CHAPTER-1

INTRODUCTION

1.1 Introduction about News Application.

In this project we created a mobile News Application. With the use of API called Guardian API, we will be bringing news from all around the world into the app. A user can select any category which they are looking for. When the user is done selecting the category, then the page will automatically refresh and the news will be displayed on the news application. The News Application aims is to establishing a complete system for providing news. This system is a created online, for providing up-to-date news information on the Internet. User can view latest news category vice like World, Science, Sports, Environment, Society, Fashion, Business, Culture. This system can save times for users. It can also give the information about entertainment, trending topics. The main aim of this project is to develop a newspaper where everyone of a society can read recent news, events, sports etc. “Guardian API” provides API that returns JSON (JavaScript Object Notation) metadata for headlines and articles live all around the world at any time. In this app we will be using this API for our better experience. Even after using this API it is possible that we can’t reach maximum output of resources. Guardian API has been used for collecting different news sources at one spot. On sending request it will give response in JSON format which contains source id, title, description, image URL, article URL, author, time etc. We need to handle and parse this JSON into string format which is our required format.

In the digital age, the way we consume news has undergone a significant transformation. Gone are the days of relying solely on traditional print newspapers or television broadcasts to stay informed. Today, online news applications have emerged as a dynamic and convenient platform for accessing the latest news and information from around the world. These applications bring news directly to our fingertips, empowering us to personalize our news consumption and stay up-to-date with just a few taps on our smartphones or clicks on our computers. Online news applications provide users with a seamless and immersive news experience, offering a multitude of features and functionalities that cater to individual preferences. They enable users to explore a vast array of topics, including breaking news, politics, business, technology, sports, entertainment, and more. With real-time updates and push

notifications, these applications keep users informed about the latest developments as they unfold. One of the key advantages of online news applications is their ability to personalize the news feed according to the interests and preferences of each user.

1.2 Problem Statement

- Too much news: Users get overwhelmed with too many articles, making it hard to find what they need.
- False information: Fake news and wrong information can mislead users on online news apps.
- Accessibility issues: Some users, like those with disabilities, struggle to access and use online news apps due to compatibility problems.
- Privacy and security concerns: Users worry about how their personal information is collected, stored, and used by news apps.
- Intrusive ads: Ads that disrupt the user experience annoy users and affect their enjoyment of the app.
- Lack of fact-checking: News apps struggle to verify the accuracy of news, resulting in the spread of false information.
- Limited diversity: Some news apps lack diverse sources, preventing users from accessing a wide range of perspectives.
- Difficulty distinguishing news and opinions: Users find it hard to differentiate between objective news and subjective opinions in news apps, leading to confusion and potential misinformation.

1.3 Objective

- To Deliver accurate and reliable news to users.
- To Customize news content based on user preferences.
- To Present news stories from different perspectives to encourage informed understanding.
- To Ensure the application is accessible and inclusive to all users.
- To Protect user privacy and maintain data security.
- To Engage users with interactive features and content.
- To Provide real-time updates and breaking news.
- To create a mobile application that displays recent news.

CHAPTER-2

SYSTEM REQUIREMENT SPECIFICATION

The online news application requires several system-specific requirements to ensure its functionality and performance. The application should also incorporate a robust content management system to facilitate the upload, organization, and updates of news articles. It should support various multimedia formats, such as images, videos, and interactive features, to enhance the overall news consumption experience. Real-time updates and push notifications are essential to deliver breaking news and personalized updates to users. Social media integration should be incorporated, allowing users to share news articles and engage with the content on popular social platforms. the application should be designed for scalability and high performance, capable of handling a large volume of users and content without compromising speed and functionality. These system-specific requirements are crucial for the successful development and implementation of an online news application that provides a seamless, personalized, and secure news consumption experience for users.

2.1 Hardware Requirements

The hardware requirements are very minimal, and the software can be made to run on most of the machines.

- 4 GB RAM minimum (8 GB RAM recommended)
- 2 GB of available disk space minimum, 4 GB recommended.
- 500 MB for IDE plus 1.5 GB for Android SDK and emulator system image.

