|  |  |  |
| --- | --- | --- |
|  | ASSIGNMENT 01 | Marks:  /05 |

Name: Ashir Azeem

Enrollment # 02-134211-039

Class: BSCS-6A

Theoretical Assignment (Mobile Application Development) (CSC-341)

Read Carefully:

* The deadline for this assignment is *before* or *on* October 24, 2023 (submit on LMS) and submit the hardcopy during the lecture.

WARNING: This is an individual assignment; you must solve it by yourself. Any form of plagiarism will result in receiving zero in the assignment.

WARNING: Late submission will not be accepted. Any assignment submitted after the cutoff time will be evaluated from 5 marks.

Ms Fasiha Ikram (Section A,)

Clo-3

|  |  |  |
| --- | --- | --- |
| **Question #1** | |  |
|  | | **Marks** |
|  | Discuss the information about mobile operating systems (android, IOS and fuchsia) and do full comparisons study with **citation**. The comparison must be from different aspect such as **technical, performance, specification, market, security, price and program language** required to develop its applications.  Discuss the comparison in a form of report (Maximum 4 pages) with citations/references. | 05 |

# CITATIONS/REFERENCES:

Android: <https://en.wikipedia.org/wiki/Android>

iOS: <https://en.wikipedia.org/wiki/IOS>

Fuchsia OS: <https://en.wikipedia.org/wiki/Fuchsia_OS>

# **ANDROID**

Android is the most popular mobile operating system, with a global market share of over 70%. It is an open-source platform, which means that anyone can develop and distribute Android apps. This has led to a huge ecosystem of apps and devices, with Android devices available at a wide range of price points.

Android is known for its flexibility and customization options. Users can change almost every aspect of the Android experience, from the look and feel of the interface to the features and apps that are available.

# **IOS**

iOS is the second most popular mobile operating system, with a global market share of over 25%. It is developed and distributed by Apple, and it is only available on Apple devices, such as the iPhone and iPad.

iOS is known for its simplicity and ease of use. It also has a reputation for being more secure and reliable than Android. Apple has a tight control over the iOS ecosystem, which allows the company to ensure that all apps are high quality and that they work well on all Apple devices.

# **FUCHSIA**

Fuchsia is a new mobile operating system that is still under development. It is being developed by Google, and it is based on a new microkernel called Zircon.

Fuchsia is designed to be more secure and versatile than Android or iOS. It is also designed to be more modular and extensible, which means that it can be easily adapted to run on a variety of different devices.

However, Fuchsia is still in its early stages of development, so it is not yet clear when it will be released to the public. Additionally, the Fuchsia app ecosystem is very limited at this time.

Technical Comparison

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Kernel | Linux | XNU | Zircon |
| UI framework | Native, Flutter | UIKit, SwiftUI | Flutter |
| Programming language | Java, Kotlin | Swift, Objective-C | Dart |
| Open source | Yes | No | Yes |

Performance comparison:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Startup time | Varies by device | Fast | Unknown |
| App performance | Varies by app | Good | Unknown |
| Battery life | Varies by device | Good | Unknown |

Specification comparison:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Supported devices | Smartphones, tablets, smart TVs, wearables, etc. | iPhones, iPads, Apple Watches, etc. | Unknown |
| Minimum hardware requirements | Varies by device | Varies by device | Unknown |

MARKET comparison:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Global market share | 71.9% | 26.2% | Negligible |
| Top manufacturers | Samsung, Xiaomi, OPPO, Vivo, etc. | Apple | None yet |

SECURITY comparison:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Security track record | Good, but has been vulnerable to malware attacks | Excellent | Unknown |
| Security features | Sandboxing, encryption, etc. | Sandboxing, encryption, etc. | Unknown |

PRICE comparison:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Device cost | Varies by device | Generally, more expensive than Android devices | Unknown |
| App cost | Free or paid | Free or paid | Unknown |

PROGRAMMING LANGUAGE comparison:

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | Android | iOS | Fuchsia |
| Primary programming language | Java, Kotlin | Swift, Objective-C | Dart |
| Other supported languages | C/C++, Python, etc. | C/C++, Python, etc. | C/C++, etc. |

--------------------- >>>>>>>>>>>>>>THE END<<<<<<<<<< ------------------------------