

## What is a zyBook?

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# 1.1 Mobile app development

## mobile device

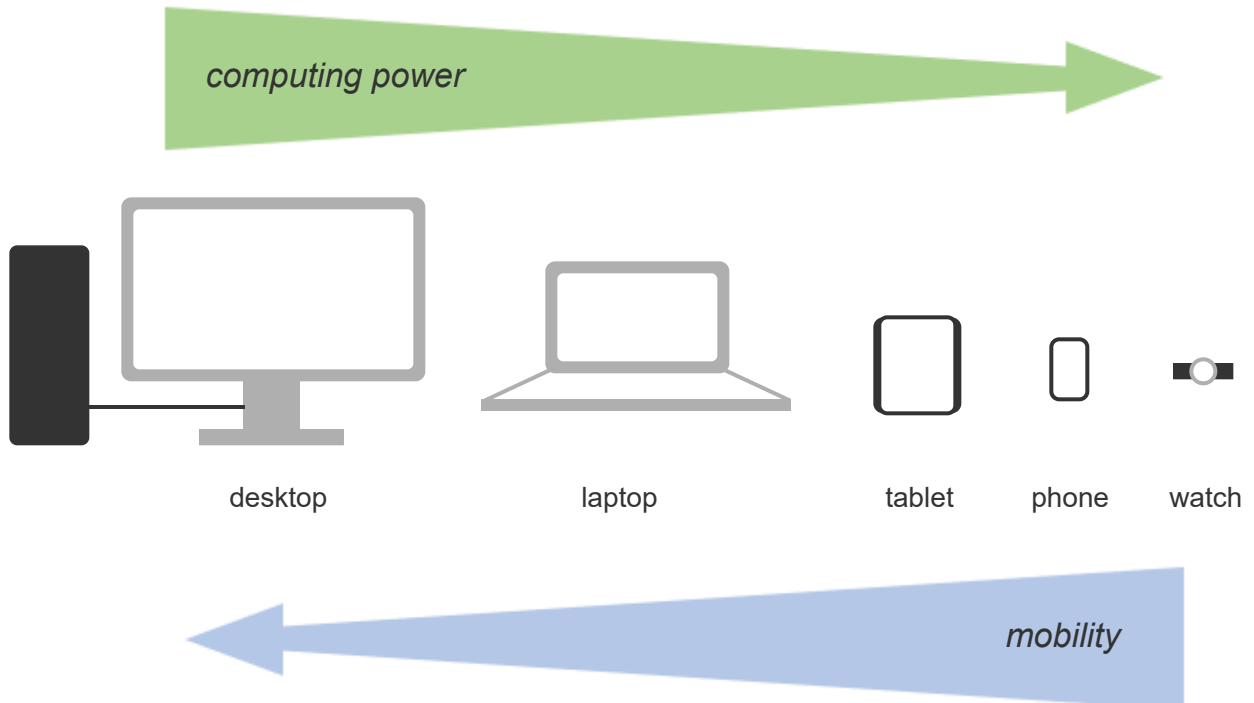
A mobile device is any small computing device that a person keeps with them, including phones, smartwatches, and tablets.

### PARTICIPATION ACTIVITY

#### 1.1.1: Personal computing devices.

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2x speed



Captions ^

1. Personal computing devices come in various sizes, from desktop computers down to wearables.

2. Generally, the smaller the device, the less computing power that is available: Slower processors, less memory, smaller screens.
3. The larger the device, the less mobile the device is.

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## mobile operating system / mobile OS

Mobile devices use a mobile operating system (mobile OS) that controls the device's hardware and the interaction between the hardware and software.

### iOS / iPadOS

Apple's iOS and iPadOS run on mobile devices like the iPhone and iPad.

### Android

Google's Android runs on mobile devices like the Google Pixel phone and Samsung Galaxy tablet.

## user interface / UI

The user interface (UI) determines how the user interacts with the computing device.

