AGILE DELIVERY FRAMEWORK

Agile Project Management,
2nd Edition - Jim Highsmith

SORRY TO SAY…

Scrum as defined is not sufficient
for agile development!

VALUES FOR AGILE LEADERS

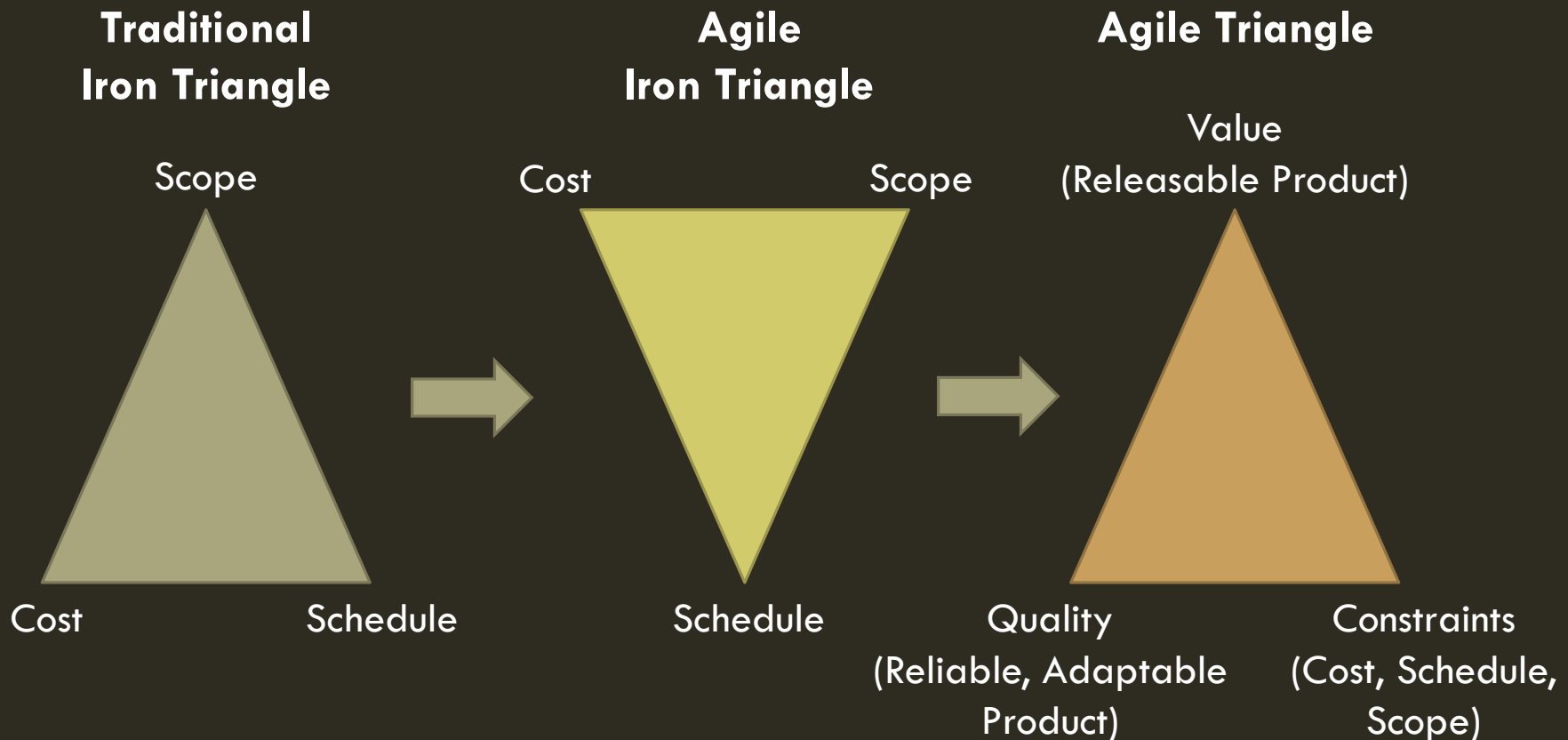Agile Project Management 2nd Edition, Jim Highsmith

