SCRUM

Scrum is not a methodology.

Scrum does not provide answers to building software faster

Scrum is a framework within which the game of product development is played.

The team plays. Scrum makes everything visible.

The team gets to continuously improve itself.

Introduction to Scrum

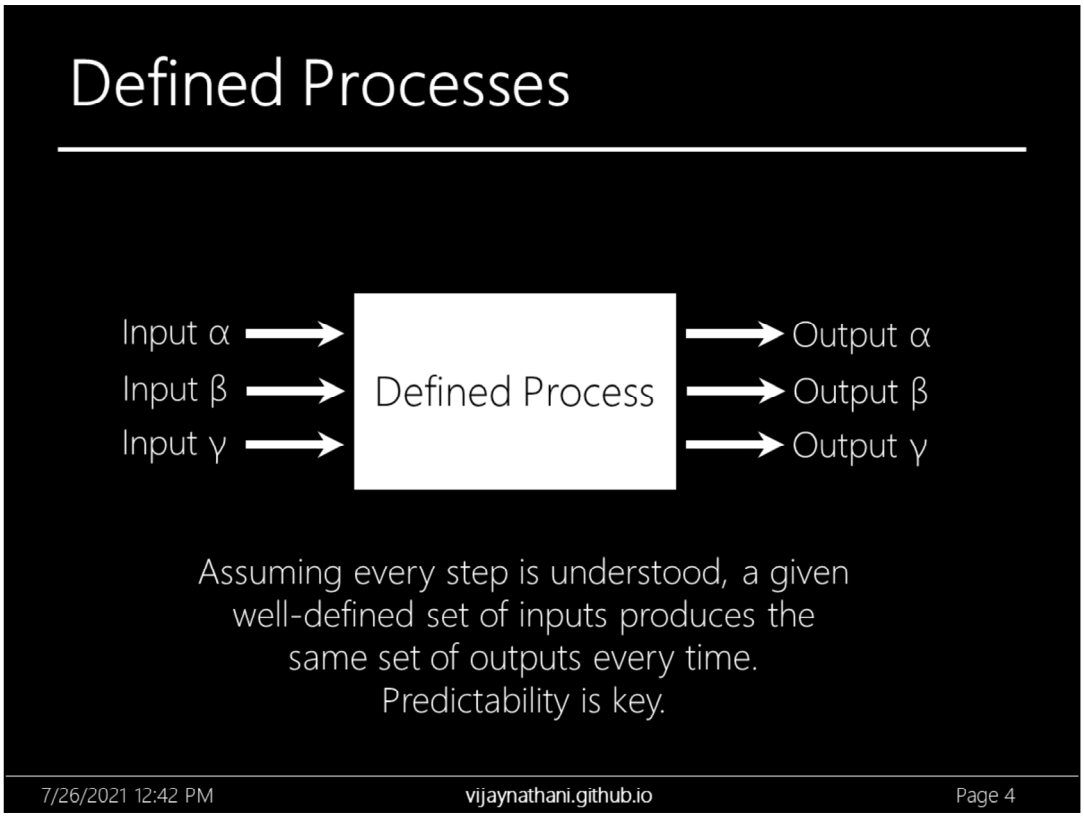
Scrum doesn't engender excellence.
It exposes incompetence

"The problem we face has nothing to do with process and technology, but with people.

Scrum and Agile are based on the hypothesis that there is no meta-solution for software development. Just a framework within which we will be empirical – inspect and adapt.

This is very frustrating to those looking for procedures and final answers."

- Ken Schwaber



Every task must be completely and unambiguously understood

Inputs are completely and unambiguously defined

When given a well-defined set of inputs, the same outputs are generated every time.

Simple processes fall under this category

E.g. Toaster, Opening a lock with a key, clothes dryer, etc

Is Software Development More Like Ballet or Hockey?

