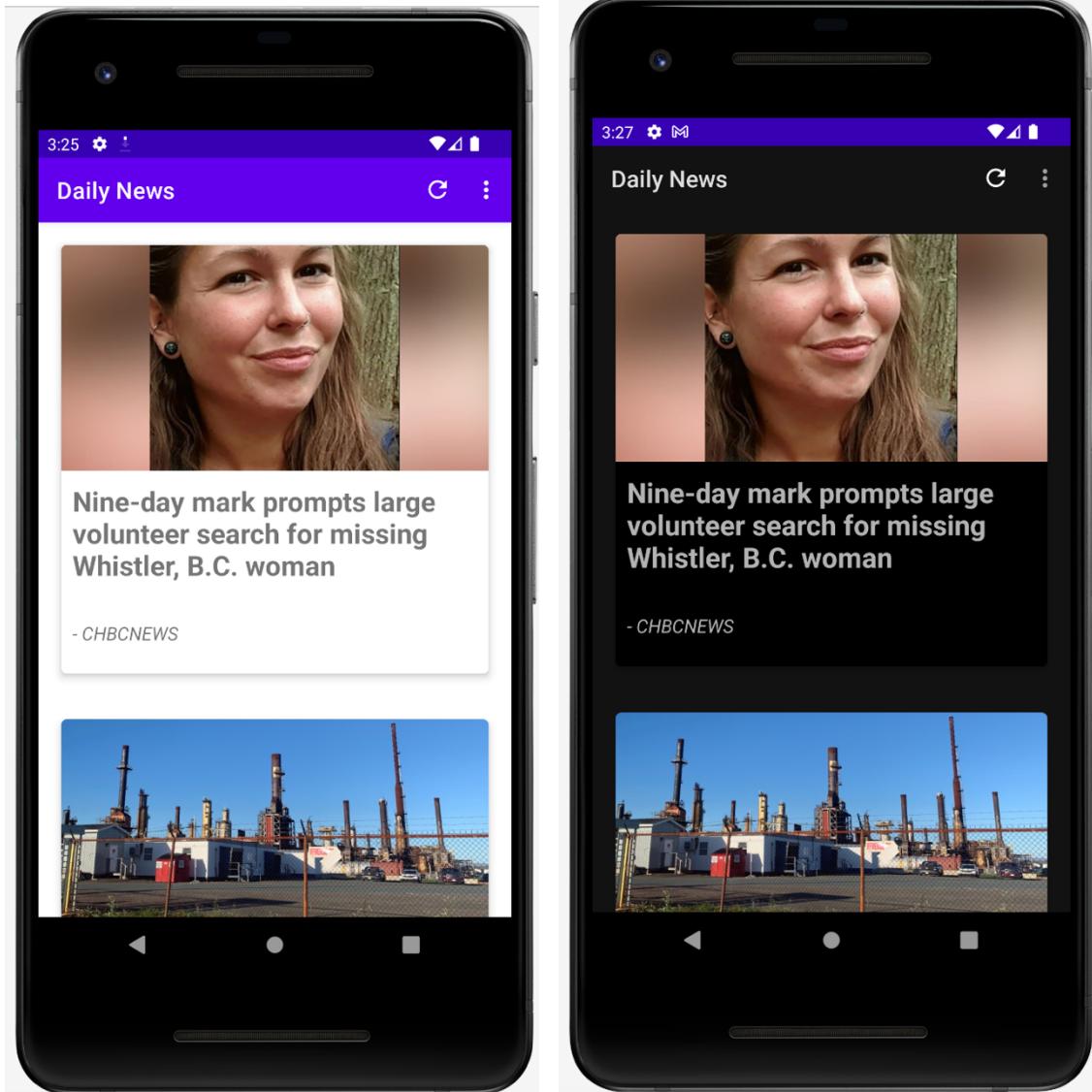
```

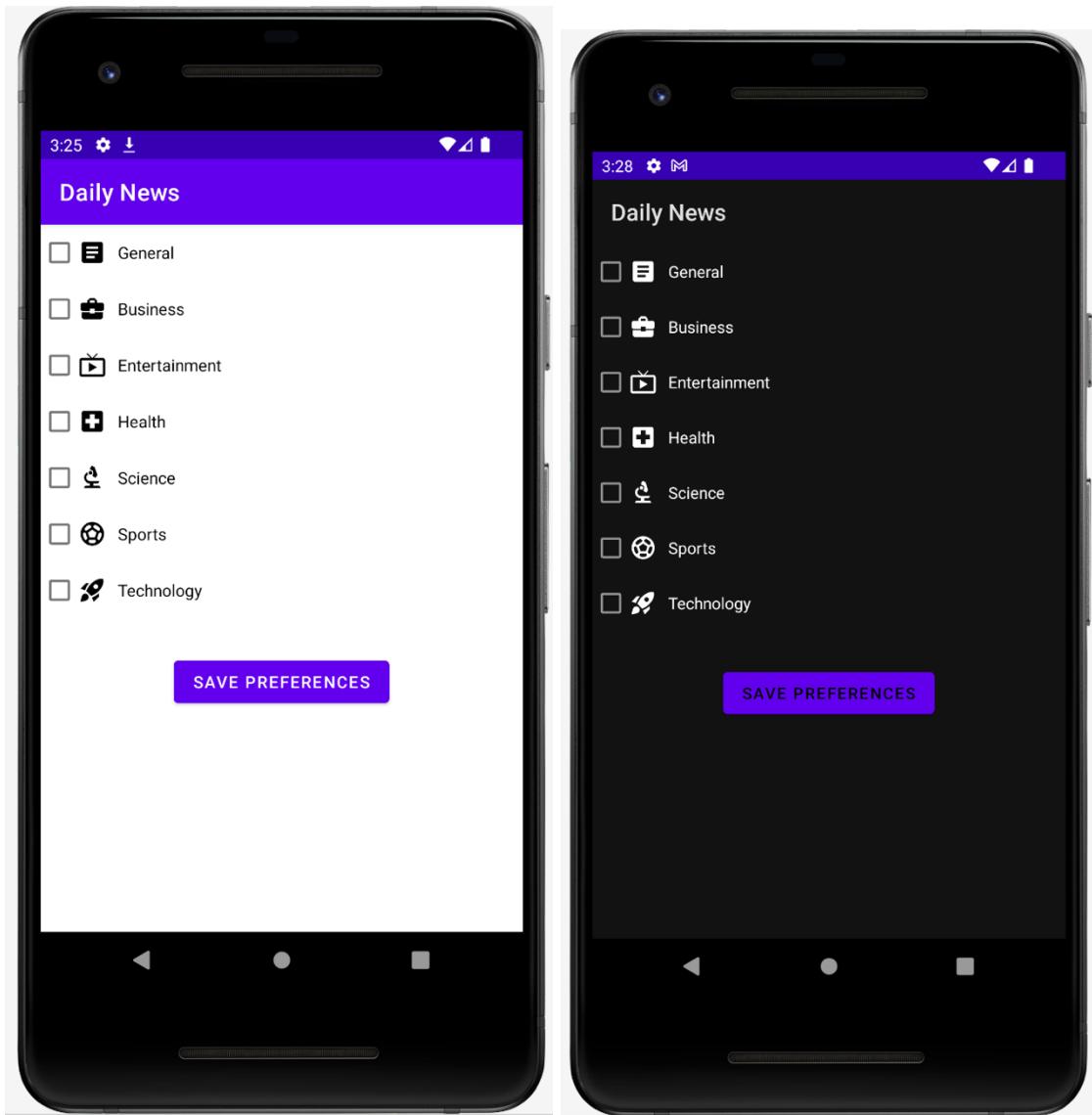
```
        