2.1.1 Functional Requirements

This will allow access only to authorized users with specific news. Depending upon the user's role, he/she will be able to access only specific modules of the system.

- Display news articles from various sources.
- Categorize articles into different topics (e.g., politics, sports, entertainment).
- Allow users to personalize their news feed based on their interests.
- Provide options to follow specific topics, sources, or authors.
- Allow users to share articles on social media platforms or through email.

2.1.2 Non-Functional Requirements

Non-functional requirements for a news application typically focus on the quality attributes and characteristics of the application. Here are some common non-functional requirements for a news application:

Performance:

The application should load and display news articles quickly to provide a smooth user experience. Response times for search, filtering, and other operations should be optimized.

Scalability:

The application should be able to handle a growing number of users and a large volume of news articles. The system should scale horizontally or vertically to accommodate increased traffic and data.

Security:

Ensure secure user authentication and authorization mechanisms to protect user accounts and personal information.

Safeguard against unauthorized access, data breaches, and attacks (e.g., cross-site scripting, SQL injection).

Usability:

The application should have an intuitive and user-friendly interface. Ensure ease of navigation, readability of articles, and clear presentation of information.

Compatibility:

The application should be compatible with different web browsers, operating systems, and devices (desktop, mobile, tablets).

2.2 Software Requirements

- Operating System: Windows- 10/9/8(64 Bit).
- IDE: JDK and Android Studio - 4.1
- Emulator: AVD Emulator 2.
- Development Platform: WINDOWS 10.
- Development tool: Android Studio.
- Language Used in Coding: JAVA.

CHAPTER-3

SYSTEM DESIGN

The system design and implementation of a news application involves several key components. Firstly, a user interface design should be created to ensure an intuitive and user-friendly experience. This design should accommodate various devices and screen sizes, providing a visually appealing and responsive interface. The backend architecture should be designed to handle the storage, retrieval, and management of news articles. Real-time updates and notifications are essential for delivering the latest news to users. This involves fetching news from various sources in real-time and sending push notifications to users based on their preference. Social media integration plays a significant role in expanding the reach of the application. By integrating social media platforms, users can easily share news articles with their networks, increasing the application's visibility and user engagement. Analytic and reporting tools should be incorporated to track user behavior, article popularity, and engagement metrics. This data can provide valuable insights for content optimization and measuring the effectiveness of the application.

3.1 Use Case Diagram

Requesting news in a news application typically refers to the action of a user seeking and retrieving specific news articles or updates from the application. Users can view news articles and stories categorized by topics, sections, or preferences. The "Read Full Article" feature in a news app allows users to access the complete content of a news article. The select category news allow the user to select the news that he is interested in. Sharing news allow the user to share the news to others through mail, msg etc.