defined **agile**

Defined vs. Agile

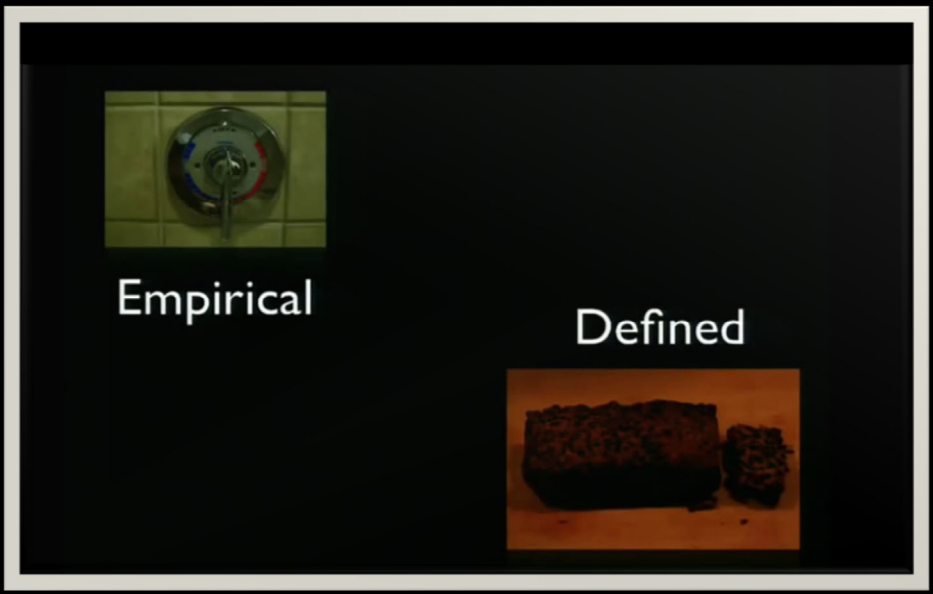
One is Agile, other is not

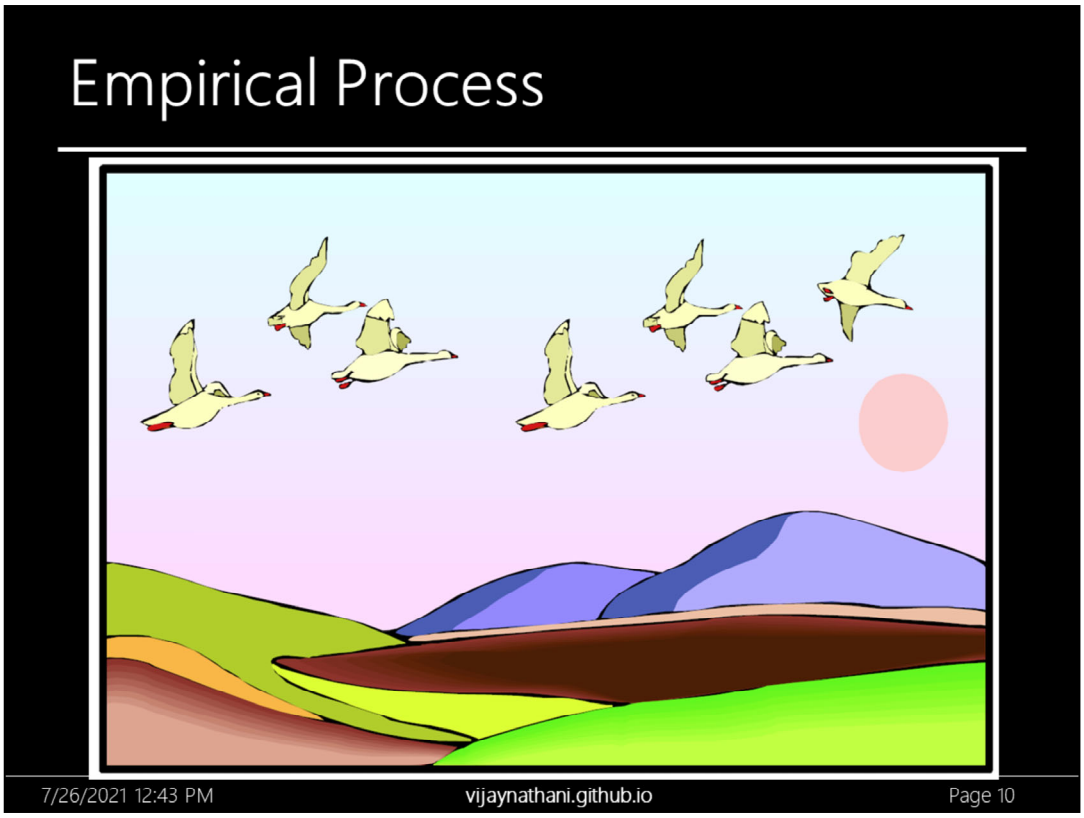
Exploration Drilling
(Adaptation)

Production Drilling
(Optimization)

Predictive vs. Agile

Fruit Cake vs Shower knob





Geese moving from Canada to some warm place e.g. Florida during winter. Maybe they will stop at California or Texas.

Other examples of Empirical process:

-Training,

-Having a party

-Ant colony or Bee hive

-A crowd going on a picnic or sporting event.

- A family preparing, eating and cleaning up.

Scrum is a Disciplined Management Methodology

- Wrapper for existing engineering practices
- Maximizes ROI, but doesn't change I
- Scrum works with XP and any other engineering practice you care to entertain

