
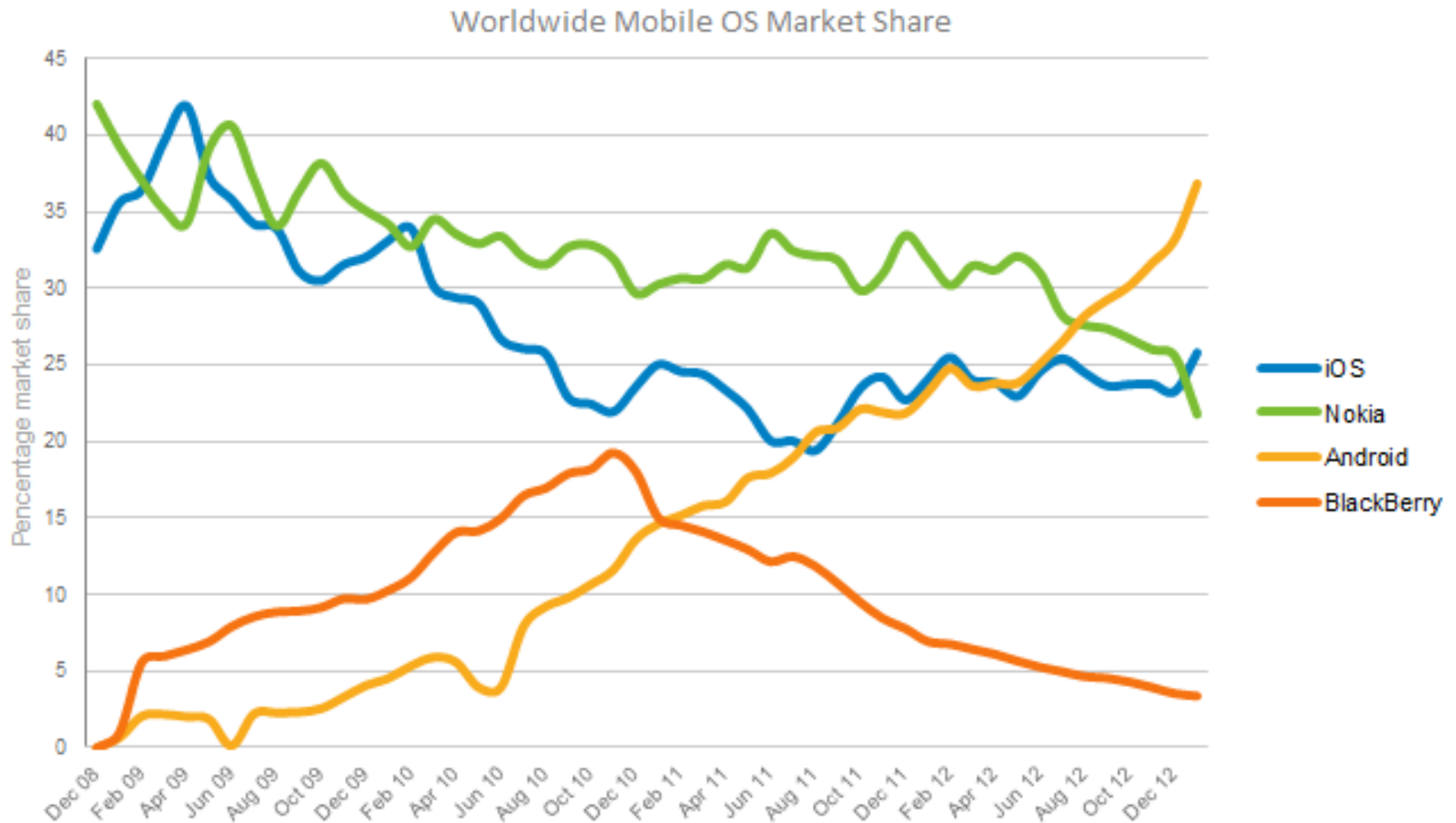


Outline

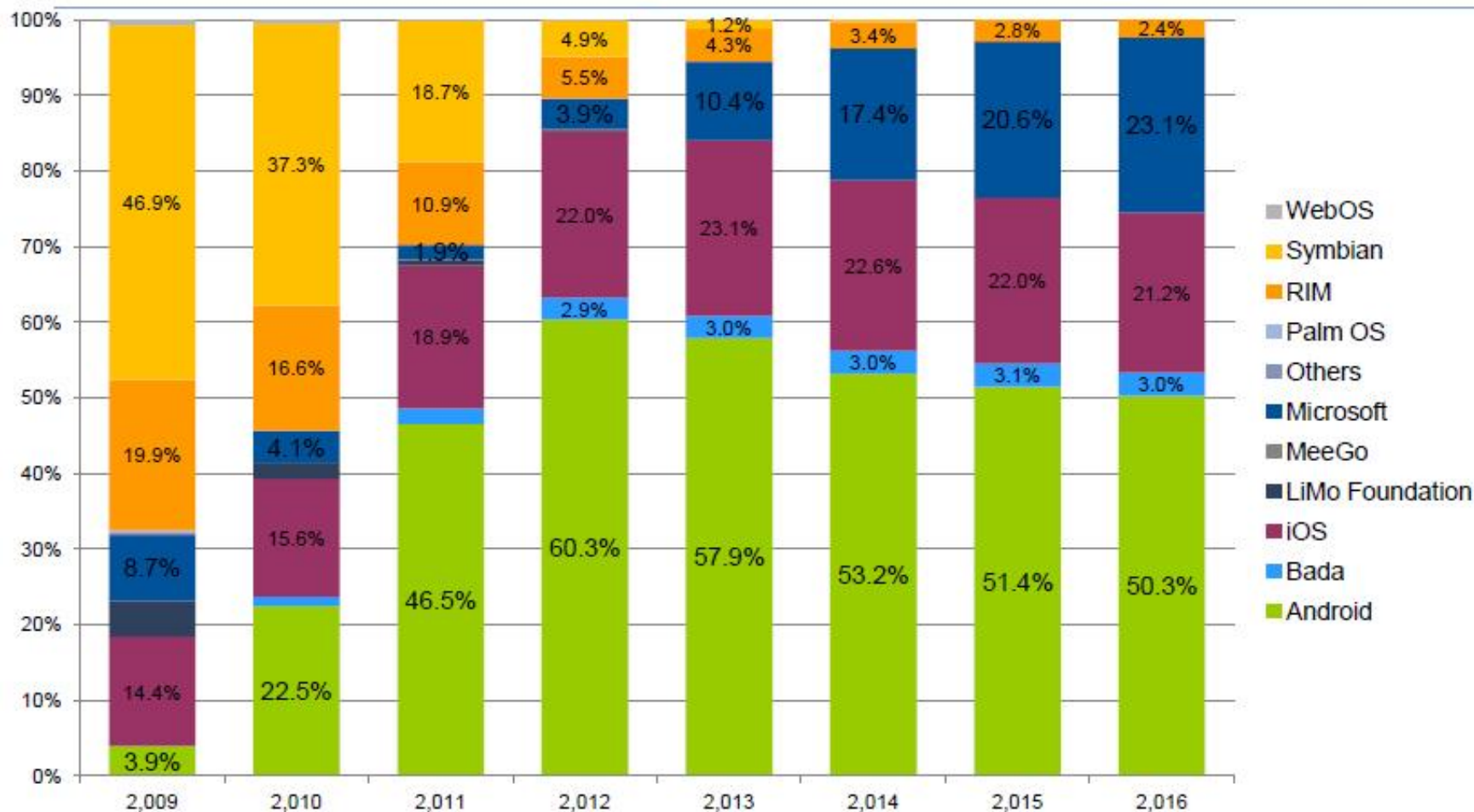
- 
- ◆ Introduction: platforms and attacks
 - ◆ Apple iOS security model
 - ◆ Android security model
 - ◆ Windows 7, 8 Mobile security model

Mobile phone market share



Gartner Forecast Estimates

Mobile OS Sales by Market Share (2009-2016)



Source: Gartner

Forecast: Mobile Devices by Open Operating System, Worldwide, 2009-2016, 2Q12 Update

