

Disclaimer

The opinions expressed in this talk are strictly my own, and do not necessarily reflect those of my past, current or future employers.



facebook

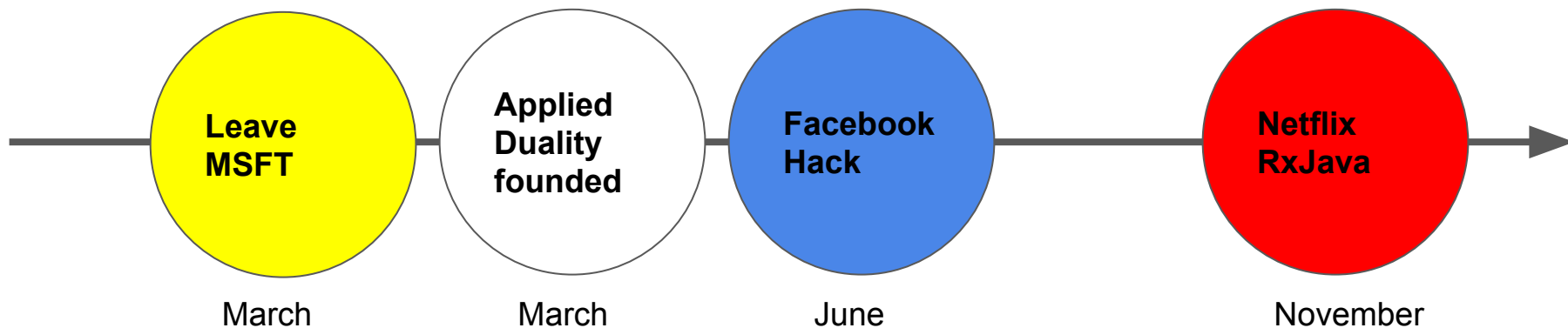
1 Hacker Way

What you expect

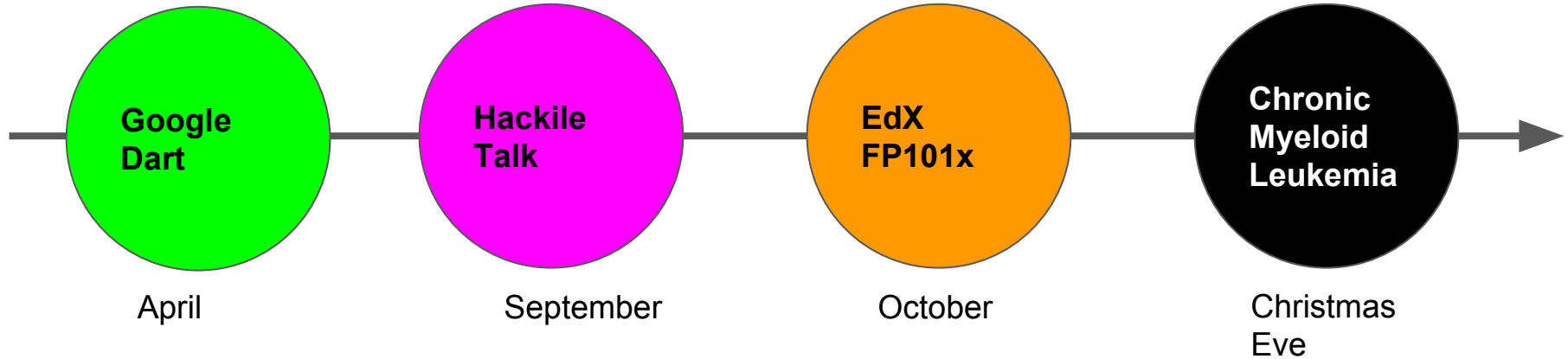


.... beep, beep, beep,
*Agile and Scrum are a
cancer that should be
eliminated from our
industry!*
.... beep, beep, beep,

