Lab – Mobile Device Information

Introduction

In this activity, you will use the Internet, a technical journal, or a local store to gather information about an Android and an iOS device. You will document the specifications of each Android and iOS device onto this worksheet. Be prepared to discuss your decisions regarding the devices you select.

Recommended Equipment

- PC with Internet Connection

Instructions

Step 1: Select an Android and iOS device to research. Record the hardware specifications in the boxes below.

Specifications	Android Device	iOS Device
Model	*Galaxy S21 (Standard/Snapdragon 888)*	*iPhone 13*
Manufacturer	*Samsung*	*Apple*
Operating System	*Android 11, up to 4 major Android upgrades, One UI 6.1*	*iOS 15, upgradable to iOS 26*
Available Memory	*6/8GB RAM*	*4GB RAM*
Camera	*Triple Camera System: - 12 MP Wide (f/1.8) - 12 MP Ultrawide (f/2.2) - 64 MP Telephoto (f/2.0) Front: 10 MP (f/2.2)*	*Dual Camera System: - 12 MP Wide (f/1.6) - 12 MP Ultrawide (f/2.4) Front: 12 MP TrueDepth Camera (f/2.2)*
Wi-Fi Connectivity	*802.11 a/b/g/n/ac/6, Dual-band, Wi-Fi Direct, Hotspot*	*802.11 a/b/g/n/ac/6, Dual-band, Hotspot*

Specifications	Android Device	iOS Device
Battery Information	*4000 mAh, non-removable 25W fast charging 15W wireless charging 4.5W reverse wireless charging*	*3240 mAh, non-removable 20W fast charging 15W MagSafe wireless charging*
Screen Size and Resolution	*6.2-inch Dynamic AMOLED 2X 1080 x 2400 pixels (~421 ppi) 120Hz adaptive refresh rate*	*6.1-inch Super Retina XDR OLED 1170 x 2532 pixels (~460 ppi) 60Hz refresh rat*
Size and Weight	*151.7 x 71.2 x 7.9 mm (5.97 x 2.80 x 0.31 in) 169 g (5.96 oz)*	*146.7 x 71.5 x 7.7 mm (5.78 x 2.81 x 0.30 in) 174 g (6.14 oz)*

Step 2: Based on your research, which mobile device would you select? Be prepared to discuss your decisions regarding the mobile device you select.

- The mobile device that I would personally select is the S21 because the S21 has a 120 Hz refresh rate, and most people don't think there is a difference between 60 Hz and 120 Hz, but as a user of a 60 Hz model before, the difference is significant. The iPhone 13 may have a higher PPI, but using it in a real-world scenario, it is almost unnoticeable to see the difference between the two phones. Another reason why I chose the S21 is because it has 8GB RAM, unlike the iPhone 13, which only has 4GB RAM. iPhones may have better software optimization because Android has many manufacturers that add their own "skin" and features (like Samsung's One UI), but 8GB RAM is still a significant boost, nonetheless. The S21 also has faster charging with a bigger charge capacity of 4000 mAh against 3240 mAh from the iPhone. There is not much to say about the cameras; they are almost the same quality. The only difference is the processing optimization of the phones, which, of course, the iPhone wins in this category, but that is only because Apple has to worry about iOS, while Android has many different versions, which makes it hard for applications to optimize properly. The operating system of the iPhone 13 (iOS) does not support app sideloading, which basically means I cannot download any applications from other sources other than the App Store. As a person who downloads apps from places other than the Play Store, this is important to me because downloading anything I want is my freedom. I paid for the phone; therefore, I should download whatever I want to download, but of course that is personal preference at that point. The iPhone does have better performance, with their A15 Bionic chip. In benchmark tests like Geekbench, the A15 Bionic scores much higher than the Snapdragon 888 but considering how expensive iPhones are and how much they lack in other aspects I'm not impressed that this was the only thing they shine bright on. My firm choice is the S21 because of its screen, RAM, battery and just overall flexibility of the phone.

Conclusion:
This activity has enhanced my ability to thoroughly research about the specifications of smartphones and how I should align the phones features to with my use case. In the process I managed to learn more about my phone and what it is capable of when it comes to performance, and I now feel more confident in my ability when purchasing a new device in the future. The lab activity has also taught me the importance of looking beyond just the raw specifications and considering how different features, such as screen refresh rate and software optimization, results in better user experience for me and others. I've also learned that the "best" phone is not always the one with the highest benchmark scores, but rather the one that best fits one's needs and preferences.