TESC LECTURE
MAY 2014
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FAIL FAST, SUCCEED FASTER!

#### Talk Abstract:

Agile development is being implemented in many software organizations all over the world. A whole industry has emerged to train users in Agile and the different methodologies. In addition, there are many new companies and consultants offering certification courses in Agile and Scrum.

It is common now to see "Agile/Scrum experience" in software engineer job postings. In this talk, I'll outline what Scrum is and why Lean matters. And I'll talk about how companies like GE are building "startup" like teams as part of their innovation strategy.

### Quick Bio: Sonia Scaer

- Currently Software Delivery Leader, GE Healthcare, Global Asset Management
- First software engineer position with PHAMIS and IDX Systems summer 1996
- TESC graduate 1996 (BA,BS)
   Was in Data to Information and Student Originated Software

# Intro video

Why It's Better to Fail as Quickly as Possible

#### The Waterfall methodology is...

- Structured
- One big project
- A sequential process
- Suited for situations where change is uncommon
- Internal
- A process that requires clearly defined requirements upfront

#### • The Agile methodology is...

- Flexible
- Many small projects
- Highly collaborativeBest for those who want continuous improvements
- Involves customers
- A process in which requirements are expected to evolve and change





http://agilemanifesto.org/principles.html

# Agile software development

- It is a group of <u>software development methods</u> based on <u>iterative and incremental development</u>, where requirements and solutions evolve through collaboration between self-organizing, <u>cross-functional teams</u>.
- It promotes adaptive planning, evolutionary development and delivery, a <a href="mailto:time-boxed">time-boxed</a> iterative approach, and encourages rapid and flexible response to change.
- It is a conceptual framework that promotes foreseen tight iterations throughout the development cycle

http://en.wikipedia.org/wiki/
Agile\_software\_development

#### Scrum

- It is an iterative and incremental <u>agile software</u> <u>development</u> framework for managing software projects and product or application development.
- It defines "a flexible, <u>holistic</u> product development strategy where a development team works as a unit to reach a common goal".
- It challenges assumptions of the "traditional, sequential approach" to product development.
- Scrum enables teams to self-organize by encouraging physical co-location or close online collaboration of all team members and daily face to face communication among all team members and disciplines in the project.

http://en.wikipedia.org/wiki/Scrum\_(software\_development)

Jeff's blog: <a href="http://scrum.jeffsutherland.com/">http://scrum.jeffsutherland.com/</a> Jeff's company: <a href="http://scrumtrainingseries.com/">http://scrumtrainingseries.com/</a>

#### In a nutshell

- Scrum has three roles: Product owner, team members, Scrum master.
- Daily standup meetings: Each member goes through what they have done since the last standup, what they plan to work on before the next one, and outline any obstacles.
- Projects are divided into sprints, which typically last one, two or three weeks.
- At the end of each sprint, all stakeholders meet to assess the progress and plan its next steps.

# Agile Scrum overview in 10

AxoSoft Intro to Agile Scrum in under 10 minutes

# Successfully executing a plan that leads to no where

# Lean - Getting rid of waste

Drive out the 8 common wastes in processes:

- 1. Overproducing
- 2. Waiting
- 3. Transport
- 4. Poor process design
- 5. Inventory
- 6. Motion
- 7. Defects
- 8. Underutilized personnel and creativity