Timeline Of Recent Events: 2013



Timeline Of Recent Events: 2014



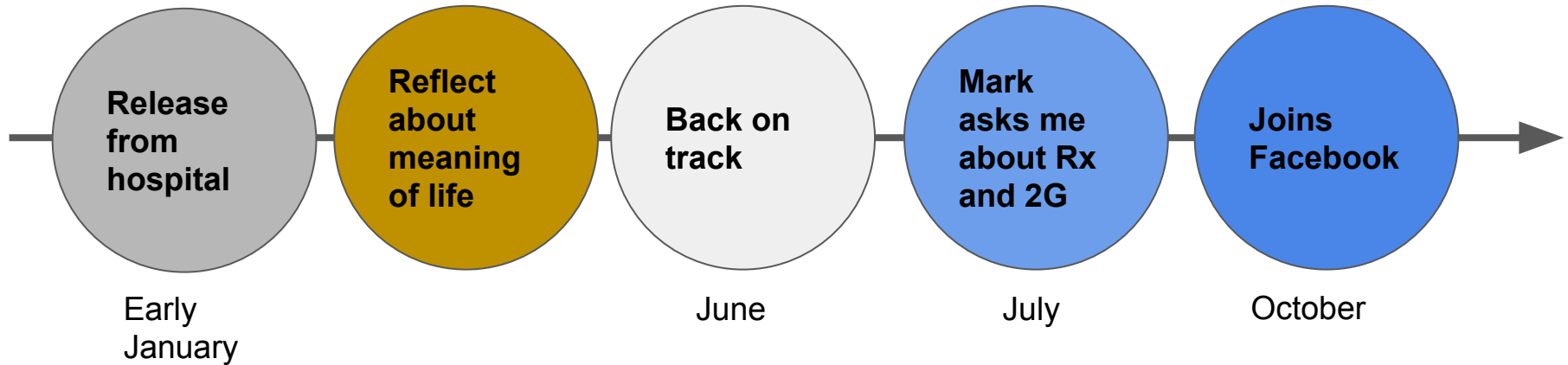


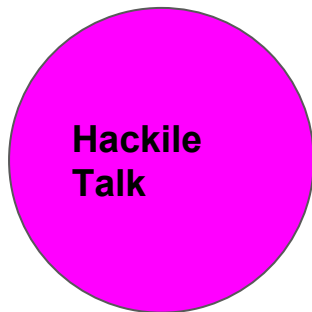
Retroperitoneal hemorrhage refers to an accumulation of blood found in the retroperitoneal space. Causes include: anticoagulation, a ruptured aortic aneurysm.

Acute kidney injury is defined as an abrupt or rapid decline in renal filtration function. This condition is usually marked by a rise in serum creatinine concentration.

A **laparotomy** is a surgical procedure involving a large incision through the abdominal wall to gain access into the abdominal cavity.

Timeline Of Recent Events: 2015

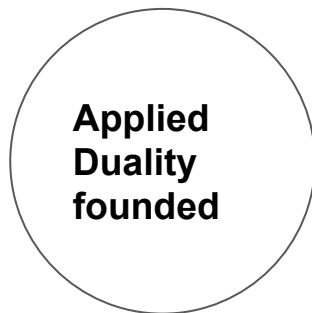




The Responsive Enterprise: Embracing the Hacker Way

My learnings from working with big software companies in the Pacific Northwest and Silicon Valley. In particular Facebook.

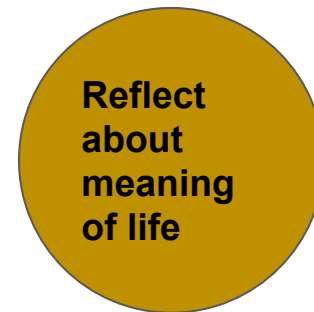
Spread this wisdom across the industry as a rational alternative for Scrum/Agile



The Four Effects of Programming

My learnings from working building Cloud-based systems.

Spread the adoption of asynchronous tasks and asynchronous data streams across all languages and platforms.



Seize the day

How can I maximize my impact given that I can be garbage collected at any moment in the future?