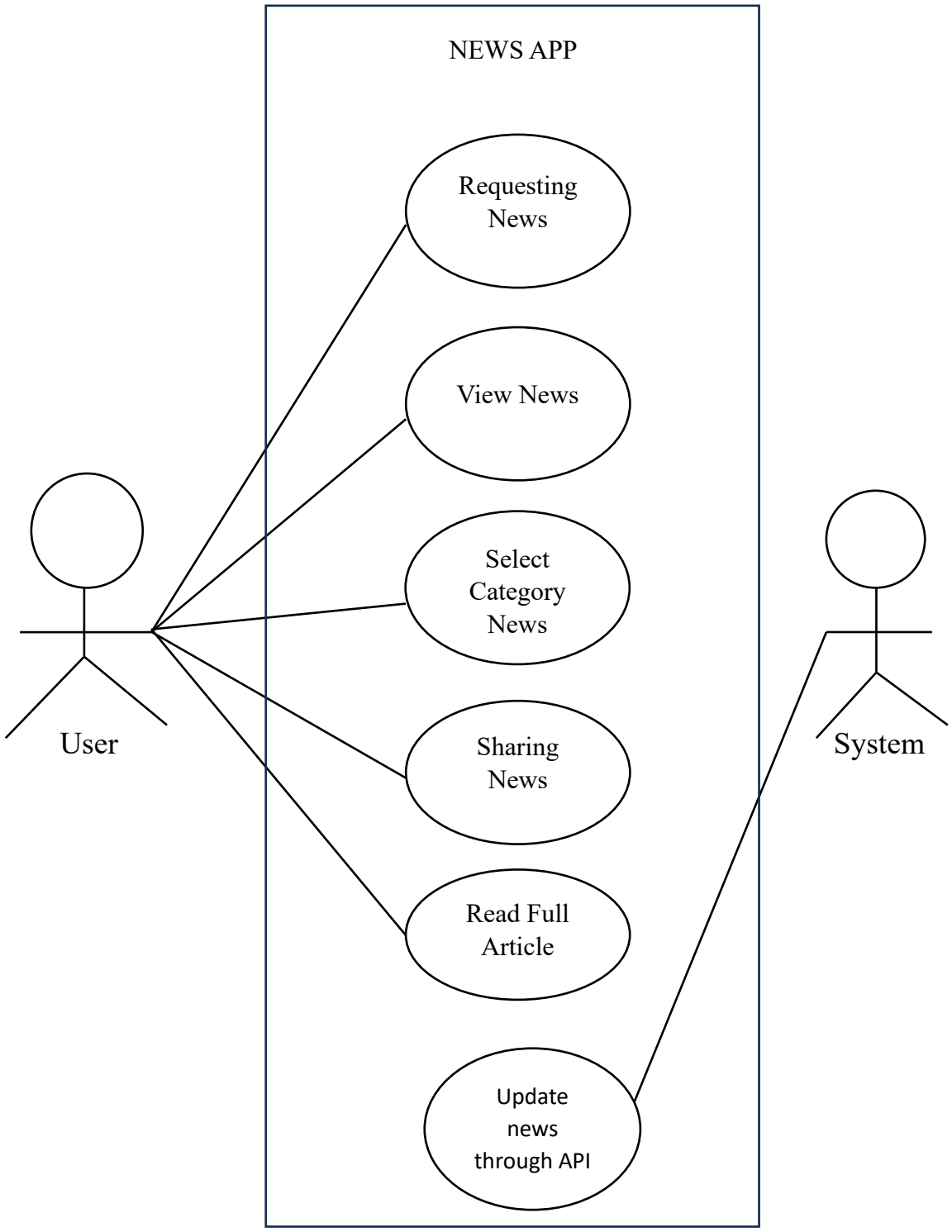

Figure 3.1: Use Case Diagram for News App

CHAPTER-4

IMPLEMENTATION

The Main Activity is where we initialize the activity. Here we create an object for requesting manager to call to get the news headlines and contents and a listener to fetch the data to be displayed. We also create and initialize a few buttons for a selection of categories of news.