# GE business units

#### **Energy Management**

5% / \$7.4 B



Oil & Gas 10% / \$15.2 B



Power & Water 19% / \$28.3 B



Healthcare

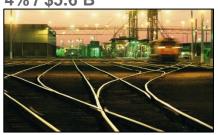
12% / \$18.3 B



Aviation 14% / \$20.0 B



Transportation 4% / \$5.6 B



Capital 31% / \$46.0 B



Home & Business Solutions 5% / \$8.0 B



~\$147.4 Billion
Revenue in
2012
\$16.1 B Operating Earnings

## GE around the world

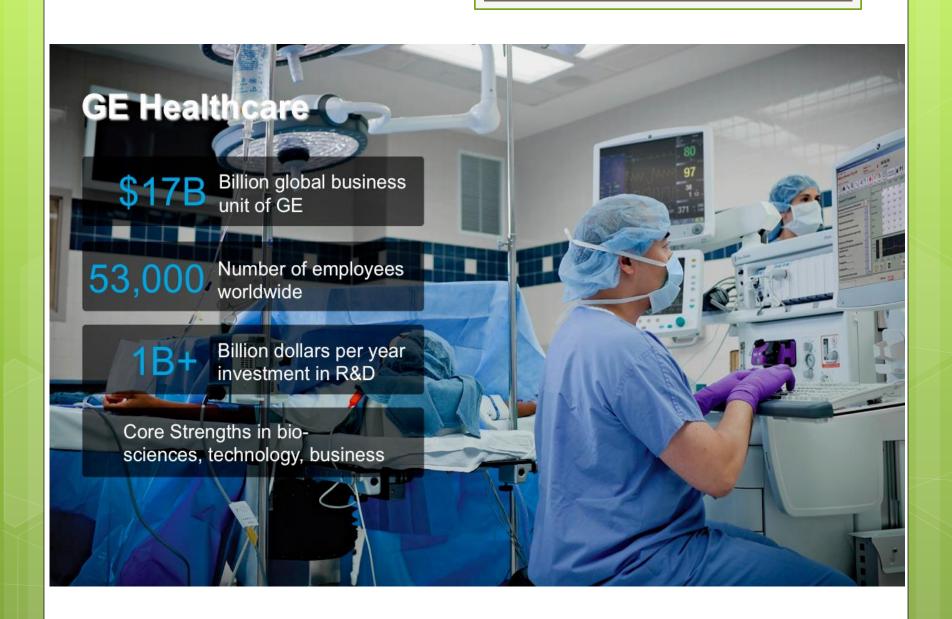




imagination at work

<sup>&</sup>lt;sup>1</sup> Includes U.S. exports to external customers

<sup>&</sup>lt;sup>2</sup> Includes \$~5B from "Other Global" areas













# Agile

Agile is a mindset and approach that supports building great teams and great products. It pre-supposes that there is someone who knows what needs to be built:

- In Extreme Programming this is the onsite Customer.
- o In Scrum this is the Product Owner.

Agile Scrum live demonstration

Nordstrom lab video

## <u>Ideas Drive Us</u>

# Lean Startup

Lean(getting rid of waste)

+

coming up with ways to do things differently

# Lean Startup Concepts

- Build-Measure-Learn Feedback Loop
- Validated Learning
- Minimal Viable Product MVP

## Industrial Internet Positioning

Let's lead the world's next productivity revolution by connecting intelligent machines with people at work

Software

Cloud

Intelligent Machines
Connect the world's most
intelligent machines, GE
and others



**Big Data & Analytics**Combine the power of big data, big analytics, and industry physics



People at Work

Connect people any place, any way, and any time for intelligent operations

Sensors

Controls

A WORLD THAT WORKS BETTER, FASTER, SAFER, CLEANER AND CHEAPER

#### **GE FastWorks**

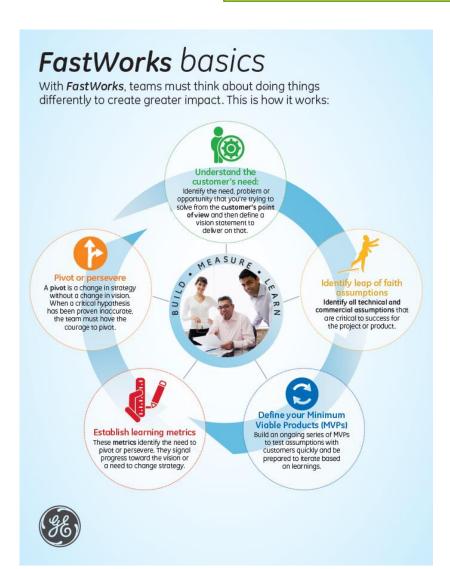
"The Biggest Implementation of Lean Startup on Earth"

