

WELCOME

Mobile Applications Testing



Mobile Ecosystem

Mobile World Statistics

Carriers

Networks

Manufactures

Devices

Platforms/OS

Frameworks

API-Apps

Services

Mobile World Statistics

JAN
2018

DIGITAL AROUND THE WORLD IN 2018

KEY STATISTICAL INDICATORS FOR THE WORLD'S INTERNET, MOBILE, AND SOCIAL MEDIA USERS

TOTAL
POPULATION



7.593
BILLION

URBANISATION:
55%

INTERNET
USERS



4.021
BILLION

PENETRATION:
53%

ACTIVE SOCIAL
MEDIA USERS



3.196
BILLION

PENETRATION:
42%

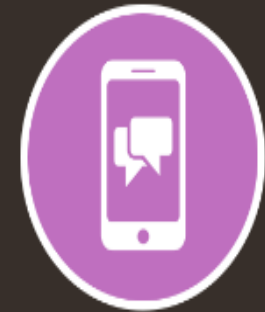
UNIQUE
MOBILE USERS



5.135
BILLION

PENETRATION:
68%

ACTIVE MOBILE
SOCIAL USERS



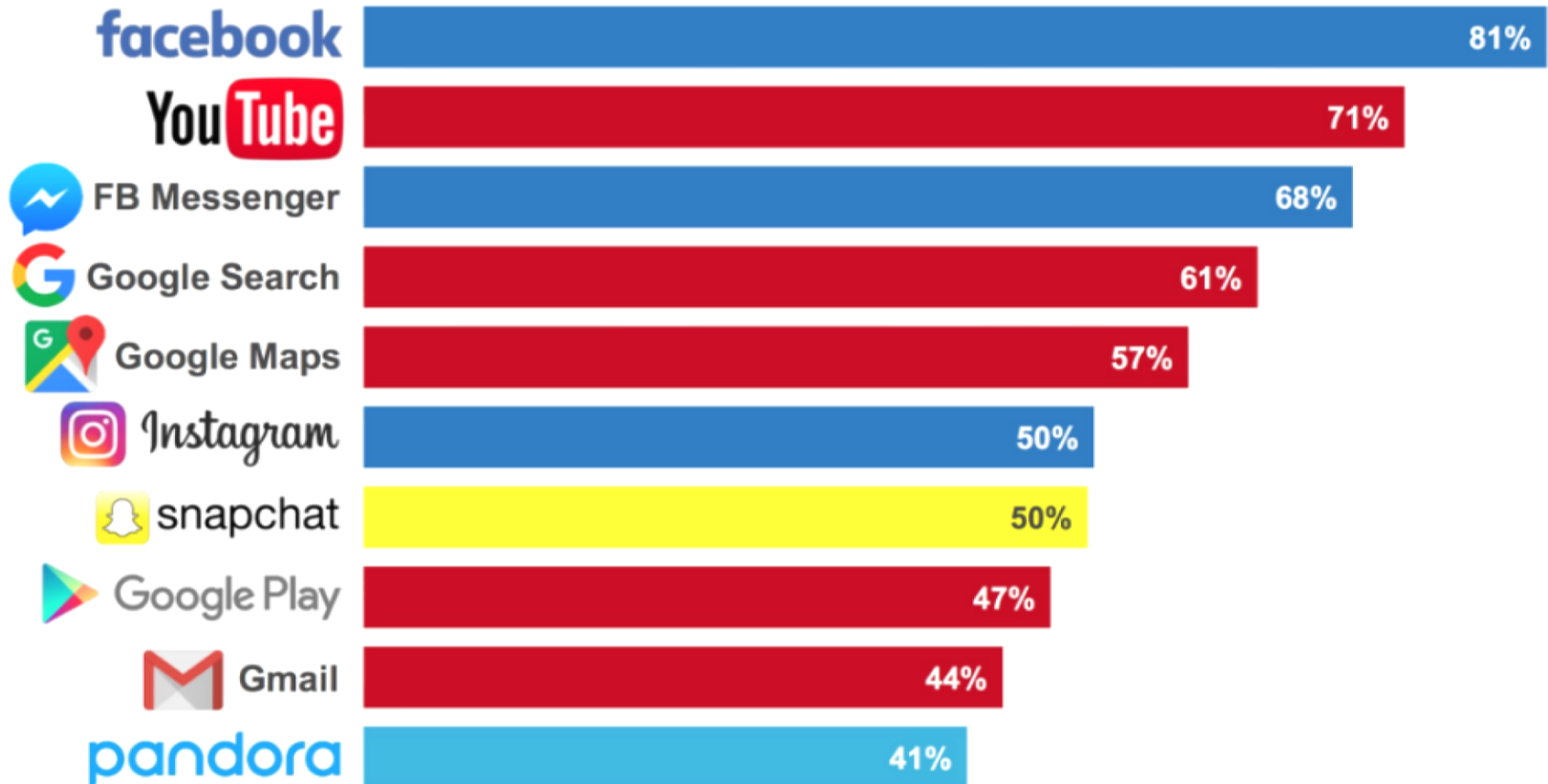
2.958
BILLION

PENETRATION:
39%

Mobile World Statistics

Top 10 Mobile Apps by Penetration of App Audience

Source: comScore Mobile Metrix, U.S., Age 18+, June 2017



Mobile World Statistics

PURE MOBILE WEBSITE

Accessed through browsing



Static, navigational user interface



Requires connection



Somewhat limited features



PURE MOBILE APP

Accessed after being installed



Interactive user interface



Available offline



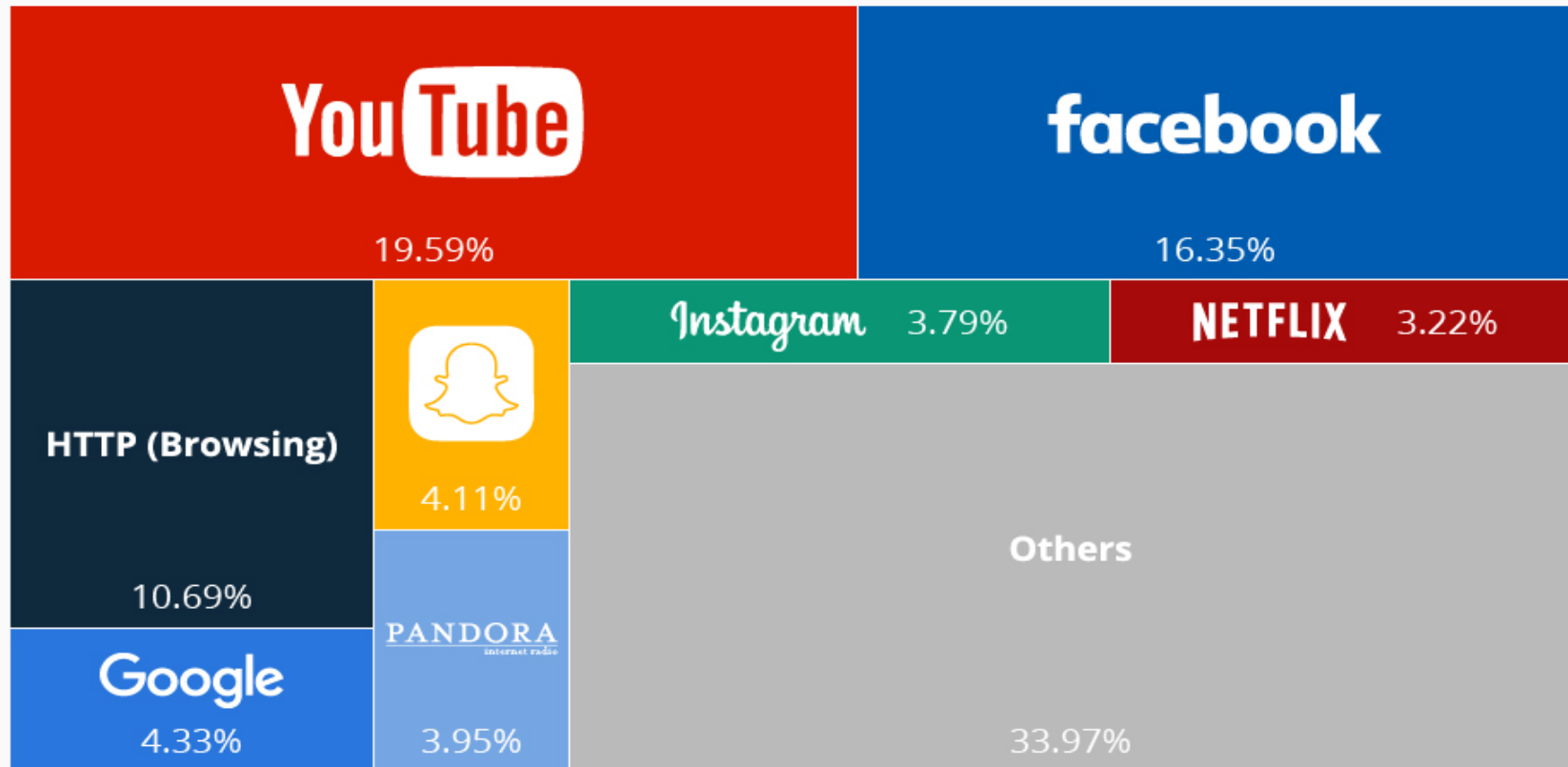
Can make use of phone features such as location services, camera, etc.



