Cellphone Money; between Internet Money and Monopoly Money

tommy.b.sullivan@gmail.com

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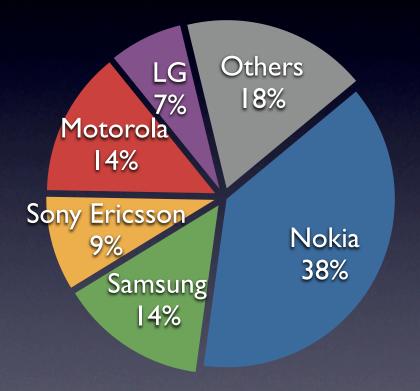
objectives

- Which platforms should we develop for?
- How many people will be using each platform?

cellphones

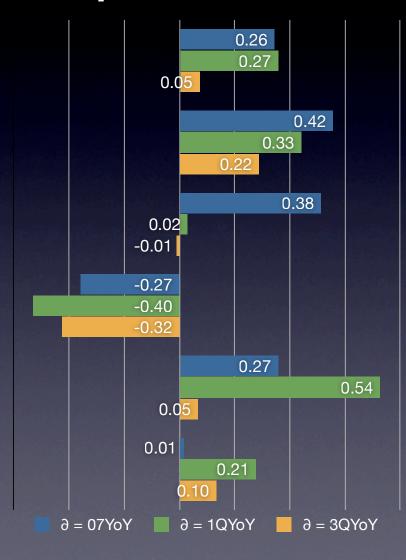
- 10.4% growth, 6.6% forward
- Cheap devices & plans
- Pervasive infrastructure
- Emerging markets make up 2/3

International Cellphone Market



http://www.idc.com/getdoc.jsp?containerId=prUS21202108

cellphone manufactures



Nokia, the slow moving giant

Samsung, a portion of recent growth can be attributed Nokia's CDMA lawsuit

Sony Ericsson, passed Motorola by standing still

Motorola, hemorrhaging money, supports five separate OS's

LG, compatriot of Samsung but smaller

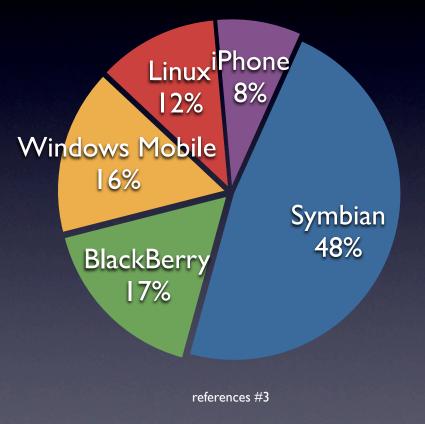
Others, diverse strategies, #2 in recession

http://www.idc.com/getdoc.jsp?containerId=prUS21202108 http://www.cellular-news.com/story/34392.php

smartphones

- 26% growth, 26% forward
- Expensive devices and plans
- Decent infrastructure, in metropolitan areas only