(Eric Ries at Lean Startup Convention, 12/2013)

"Act Like a Startup, Make Money Like a Fortune 500"

(In Wired.com, April 2014, describing GE today)

http://www.wired.com/2014/04/how-ge-plans-to-act-like-a-startup-and-crowdsource-great-ideas/



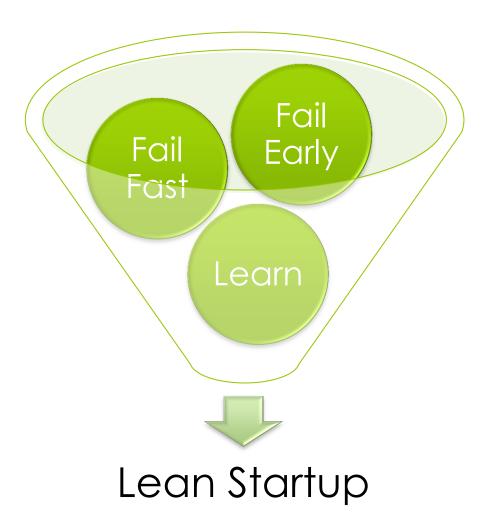
"I came to see in my time at IBM that culture isn't just one aspect of the game – it is the game. In the end an organization is nothing more than the collective capacity of its people to create value."

Lou Gerstner, CEO of IBM as he worked to turn around the business in the 1990's

"Culture can eat strategy for lunch" Posted Apr 12, 2014 by Bill Aulet

http://techcrunch.com/2014/04/12/culture-eats-strategyfor-breakfast/ "10 Tech Companies Proving Innovation Isn't Dead" http://eweek.com

TeslaSpaceXAmazonGoogleAereoIBMNESTCorningSquareVidyo



# Top 10+1 Lessons Learned (1)

- 1. Don't get attached to your code or your design.
- 2. Be a team player by helping, and asking for help.
- 3. Develop your people skills, and that means learn to disagree with someone without being a jerk.
- 4. Work with people who are passionate and good at what they are already working on.
- 5. Learn new skills, always be growing in your position and in the company you work for (see item 4).
- 6. Just say you don't know when you really don't know.

# Top 10+1 Lessons Learned (2)

- 7. You will work with jerks, minimize the about of time you spend with them.
- Participate in company activities; your manager does notice, find what you enjoy about the culture and participate in that.
- Building relationships with teams really does make your life easier.
- 10. If you want time with your kids/spouse then you need to prioritize that over other things...Including work.

10+1 Don't date someone you work with unless you're planning on marrying them (it never ends well and it's awkward for everyone).

# Top 7 Job Hunting Tips

- 1. Build your confidence by attending events where you can network and talk to people in the industry.
- 2. Your network is the most powerful asset you develop over your career, stay connected with your peers.
- 3. Get on LinkedIn and develop a profile that speaks to your skills, projects, and interests.
- 4. Research the company you are applying to, figure out what they do and who their customers are.
- 5. When applying for a position, write a different cover letter that is specific and geared toward that job.
- 6. Just say you don't know when you really don't know.
- Know your weaknesses (this will come up in an interview so you better have an answer).

# What I learned at Evergreen

- I am responsible for my education
   (I'm responsible for my career and the work I do)
- I collaborate with my peers
   (I work in cross-functional teams)
- I voice my opinion and I listen to other's opinions
   (I welcome other points of view, I'm open to learning)
- I have fun with my peers

(Over the course of a week, a month, or year a person spends a lot of time with their peers. You've got to find fun even at work.)

# The end