4.1 MainActivity.java

```
package com.example.android.newsfeed;

import android.content.Intent;

import android.os.Bundle;

import androidx.annotation.NonNull;

import com.google.android.material.navigation.NavigationView;

import com.google.android.material.tabs.TabLayout;

import androidx.core.view.GravityCompat;

import androidx.viewpager.widget.ViewPager;

import androidx.drawerlayout.widget.DrawerLayout;

import androidx.appcompat.app.ActionBarDrawerToggle;

import androidx.appcompat.app.AppCompatActivity;

import androidx.appcompat.widget.Toolbar;

import android.view.Menu;

import android.view.MenuItem;

import com.example.android.newsfeed.adapter.CategoryFragmentPagerAdapter;

import com.example.android.newsfeed.utils.Constants;

public class MainActivity extends AppCompatActivity
```

```
implements NavigationView.OnNavigationItemSelectedListener {
private ViewPager viewPager;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Toolbar toolbar = findViewById(R.id.toolbar);
setSupportActionBar(toolbar);
DrawerLayout drawer = findViewById(R.id.drawer_layout);
ActionBarDrawerToggle toggle = new ActionBarDrawerToggle(
this, drawer, toolbar, R.string.navigation_drawer_open, R.string.navigation_drawer_close);
drawer.addDrawerListener(toggle);
toggle.syncState();
viewPager = findViewById(R.id.viewpager);
TabLayout tabLayout = findViewById(R.id.sliding_tabs);
tabLayout.setupWithViewPager(viewPager);
tabLayout.setTabGravity(TabLayout.GRAVITY_FILL);
NavigationView navigationView = findViewById(R.id.nav_view);
assert navigationView != null;
navigationView.setNavigationItemSelectedListener(this);
onNavigationItemSelected(navigationView.getMenu().getItem(0).setChecked(true));
CategoryFragmentPagerAdapter pagerAdapter =
new CategoryFragmentPagerAdapter(this, getSupportFragmentManager());
viewPager.setAdapter(pagerAdapter);
```

```
}
@Override
public void onBackPressed() {
DrawerLayout drawer = findViewById(R.id.drawer_layout);
if (drawer.isDrawerOpen(GravityCompat.START)) {
drawer.closeDrawer(GravityCompat.START);
} else {
super.onBackPressed();
}
}
@SuppressWarnings("StatementWithEmptyBody")
@Override
public boolean onNavigationItemSelected(@NonNull MenuItem item) {
int id = item.getItemId();
if (id == R.id.nav_home) {
viewPager.setCurrentItem(Constants.HOME);
} else if (id == R.id.nav_world) {
viewPager.setCurrentItem(Constants.WORLD);
} else if (id == R.id.nav_science) {
viewPager.setCurrentItem(Constants.SCIENCE);
} else if (id == R.id.nav_sport) {
viewPager.setCurrentItem(Constants.SPORT);
} else if (id == R.id.nav_environment) {
viewPager.setCurrentItem(Constants.ENVIRONMENT);
```

```
} else if (id == R.id.nav_society) {
viewPager.setCurrentItem(Constants.SOCIETY);
} else if (id == R.id.nav_fashion) {
viewPager.setCurrentItem(Constants.FASHION);
} else if (id == R.id.nav_business) {
viewPager.setCurrentItem(Constants.BUSINESS);
} else if (id == R.id.nav_culture) {
viewPager.setCurrentItem(Constants.CULTURE);
}
DrawerLayout drawer = findViewById(R.id.drawer_layout);
drawer.closeDrawer(GravityCompat.START);
return true;
}
@Override
public boolean onCreateOptionsMenu(Menu menu) {
getMenuInflater().inflate(R.menu.main, menu);
return true;
}
@Override
public boolean onOptionsItemSelected(MenuItem item) {
int id = item.getItemId();
if (id == R.id.action_settings) {
Intent settingsIntent = new Intent(this, SettingsActivity.class);
startActivity(settingsIntent);
```

```
return true;

}

return super.onOptionsItemSelected(item);

}

}
```

CHAPTER-5

RESULTS

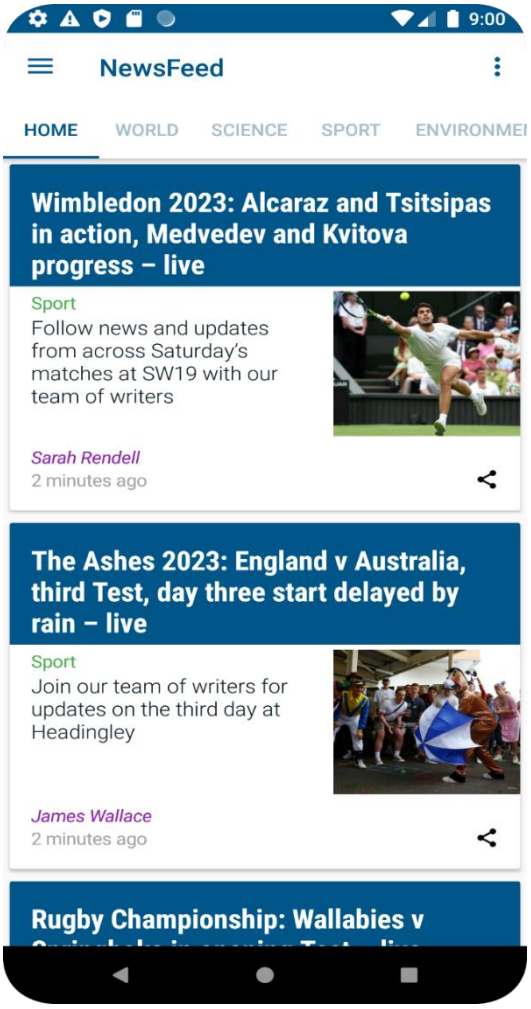

Figure 5.1: Home Page

Home page The Home Screen is the main screen of an app from which user can navigate to other activities.