Mobile World Statistics

These Apps Are Putting a Strain on Mobile Networks

Breakdown of peak period mobile internet traffic in North America by application



Data gathered in September and October 2015

@StatistaCharts

Source: Sandvine

Copyright NataliaS@portnov.com

statista

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Sprint



at&t

T-Mobile

Carriers/Service Providers

Install Cellular Towers

Operate the Cellular Network

Responsibilities

*Make Services
(Internet) available for
Mobile Subscribers*

*Handling Billing ,
Support and Sales*

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Network



Network : GSM : AT&T and T-Mobile

GSM Standard - Global System for Mobile Communication

- ❖ **Service:** Voice calling, text, messaging, data service similar to CDMA
- ❖ **Feature:** One of the key features of GSM is the [Subscriber Identity Module](#), commonly known as a **SIM card**.
- ❖ The SIM is a detachable [smart card](#) containing the user's subscription information and phone book. This allows the user to retain his or her information after switching handsets.
- ❖ SIM card that identify the user on the network and could be used as a storage.
- ❖ SIM cards allowed users switch phones by simply moving their SIM's between the phones.



Network : CDMA : Sprint, Verizon and US Cellular

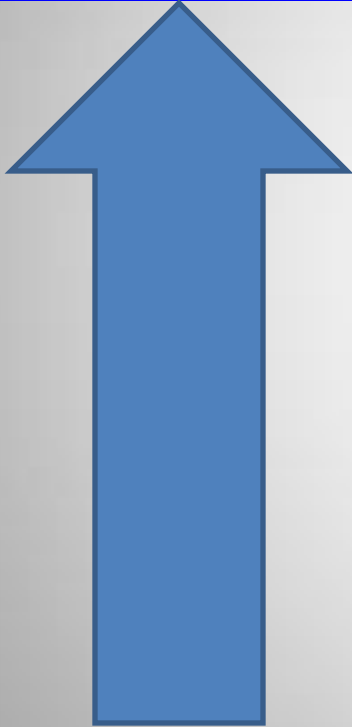
CDMA Standard - Code Division Multiple Access

- ❖ **Service**: Voice calling, text, messaging, data transmission
- ❖ **Features**: Five times up of GSM capacity. More secure –used by military.
- ❖ QUALCOMM designs the chips for the CDMA air interface.
- ❖ **CDMA** phones cannot roam internationally as extensively as GSM phones nor can they transmit voice and data at the same time like GSM handsets.
- ❖ **CDMA** phones are locked to a carrier. It's usually [cheaper to buy unlocked GSM phones](#) than on-contract CDMA phones.



