

The Random Walk of Facebook iOS App

Facebook iOS 技术发展十年

覃超 @ FreeS VC



促进软件开发领域知识与创新的传播



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Self Introduction

2010: Facebook software engineer

Mobile Engineer:

**Facebook Phone (1) -> iOS app (2) ->
Messenger**

iOS:

**Voice message, sticker, connection status,
Message sending perf & reliability**

1 Status quo of Facebook iPhone App

2 1.0: Native + 九宫格

3 2.0: Faceweb (HTML5) + HamburgerMenu

4 3.0: Native + Immutable Data = Hybrid

5 Takeaways for us

Why Facebook App?

TOP SMARTPHONE APPS OF 2015

RANK	APP	AVG UNIQUE USERS	YOY % CHANGE
1	FACEBOOK	126,702,000	8
2	PINTEREST	97,627,000	5
3	FACEBOOK MESSENGER	96,444,000	31
4	GOOGLE MAPS	95,041,000	3
5	GOOGLE PLAY	89,708,000	7
6	GOOGLE MAPS	87,782,000	8
7	EMAIL * EMAIL FROM GOOGLE	75,105,000	4
8	INSTAGRAM	55,413,000	23
9	APPLE MUSIC	54,550,000	26
10	WATTS APPLED	46,406,000	16

Note: The list is ranked on average unique audience, which is the average of January 2015-October 2015.

6+ of Top 10
most used apps
globally =
Messaging Apps

Top Apps by Usage

Rank	App
1	Facebook
2	WhatsApp
3	Messenger
4	Instagram
5	LINE
6	Viber
7	KakaoTalk
8	Clash of Clans
9	WeChat
10	Twitter

Top Apps By Number of Sessions

Rank	App	Sessions
1	KakaoTalk	55
2	WhatsApp	51
3	WeChat	26
4	VK	26
5	Line	24
6	Viber	22
7	Facebook	20
8	Clash of Clans	18
9	Instagram	11
10	Messenger	9

M
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Status Quo of Facebook iOS Engineering

< Top Charts



Facebook

Facebook, Inc.

4.4

11,100

UPDATE

Details

Reviews

Related



< Top Charts



Information

Developer	Facebook, Inc.
Category	Social Networking
Updated	Feb 2, 2016
Version	57.0
Size	128 MB
Age Rating	4+
Family Sharing	Yes
Compatibility	Requires iOS 7.0 or later. Compatible with iPhone, iPad, and iPod touch.
Languages	English, Czech, Danish, Dutch, Finnish, French, German, Greek, Indonesian, Italian, Japanese, Korean, Malay, Norwegian, Polish, Portuguese, Russian, Simplified Chinese, Spanish, Swedish, Thai, Traditional Chinese, Turkish, Vietnamese