Gartner

















Many mobile apps

Android Apps | Android Apps for Tablets

Search Market

My apps

ANDROID APPS FOR TABLETS >

| | | | |
|---|--|---|--|
|  CNN App for Android CNN ★★★★★ 1 Free |  Samurai II: Vengean... MADFINGER Games, a.s. ★★★★★ 10 \$4.80 |  Cordy SilverTree Media ★★★★★ 1 Free |  Pulse News Reader Alphonso Labs ★★★★★ 13,673 Free |
|  GUN BROS Glu Mobile ★★★★★ 13,503 Free |  Fruit Ninja THD Halfbrick Studios ★★★★★ 2 \$3.00 |  Accu Weather.com Accuweather.com ★★★★★ 1 Free |  Androidify Google Inc. ★★★★★ 13,633 Free |
|  Grocery iQ - Tablet Coupons.com Inc. ★★★★★ 0 Free |  Movies Flixster Inc. ★★★★★ 118,446 Free |  Monster Madness SouthPeak Games ★★★★★ 0 \$9.99 |  Backbreaker THD NaturalMotionGames Ltd ★★★★★ 2 \$4.99 |
|  Google Sky Map Google Inc. ★★★★★ 172,587 Free |  Angry Birds Seasons Rovio Mobile Ltd. ★★★★★ 105,369 Free |  Rocket Bunnies Defiant Development ★★★★★ 6,839 Free |  Talking Tom Cat Free Outfit7 Ltd. ★★★★★ 245,065 Free |

5

10:05



Business

iPhone is ready for work. Manage projects, track stocks, monitor finances, and more with these 9-5 apps.

[View business apps in the App Store ▶](#)



Education

Keep up with your studies using intelligent education apps like King of Math and Stack the States.

[View education apps in the App Store ▶](#)



Entertainment

Kick back and enjoy the show. Or find countless other ways to entertain yourself. These apps offer hours of viewing pleasure.

[View entertainment apps in the App Store ▶](#)



Family & Kids

Turn every night into family night with interactive apps that are fun for the whole house.

[View family and kids apps in the App Store ▶](#)



Finance

Create budgets, pay bills, and more with financial apps that take everything into account.

[View finance apps in the App Store ▶](#)



Food & Drink

Hungry? Thirsty? A little of both? Learn new recipes, drinks, and the secrets behind what makes a great meal.

[View food and drink apps in the App Store ▶](#)



Games

The world's best phone is also the world's best portable gaming device. From first-person shooters to strategy, iPhone knows how to have a good time.

[View games in the App Store ▶](#)



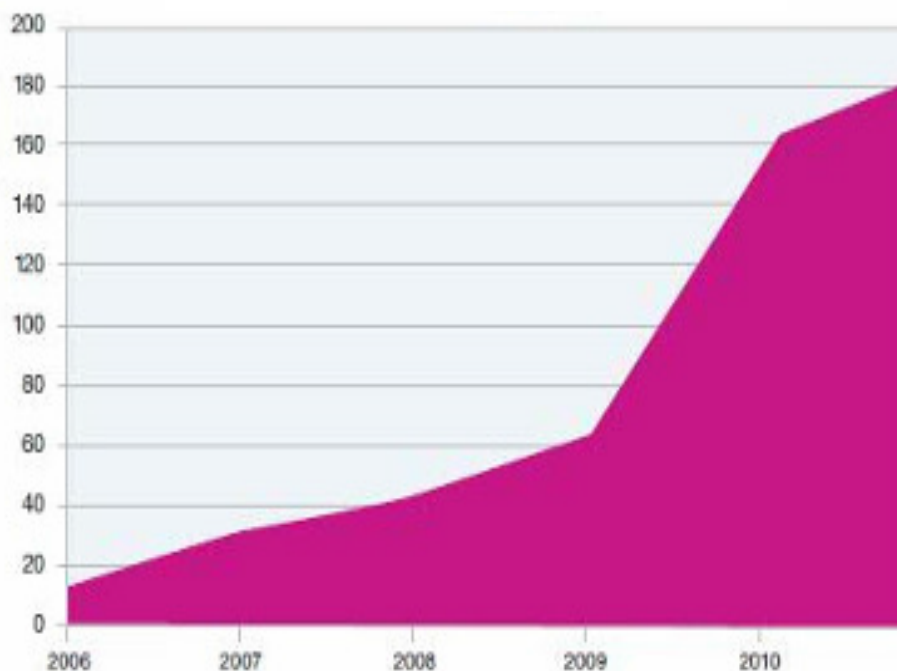
Health & Fitness

When you need a little motivation, let apps like Nike+ FuelBand, Couch-to-5K, and more help you drop pounds and tone muscles.