intent.setFlags(Intent.FLAG_ACTIVITY_CLEAR_TASK |  
Intent.FLAG_ACTIVITY_NEW_TASK);  
        startActivity(intent);  
    }  
});  
}  
}
```

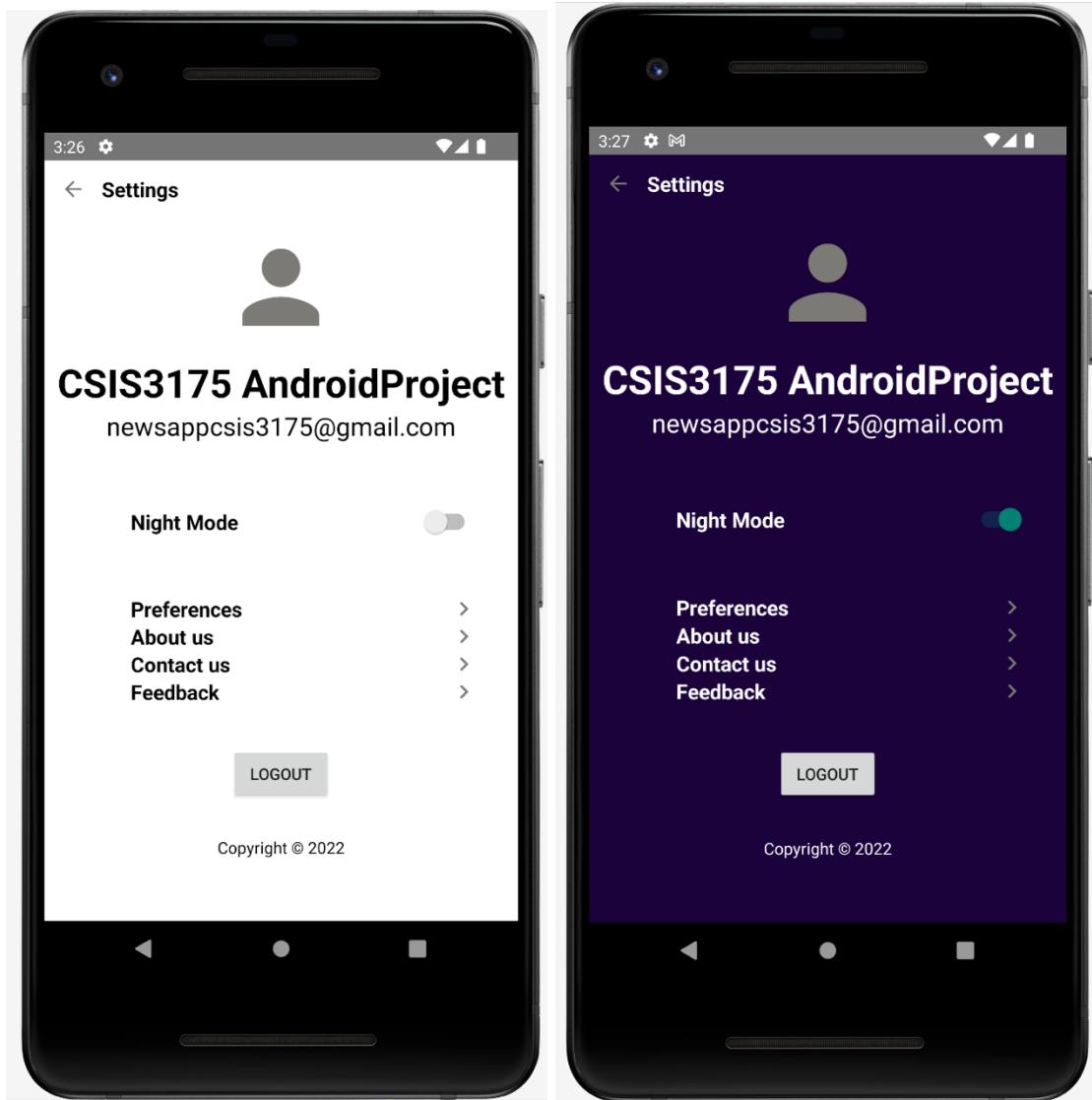
# Testing

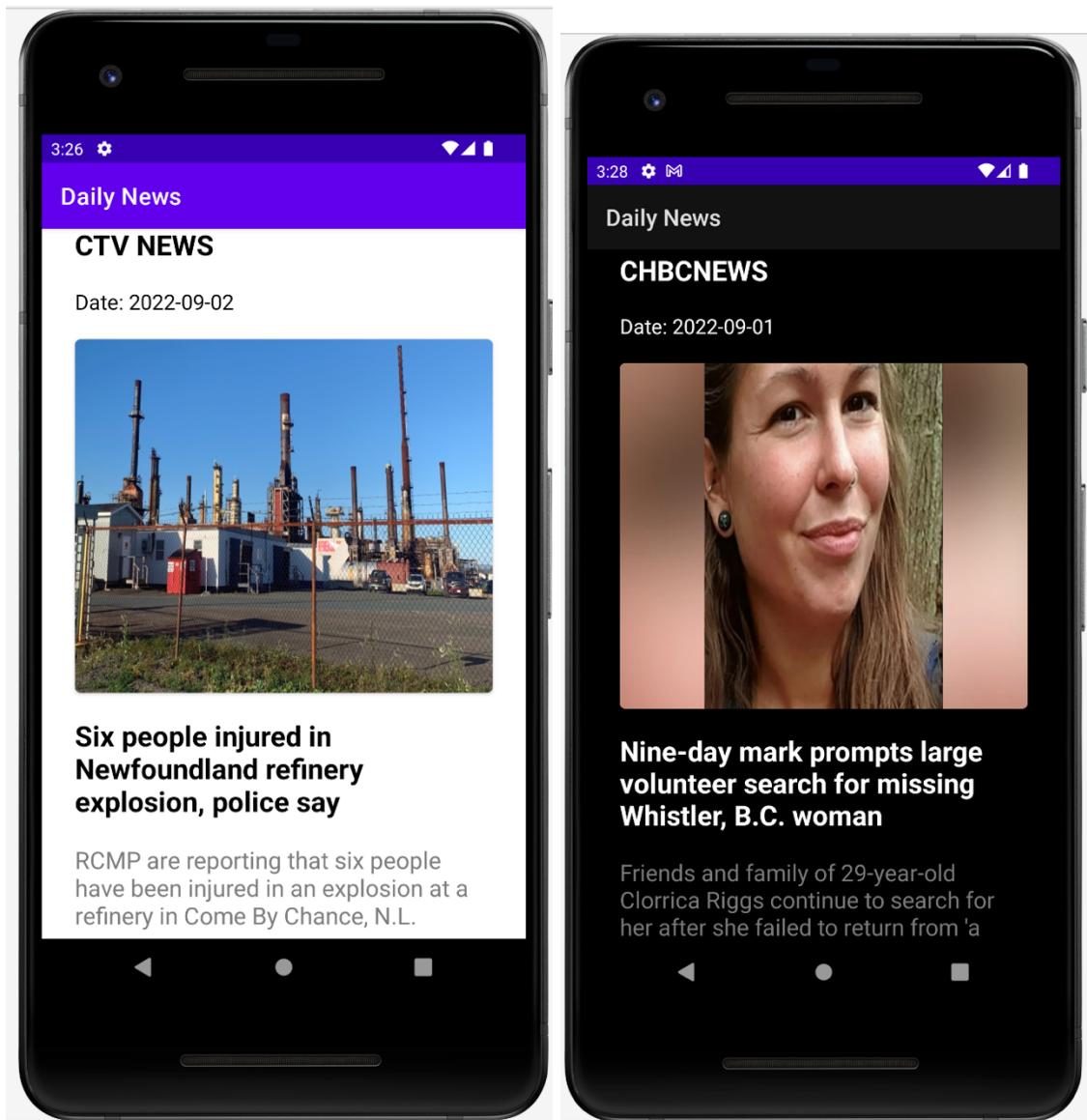