Version History

Developer Website

License Agreement

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iOS Engineering @ Facebook

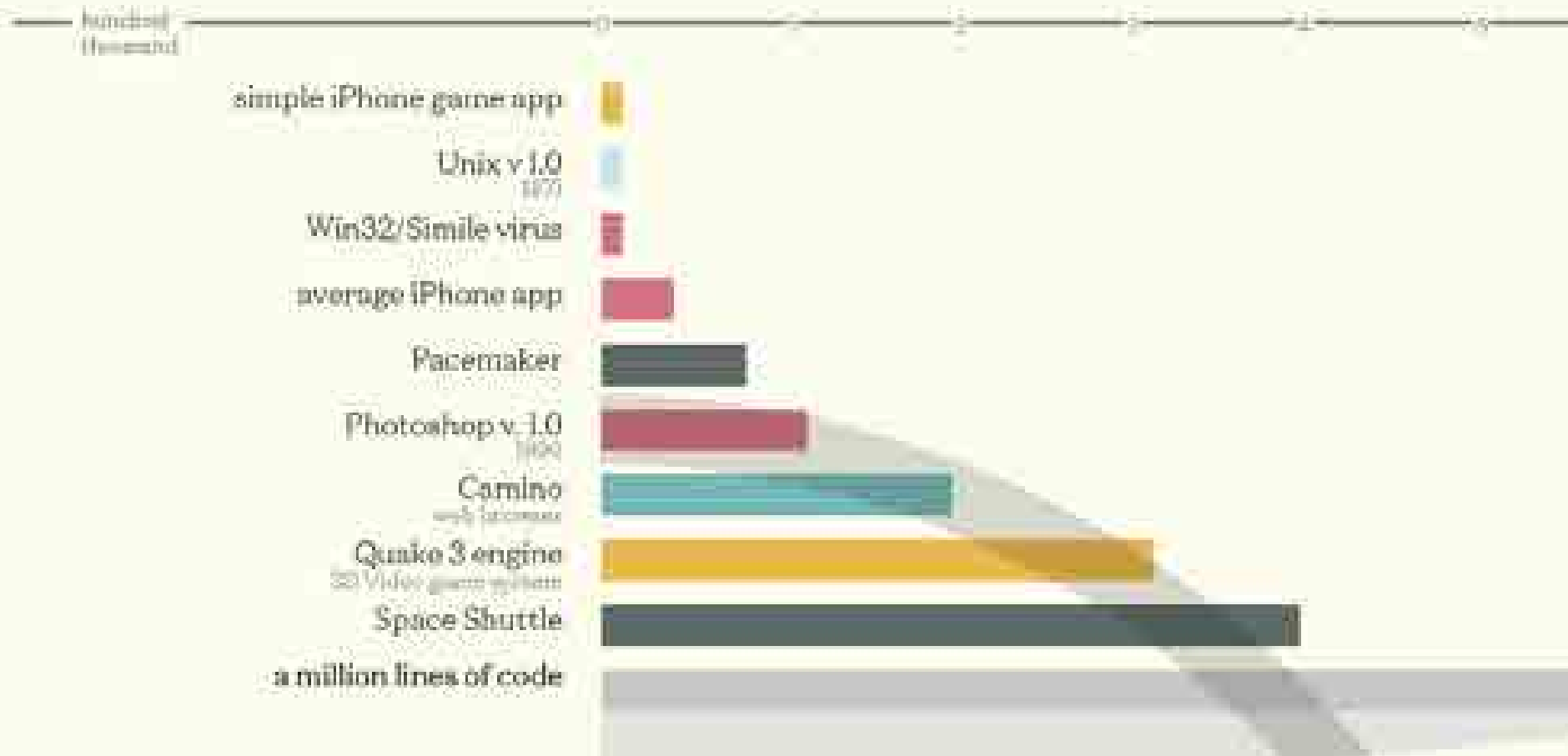
1. 1000+ iOS mobile engineers
2. 100+ shared libs
 - using Buck to generate.
3. Module based development
4. Data model: immutable (thread safe)

