Design And Implementation Of Mobile Applications
Theory

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Abstract

The course is organized into five distinct parts.

The first part sets the stage by framing the problem and exploring the numerous opportunities that mobile devices present. It also provides a brief overview of various alternatives and competing solutions in the field.

In the second part, we focus on mobile application design, aiming to identify guidelines and recurring patterns that can facilitate the design process and contribute to producing high-quality solutions.

The third part introduces key innovations and features of important frameworks, specifically Flutter and React Native, which are essential for developing cross-platform applications.

The fourth part delves into Android development, covering how to create applications for a range of Android devices, including phones, tablets, watches, and TVs, using Kotlin and Jetpack Compose.

Finally, the fifth part addresses the development of applications for iOS-based devices, utilizing Swift and SwiftUI to create efficient and effective mobile applications.

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CHAPTER 1

Mobile applications

1.1 Introduction

The history of mobile devices began in 1973 when Martin Cooper at Motorola made the first analog call in the United States using a prototype. Modern devices, however, are equipped with a range of advanced sensors such as an accelerometer, gyroscope, digital compass, GPS, barometer, ambient light sensor, and proximity sensor.