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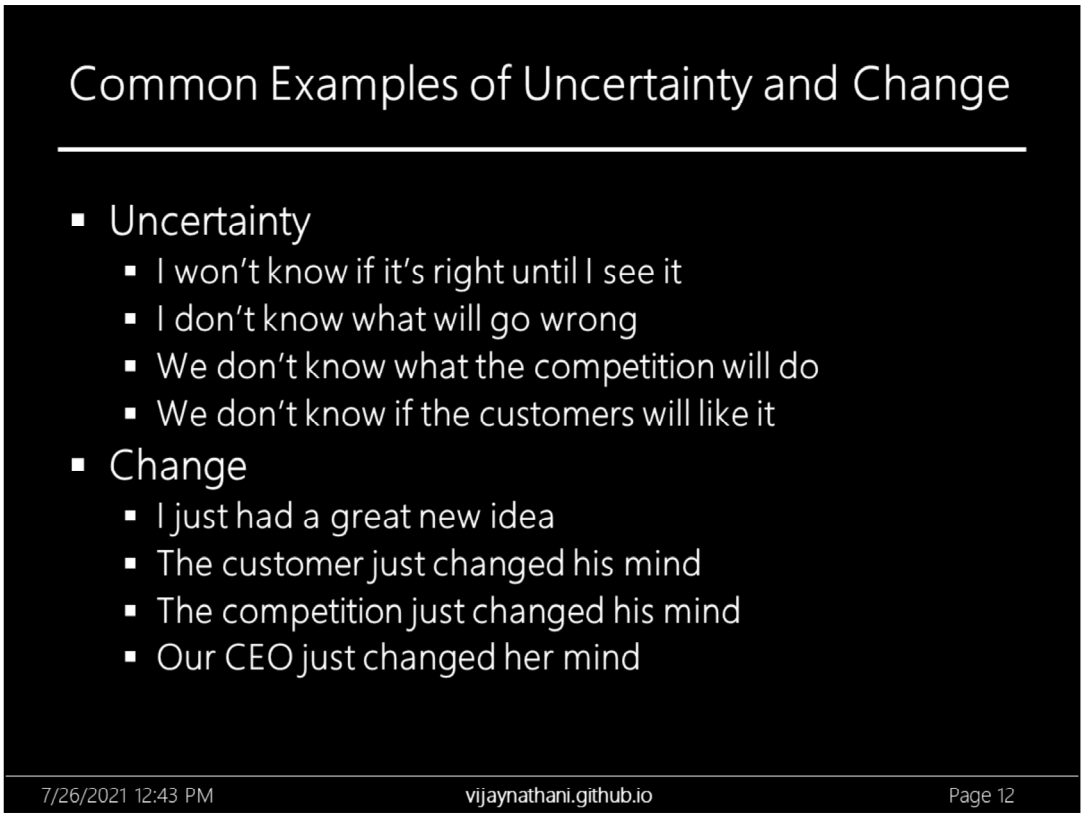
The second point is not obvious if you weren't at the presentation.

"ROI = (Gain – Cost) / Cost" in a given period of time

The complete thought is that while it maximizes your return on investment in software development, it doesn't actually change your investment. In other words, it can't help you if your goal is to hire unskilled programmers and hope that a few so-called "architects" plus a methodology will somehow constrain your team into delivering something.

Scrum maximizes the value from your investment, but it's still important to invest.



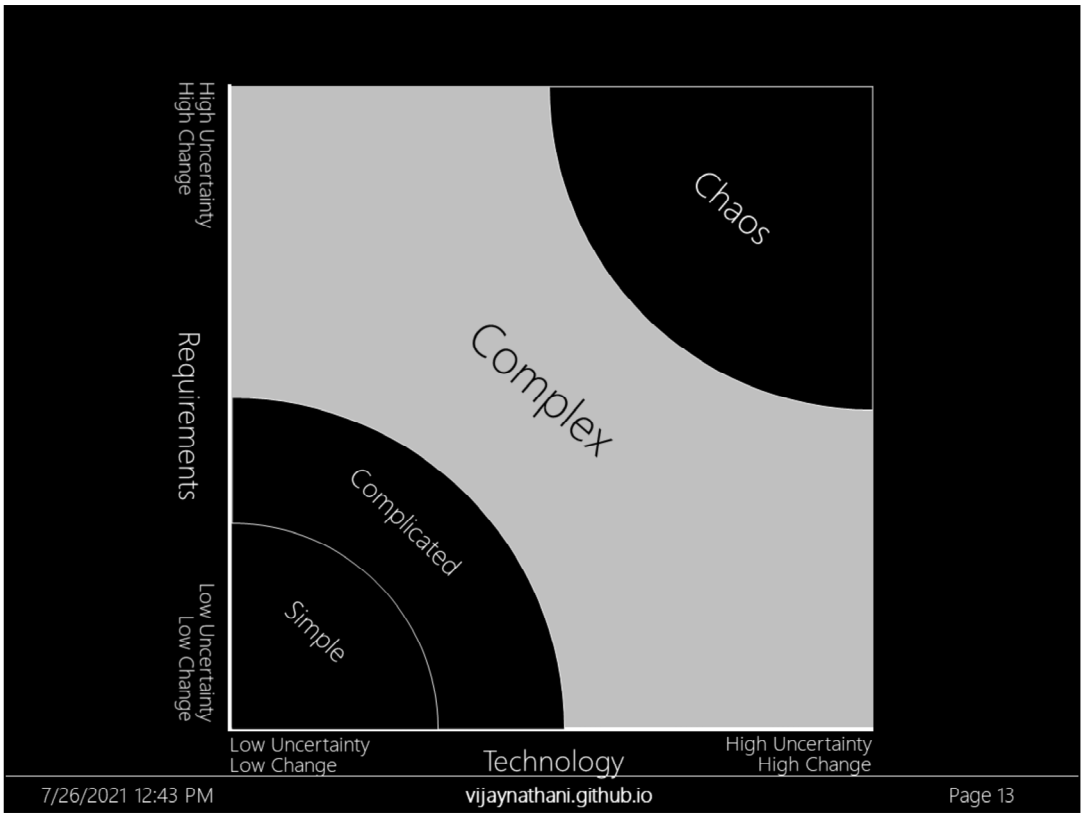
Empirical

•Unpredictable

•Unrepeatable

•Not known in detail

Examples: Cooking, Driving, Gardening.



People can be on Z axis. Even people vary in their skills and behavior.

