

Software Composition Technologies

Helping People Gain Control of Software Development

Agile Project Management

Raymond Boehm

19 Homer Place, Metuchen, NJ 08840-2006

Voice: 732.906.3671 Fax: 732.906.5728

rayboehm@softcomptech.com

Introduction

- *Understanding Agile Development*
- *Measurement in the Agile World*
- *Ideal Time*
- *Story Points*
- *Function Points*
- *Use Case Points*
- *Resources for Additional Information*

Understanding Agile Development

Barry Boehm and Richard Turner	<i>Agile</i>	<i>Planned</i>
<i>Application</i>	Changeable	Larger Teams & Projects
<i>Management</i>	Customer Part of Team	Document Plans & Requirements
<i>Technical</i>	Short Increments Many Releases	Voluminous Test Cases and Plans
<i>Personnel</i>	Highly Capable Thrive on Chaos	Specialists who Thrive on Order

Measurement in the Agile World – What Gets Measured?

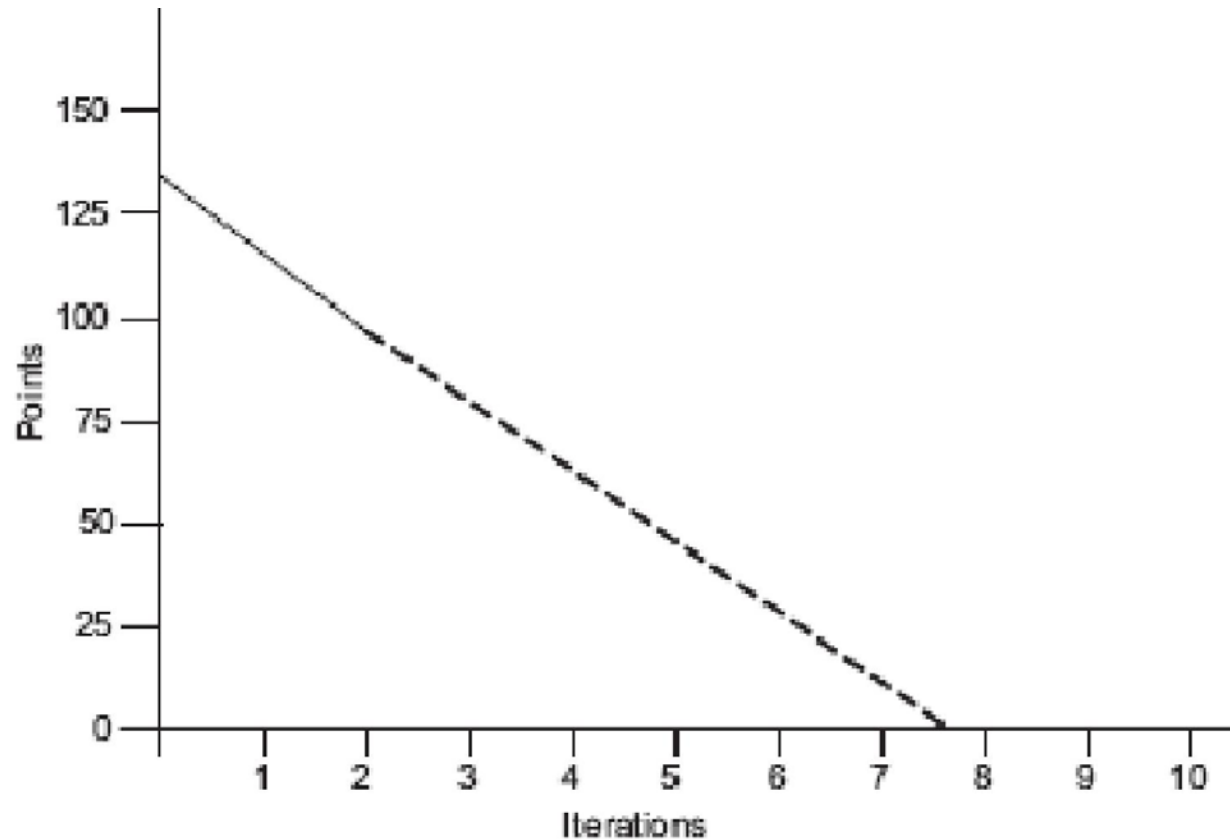
■ *Release Planning*

- *Release Is A Usable Subset of Application*
- *Release Takes a Month to a Year*
- *Top Priority Stories Using Story Points*

