

Android News Application

Team Members -

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Activities

We have used Bottom Navbar fragments as activities in our App.

1. Home Fragment
2. Region Fragment
3. Category Fragment
4. Detailed News
5. Category News

Home Fragment

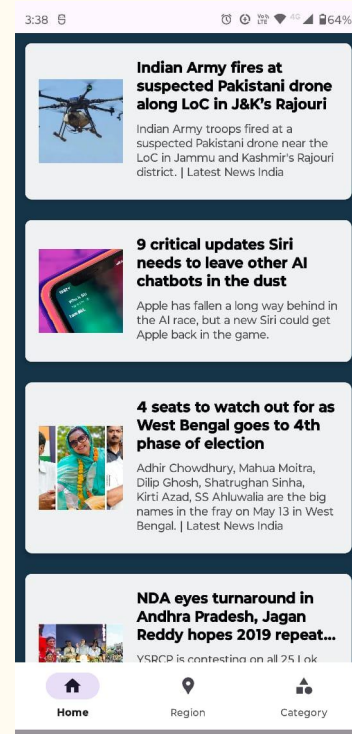
We used Home Fragment to set the home screen for app.

The Home fragment activity contained a RecyclerView, which updated the new items with the help of an adapter.

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout 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:background="#153448"
    tools:context=".HomeFragment">

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

</FrameLayout>
```

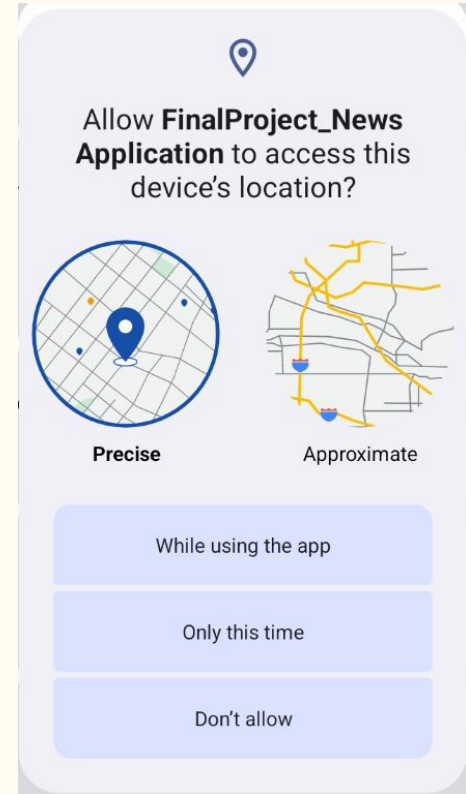


Region Fragment

The region fragment takes into consideration the user's location.

It requests the location permission, gets it granted with the help of Setting and then uses this to fetch the news from a particular region.

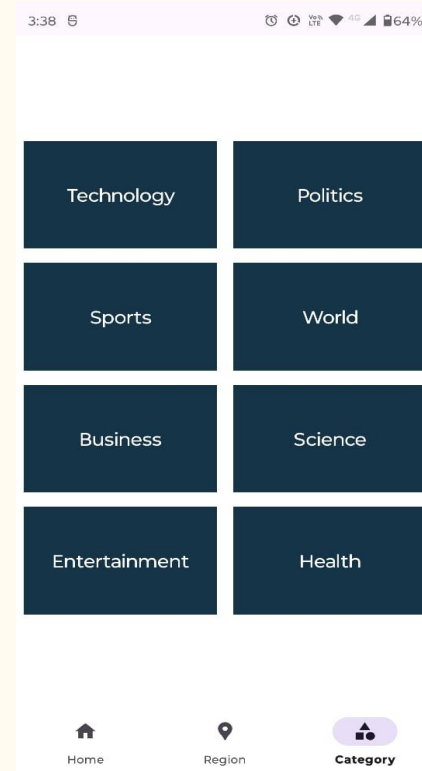
```
@Override
public void onLocationChanged(@NonNull Location location) {
    Geocoder geocoder = new Geocoder(getActivity().getApplicationContext(), Locale.getDefault());
    try {
        List<Address> addresses = geocoder.getFromLocation(location.getLatitude(), location.getLongitude(), maxResults: 1);
        cityName = addresses.get(0).getAdminArea();
        isCityNameAvailable = true;
        makeAPICall();
        Log.d(tag: "city", cityName);
    } catch (IOException e) {
        throw new RuntimeException(e);
    }
}
```



Category Fragment

The activity category allows users to select the domain of news they want to read.

The selected category is then used to fetch the news articles from the API.



News Activity

After fetching the articles and showing them in After populating the RecyclerView with articles, we have implemented an event listener that allows users to read detailed news.recycleView, if the user wants to read the detailed news we implemented the Event Listener for that.



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Key Takeaways Siri is lagging and needs a major overhaul to compete with AI chatbots. On-device processing is essential for enhanced privacy and efficiency. New Siri must offer genuinely useful features, accuracy, integration, and be free. Siri has n... [11589 chars]

Category News

After receiving the user's selected categories, we display new articles related to those categories in a RecyclerView activity. From the user we implement this activity by showing new articles for that category into this RecyclerView activity.



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Retrofit & API

We used GNews API to fetch the results based on:

1. Top Headlines
2. State
3. Category

We implemented these retrofit functions to implement our use-cases.