## Screenshots

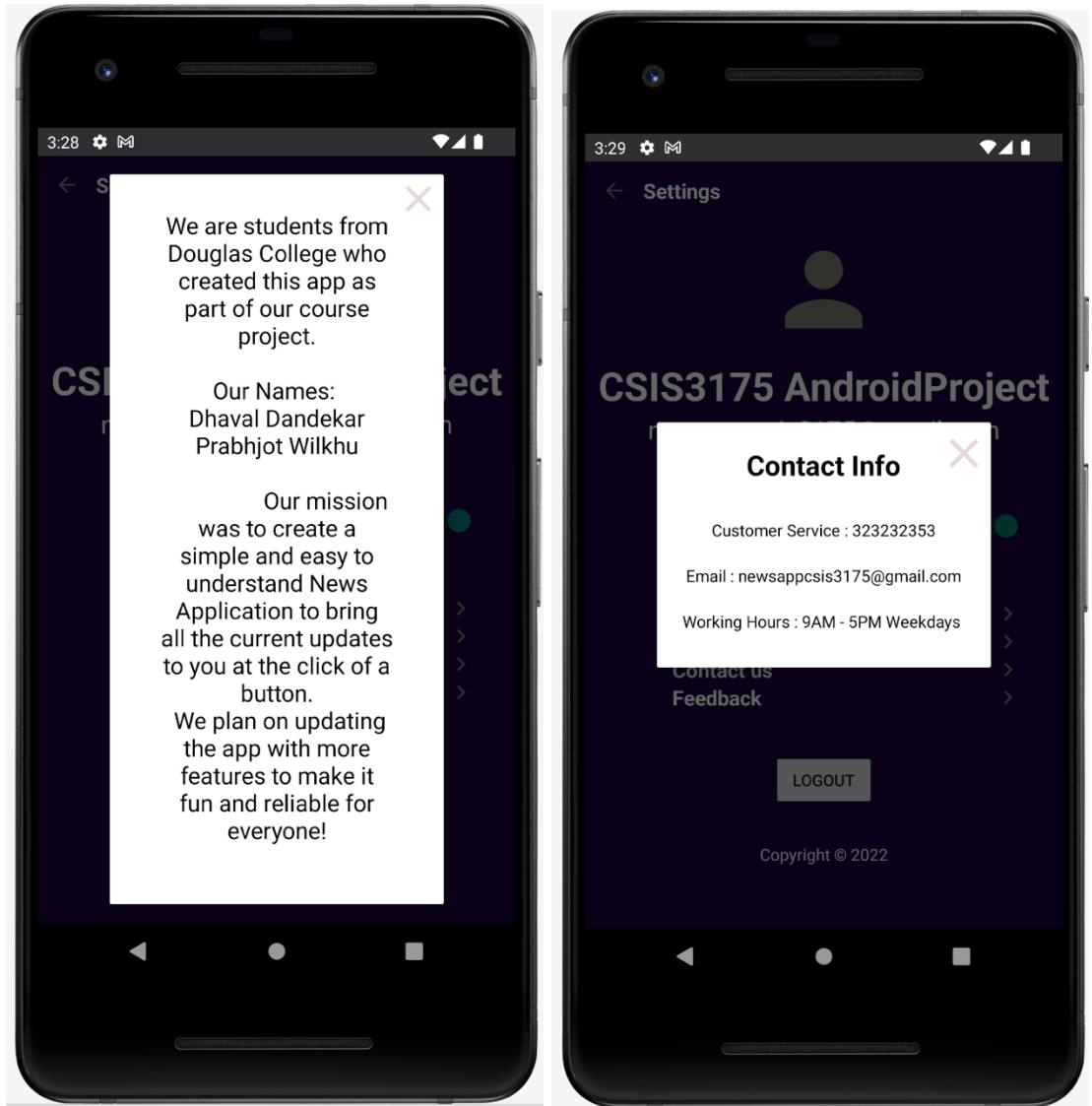


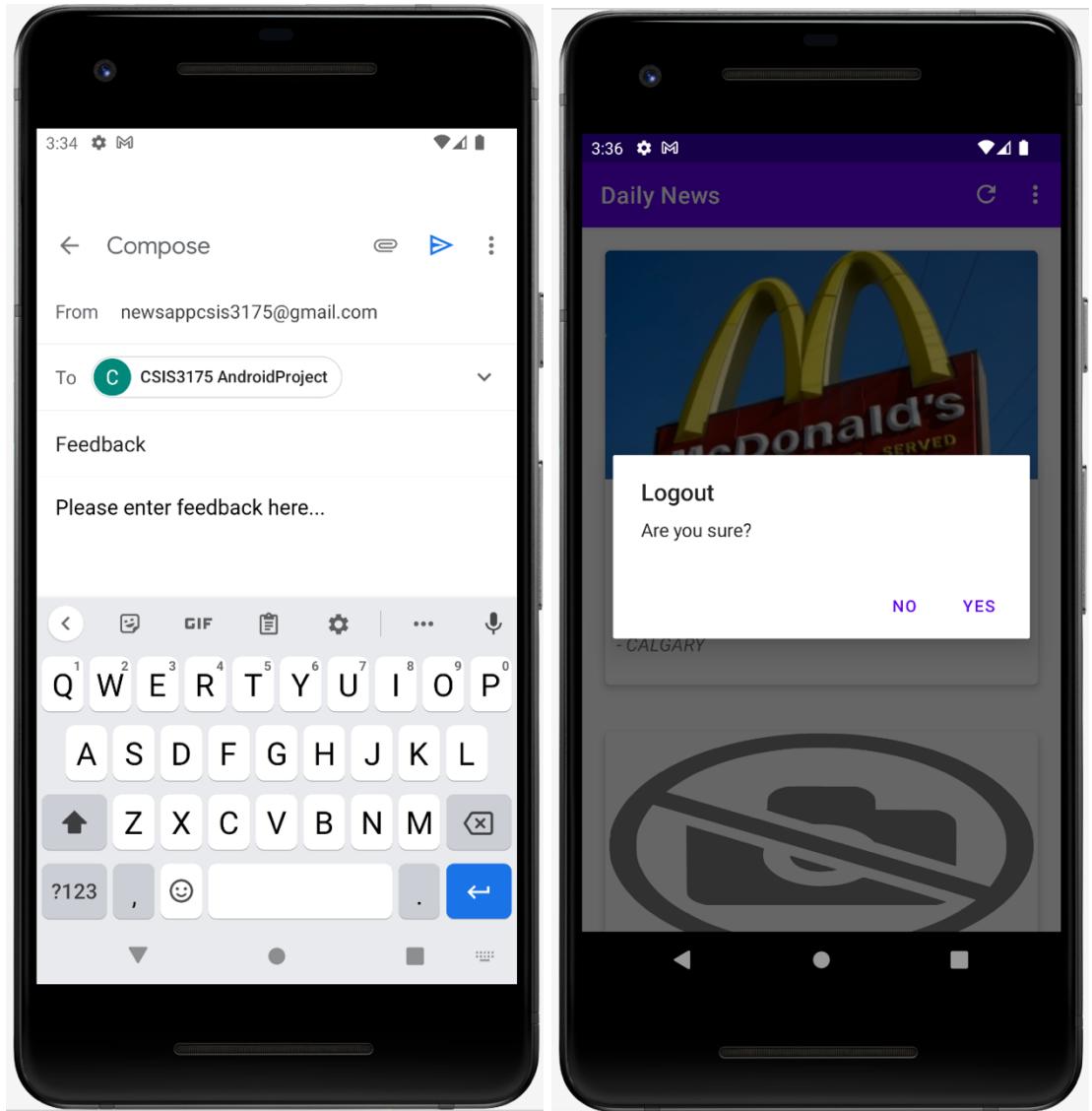








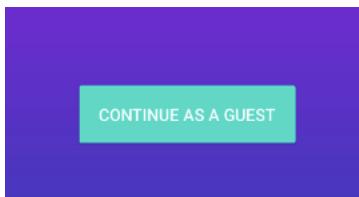




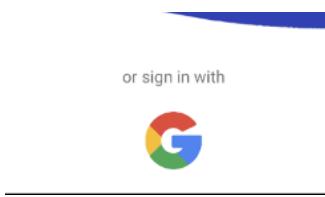
# User Guide

## Sign-In

- Click on **CONTINUE AS GUEST** if you do not want to create an account. That will get you right into the app.