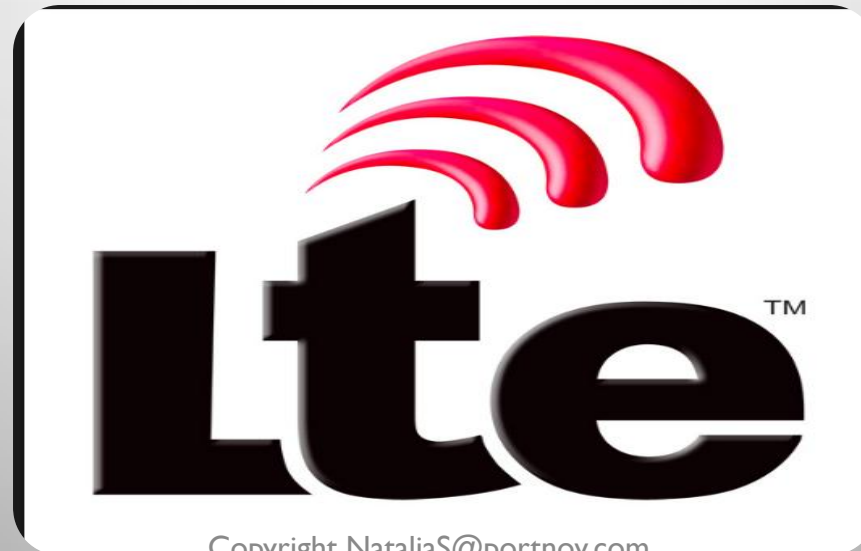
Network : CDMA vs GSM :What's a difference ?

[Click here to watch a Video](#)



NETWORK: LTE

- ❖ An acronym for **Long Term Evolution**
- ❖ **LTE** is a 4G wireless communications standard developed by the 3rd Generation Partnership Project (3GPP) that's designed to provide up to 10x the speeds of 3G **networks** for mobile devices such as SmartPhones, Tablets, NetBooks, Notebooks and Wireless Hotspots.



NETWORK: 1G to 4G

EVOLUTION



1G
1981



2G
1992



3G
2004



4G and 4G LTE
2010 and 2011



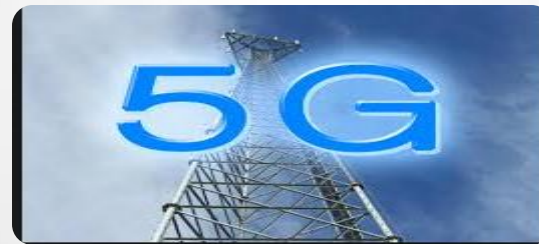
5G
2020

NETWORK: 1G to 4G LTE Evolution

- ❖ **1G** analog signal used by cellular towers
- ❖ **2G** technology upgraded the analog signal to digital and powered the inclusion of sending text messages across the network
- ❖ **3G** technology made use of electromagnetic wavelengths, known as spectrum, to broadcast a wireless broadband signal that allowed users to access the Internet and download applications using a 3G data card or a handheld mobile device
- ❖ **4G** called an "ultra-broadband" access for mobile devices. 4G networks are based on an all Internet protocol packet switching instead of circuit switching
- ❖ **4G + LTE** Long Term Evolution (LTE) is a 4G wireless broadband technology developed by the Third Generation Partnership Project (3GPP), an industry trade group. It's a type of 4G technology, and it delivers the best performance and speeds available today.

NETWORK: is 5G around the corner ?

- ❖ Aug 28, 2013 – Huawei (Chinese company) intends to introduce commercial 5G networks by 2020, a service touted as "100 times faster" than current 4 G networks.
- ❖ May 15, 2013 - Samsung says it has successfully tested technology that will be at the core of 5G mobile connectivity.