International Smartphone Market



platforms

platform projections are from references #3

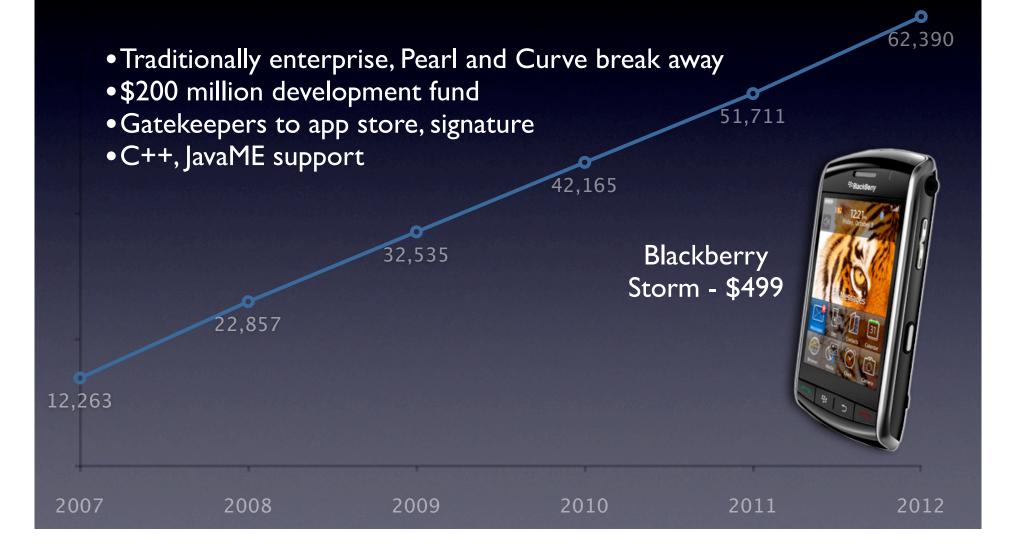
Symbian - Nokia

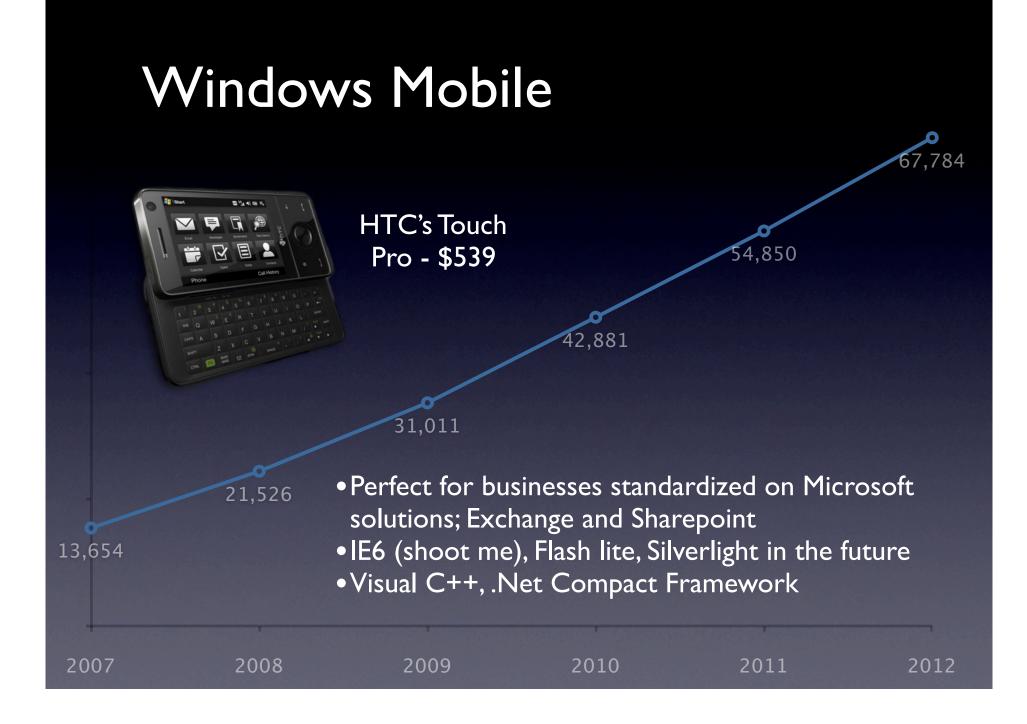


Nokia owns 48%; paying \$410 million for the outstanding shares from Sony Ericsson, Panasonic, Siemens, Samsung
Open source the first half of 2010
UI fragmented, think browser compatibility issues
C++, steep learning curve, tightly bound to archaic models

| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|

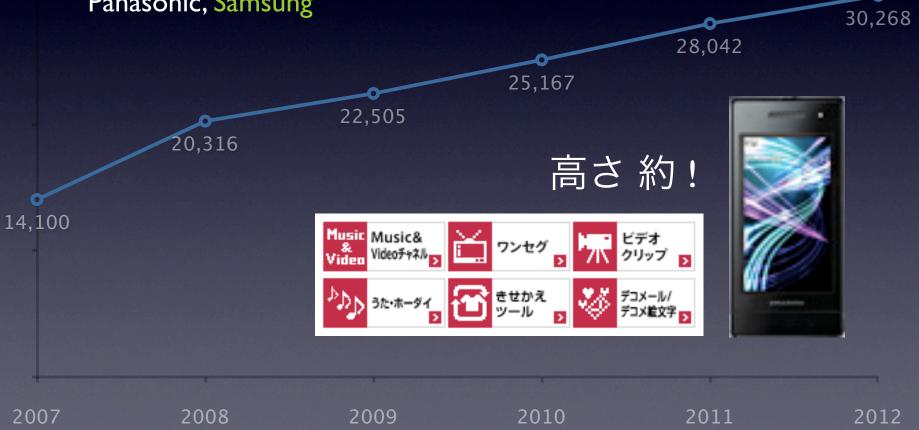
RIM - Blackberry



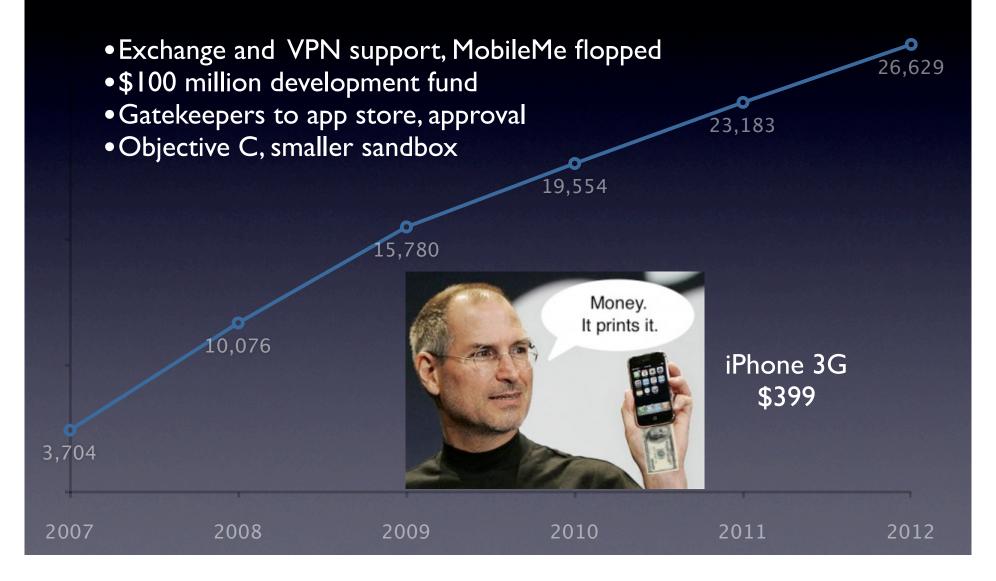


Linux

Upward of 20 different flavors, moving towards unification
LiMo and LiPS foundation: Motorola, NEC, DoCoMo, Panasonic, Samsung



iPhone - Apple



OHA in context



- •C/C++, Java running in Dalvik VM
- Multitasking operating system
- Market, not a store, no middleman, kill switch
- Tremendous industry backing and mindshare



| Software, Hardware | 2009 Units |
|----------------------|------------|
| Symbian | 92,357,808 |
| Nokia | 76,963,879 |
| Motorola | 2,073,281 |
| BenQ | |
| DoCoMo, LG, Samsung, | 13,320,648 |
| Sony Ericsson | |
| BlackBerry | 32,558,307 |
| Windows Mobile | 31,011,987 |
| HTC | 16,157,470 |
| Motorola | 2,073,281 |
| ASUS, LG, Samsung | 12,781,235 |
| Linux | 22,504,068 |
| Motorola | 2,073,281 |
| NEC, Panasonic | |
| DoCoMo, Samsung, | 20,430,787 |
| Vodafone | |
| iPhone | 15,780,795 |
| Palm | 4,171,000 |
| Others | 60,335 |

http://www.canalys.com/pr/2008/r2008112.htm as a guide...

OHA vs. iPhone

| Symbian Windows Linux Others Androi | OHA Estimate 12,729,799 31,011,987 12,288,675 60,335 id | 5.00% 50.00% | 2009 Devices 5,091,920 1,550,599 6,144,337 60,335 12,847,191 | 6 | 7,655,000 |
|---|--|----------------------|---|--------------|--------------|
| Android 09 Units % of iPhone 09 ∑ | Low High 5,374,149 16,599, 20.78% 64.2 | 962 20% 25,856 | 32,55 | 8,307 | |
| 12,847,191 13 | ,780,000 15,7 | '80,795 | | | |
| Android 09 iPh | none 08 ∑ iPh | one 09 iPhone | 09∑ Blackb | erry 09 Blac | ckberry 09 ∑ |

fun facts!

- Motorola's new CEO of Mobile Devices, Sanjay Jha is a big fan of Android & not losing money
- "We are puzzled by recent product announcements like the Aura - a \$2,000 device - that seems to totally ignore current market dynamics"



references

Gartner #G00163585, 24 November 2008 Dataquest Insight: Market Share for Mobile Devices, 3Q08

IDC #214293, Volume 1, September 2008 Mobile Device Technology and Trends: Forecast Update

IDC #214291, Volume 1, October 2008 Worldwide Mobile OS 2008-2012 Forecast and Analysis