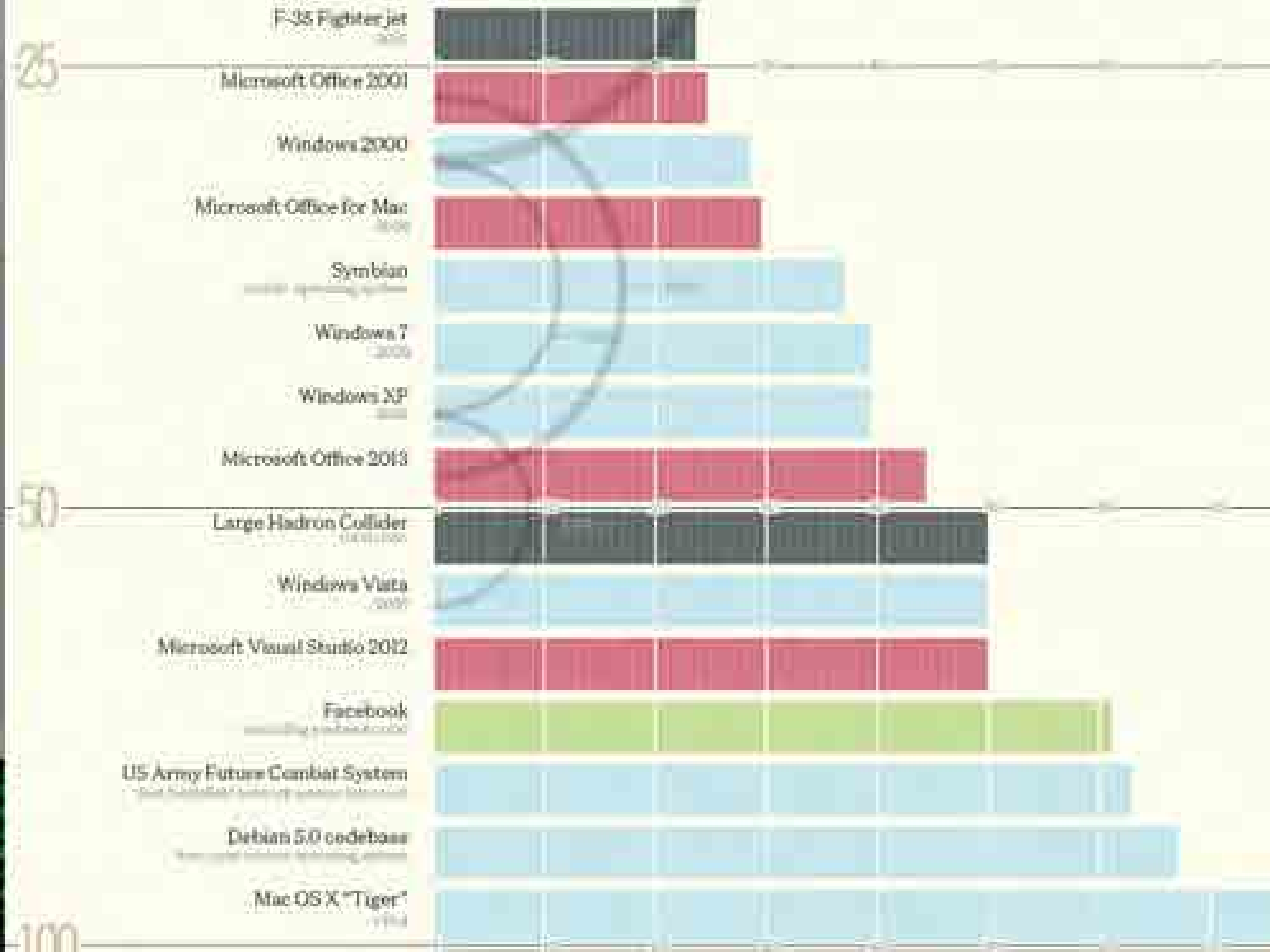
Codebase overview

- 1. Single iOS code repository**
 - One gigantic codebase**
- 2. Shared libraries: fine granularity**
 - 100+ shared libs**
- 3. No cocoapods - inhouse module and dependency management tool (Buck)**

Codebases

Millions of lines of code





1. *Journal of Management Education*, 2000, 24(1), 1-10.

(continued)

1000

100

Conclusions

1000

What you can learn?

1. Native → HTML5 → Native

2. How to scale your mobile team?

**3. Module based programming
React Native**

A brief review of the history of Facebook iOS app

Facebook 1.0

2008 - 2010



Facebook 1.0



Facebook 1.0

1. Made by solo developer: Joe Hewitt



**2. Netscape → Firebug & DOM Inspector
→ AOL**

3. iPhone app → Three20

<http://joe Hewitt.com/>

September 22nd, 2011	Web Technologies Need an Owner
June 20th, 2011	Local Sampling
May 6th, 2011	Creative Tools
March 15th, 2011	The Thank You Economy
October 20th, 2010	Android and Open Source
January 28th, 2010	iPad
November 10th, 2009	On Middle Men
August 24th, 2009	Innocent Until Proven Guilty
June 20th, 2009	The "S" Should Stand for Smooth
March 23rd, 2009	The Three20 Project
October 10th, 2008	Developing Facebook for iPhone
June 16th, 2008	Freddie News
April 1st, 2008	Blog 3.0
September 5th, 2007	Keynote
August 21st, 2007	The iPhone is IE4 Again (in a good way)
July 19th, 2007	Facebook Day One
July 17th, 2007	iUI Monday
July 15th, 2007	Origins of Blogging
July 11th, 2007	Introducing iUI
July 9th, 2007	iPhoneDevCamp
July 2nd, 2007	Phone Tip: Look Ma, no toolbar!
July 1st, 2007	Firebug for iPhone
June 29th, 2007	iPhone JavaScript Experiments: Day One
June 28th, 2007	Things that Don't Suck

Three20 Project

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Three20

Three20 is a collection of iPhone UI classes, like a photo viewer, and general utilities, like an HTTP disk cache. Three20 is derived from the Facebook [iPhone app](#), which is one of the most downloaded iPhone apps ever.