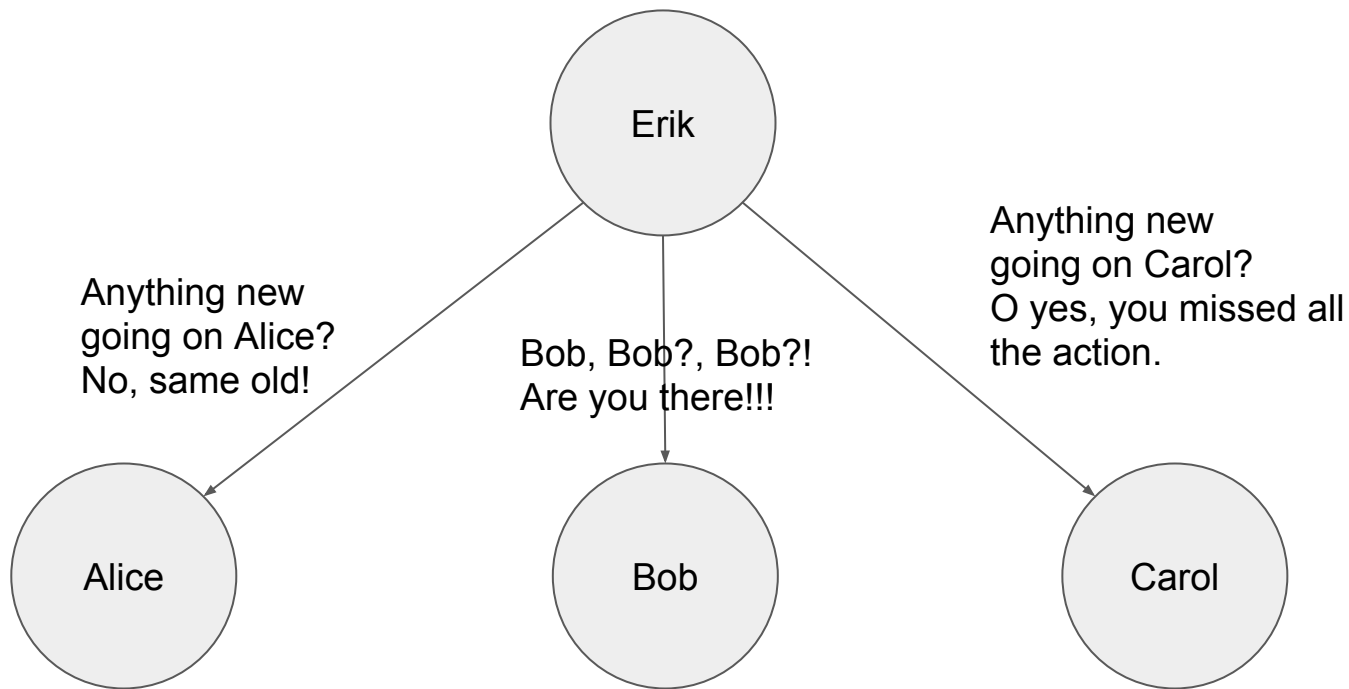
How can I help *real people* using my technical knowledge.

To Unite the Earth, Connect It

BONO and MARK ZUCKERBERG,
SEPT. 26, 2015

Technical Challenges & Opportunities

When you want to stay up to date, push not pull



When you want to stay up to date, push not pull

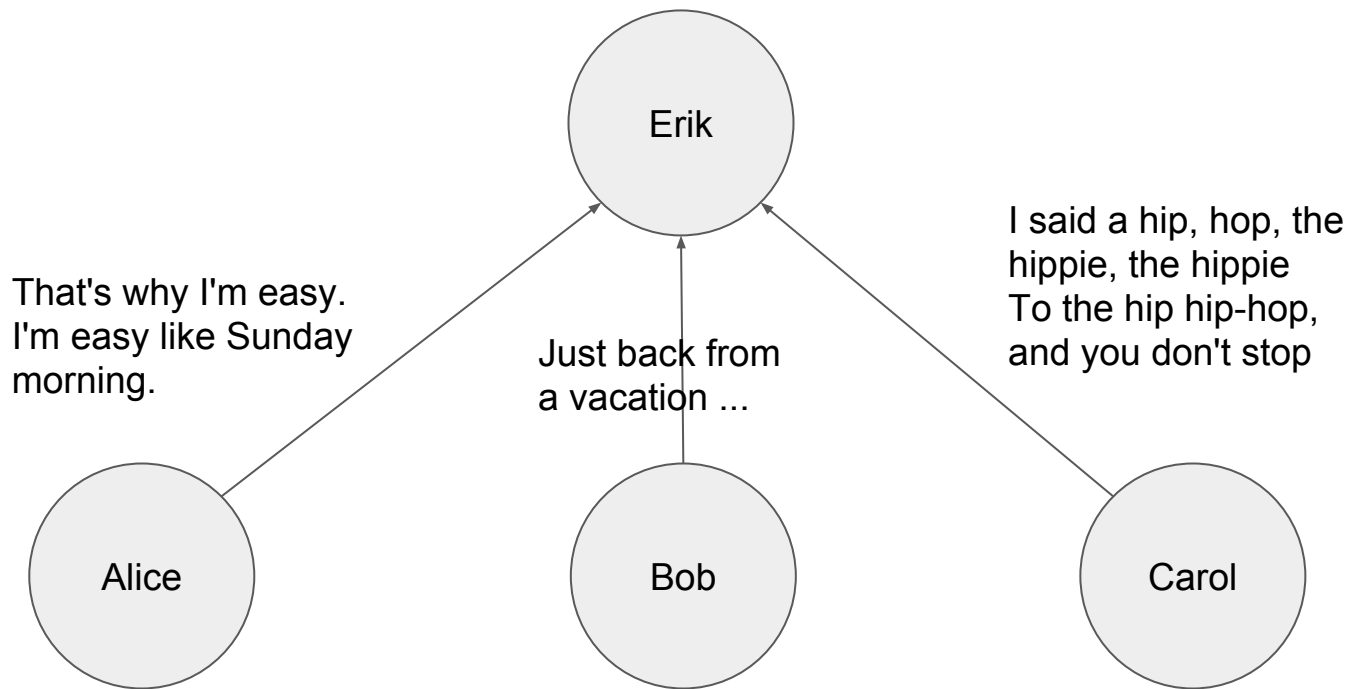
```
window.setInterval(  
  function(){ ...pull from server...; }, ???  
);
```

