

Experiment 18:

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Comparing and contrasting the architectures of Android, iOS, and Windows involves understanding their underlying structures, principles, and approaches to system design. Here's a breakdown:

Android

IOS

Windows

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ANDROID

1. OPEN SOURCE AND CUSTOMIZABILITY:
ANDROID IS BUILT ON A MODIFIED VERSION OF THE LINUX KERNEL, MAKING IT OPEN-SOURCE AND HIGHLY CUSTOMIZABLE

2. APPLICATION SANDBOX:
ANDROID APPLICATIONS RUN WITHIN A SANDBOXED ENVIRONMENT, ENSURING SECURITY AND PREVENTING ONE APP FROM INTERFERING WITH OTHERS OR ACCESSING SENSITIVE SYSTEM RESOURCES WITHOUT PROPER PERMISSIONS.

3. USER INTERFACE:
ANDROID FOLLOWS A MODULAR APPROACH TO USER INTERFACE DESIGN, WITH LAYOUTS DEFINED USING XML FILES AND INTERACTION HANDLED

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IOS

CLOSED ECOSYSTEM:
IOS IS A CLOSED ECOSYSTEM DEVELOPED EXCLUSIVELY BY APPLE FOR ITS HARDWARE DEVICES LIKE IPHONES, IPADS, AND IPODS.

2. KERNEL AND SECURITY:
IOS IS BUILT ON A UNIX-BASED KERNEL, OFFERING A SECURE AND STABLE FOUNDATION FOR ITS OPERATIONS

SECURITY FEATURES LIKE SANDBOXING, CODE SIGNING, AND SECURE BOOT PROCESSES ENSURE PROTECTION AGAINST MALWARE AND UNAUTHORIZED ACCESS TO SYSTEM RESOURCES.

3. OBJECTIVE-C/SWIFT:
IOS APP DEVELOPMENT PRIMARILY USES OBJECTIVE-C OR SWIFT PROGRAMMING LANGUAGES. COCOA TOUCH FRAMEWORK PROVIDES A SET OF APIS FOR BUILDING USER INTERFACES.

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WINDOWS

VERSATILITY:
WINDOWS OPERATES ACROSS A WIDE RANGE OF DEVICES, INCLUDING DESKTOPS, LAPTOPS, TABLETS, AND SMARTPHONES. IT OFFERS A UNIFIED PLATFORM FOR DEVELOPERS TO CREATE APPLICATIONS THAT CAN RUN ON VARIOUS DEVICE TYPES WITH ADAPTATIONS FOR DIFFERENT SCREEN SIZES AND INPUT METHODS

2. MODULAR ARCHITECTURE:
WINDOWS ARCHITECTURE CONSISTS OF VARIOUS LAYERS, INCLUDING THE KERNEL, DEVICE DRIVERS, AND USER-MODE COMPONENTS.

3.NET FRAMEWORK:
WINDOWS APP DEVELOPMENT OFTEN UTILIZES THE.NET FRAMEWORK AND LANGUAGES LIKE C# AND XAML FOR BUILDING USER INTERFACES.eE.