Delivering Value over Meeting Constraints (Value over Constraints)

Leading the team over managing tasks (Team over Tasks)

Adapting to change over conforming to plans (Adapting over Conforming)
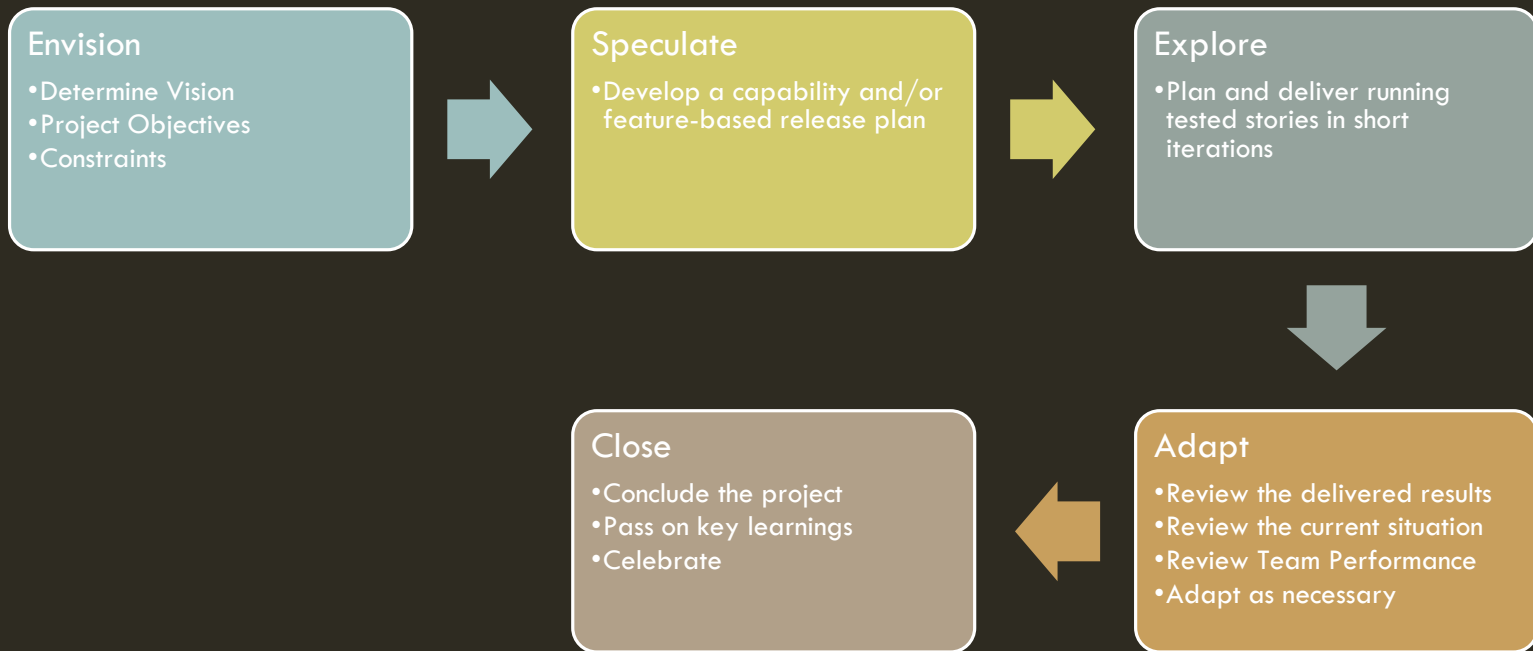
AGILE PERFORMANCE MEASUREMENT

Agile Project Management 2nd Edition, Jim Highsmith

Traditional Iron Triangle

Scope

Cost   Schedule

Agile Iron Triangle

Cost   Scope

Schedule

Agile Triangle

Value
(Releasable Product)

Quality
(Reliable, Adaptable Product)

Constraints
(Cost, Schedule, Scope)

AN AGILE DELIVERY FRAMEWORK

Agile Project Management 2nd Edition, Jim Highsmith

Scrum Focuses on Explore

Envision
- Determine Vision
- Project Objectives
- Constraints

Speculate
- Develop a capability and/or feature-based release plan

Explore
- Plan and deliver running tested stories in short iterations

Adapt
- Review the delivered results
- Review the current situation
- Review Team Performance
- Adapt as necessary