Pull too fast: waste resources

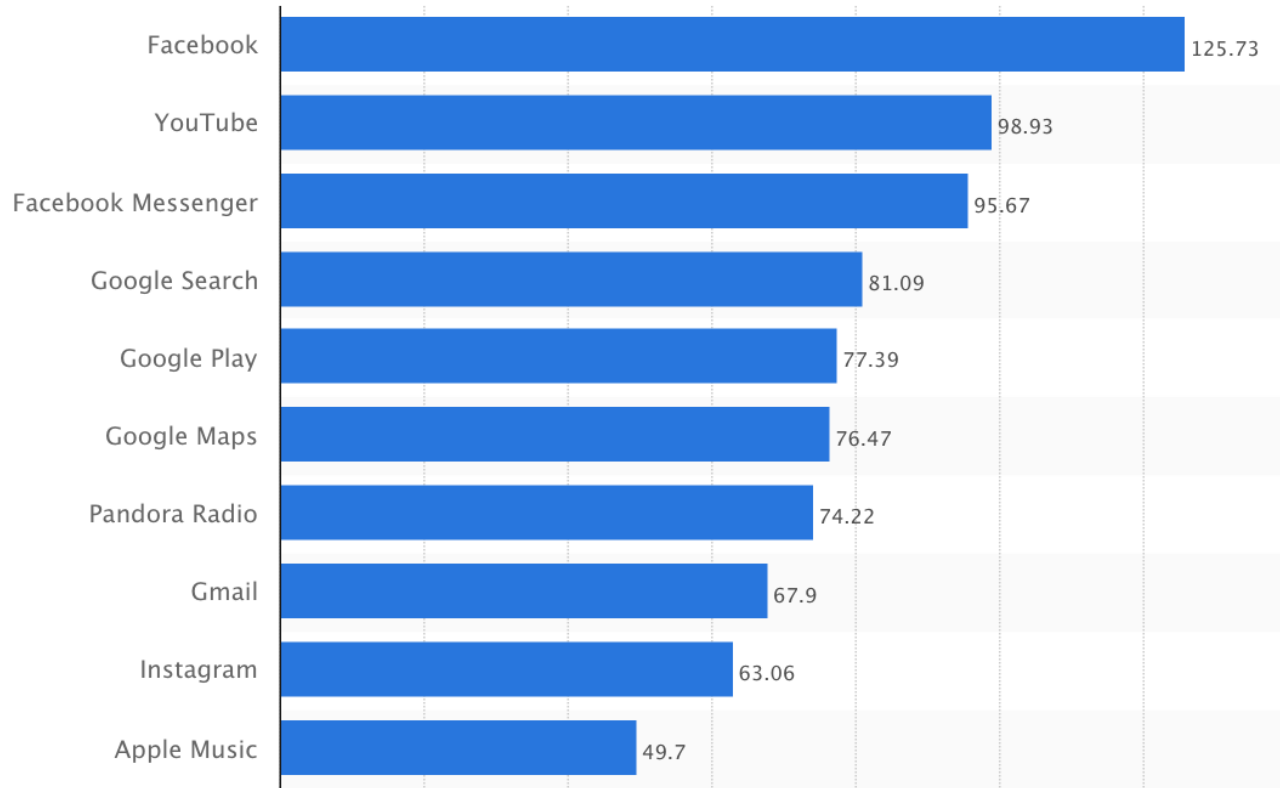
Pull at the wrong moment: get blocked

Pull too slow: run behind

When you want to stay up to date, push not pull



Huge scale



<http://www.statista.com/statistics/250862/unique-visitors-to-the-most-popular-mobile-apps-in-the-us/>



Mark Zuckerberg ✓

August 27 · 🌐



Follow



We just passed an important milestone. For the first time ever, one billion people used Facebook in a single day.

On Monday, 1 in 7 people on Earth used Facebook to connect with their friends and family.

When we talk about our financials, we use average numbers, but this is different. This was the first time we reached this milestone, and it's just the beginning of connecting the whole world.

I'm so proud of our community for the progress we've made. Our community stands for giving every person a voice, for promoting understanding and for including everyone in the opportunities of our modern world.

A more open and connected world is a better world. It brings stronger relationships with those you love, a stronger economy with more opportunities, and a stronger society that reflects all of our values.

Thank you for being part of our community and for everything you've done to help us reach this milestone. I'm looking forward to seeing what we accomplish together.

1.000.000.000
people/day

6.000.000.000
people not yet

To unite the
earth, connect it

Scale Differences

RxMobile: $1 \cdot 10^1$

RxJava: $1 \cdot 10^7$

Facebook: $1 \cdot 10^9$

<http://www.techrepublic.com/article/the-worlds-largest-open-source-company-doesnt-sell-software/>