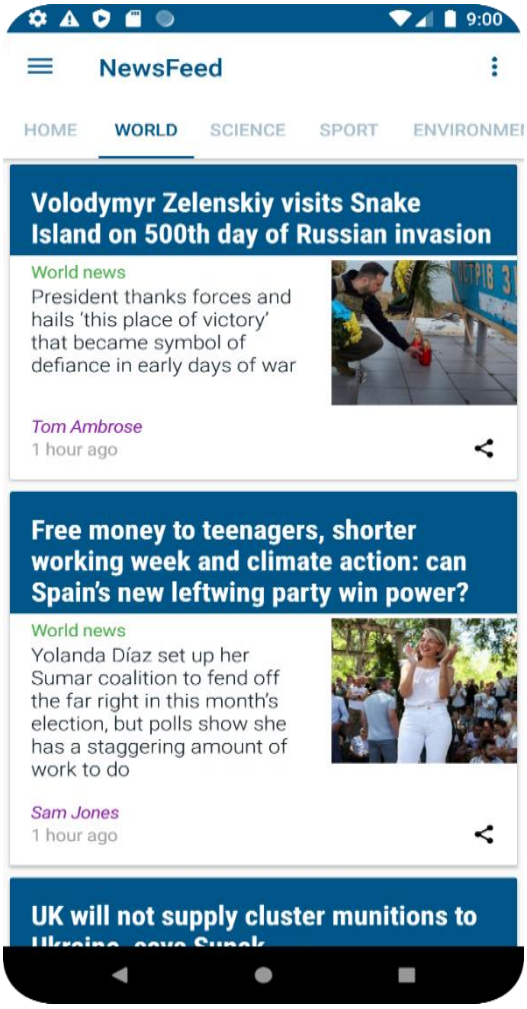

Figure 5.2: World Category

World category displays the news related to world.

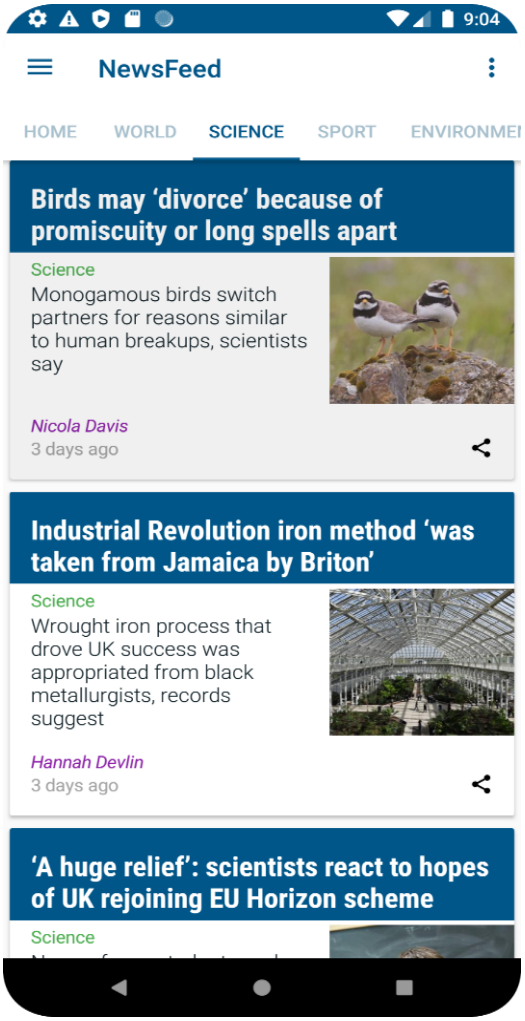

Figure 5.3: Science Category

Science category displays the news related to the science.

Figure 5.4: Sport Category

Sport category displays the news related to the sports around the world.