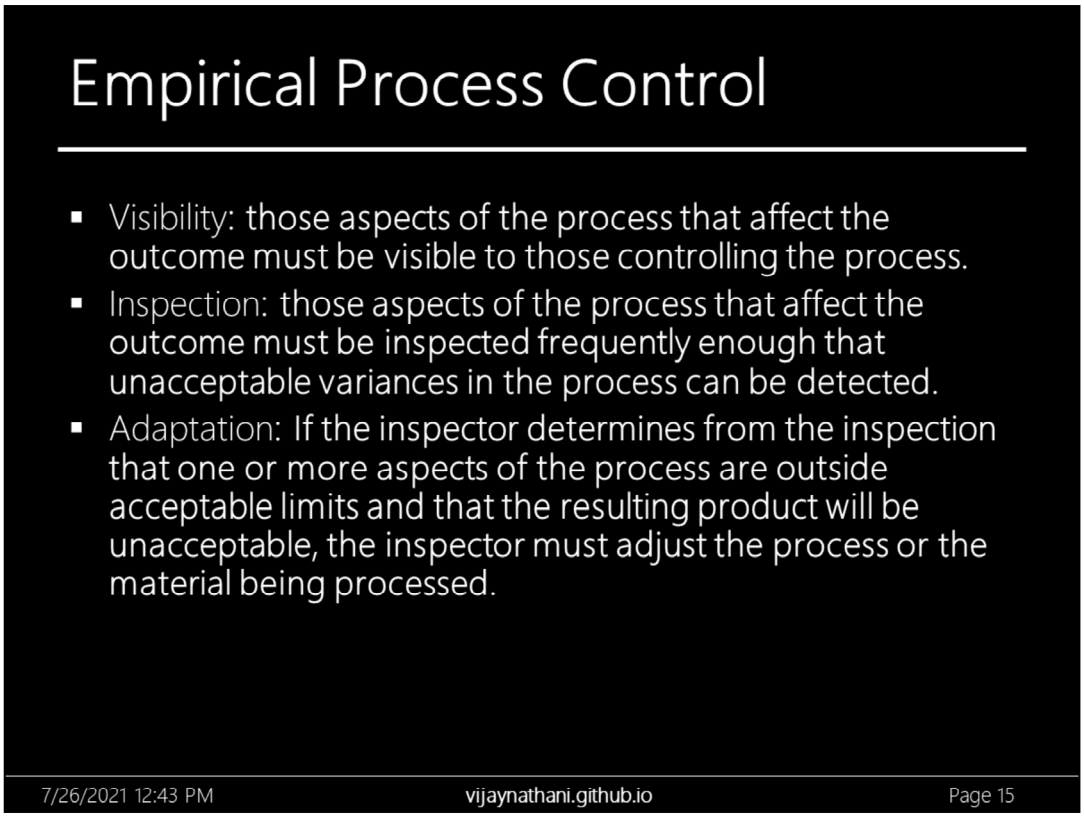
For simple projects – defined method works
For complicated/complex projects – empirical process is recommended.

Empirical Processes

- "It is typical to adopt the defined (theoretical) modeling approach when the underlying mechanisms by which a process operates are reasonably well understood. When the process is too complicated for the defined approach, the empirical approach is the appropriate choice."

  Process Dynamics, Modeling, and Control,
  Ogunnaike and Ray, Oxford University Press, 1992

- Translation into English: Inspect and Adapt



Empirical Process:

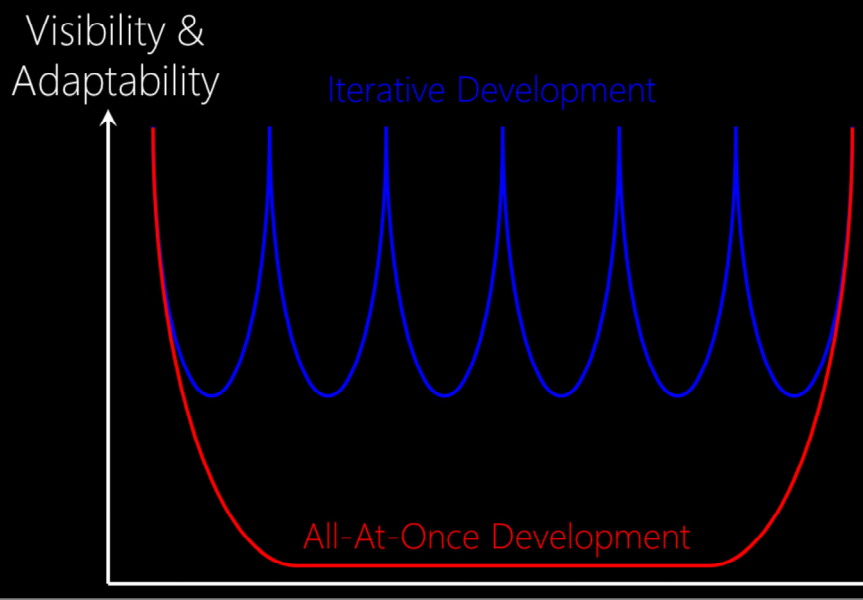
Effective software development is best implemented via an empirical rather than planned process;

> Once organizational impediments are removed, a self organizing and self managing team will naturally deliver better software than would otherwise be the case
>
> The premise that you can deliver the most valuable software within a prescribed time and budget, and yet you cannot definitively predict the exact functionality of what a team will deliver.