Facebook has taken open source to its logical extreme. ***The company open sources everything***: software, hardware, and know-how. In part, this is a way to attract developers to its platform, but it's also simply an expression of Facebook's DNA: share everything.

As for software, no one reaches the sheer volume of code that Facebook both releases and to which it contributes.

In 2014 alone, Facebook launched 107 open-source projects, up from 90 open-source repositories in 2013. ***This brings Facebook's total number of open-source projects to 225.***

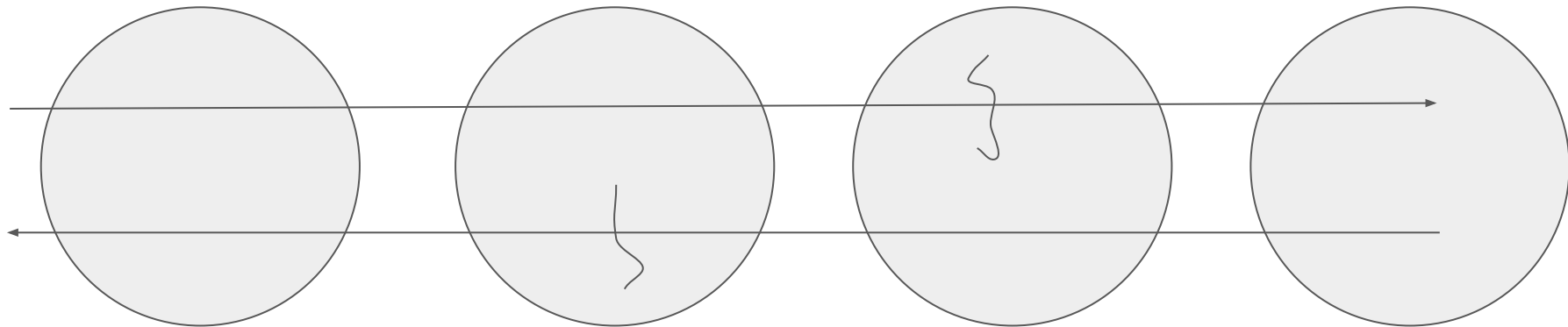
Examples of Facebook OSS projects

- React, React Native
- Flow
- HHVM
- Infer
- Haxl
- Presto
- Language specs: Hack, GraphQL

<https://www.facebook.com/Engineering>

<https://code.facebook.com/>

Control of the whole stack



Once you block anywhere in the pipeline, you might as well use sync calls or pull. Current languages, APIs, tools optimized for synchronous code

The Four Effects of Programming

	One	Many
Synchronous	T	Iterable<T>
Asynchronous	Future<T>	Observable<T>

**Many languages support `async await`,
not many natively support streams**

Spicing Up Dart with Side Effects

A set of extensions to the Dart programming language, designed to support asynchrony and generator functions

Erik Meijer, Applied Duality

Kevin Millikin, Google

Gilad Bracha, Google

Hacker Culture

The Hacker Way is an approach to building that involves continuous improvement and iteration. **Hackers believe that something can always be better, and that nothing is ever complete.** They just have to go fix it — often in the face of people who say it's impossible or are content with the status quo.