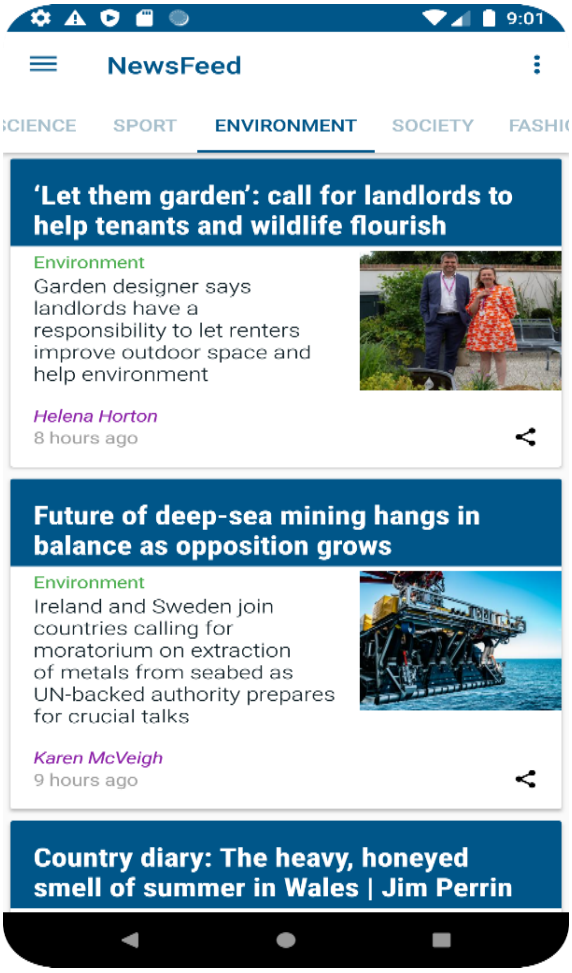

Figure 5.5: Environment Category

Environment category displays the News related to the nature and climatic. Conditions.

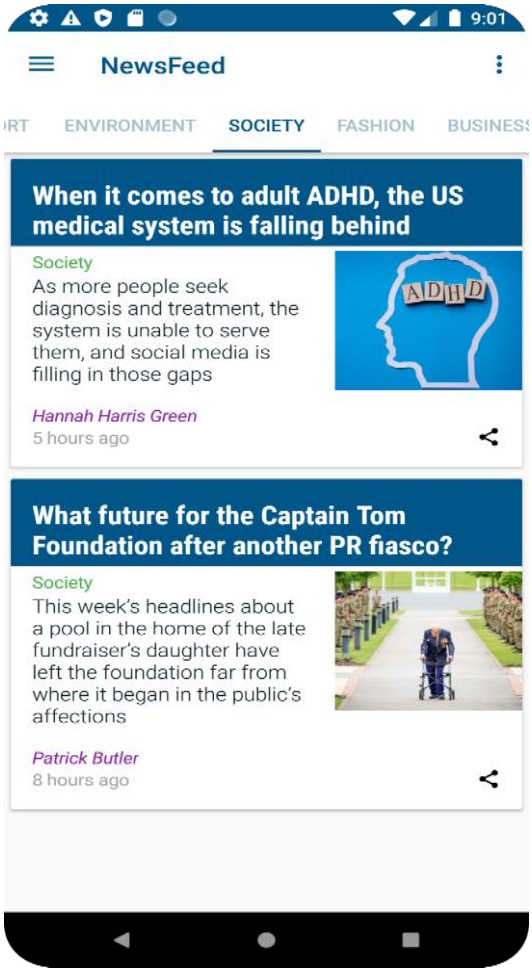

Figure 5.6: Society Category

Society category displays the news related to social aspects.

