

MOBILE ARCHITECTURE

MCS-604

BLOCK 1: INTRODUCTION TO MOBILE APPLICATION DEVELOPMENT

UNIT –I: Introduction to Mobile Applications, Considerations and Challenges for Mobile App, PC Based Applications, Web Based Applications, Evolution of Mobile Based Apps, and Comparison of Mobile App with Web Application, Content and Protocol in Mobility, Trends in Mobility Space, Mobile App Platforms.

UNIT-II: Components of a Mobile Application, Architecture of a Mobile Application, Architecture of a native Mobile Application, Architecture of a hybrid Mobile Application, Architecture of a Mobile Web Application, Components of a Mobile Client Application , Components of Mobile Support Infrastructure , End to End Case Study of Android Mobile Architecture.

UNIT-III: Basics of Mobile Application Design, Design Considerations and Best Practices, Checklist for Mobile Apps ,User Interface Design for Mobile Apps , Deployment ,Power Usage, Synchronization , Patterns and Design Elements ,Security Standards and Best Practices , Mobile App Testing.

BLOCK2: MOBILE OPERATING SYSTEMS

UNIT-IV: Introduction to Mobile Operating Systems, Basic Functions of an Operating System, Peripheral Device Management, Data File Management ,Memory Management , Process Management ,Mobile Operating Systems , Layer 0 , Layer 1, Layer 2 ,Architecture of Android, Knowing the Operating System of a Mobile Phone , Discontinued Mobile Operating Systems , Existing Mobile Operating Systems , Types of Mobile Operating Systems.

UNIT-V: Basics of Android, Interface, Applications, Memory Management, Virtual Reality.

UNIT-VI: Basics of Ios, Accessibility, Multitasking, Switching Applications, Ending Tasks, Siri ,Setting up Siri , Launching Siri , Game Center.

UNIT-VII: Basics of Windows Mobile, Development, Evolution of Windows Phone, Features of Windows Phone, Virtual Private Networking, Windows Phone 7, Windows Phone 8, Windows 10 Mobile.

BLOCK III: MOBILE HARDWARE

UNIT-VIII: Mobile Processors, Qualcomm Snapdragon , Samsung Exynos , NVIDIA Tegra ,More Mobile Processors , ARM Processors , Features of ARM processor ,ARM architecture , x86 Processors ,Basic Design of x86 Processor , Instruction Execution Cycle , Differences Between x86 and ARM Processors.

UNIT-IX: Memory, Memory in a Mobile Phone , Volatile Memory , Non-Volatile Memory, Memory Card , ROM , MROM , PROM , EPROM , EEPROM , Flash Memory , NOR Memories ,NAND Memories.

UNIT-X: Sensors, Gyroscope, Accelerometer, Specification of an Accelerometer, Output of an Accelerometer, Applications of an Accelerometer, Compass, Proximity Sensor.

UNIT-XI: Input-Output, Display, Camera, Speakers, Active Speakers , Passive Speakers, Mic.

BLOCK IV: SOFTWARE DEVELOPMENT TOOLS

UNIT-XII: Native Development Tools, Development Tools for Android ,Android Studio, Eclipse IDE , Development Tools for iOS , Xcode , Swift ,Development Tools for Windows Based Mobiles ,C# , XAML

UNIT-XIII: Cross Platform Development Tools, Approaches for Cross Platform Mobile App Development ,Web Based Cross Platform Mobile Application Development , Hybrid Approach for Cross Platform Mobile App Development , Single Language Approach for Cross Platform Mobile App Development , Mobile Middleware Approach for Cross Platform Development , Xamarin , Xamarin.Android , Xamarin.iOS , Phone Gap , Developing an Android Application in Phone Gap , Developing an iOS Application in Phone Gap , Advantages and Disadvantages of Cross Platform Mobile Application Development Tools.

UNIT-XIV: Publishing Tools and Developer Program, Google Play Store, Prerequisites for Publishing Android Apps to Google Play Store, Apple Application Store, Prerequisites for Publishing Applications to Apple Applications Store , Windows Store , Pre-requisites for Publishing Apps to Windows Store.

UNIT-XV: Monetization, Monetizing Android Apps , Freemium Distribution Model , Paid Distribution Model , Affiliate Partnership Model ,Commission Model , White Labeling Model ,Publishing to Amazon App Store , Monetizing iOS Apps , Monetizing Windows Apps , Choosing Right Mobile Ad Strategy , Defining the Success Metrics , Mobile Ad Selection Based on Business Strategy , Monitor Ads.