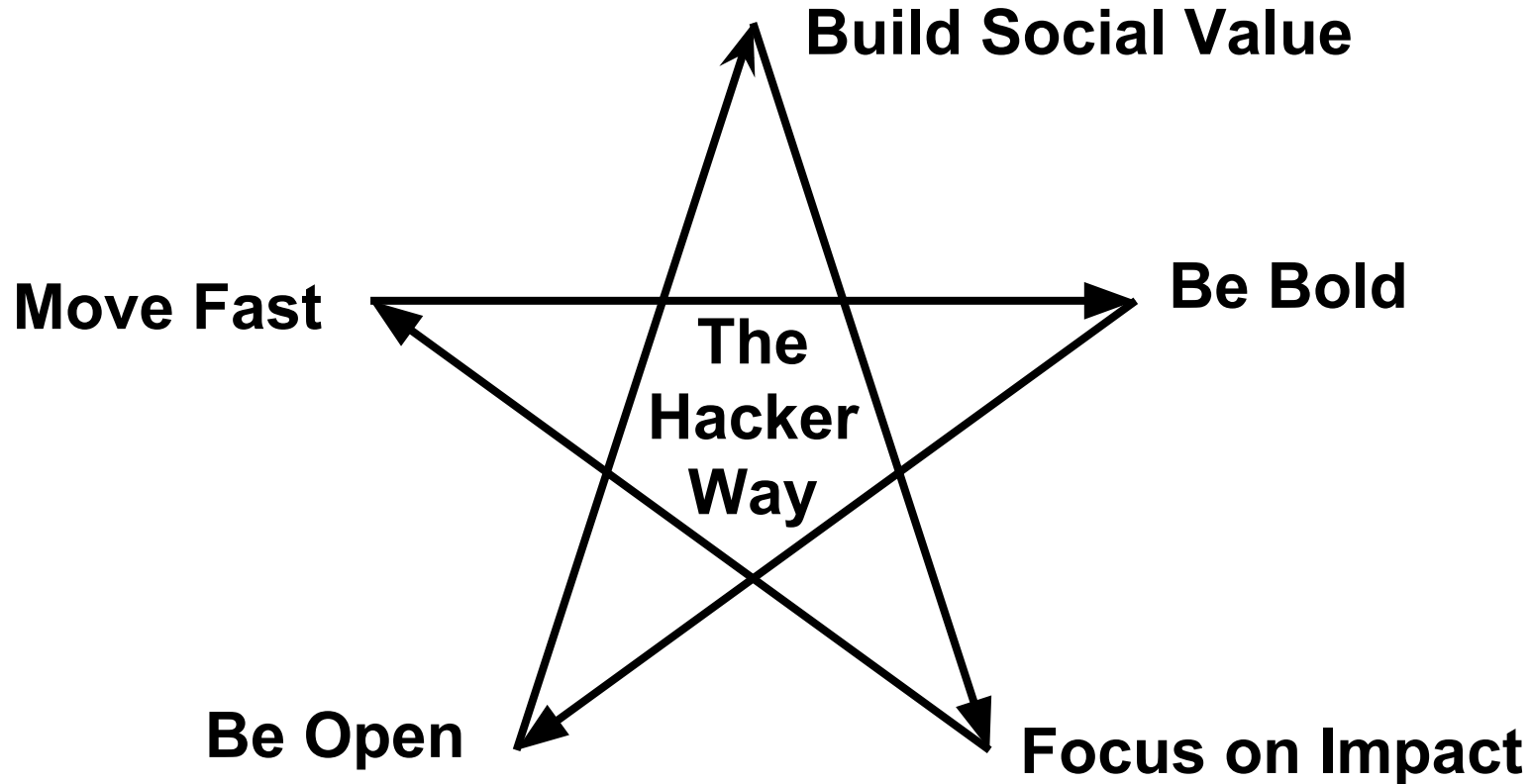
Hackers try to build the best services over the long term by quickly releasing and learning from smaller iterations rather than trying to get everything right all at once. To support this, we have built a testing framework that at any given time can try out thousands of versions of Facebook. We have the words “**Done is better than perfect**” painted on our walls to remind ourselves to always keep shipping.