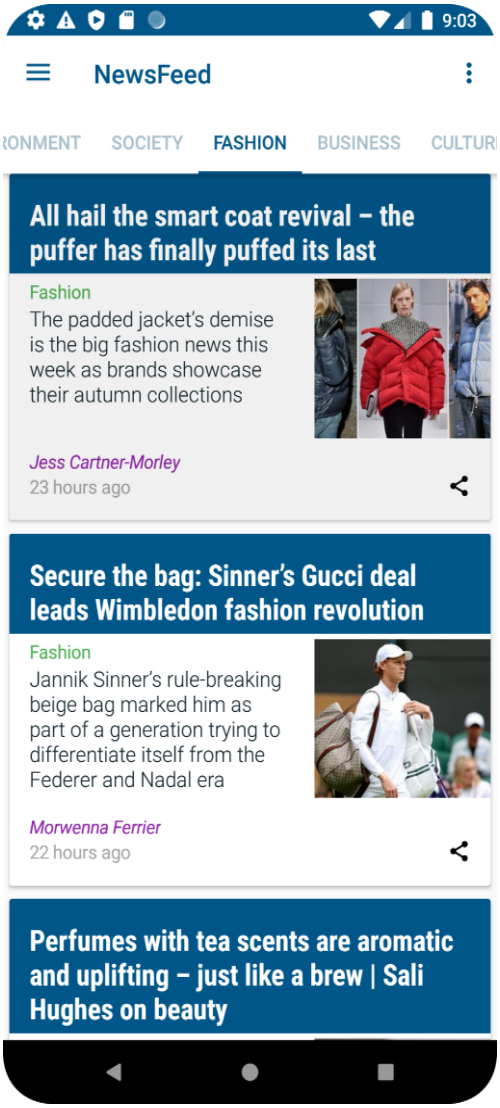

Figure 5.7: Fashion Category

Fashion category displays the news Headlines related to Fashion.

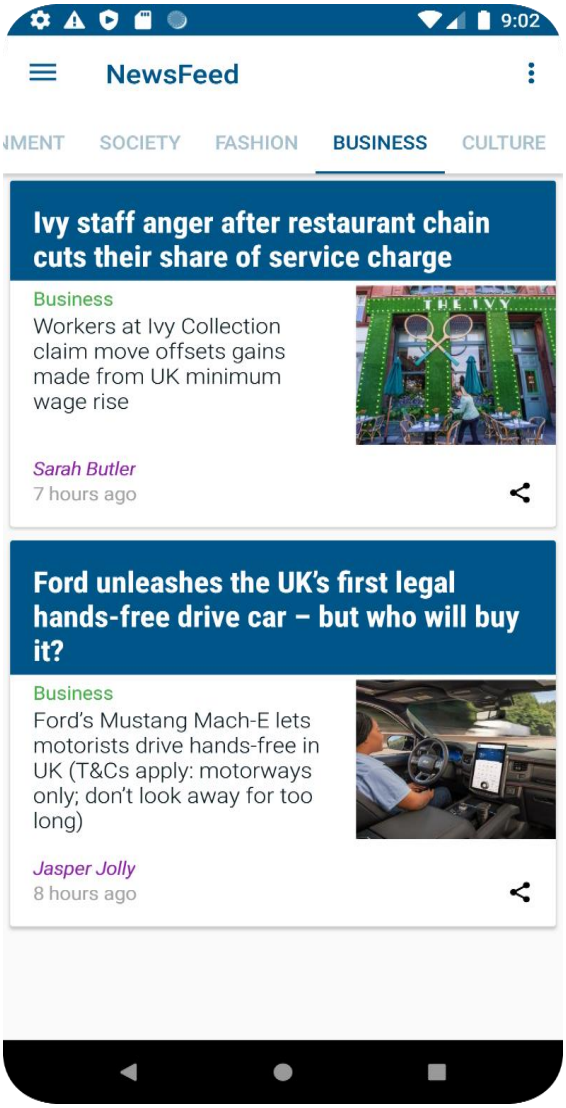

Figure 5.8: Business Category

Business category displays the news related to Business.

CONCLUSION

News apps are an important tool for staying informed in today's digital age. They offer users a quick and convenient way to access the latest news stories from around the world. With news apps, users can get up-to-the-minute updates on breaking news, politics, business, sports, entertainment, and other topics of interest. One of the significant benefits of news apps is that they offer users the ability to customize their news feeds based on their interests and preferences. Users can select the topics they want to follow and receive personalized news content that is relevant to their interests. This customization can save time and make the news consumption experience more enjoyable and engaging. News apps also offer users a more immersive and interactive news experience than traditional news media, such as newspapers or television.

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