Agile

- How would you implement agile methodologies and tools for web projects?
- What do you see as the benefits and challenges to doing this?

What is Agile?

The term *agile* (sometimes written *Agile*)[4] was popularized by the *Agile Manifesto (2001)*,[5] which defines those values and principles. Agile software development frameworks continue to evolve,[3] two of the most widely used being Scrum and Kanban. (wikipedia)

Why Agile?

“We were doing incremental development as early as 1957, in Los Angeles, under the direction of Bernie Dimsdale at IBM's Service Bureau Corporation. All of us, as far as I can remember, thought waterfalling of a huge project was rather stupid, or at least ignorant of the realities. I think what the waterfall description did for us was make us realize that we were doing something else, something unnamed except for 'software development.’" - Gerald M. Weinberg

Agile vs Waterfall

Both Agile and waterfall have the same SDL (Software Development Lifecycle):

- Analysis
- Design
- Code
- Test

The main difference is that Agile works in a series of relatively short but incremental iterations, Waterfall spans the length of the project, where everything is delivered usually in one stage.

Agile Methodologies

- Lean - origins 1948 - 70’s
- Kanban - origins 1948 - 70’s
- Scrum - origins 1948 70’s - 1986
- XP - eXtreme Programming - 90’s
- DSDM- Dynamic Systems Development - 1994
- FDD - Feature Driven Development - 1997
- Crystal - 2001

Lean

Originated from Japanese Car Manufacturer - derived from the principles of the Toyota Production Model or Just in Time (1948 - 1975). Lean methodology eliminates waste through such practices as selecting only the truly valuable features for a system, prioritizing those selected, and delivering them in small batches.

- Eliminating Waste
- Amplifying Learning
- Deciding as Late as Possible
- Delivering as Fast as Possible
- Empowering the Team
- Building Integrity In
- Seeing the Whole

Kanban

- Visualise what you do today (workflow): seeing all the items in context of each other can be very informative
- Limit the amount of work in progress (WIP): this helps balance the flow-based approach so teams don‘t start and commit to too much work at once
- Enhance flow: when something is finished, the next highest thing from the backlog is pulled into play

Scrum

Scrum for software was directly modelled after "The New New Product Development Game" by Hirotaka Takeuchi and Ikujiro Nonaka published in the Harvard Business Review in 1986.

Nonaka was hired by the Japanese government after World War II to help analyse why they lost the war. He does not use a computer and to him, Scrum is only indirectly related to software. It is directly related to leadership and running the top companies in the world.

Scrum

- Stand Ups
- Product Owner
- Product Backlog
- Cross Functional Teams
- No additional functionality can be added to the sprint except by the team
- Proven to scale

XP - eXtreme Programming

Chrysler 1990's - emphasis on shorter product lifecycles and improving speed to market

- Planning Game
- Small Releases
- Customer Acceptance Tests
- Simple Design
- Pair Programming
- Test-Driven Development
- Refactoring
- Continuous Integration
- Collective Code Ownership
- Coding Standards
- Metaphor
- Sustainable Pace

DSDM - Dynamic Systems Development Method

Group of companies met in London circa 1994 including BA, American Express, Oracle, Butler Group
Evolution form RAD (Rapid Application Development)

- MoSCoW Method
- 80% of system can be developed in 20% of the time
- low priority items added to backlog, can be removed to prevent from delivering high value items

FDD - Feature Driven Development

FDD was initially devised by Jeff De Luca to meet the specific needs of a 15-month, 50-person software development project at a large Singapore bank in 1997

- Domain Object Modeling
- Developing by Feature
- Component/Class Ownership
- Feature Teams
- Inspections
- Configuration Management
- Regular Builds
- Visibility of progress and results

Crystal

Alistair Cockburn, the originator of Crystal, has released a book, Crystal Clear: A Human-Powered Methodology for Small Teams

- Collaboration
- Teamwork
- Simplicity

The use of the word Crystal comes from the gemstone where, in software terms, the faces are a different view on the “underlying core” of principles and values. The faces are a representation of techniques, tools, standards and roles.