```
@GET("top-headlines?country=in&lang=en&apikey="+apiKey)
Call<DataModel> getDataModel();

1 usage  👤 Navneet Mishra
@GET("search")
Call<DataModel> searchData(
    @Query("q") String query,
    @Query("apikey") String apiKey
);

1 usage  👤 Navneet Mishra
@GET("top-headlines?")
Call<DataModel> categoryData(@Query("category") String category,
    @Query("lang") String lang,
    @Query("apikey")String apiKey);
```

We used Retrofit to build the base url and GSON Converter Factory was used to parse the JSON.

We created an instance for retrofit and used it in the activities for retrofit function calls.

```
6 usages  ▲ Navneet Mishra
public class RetrofitInstance {
    3 usages
    public static RetrofitInstance instance;
    4 usages
    NewsAPI newsAPI;
    1 usage
    String baseUrl = "https://gnews.io/api/v4/";

    1 usage  ▲ Navneet Mishra
    RetrofitInstance() {
        Retrofit retrofit = new Retrofit.Builder().baseUrl(baseUrl).addConverterFactory(GsonConverterFactory.create())
            .build();
        newsAPI = retrofit.create(NewsAPI.class);
    }

    3 usages  ▲ Navneet Mishra
    public static RetrofitInstance getInstance(){
        if(instance==null){
            instance = new RetrofitInstance();
        }
        return instance;
    }
}
```

Location Updates

We used Location class to access system location services, such as GPS and network-based location services.

In the code snippet, `LocationManager.NETWORK_PROVIDER` is used in the `requestLocationUpdates` method to specify that location updates should be obtained from network-based sources. This method sets the minimum time interval between location updates (500 milliseconds) and the minimum distance change (50000 meters) to trigger location updates.

Network provider typically provides location information faster than GPS but with less accuracy, making it suitable for scenarios where high accuracy is not critical, such as finding the city name for news delivery.

```
1 usage  ▲ Navneet Mishra
private void getLocation() {
    try {
        locationManager = (LocationManager) requireActivity().getSystemService(Context.LOCATION_SERVICE);
        locationManager.requestLocationUpdates(LocationManager.NETWORK_PROVIDER, minTimeMs: 500, minDistanceM: 50000, (LocationListener) t)
    } catch (SecurityException e) {
        e.printStackTrace();
    }
}

1 usage  ▲ Navneet Mishra
private void grantPermission() {
    if (ContextCompat.checkSelfPermission(requireActivity().getApplicationContext(), Manifest.permission.ACCESS_FINE_LOCATION) != PackageManager.PERMISSION_GRANTED) {
        ActivityCompat.requestPermissions(requireActivity(), new String[]{android.Manifest.permission.ACCESS_FINE_LOCATION}, Manifest.permission.ACCESS_FINE_LOCATION);
    }
}
```

THANK YOU