■ *Iteration Planning*

- *Iterations Implement Stories*
- *Calendar Time Fixed; Functionality Varies*
- *Using Ideal Time or Use Case Points*

Measurement in the Agile World – How To Measure?



Mike Cohn's Burndown Chart

Measurement in the Agile World – Why Measure?

- *Agile Teams Avoid Detailed Planning*
 - *Estimating Is Thought To Be Impossible*
 - *Agile Plans Are Self-Correcting*
- *Agile Teams Are Obsessive Trackers*
 - *Initial Estimates Set Initial Velocity*
 - *Continual Re-setting of Velocity Necessary*
 - *Process Improvement and Outsourcer Governance May Be Part of Environment*

Ideal Time

- *According to Kent Beck – “How long would this take without distractions and disasters?”*
- *Like Lines of Code – Seems Intuitive; Turns Out to be Impossible!*
- *MUCH Smaller Than Wall Clock Time!*
- *Like Lines of Code – Still A Very Popular Measure!*

Story Points

- *May be Ideal Time or Abstract – Abstract is Better*
- *Relative – Twice the Effort means Twice the Story Points*
- *Only Certain Values are Valid – 0, 1, 2, 3, 5, 8, 13, 20, 40 and 100*
- *Neither Standard Nor Repeatable*

Function Points

- *FP-211 – “Estimating Project Size Early in the Life Cycle” Could Estimate Function Points From User Stories*
- *Story Points – Take All Factors Into Account*
- *Function Points – Standard & Repeatable*
- *FP-370 – “Counting Object Oriented Applications” Based on Use Cases and UML as an Alternative to Use Case Points*

Use Case Points

- *Developed in 1992 by Gustav Karner*
- *Like Function Points*
 - *For Estimating*
 - *Counting Has Been Semi-Automated*
- *Influenced by OO and Use Cases*
- *UUCW Can Be Used in Burndowns*
- *Counting Requires Four Steps*
 - *Actor Weight*
 - *Use Case Weight*
 - *Technical Complexity*
 - *Environmental Complexity*

Actor Weight

- *A simple actor might be another application that accesses this application through an API. Its weight is 5.*
- *An average actor might be a user accessing the application through a text-based user interface. Its weight is 10.*
- *A complex actor might access the application through a graphical user interface. Its weight is 15.*

Use Case Weight

Complexity	Number of transactions	Weight
Simple	3 or less	1
Average	4 to 7	2
Complex	7 or more	3

Technical Complexity

<i>Distributed system</i>	<i>Portable</i>
<i>Performance objectives</i>	<i>Easy to change</i>
<i>End-user efficiency</i>	<i>Concurrent use</i>
<i>Complex processing</i>	<i>Security</i>
<i>Reusable code</i>	<i>Access for third parties</i>
<i>Easy to install</i>	<i>Training needs</i>
<i>Easy to use</i>	

Environmental Complexity

- *Familiar with the development process*
- *Application experience*
- *Object-oriented experience*
- *Lead analyst capability*
- *Motivation*
- *Stable requirements*
- *Part-time staff (negative weight)*
- *Difficult programming language (negative)*

Resources for Additional Information

- <http://www.agilemanifesto.org> for *Agile Values and Principles*
- <http://www.mountangoatsoftware.com> for *Mike Cohn's Website*
- <http://www.ifpug.org> for *Function Points*
- <http://www.agilealliance.org> for *Information on All Things Agile*
- <http://www.softcomptech.com> for *Updates on This Material*