IBM circa 2001

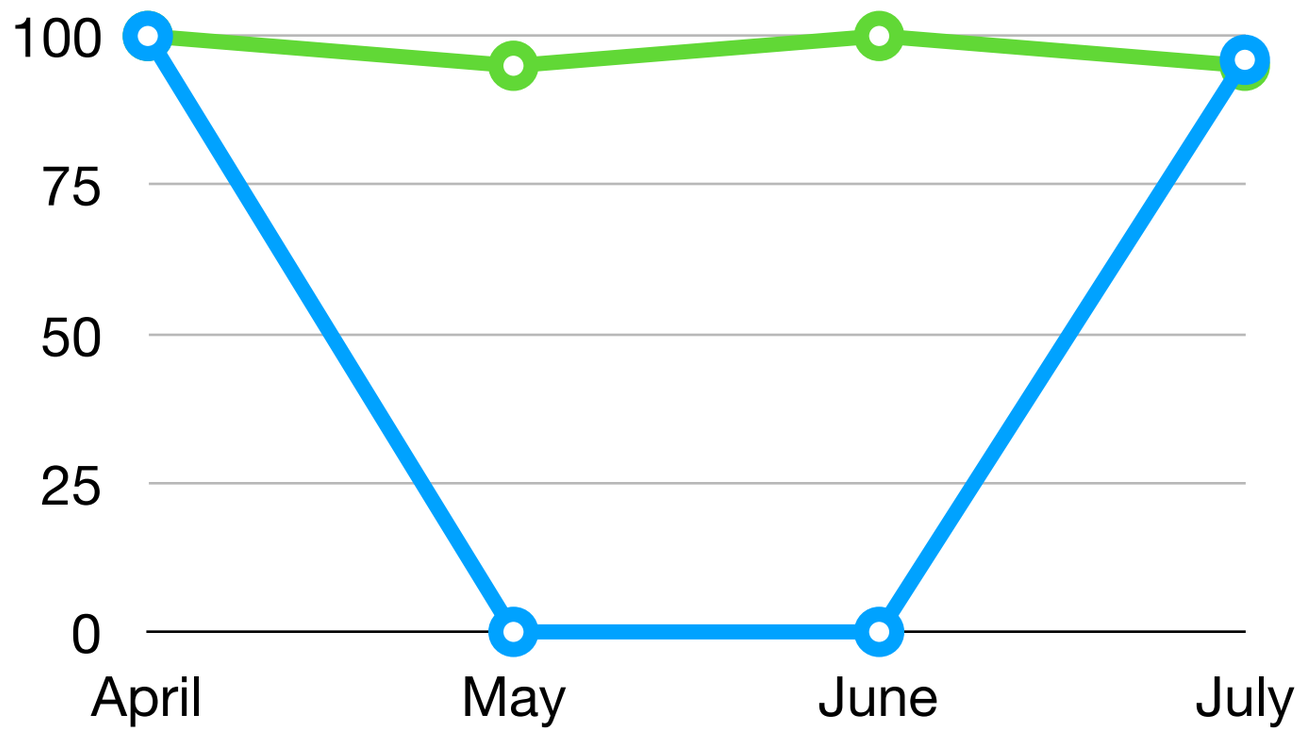
Original member of Agile manifesto

Benefits of Agile

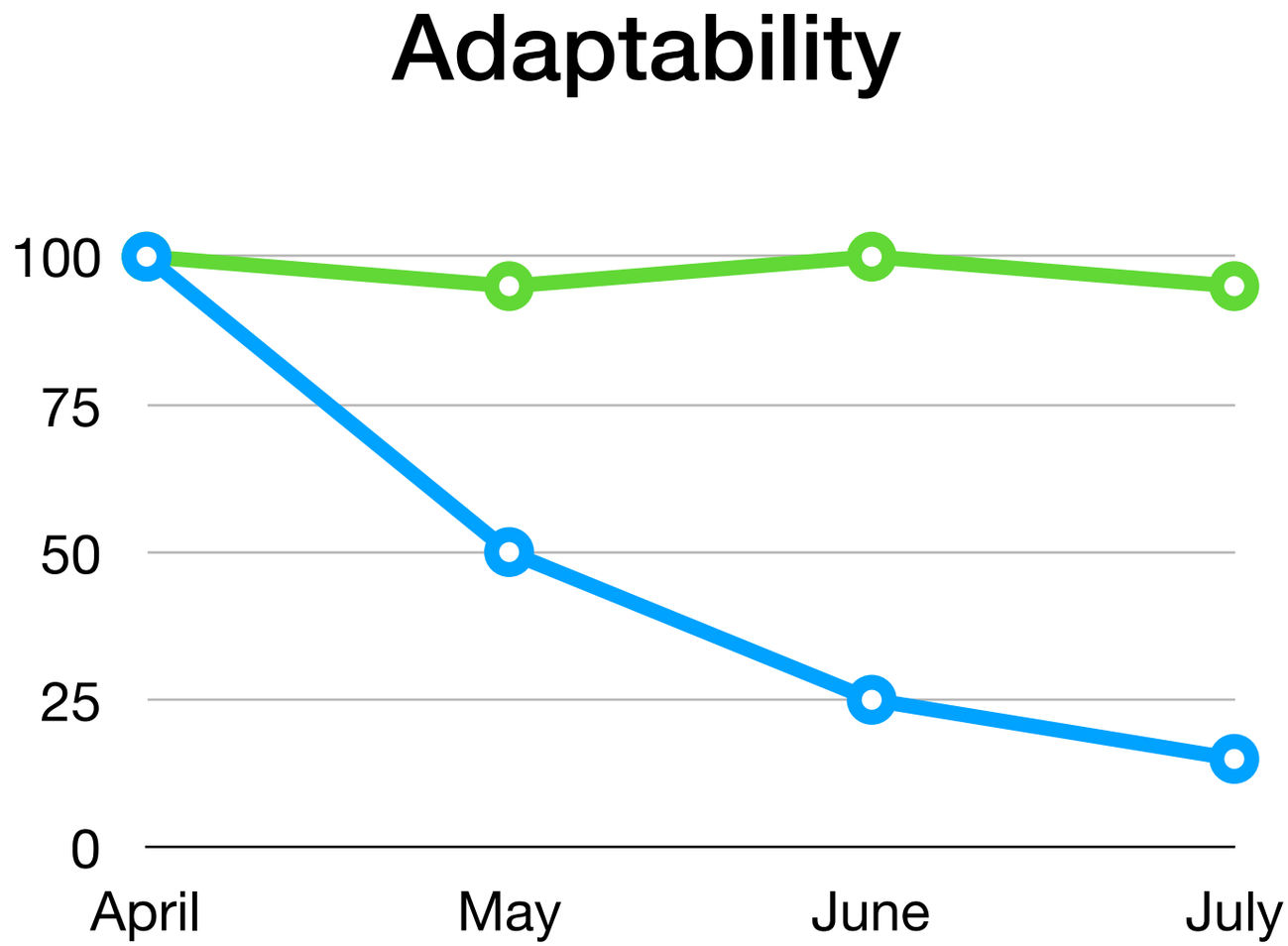
- Lightweight framework for helping **teams**
- Enables rapid delivery of business **value**
- Failing projects fail faster
- Reduces Risk
- Is a more robust approach, adapting to change requirements - **feedback** loop
- More likely to create a system that is more suited to either the business of customer needs