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Devices

Handheld PC, Palm-size PC, Pocket PC, Pocket computer, Palmtop PC



PDA Electronic Organizer, Mobile Phone, Feature Phone, SmartPhone, Phablet



PMP, DAP



E-Reader




Handheld Game Console



Portable/Mobile Data Terminal

Devices : FeaturePhone vs SmartPhone



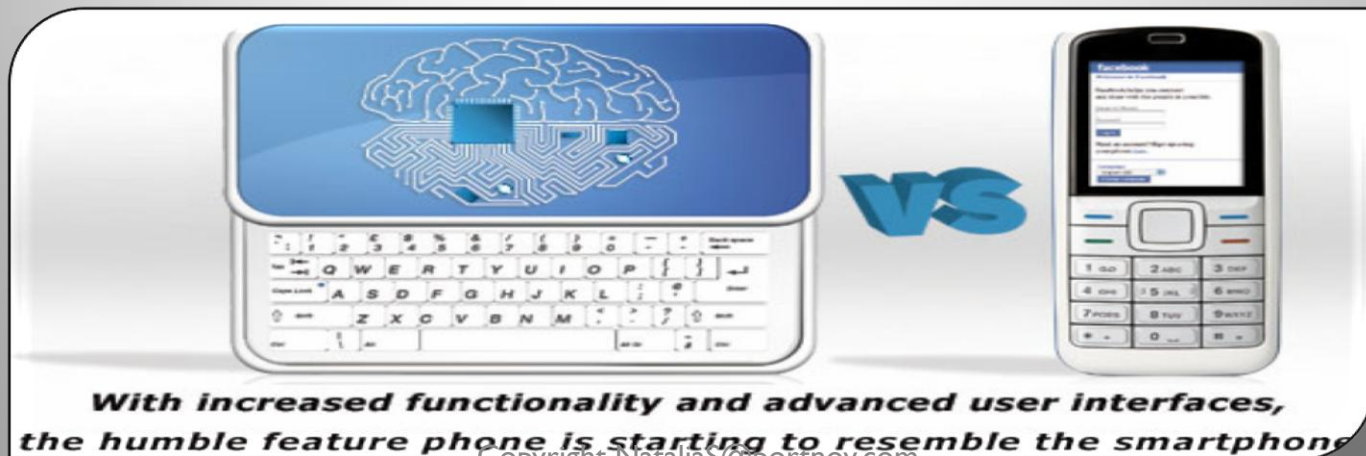
SmartPhones are those which have advanced computing capability than Feature phones

FeaturePhones are low-end device with lower-price

Devices : FeaturePhone vs SmartPhone

In short :

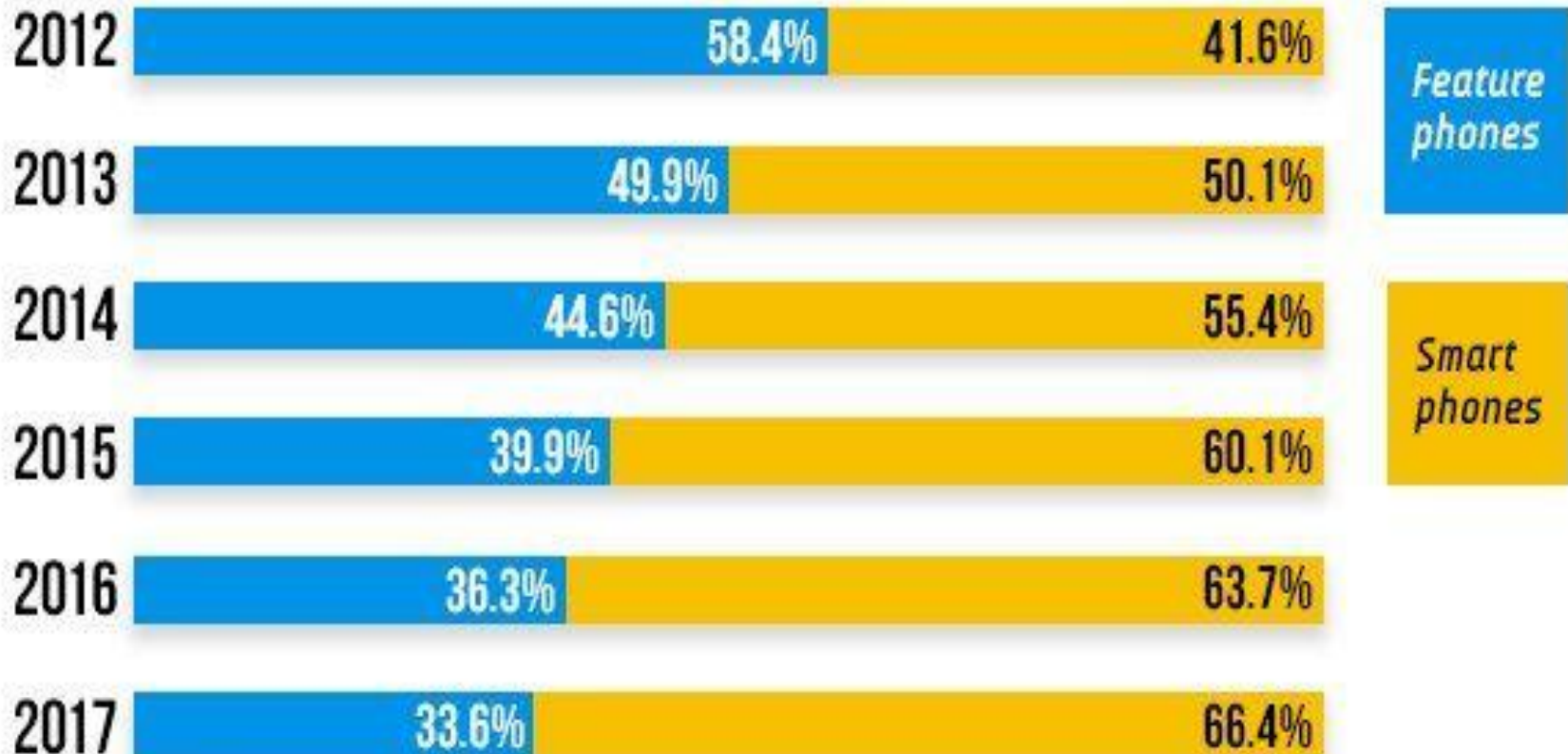
- ❖ *SmartPhones usually have a wider array of key features.*
- ❖ *These can include a full Web browser, 4G LTE network support, Flash player capability, GPS, higher-resolution camera, third-party application support, video conferencing and more*