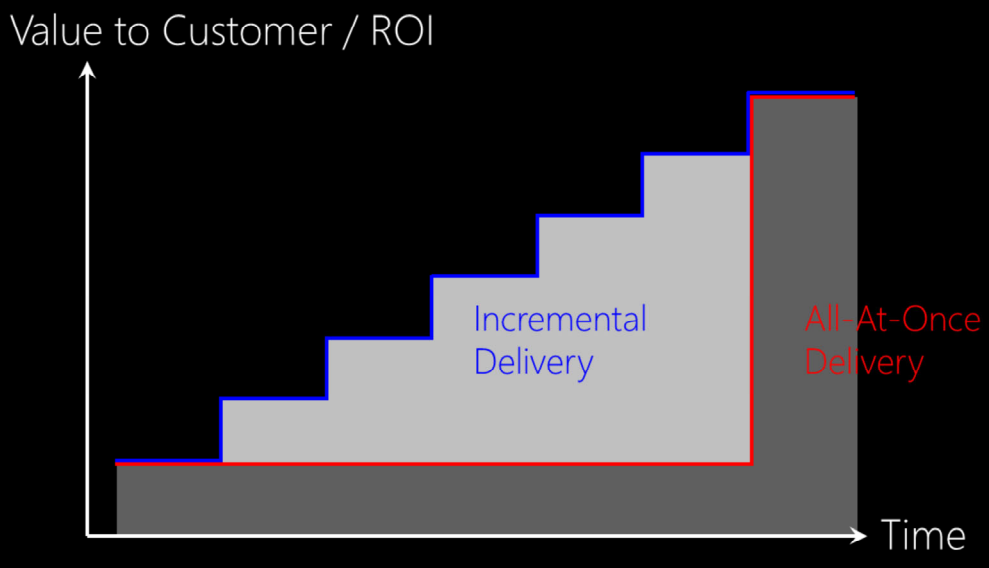
In Predictive processes, developers and project managers are forced to live a lie—they have to pretend that they can plan, predict, and deliver.

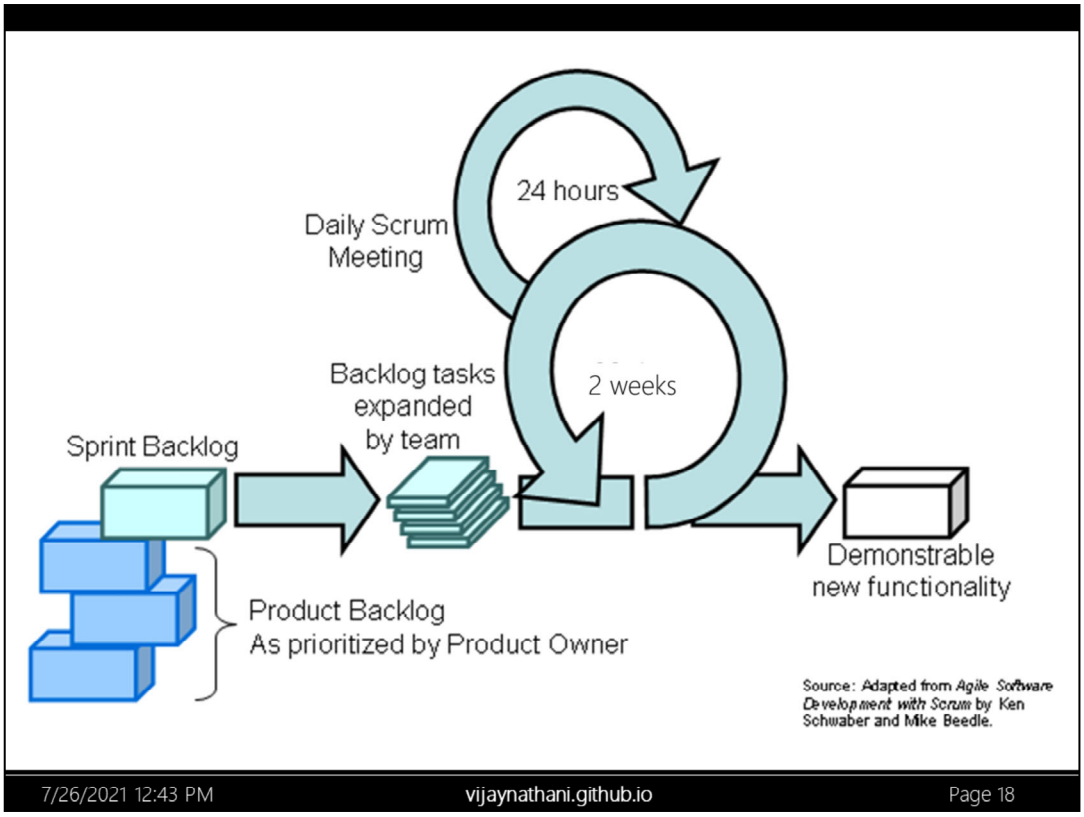
> Requirements change. Adapt or die.
>
> No plan survives contact with the enemy.