Agile vs Waterfall

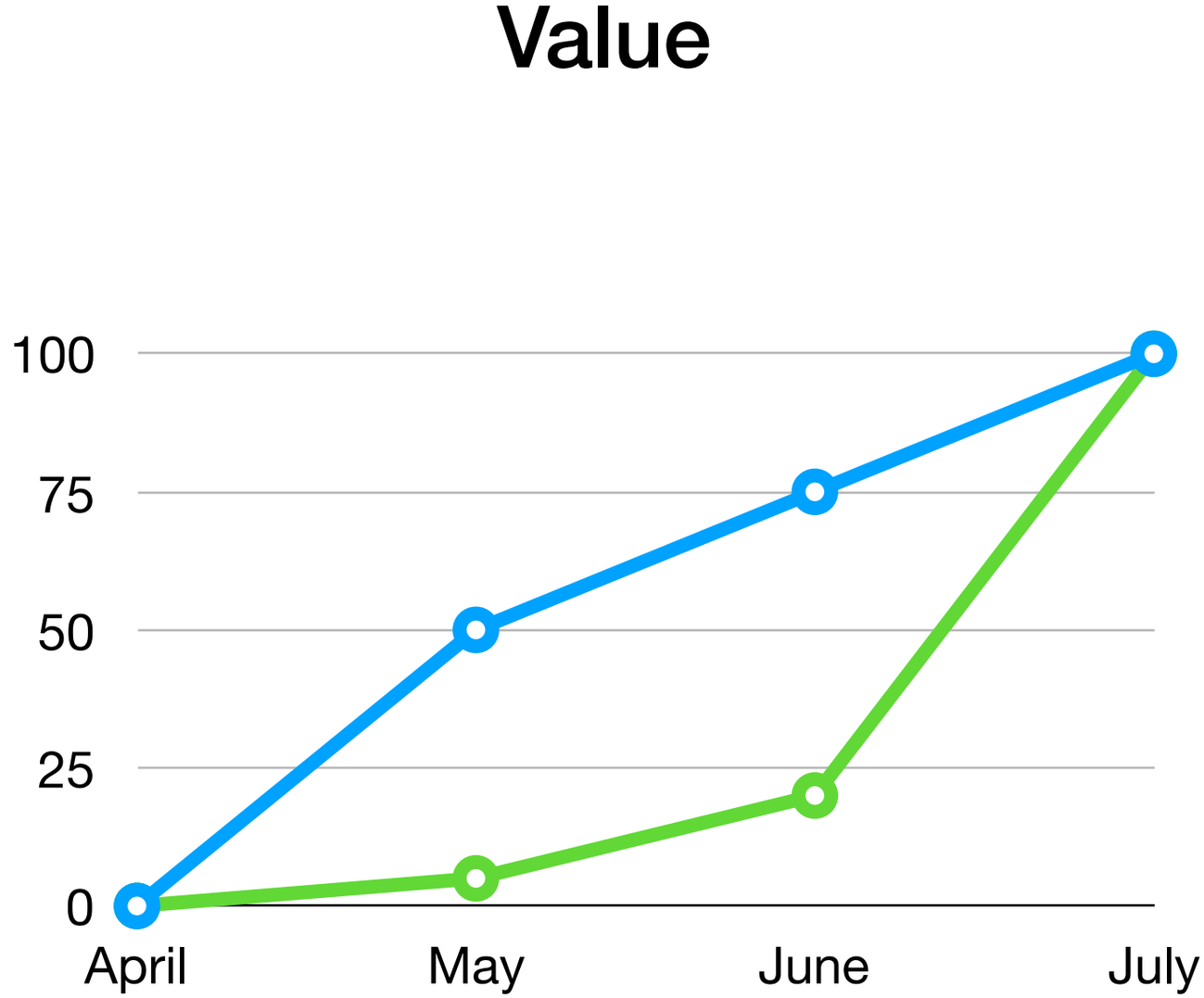
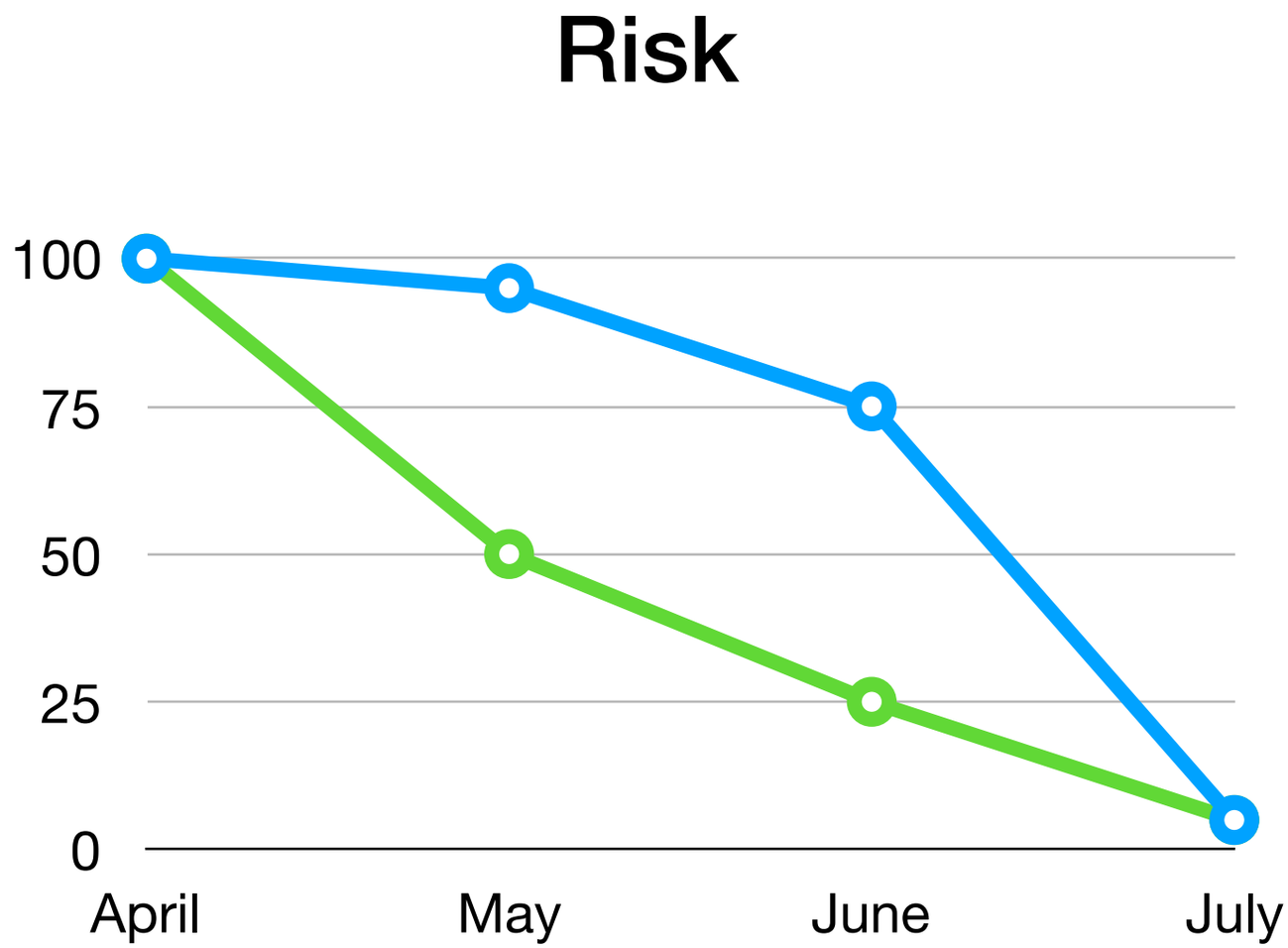
Visibility



Agile vs Waterfall



Agile vs Waterfall



Agile vs Waterfall