Devices :

FeaturePhone vs SmartPhone Comparison Data

Predicted smartphone v feature phone shipments worldwide 2012-2017



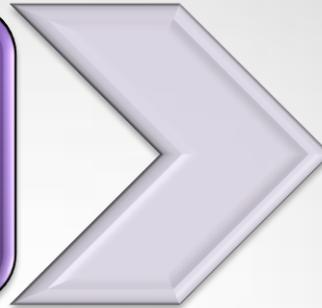
Source: International Data Corporation (IDC), "Worldwide Quarterly Mobile Phone Tracker"

Devices :

JAILBREAKING : iOS

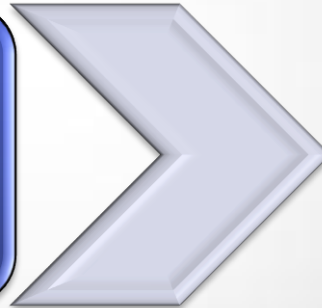
JAILBREAKING

process of modifying iOS system kernels to allow file system read and write access.



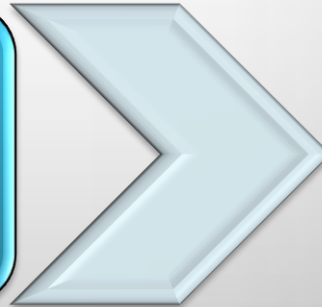
JAILBREAKING TOOLS

(and exploits) remove the limitations and security features built by the manufacturer Apple (the "jail")



JAILBREAKING TOOLS

allow users to run code not approved and signed by Apple.

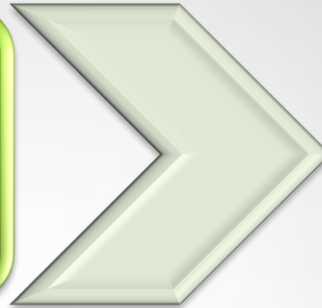


Devices :

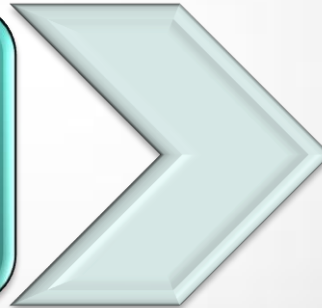
UNLOCKING : IPHONE

An **UNLOCKED** iPhone

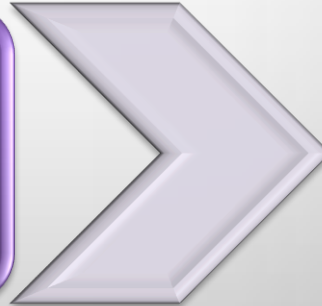
can be used with any carrier, not just those that have been approved by Apple.



many **UNLOCKING** solutions only work with certain iOS models



Factory IMEI **UNLOCKS** is a popular solution that works with all iPhone models.



Devices :

ROOTING : ANDROID OS

Rooting is the Android equivalent of jailbreaking, a means of unlocking the operating system

you can install unapproved apps, deleted unwanted bloatware,

update the OS, replace the firmware or customize anything