Hacking is also an inherently hands-on and active discipline. Instead of debating for days whether a new idea is possible or what the best way to build something is, hackers would rather just prototype something and see what works. There's a hacker mantra that you'll hear a lot around Facebook offices: **"Code wins arguments."**

Hacker culture is also extremely open and meritocratic. **Hackers believe that the best idea and implementation should always win — not the person who is best at lobbying for an idea or the person who manages the most people.**

Mark Zuckerberg's IPO Letter

Facebook Values



Focus on Impact

If we want to have the biggest impact, the best way to do this is to make sure we *always focus on solving the most important problems*. It sounds simple, but we think most companies do this poorly and waste a lot of time. We expect everyone at Facebook to be good at finding the biggest problems to work on.

Move Fast

Moving fast enables us to build more things and learn faster. However, as most companies grow, they slow down too much because they're more afraid of making mistakes than they are of losing opportunities by moving too slowly. We have a saying: "Move fast and break things." The idea is that if you never break anything, you're probably not moving fast enough.

Be Bold

Building great things means taking risks. This can be scary and prevents most companies from doing the bold things they should. However, in a world that's changing so quickly, *you're guaranteed to fail if you don't take any risks.* We have another saying: "The riskiest thing is to take no risks." We encourage everyone to make bold decisions, even if that means being wrong some of the time.

Be Open

We believe that a more open world is a better world because *people with more information can make better decisions and have a greater impact.* That goes for running our company as well. We work hard to make sure everyone at Facebook has access to as much information as possible about every part of the company so they can make the best decisions and have the greatest impact.

Build Social Value

Once again, *Facebook exists to make the world more open and connected, and not just to build a company.* We expect everyone at Facebook to focus every day on how to build real value for the world in everything they do.

What Is A Hacker?

A hacker is someone who thinks outside the box. It's someone who discards conventional wisdom, and does something else instead. It's someone who looks at the edge and wonders what's beyond. ***It's someone who sees a set of rules and wonders what happens if you don't follow them.*** A hacker is ***someone who experiments with the limitations of systems for intellectual curiosity.***

Hacker Attitude

1. The world is full of fascinating problems waiting to be solved.
2. No problem should ever have to be solved twice.
3. Boredom and drudgery are evil.
4. Freedom is good.
5. Attitude is no substitute for competence.

Things Hackers Detest and Avoid

All the works of Microsoft. Smurfs, Ewoks, and other forms of offensive cuteness. ***Bureaucracies. Stupid people.*** Easy listening music. Television (with occasional exceptions for cartoons, movies, and good SF like Star Trek classic or Babylon 5). Business suits. ***Dishonesty. Incompetence. Boredom.*** COBOL. BASIC. Character-based menu interfaces.

<http://catb.org/jargon/html/hates.html>

SCRUM

The Art of
Doing
Twice
the Work
in Half
the
Time

JEFF SUTHERLAND
Co-creator of Scrum

For the practitioner



Certified ScrumMaster®

The **Certified ScrumMaster® course** offers training in the fundamentals essential for Scrum team members or a professional Scrum master. [Learn more »](#)



Certified Scrum Product Owner®

The **Certified Scrum Product Owner course** exposes students to the basics of Scrum from the product owner's perspective. Receive training in the art of managing a product backlog and working with a Scrum team. [Learn more »](#)



Certified Scrum Developer®

The **Certified Scrum Developer program** trains team members in advanced Agile engineering practices and other agility skills, along with the Scrum fundamentals developers need to create working software. [Learn more »](#)



Certified Scrum Professional®

The ultimate goal of all Scrum practitioners, the **Certified Scrum Professional credential** conveys demonstrated experience, documented training, and proven knowledge in the art of Scrum. [Learn more »](#)

For the trainer



Certified Scrum Trainers®

Certified Scrum Trainers are Certified Scrum Professionals who are uniquely qualified to teach you the skills you need to succeed with Scrum. [Learn more »](#)