Figure 1.1.1: Example iOS screen (left) and Android screens (center and right).

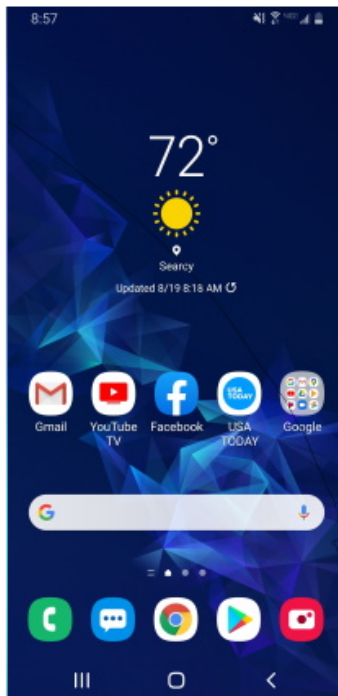
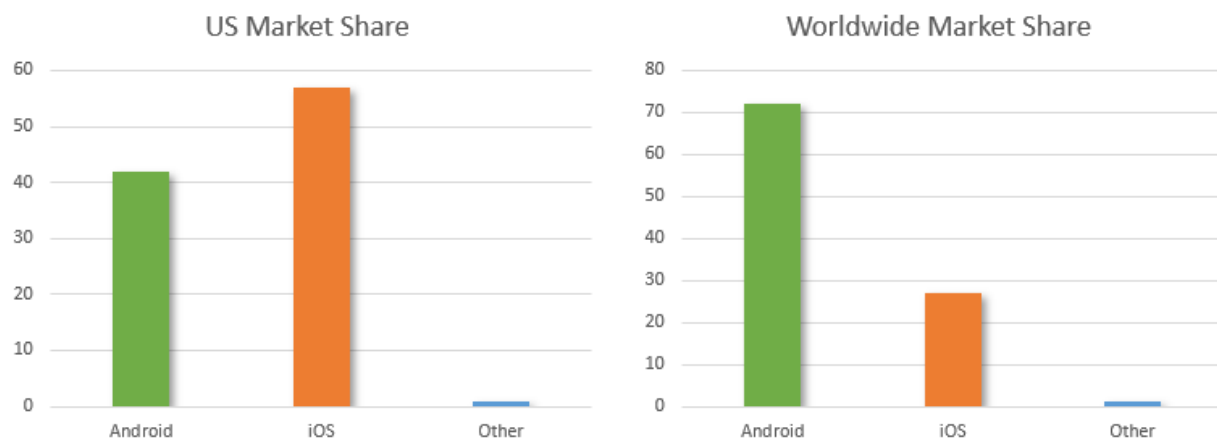

[Feedback?](#)

Figure 1.1.2: Mobile OS market share in U.S. and worldwide, July 2021.



Source: [statcounter US](#) and [statcounter Worldwide](#)

[Feedback?](#)

## mobile apps

Mobile devices run mobile apps, applications that are created for a particular mobile operating system like iOS or Android.

## app store

Mobile apps are usually distributed through an app store, which provides a convenient way for users to discover and download apps to a mobile device.

## Apple's App Store

Apple's App Store provides mobile apps for iOS devices.

## Google Play Store

Google Play Store provides mobile apps for Android devices.