Iterative Development



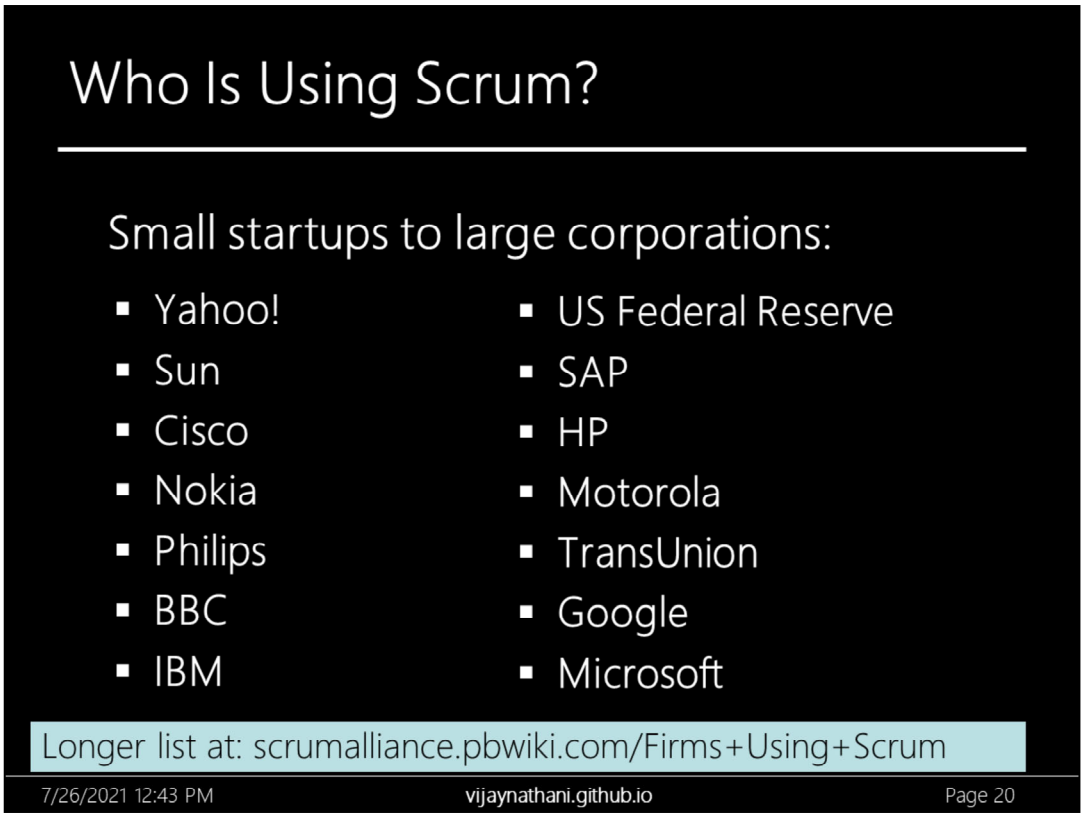
Incremental Development




24 hours
Daily Scrum Meeting
2 weeks
Backlog tasks expanded by team
Sprint Backlog
Product Backlog
As prioritized by Product Owner
Demonstrable new functionality
Source: Adapted from Agile Software Development with Scrum by Ken Schwaber and Mike Beedle.

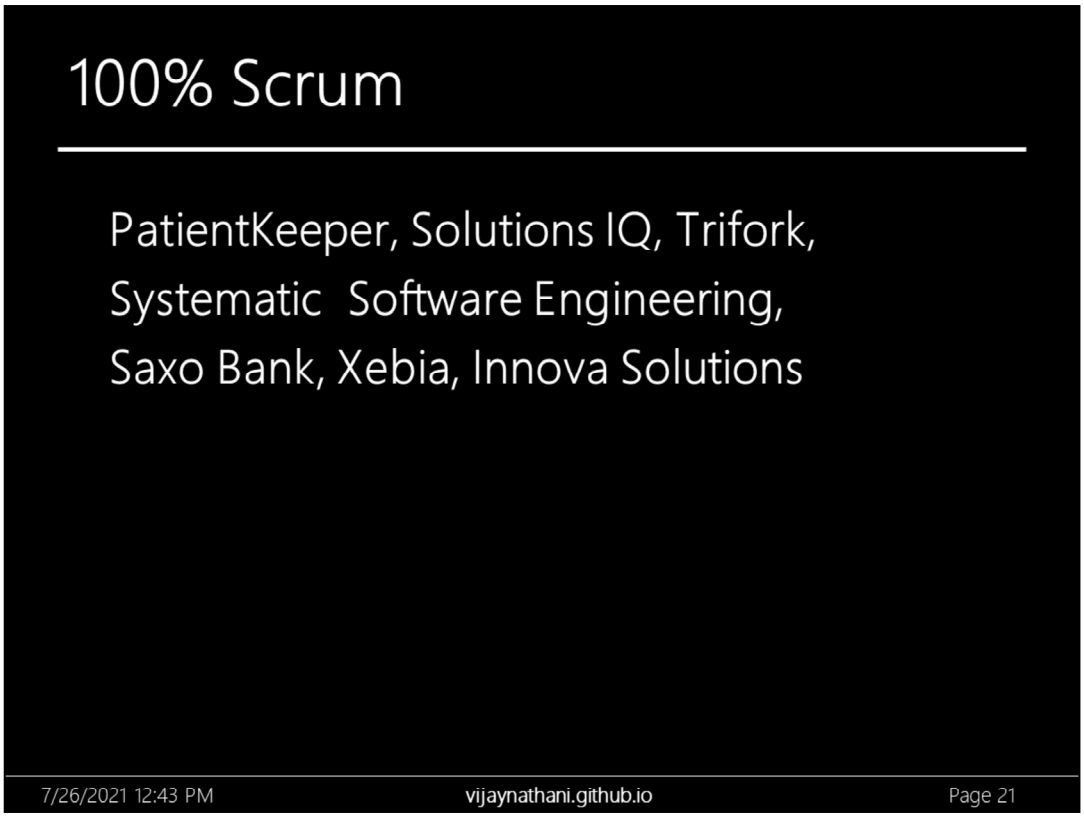
Who is using Scrum?