For the coach



Certified Scrum Coaches®

Certified Scrum Coaches are Certified Scrum Professionals who have a talent for guiding others to attain their unique goals. [Learn more »](#)

For a Registered Education Provider (REP)



Registered Education Providers

Registered Education Providers are organizations authorized to provide Scrum and Agile-related training and courses leading to the Certified Scrum Developer credential. [Learn more »](#)

The Scrum Guide™



The Definitive Guide to Scrum:
The Rules of the Game

The Product Owner

The Product Owner is responsible for maximizing the value of the product and the work of the Development Team. How this is done may vary widely across organizations, Scrum Teams, and individuals.

The Product Owner is the sole person responsible for managing the Product Backlog. Product Backlog management includes:

- Clearly expressing Product Backlog items;
- Ordering the items in the Product Backlog to best achieve goals and missions;
- Optimizing the value of the work the Development Team performs;
- Ensuring that the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next; and,
- Ensuring the Development Team understands items in the Product Backlog to the level needed.

The Sprint

The heart of Scrum is a Sprint, a time-box of one month or less during which a “Done”, useable, and potentially releasable product Increment is created. Sprints best have consistent durations throughout a development effort. A new Sprint starts immediately after the conclusion of the previous Sprint.

Sprints contain and consist of the Sprint Planning, Daily Scrums, the development work, the Sprint Review, and the Sprint Retrospective.

During the Sprint:

- No changes are made that would endanger the Sprint Goal;
- Quality goals do not decrease; and,
- Scope may be clarified and re-negotiated between the Product Owner and Development Team as more is learned.

Sprint Planning

The work to be performed in the Sprint is planned at the Sprint Planning. This plan is created by the collaborative work of the entire Scrum Team.

Sprint Planning is time-boxed to a maximum of eight hours for a one-month Sprint. For shorter Sprints, the event is usually shorter. The Scrum Master ensures that the event takes place and that attendants understand its purpose. The Scrum Master teaches the Scrum Team to keep it within the time-box.

Daily Scrum

The Daily Scrum is a 15-minute time-boxed event for the Development Team to synchronize activities and create a plan for the next 24 hours. This is done by inspecting the work since the last Daily Scrum and forecasting the work that could be done before the next one. The Daily Scrum is held at the same time and place each day to reduce complexity. During the meeting, the Development Team members explain:

- What did I do yesterday that helped the Development Team meet the Sprint Goal?
- What will I do today to help the Development Team meet the Sprint Goal?
- Do I see any impediment that prevents me or the Development Team from meeting the Sprint Goal?

Reads like a law book
Needs a police force and
judicial system to ensure
compliance

**Process is needed to create a
consistent product from mediocre
ingredients**

“From the very inception of the restaurant chain, the McDonald’s brothers relied on teenagers to fill its workforce needs.”

**Hackers Are
The Ultimate
Employees**

The Secret Of Managing Hackers

You can domesticate programmers the way
beekeepers tame bees.

You can't exactly communicate with them, but you
can get them to swarm in one place and when
they're not looking, you can carry off the honey.

The Secret Of Managing Hackers

You keep these bees from stinging by paying them money.

More money than they know what to do with.

But that's less than you might think.

**You cannot herd racehorses
and you cannot race sheep**

Pragmatic Dave Thomas

Software

Fleet Marine Force Manual 1, Warfighting

*“**Software** is a complex endeavor. It is shaped by the human will. It is characterized by friction, uncertainty, fluidity, danger and disorder. While the nature of **software** is constant, it remains unpredictable, and is affected by a mix of physical, moral and mental factors. While **software** has the characteristics of both art and science, it is primarily shaped by human experience”.*

Philosophy Of Command

*“In order to support the fluid and chaotic nature of the battlefield, **command must be decentralized.** Subordinate leaders must use their own initiative to accomplish tasks which support their senior's intent”.*

The Hippo Syndrome

- ***highest paid person's opinion*** - occurs when senior management vetoes an idea solely ***on a “gut” feeling, rather than exploring the data*** and options to see if the idea holds any merit.

This can be incredibly frustrating for employees who know the brand and understand what customers want, but are halted by executives who aren't fully in tune with industry trends and audience personas.

Even when presented with data to back their ideas, the Hippo Syndrome often overrules clear statistical evidence.

#Hackile