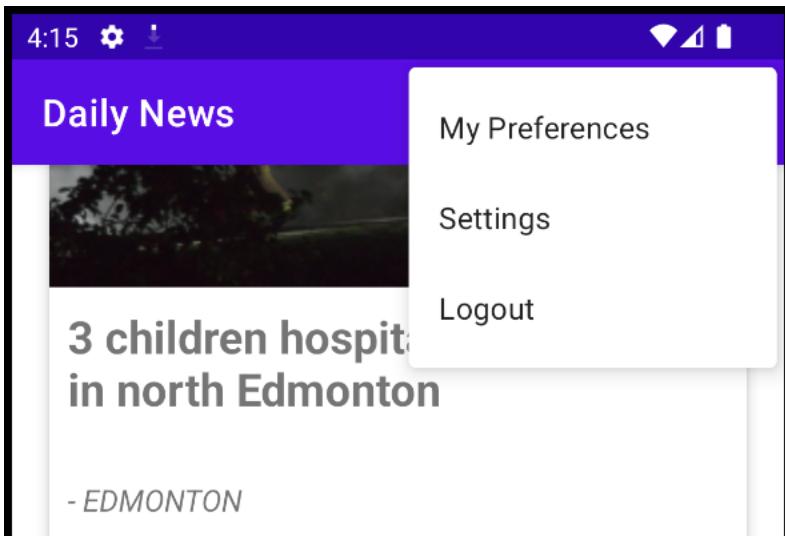


- Another method of login is via Google Sign-In. Click on this button if you would like to save your preferences and get priority to our latest updates. After clicking the button follow along the steps you use to sign into your GMAIL account

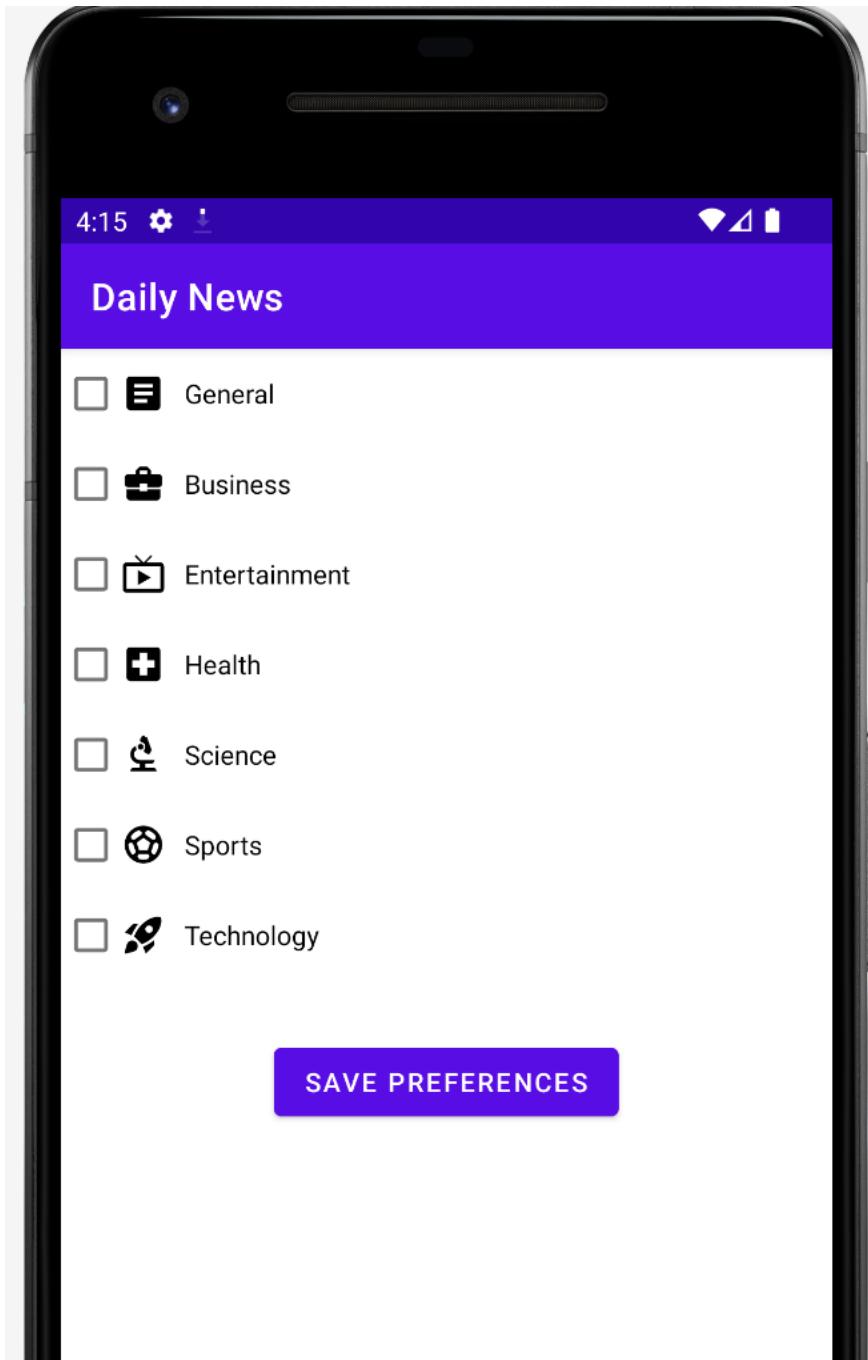


## Preferences

- To save your preferences click on the options menu on the top right corner or go into Settings Page.
- Click on the My Preferences button.



- Check the boxes of only those news relevant to you.
- Once selected, Click **SAVE PREFERENCES**



## Night Mode

- To enable night mode, go to **SETTINGS** and turn the Night Mode Switch ON.



## View Article

- Simply click on the article which you would like to read.

## Send Feedback

- Click on the Feedback arrow button in the **SETTINGS** page.
- Use any email account to sign-in if you haven't already done so.
- The recipient's email is already provided and even the Subject is already filled out for you.
- Once done, click the send button and the app will resume.

## Logout

- Click on the Logout button in the **SETTINGS** or **Options Menu**.

# Conclusion

- The user is able to view the latest news by providing minimum to no data.
- User can successfully select their preferences and can view only those articles.
- Able to change between light and dark themes.
- Users can email their feedback/comments to the developers.

# References

<https://mediastack.com/documentation>

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<https://www.youtube.com/watch?v=7GPUvcU1FE>

<https://developers.google.com/identity/sign-in/android/start-integrating>

<https://www.geeksforgeeks.org/how-to-send-an-email-from-your-android-app/>