



Mobile application development

BSE F22

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Introduction

- I'm Muhammad Haris Bin Abid
- PUCIT F09 Graduate
- 11+ years of Industry experience
- Lead Software Engineer in Folio3
- Experience in iOS, Android, Python

Class Introduction

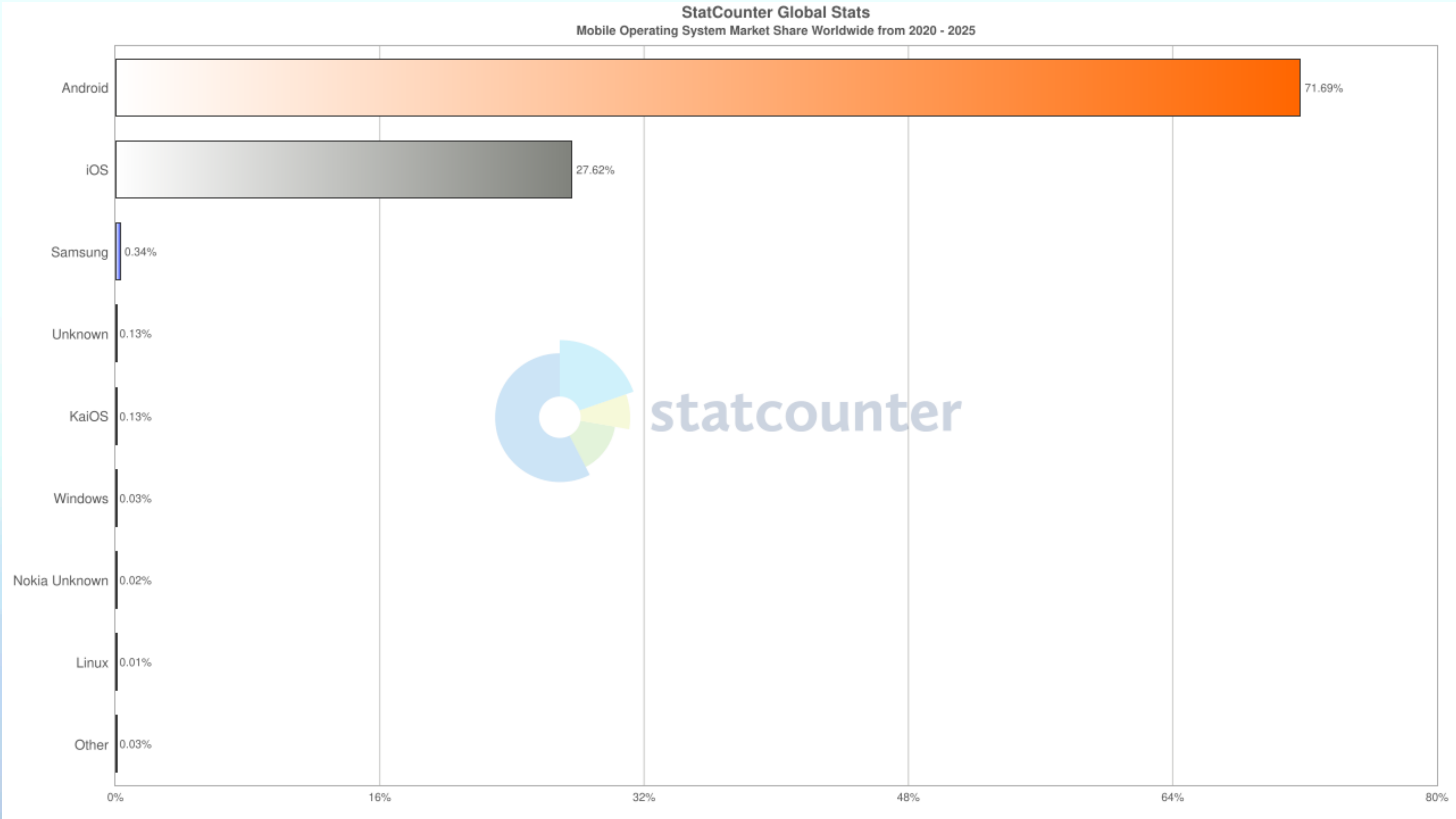
- Name
- City/Area
- Favorite Mobile app
- One thing that is not in your resume

Introduction to Mobile Devices

A **mobile device** is a portable electronic device that allows users to perform various computing, communication, and multimedia functions while on the move. These devices typically include smartphones, tablets, smartwatches, and other handheld gadgets with wireless connectivity.

- Types of Mobile Devices (Smartphones, Tablets, Wearable)
- Types of OS (Android, iOS, HarmonyOS)

Mobile OS Market Share Worldwide



Mobile Users statistics

- There are about 3.3 billion Android OS users worldwide.
- There are an estimated 1.382 billion active iPhone users globally.
- Approximately 169 million Android users in Pakistan.
- Approximately 8 million iOS users in Pakistan.

Native vs Cross-platform app development

Native App Development

Native app development refers to the process of building mobile applications specifically for a single operating system using platform-specific programming languages and tools. These apps are optimized for performance, user experience, and device capabilities.

Cross Platform App Development

Cross-platform app development refers to the process of creating mobile applications that run on multiple operating systems (iOS & Android) using a single codebase. These apps are built with frameworks like Flutter (Dart) and React Native (JavaScript), which allow developers to write code once and deploy it on different platforms while maintaining near-native performance.

	Native App	Cross-platform App
Code usage:	Written in a language that's natively supported by the device OS vendor	A single codebase is used to run on several operating systems and platforms
Programming languages:	Native iOS apps are mainly written in Swift/Objective-C, whereas native Android apps would be written in Java/Kotlin	The code is written in various languages like C#, F#, Visual Basic, Dart, and JavaScript using special frameworks
Performance:	Native apps are more efficient, responsive and fast as designed for a particular platform and use all its features	They are typically slower than native apps because require an additional abstraction layer and rendering process
Development cost:	When you need apps for both iOS and Android, creating them is costly. You'll need to hire two different teams to work on them	As there is only one codebase, so only one team is needed to create an app, which allows to significantly reduce the final development cost

Expected Course Outline

- Phase 1 (Till Midterm)
 - Learning Kotlin basics
 - Android basics & structure
 - Designing user interfaces
 - Implementing navigation
 - Integrating APIs
 - Working with databases

Expected Course Outline

- Phase 2 (Post Midterm)
 - Dart programming
 - Building Cross platform UIs
 - State Management
 - Integrating APIs

Thank you !