Community

If you would like to ask any questions regarding Three20, please check out any of the following:

- [Three20 Wiki](#)
- [Three20 Mailing List](#)
- [Three20 Scope](#)

Facebook 1.0 启示

- 拓荒时代的 Apple SDK
- Three20 projects
 - Nimbus, AFNetworking, SDWebImage
- Pure Native Era

Facebook 2.0

2010 – 2012: Faceweb Era (HTML5)



Facebook 2.0

- **HTML5 webpages rule all → Faceweb**
- **Bret Taylor, Dave Fetterman → Zuck**
 - **HTML5 – mobile tech stack**
 - **Easier UI layout**
 - **Cross platform: write once, run everywhere**
 - **Hot push, no app store review needed**
- **etc...**

Facebook 2.0



Facebook 2.0

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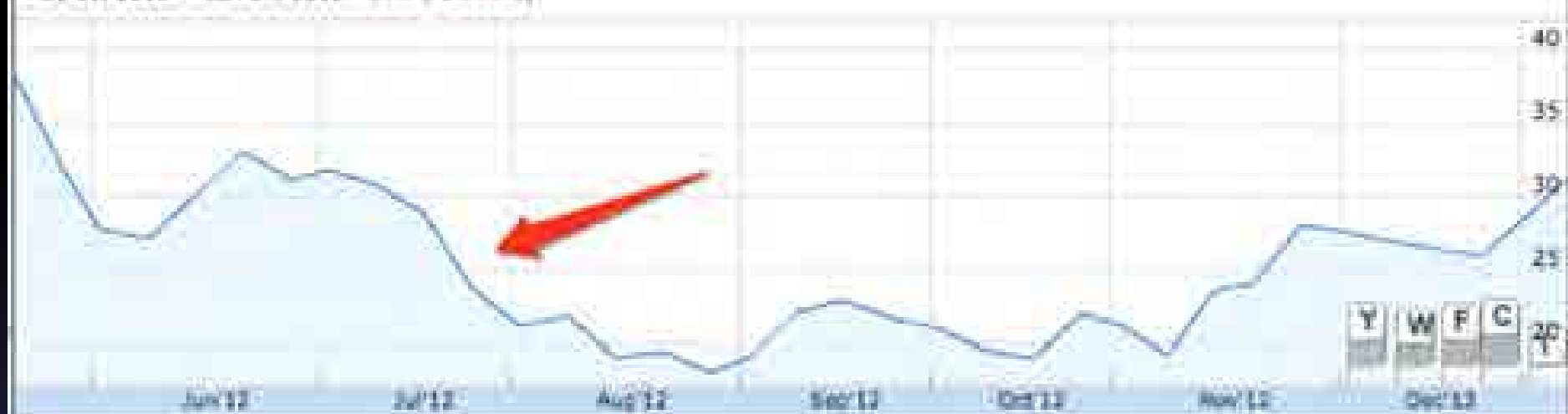


"The biggest mistake we made as a company was betting too much on web (HTML5) as opposed to native."

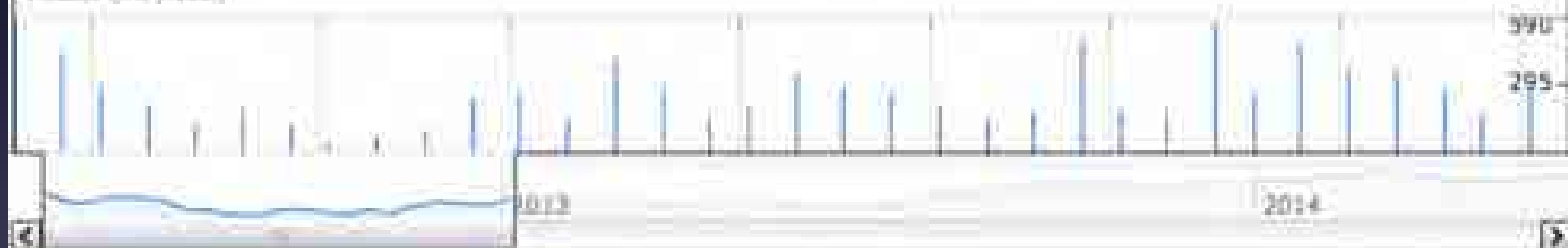
· Mark Zuckerberg
CEO, Facebook

Zoom: 1d 5d 1m 2m 6m YTD 1y 5y 10y All

May 25, 2012 - Jan 04, 2013 -0.47 (-24.83%)



Volume (mln / 100k)



Settings | Technicals | [Link to this view](#)

Volume delayed by 15 mins.

Facebook 2.0 启示

Engineering Clichés (陷阱)

“Cross platform: write once, runs anywhere”

- **Platform Tax (JS bridge)**
- **Versioning (Hacks everywhere)**
- **Comprises for every platform**
- **Browser Fragmentation**