IAT 359 Course Project:

Concept: The considered app is an ever-changing newspaper application that regularly updates the screen with news around the location of the user. The app will aim to simulate the intricacies of a newspaper itself, implementing features that project the idea of what a futuristic newspaper that does not become outdated would look and feel like.

Overview: While there are many news applications out there in the market, most of these applications do not do a very good job in simulating the feeling of reading the news via newspaper. Instead, these applications feel mechanical, i.e. scrolling downwards to see more news, dragging upwards to refresh the news, etc. The “Interactive Newspaper” aims to throw all of these defined concepts away and implement a new way that is less mechanical and more familiar to people who read newspapers. This app also aims to bridge the gap between those who prefer the more physical newspaper and those who are more technologically-inclined.

Purpose of the Application: The category of this application is “Utility”. The purpose of the Interactive Newspaper is to allow users to read the news with less mechanical actions and more meaningful actions. The Interactive Newspaper also helps users, who are less familiar with the mechanical actions of a common news app, to enjoy news on a digital device. The app can be used both indoors and outdoors, provided that the user is connected to the internet through which the newspaper pulls news from. As stated earlier, the practical need for the app is to bridge the gap between newsreaders who prefer physical with newsreaders who prefer digital, as the functionalities of the Interactive Newspaper aims for meaningful actions that influence the app’s actions.

Functionality:

Basic Functionality: The minimal functionality of the app is to simulate the look and feel of a physical newspaper, digitally. This includes the look of the news articles, sorted in terms of current local news, world news, sports, entertainment, comics, etc. and in terms of aesthetics, as well as the feel of a newspaper, for example, scrolling a page horizontally to flip to the next page or clicking on a particular section in the table of contents to skip to that section instantly. The basic functionality of the Interactive Newspaper encompasses all the aesthetical and basic features that all barebones news apps should have.

Standard Functionality: The standard functionality of the Interactive Newspaper encompasses all the core features that is present in this app that most news apps lack. For example, if the Interactive Newspaper is running, but is neglected for an extended period of time, the Interactive Newspaper will immediately acknowledge that the user has finished reading the news on hand, clearing all newspaper articles currently on the app. When the user picks up the device again, the Interactive Newspaper will immediately update and fill the app with the latest news available.

While the detection of human interaction and gestures is just one part of the Interactive Newspaper, the Interactive Newspaper will also implement other functionalities that improve upon the idea of a constantly active and updating newspaper application. For example, the Interactive Newspaper, through occasional GPS checks, determines the user’s current location and updates the news articles with news in their local region. This will be done on a infrequent basis, as only significant location changes will drastically change the news that the user will see.

Bonus Functionality: Proposed bonus functionalities include a color filter for the Interactive Newspaper when low-light conditions are detected such that the user is not blinded by the white color of the application when the user is viewing the newspaper in the dark. Another proposed bonus functionality is the ability to take a “cut-out” of a particular newspaper article, allowing the user to view it any time, even if the Interactive Newspaper’s articles have updated or the device is devoid of internet access.

Meeting the requirements:

At least four activities: Each section of the app (Table of contents, Local news, World News, Sports, Comics, etc.) will be in its own activity, allowing for easy change between the sections.

Implicit intents: Since newspaper articles do not always post the full story, but only summarize the key points, readers who want to read or understand the whole story can click on a “see full story” button to read the full story on the website the story originates from. This can also extend to videos where an implicit intent can point the client from its embedded link to a Youtube link, for example.

Explicit intents: The table of contents, and in the same vein, the sidebar will have explicit intents that allow the user to jump between newspaper sections immediately, giving the user the ability to read a specific section without having to flip to the particular page manually or constantly have to consult the table of contents for knowing which page a section begins.

Storing data in preferences and SQLite database: For preferences, users can set their preferred settings such as turning on or off the flipping page sound option or matching the last news update with the current system date, refreshing the news if the current date is different from the last news update date. This can also extend to location services, such as storing the preferred location for weather news, which will not change even if the user moves to a different geographical location.

Sensor Functionality: One sensor that will be used is the accelerometer to check if the device is flat and has not been lifted for a period of time. If that is the case, the newspaper app will clear its data and refresh it with the latest news, allowing the user to read updated news when they pick up the device again. Other sensors that might used include the light sensor to check if the user device is in low light conditions and display an alternative theme to prevent blinding the user with a white screen.

GPS functionality: The GPS is used to check the user’s current location in order to give the user news that is related to their current location.

Structure of the application: The application will start with a splash screen followed by the cover page of the Interactive Newspaper, highlighting the title and the table of contents. When the user clicks on any section, another splash screen is shown while the application runs the activity and updating the news of that section to its latest version. The sidebar allows for “on-the-fly” section switching, as well as to allow the user to access the settings menu, giving the user options that will enhance their experience of the app further. Settings can include sound options, giving the user a much more realistically simulated experience, or a comfort view, which aids the user’s eyes in low-light conditions or even choosing the frequency of news updates.

Timeline:

Week 1 – (Feb. 25 – March 2): Basic functionality, pulling news from news sites, learning and implementing RSS feeds.

Week 2 – (March 3 – March 9): Implement gestures and sensor functionality (updating news based on inactivity), sidebar implementation and settings menu, which includes some user settings and preferences.

Week 3 – (March 10 – March 16): Sounds, UI cleanup, fonts, some more user settings

Week 4 – (March 17 – March 23): Final polishing to application, user testing

Week 5 – (March 24 – April 2): Minor adjustments based on user testing, miscellaneous updates if needed

Week 6 – (April 2 – last day): Preparation for the presentation and app demo.