- Independent Software Vendors (ISVs)
- Fortune 100 companies
- Small startups
- Internal development
- Contract development



IBM & Microsoft (USA) are in the process of adopting Scrum.

Some case studies
http://www.artima.com/forums/flat.jsp?forum=155&thread=241943



Partial Scrum: Microsoft, Google, Yahoo, Adobe, GE, Oracle, Siemens, Bellsouth, Ulticom, Palm, St. Jude Medical,

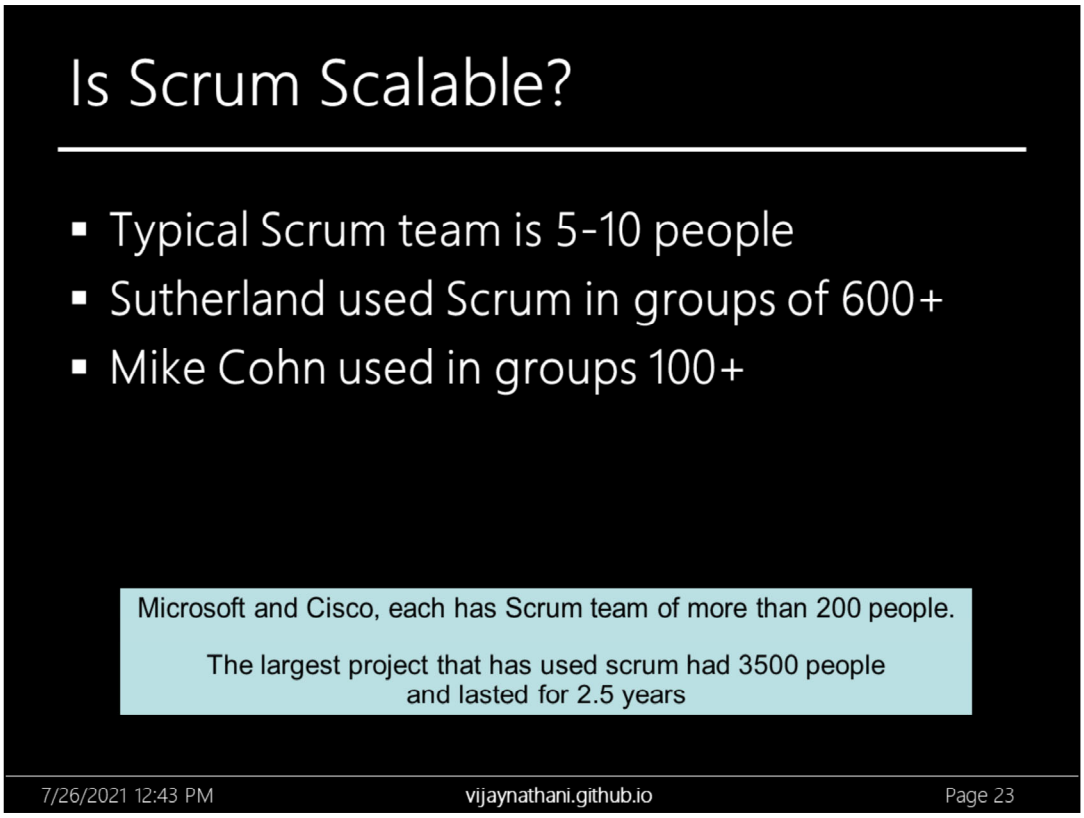
Digichart, Healthwise, Sony/Ericsson, Accenture, GuideWorks, Exigen Services / Starsoft labs, SirsiDynix,

Softhouse, Phillips, Barclay Global Investors, Constant Contact, Wellogic, Innova solutions, Medco, Myspace,

Johns Hopkins, Wachovia, IBS Interprit, Openview Venture Partners.

What Is Scrum Being Used For?

- US FDA-approved software for X-Rays, MRIs
- High availability systems (99.9999% uptime)
- Enterprise workflow systems
- Financial payment applications
- Large database applications
- Embedded systems
- ISO 9001 organizations
- CMMi Level 5 organizations
- Onshore / offshore development



Eclipse has hundreds of developers spread all over the world. It is using agile process.

IBM has more than 30,000 employees. Some of its projects are agile. Some are not yet agile. It is in process of transition.

ibm.com uses Scrum and XP.

Scrum Characteristics

- One of the "agile processes"
- Self-organizing teams
- Product progresses in a series of "sprints"
- Requirements are captured as items in a list of "product backlog"
- No specific engineering practices prescribed
- Uses generative rules to create an agile environment for delivering projects

What is Scrum?