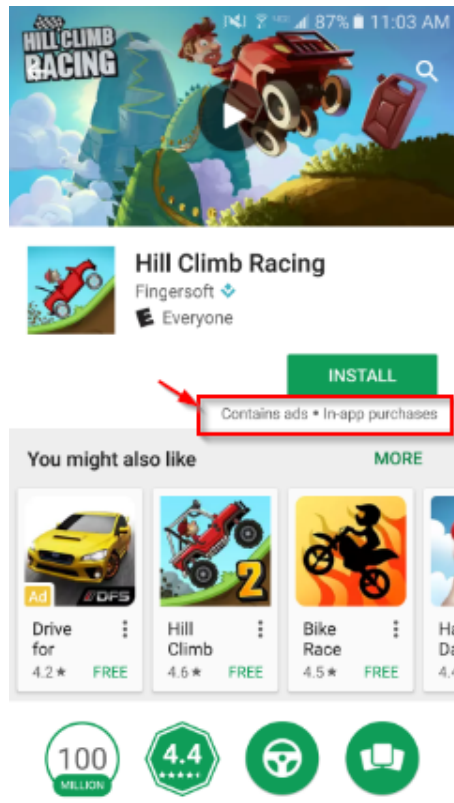
## free app

A free app may be downloaded from an app store without any payment. Free apps often display advertisements or allow users to purchase content within the app.

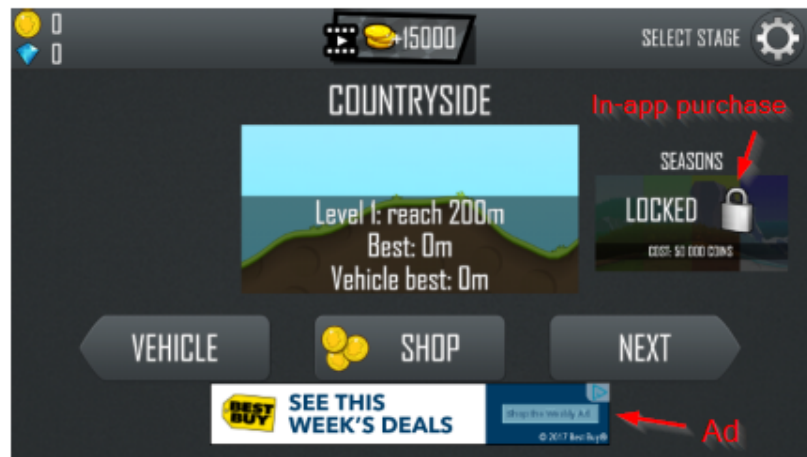
## paid app

A paid app requires the user to pay a fee to download the app, where fees range from \$0.99 to several hundred dollars.

Figure 1.1.3: Free app in Google Play Store that contains ads and allows in-app purchases.



Source: [Hill Climb Racing](#) in Google Play Store



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## native app

A native app is an app that is specific to the mobile OS and is created with the tools and programming languages supported by the mobile OS.

## web app

A web app is an app created with standard web technologies (HTML, JavaScript, CSS, etc.) that runs in the mobile device's web browser.

## hybrid app

A hybrid app is a native app that uses a web container (like an internal web browser) to display the UI that is created with web

technologies.

## Android Studio

Android developers typically use the Android Studio IDE (Integrated Development Environment) and write Java or Kotlin code to produce Android native apps.

## XCode

iOS developers typically use the XCode IDE and write Swift or Objective-C code to produce iOS native apps.

### PARTICIPATION ACTIVITY

#### 1.1.5: Native, web, and hybrid apps.

Start



2x speed

Google's  
Play Store

Apple's  
App Store

Web

Google's  
Play Store

Ap  
App



Android



iOS

(HTML, CSS, JavaScript)

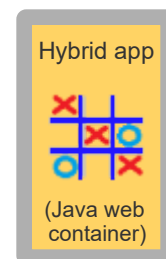


Android



iOS

(HTML, CSS, JavaScript)



Android



iOS

Captions ^

1. A native app for Android is usually created with Java or Kotlin and is downloaded to an Android device from Google's Play Store.
2. The same native app may be rewritten in Swift/Objective-C for iOS and made available in Apple's App Store.
3. A web app is written in HTML, CSS, and JavaScript and is downloaded from the web by a web browser.
4. A hybrid app is written partly in Java/Kotlin for Android and Swift/Objective-C for iOS. Hybrid apps use a web container to display the UI that is written in HTML, CSS, and

JavaScript.

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