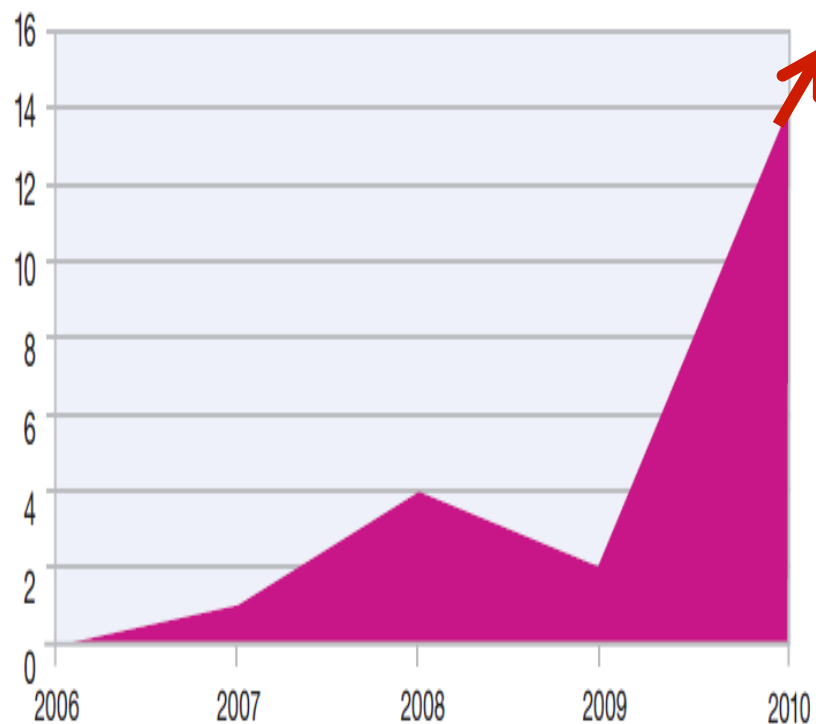
[View health and fitness apps in the App Store ▶](#)

Mobile Operating Systems

Mobile OS Vulnerabilities



Mobile OS Exploits



Two attack vectors



Web browser



Installed apps

Both increasing in prevalence and sophistication

Mobile malware attacks

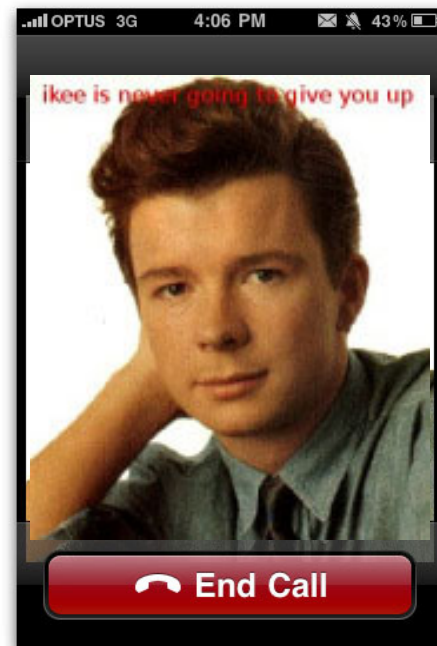
◆ Unique to phones:

- Premium SMS messages
- Identify location
- Record phone calls
- Log SMS

◆ Similar to desktop/PCs:

- Connects to botmasters
- Steal data
- Phishing
- Malvertising

Mobile malware examples



◆ DroidDream (Android)

- Over 58 apps uploaded to Google app market
- Conducts data theft; send credentials to attacker

◆ Ikee (iOS)

- Worm capabilities (targeted default ssh pwd)
- Worked only on jailbroken phones with ssh installed (could have been worse)

◆ Zitmo (Symbian, BlackBerry, Windows, Android)

- Propagates via SMS; claims to install a "security certificate"
- Captures info from SMS; aimed at defeating 2-factor auth
- Works with Zeus botnet; timed with user PC infection

Comparison between platforms

- ◆ Operating system (recall security features from lecture 5)
 - Unix
 - Windows
- ◆ Approval process for applications
 - Market: Vendor controlled/Open
 - App signing: Vendor-issued/self-signed
 - User approval of permission
- ◆ Programming language for applications
 - Managed execution: Java, .Net
 - Native execution: Objective C

Outline

- ◆ Introduction: platforms and attacks
- ◆ Apple iOS security model
- ◆ Android security model
- ◆ Windows 7 Mobile security model