- There is a simple, Boolean test for whether a project is practicing Scrum
  - Scrum has specific roles
  - Scrum has specific practices
  - Scrum has specific artifacts

Everything else is not part of Scrum

Scrum is a Mindset

- Scrum is commitment-oriented.
- Scrum is results-oriented: projects produce increments of a shippable product, activities are time boxed, and ceremony is discouraged.
- Scrum is disciplined. There are practices you must follow on a specified time table.

Scrum Roles

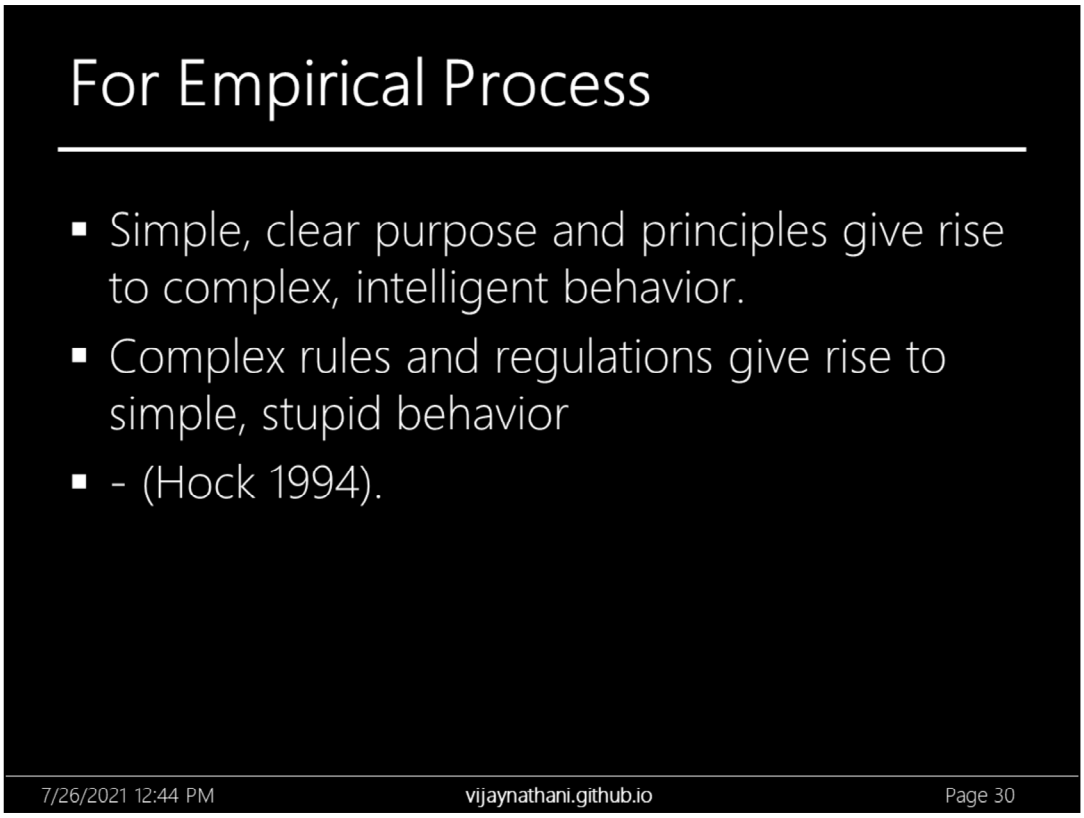
- The Product Owner
- The Scrum Master
- The Team
- Everyone else is not part of Scrum

Scrum Practices

- The Sprint Planning Meeting
- The Sprint
- The Sprint Review Meeting
- The Sprint Retrospective
- The Daily Scrum
- All other practices are not part of Scrum

Scrum Artifacts

- The Product Backlog
- The Sprint Backlog
- The Sprint Burndown Chart
- The Product Increment
- Everything else is not part of Scrum



PMBOK guide is hundreds of pages.

PMI PMP certification says:

1. Identify the requirements of the project
2. Establish objectives that can be achieved
3. Balance scope, cost and time
4. Satisfy everyone's needs

It says monitor and control the project.

Process groups: Initiating process group, Planning process group, Executing process group, Monitoring&Controllilng process group, Closing process group.

44 processes: Develop project charter, Develop preliminary scope statement, Develop Project Management Plan, Risk identification, Qualitative Risk Analysis, Quantitative Risk Analysis, Risk response planning, Quality planning, Activity Duration Estimating, Direct and Manage work, Information Distribution, Scope control, Monitor and control project work, schedule control, close project ,etc.

Nine knowledge areas: Risk, Quality, Scope, Procurement, Communication, Time, Integration, Cost, HR.

For Time Management PMBOK says: Define activities, Sequence them, Estimate resources, Estimate duration, Schedule development, control Schedule.

It uses critical path, slack, resource leveling, leads and lags, schedule compression techniques

PMBOK says monitor costs by estimating, budgeting and controlling.

PMBOK says Quality is the measurement of how closely your product meets its requirements.

PMI has complex rules and regulations. It leads to the stupid behavior of cutting quality for the deadline.

Scrum is simple and lets people use their intelligence to decide the priorities. Because the process is transparent, Quality is rarely cut.