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Mobile Application Development Project on (SpaceNews)

XML Code:

Activity_main.xml:

```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"
    android:padding="10dp">

    <TextView
        android:id="@+id/titleText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Latest Space News"
        android:textSize="22sp"
        android:textStyle="bold"
        android:gravity="center"
        android:layout_gravity="center"
        android:paddingBottom="10dp"/>

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

Item_news.xml:

```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="wrap_content"
    android:orientation="vertical"
    android:padding="8dp">

    <ImageView
        android:id="@+id/newsImage"
        android:layout_width="match_parent"
        android:layout_height="200dp"
        android:scaleType="centerCrop"/>

    <TextView
        android:id="@+id/newsTitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="News Title"
        android:textSize="18sp"
        android:textStyle="bold"
        android:paddingTop="5dp"/>
</LinearLayout>
```

Java Code:

MainActivity.java:

```java
package com.example.spacenews;

import android.os.Bundle;
import android.util.Log;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import okhttp3.Call;
import okhttp3.Callback;
import okhttp3.OkHttpClient;
import okhttp3.Request;
import okhttp3.Response;
import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;
import java.io.IOException;
import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {
    private RecyclerView recyclerView;
    private NewsAdapter adapter;
    private List<NewsArticle> articleList = new ArrayList<>();
    private final String API_URL =
"https://api.spaceflightnewsapi.net/v4/articles/";

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

        recyclerView = findViewById(R.id.newsRecyclerView);
        recyclerView.setLayoutManager(new LinearLayoutManager(this));

        adapter = new NewsAdapter(this, articleList);
```

```java
        recyclerView.setAdapter(adapter);

        fetchSpaceNews();
    }

    private void fetchSpaceNews() {
        OkHttpClient client = new OkHttpClient();
        Request request = new Request.Builder().url(API_URL).build();

        client.newCall(request).enqueue(new Callback() {
            @Override
            public void onFailure(Call call, IOException e) {
                Log.e("API_ERROR", "Failed to fetch news", e);
            }

            @Override
            public void onResponse(Call call, Response response) throws
IOException {
                if (response.isSuccessful()) {
                    try {
                        String jsonData = response.body().string();
                        JSONObject jsonObject = new JSONObject(jsonData);
                        JSONArray articles = jsonObject.getJSONArray("results");

                        for (int i = 0; i < articles.length(); i++) {
                            JSONObject articleObj = articles.getJSONObject(i);
                            String title = articleObj.getString("title");
                            String imageUrl = articleObj.getString("image_url");
                            String articleUrl = articleObj.getString("url");

                            articleList.add(new NewsArticle(title, imageUrl, articleUrl));
                        }

                        runOnUiThread(() -> adapter.notifyDataSetChanged());

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

```java
                }
            }
        }
    });
}
}


NewsAdaptor.java:

package com.example.spacenews;

import android.content.Context;
import android.content.Intent;
import android.net.Uri;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ImageView;
import android.widget.TextView;
import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;
import com.bumptech.glide.Glide;
import java.util.List;

public class NewsAdapter extends
RecyclerView.Adapter<NewsAdapter.NewsViewHolder> {
    private Context context;
    private List<NewsArticle> articles;

    public NewsAdapter(Context context, List<NewsArticle> articles) {
        this.context = context;
        this.articles = articles;
    }

    @NonNull
    @Override
    public NewsViewHolder onCreateViewHolder(@NonNull ViewGroup parent,
```

```java
                            int viewType) {
        View view = LayoutInflater.from(context).inflate(R.layout.item_news,
parent, false);
        return new NewsViewHolder(view);
    }

    @Override
    public void onBindViewHolder(@NonNull NewsViewHolder holder, int
position) {
        NewsArticle article = articles.get(position);
        holder.title.setText(article.getTitle());

        Glide.with(context)
            .load(article.getImageUrl())
            .into(holder.imageView);

        holder.itemView.setOnClickListener(v -> {
            Intent browserIntent = new Intent(Intent.ACTION_VIEW,
Uri.parse(article.getArticleUrl()));
            context.startActivity(browserIntent);
        });
    }

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

    public static class NewsViewHolder extends RecyclerView.ViewHolder {
        TextView title;
        ImageView imageView;

        public NewsViewHolder(View itemView) {
            super(itemView);
            title = itemView.findViewById(R.id.newsTitle);
            imageView = itemView.findViewById(R.id.newsImage);
```

```
  }}
}


NewsArticle.java:

package com.example.spacenews;

public class NewsArticle {
    private String title;
    private String imageUrl;
    private String articleUrl;

    public NewsArticle(String title, String imageUrl, String articleUrl) {
        this.title = title;
        this.imageUrl = imageUrl;
        this.articleUrl = articleUrl;
    }

    public String getTitle() {
        return title;
    }

    public String getImageUrl() {
        return imageUrl;
    }

    public String getArticleUrl() {
        return articleUrl;
    }
}
```