Close
- Conclude the project
- Pass on key learnings
- Celebrate

ENVISION

It really starts with a clear vision

ENVISION REFERENCES

Agile Project Management: Creating Innovative Products (2nd Edition),
Jim Highsmith

Jeff Atwood Blog Posts

- http://www.codinghorror.com/blog/2007/09/can-your-team-pass-the-elevator-test.html
- http://www.codinghorror.com/blog/2005/08/vision-quest.html

ASKING WHY

What are you working on?

- *I'm fixing the sort order on this datagrid.*

Why are you working on that?

- *Because it's on the bug list.*

Why is it on the bug list?

- *Because one of the testers reported it as a bug.*

Why was it reported as a bug?

- *The tester thinks this field should sort in numeric order instead of alphanumeric order.*

Why does the tester think that?

- *Evidently the users are having trouble finding things when item 2 is sorted under item 19*

A KEY TO PROJECT SUCCESS

"It is rare to discover anything in the realm of human behavior that occurs with great consistency... Therefore, it was surprising to find that in every case, without exception, when an effectively functioning team was identified, it was described by the respondent as having a clear understanding of its objective" – Larson and LaFasto, 1989

KEY ENVISIONING QUESTIONS

What business problem is being solved?

What are the key capabilities required?

What are the products quality objectives?

Identify the project constraints (scope, schedule, cost)?

What approach will be used for delivery?

ENVISIONING PRACTICES

Elevator Test Statement

Design-The-Box

Project Data Sheet
- Objectives and Constraints
- Trade-Off Matrix
- Constituents

Process Tailoring

BAD ENVISION STATEMENTS

Lame vision statement	Example	Why it fails
The kitchen sink	Maximize our customers' ability to get their work done	Too broad to be useful. This is a mission statement for an organization, not a vision for a project.
The mumbo-jumbo	Develop, deploy, and manage a diverse set of scalable, performant, and strategic knowledge management tools to best serve our constituents, partners, and collaborative organizations, improving the possibility of overall satisfaction among our diverse customer profiles	This is committee-speak jargon. It uses complex language to hide the absence of strong ideas. No one can figure out what this means and therefore it's useless.

BAD ENVISION STATEMENTS

Lame Vision Statement	Example	Why it fails
The wimp-o-matic	We may eventually consider trying to do something that's kind of better than what we've done before. At least that's what we think our vision should be now. But don't go too far because we think it might change again pretty soon.	Everyone will see how spineless this is. There's nothing for the team to rally around.
What the VP wants	Mr. VP's vision for our corporation is to be the best producer of widgets in mid-size markets, and we will work very hard to live up to Mr. VP's standard.	"I said so" is not a supportable argument. VPs are obligated to provide reasons for important decisions. That's what the vision is for.

1996 PALM PILOT – AN EXAMPLE

Size. Fit into a shirt pocket. Light enough not to feel unwieldy.

Cost. Less than a luxury paper organizer ($300 US).

Simplicity. As simple as paper. Turns on instantly. Uses simple conventions.

Sync with PC. Use the PC as a common point of interaction.

ELEVATOR TEST STATEMENT

For (target customer)

Who (statement of need or opportunity)

The (product name) is a (product category)

That (key benefit, compelling reason to buy)

Unlike (primary competitive alternative)

Our product (statement of primary differentiation)

Geoffrey Moore, Crossing the Chasm 1991

ELEVATOR TEST STATEMENT EXAMPLE

For midsized companies distribution warehouses who need advanced carton movement functionality, the Supply Robot is a robotically controlled lifting and transferring system that provides dynamic warehouse reallocation and truck loading of multi-sized cartons that reduces distribution costs and loading time. Unlike competitive products it is highly automated and aggressively priced.

- Pollice, Gary, Liz Augustine, Chris Lowe, Jas Madhur. Software Development for Small Teams: A RUP-Centric Approach. Addison-Wesley Professional, 2003

EXERCISE: CREATE AN ELEVATOR TEST STATEMENT

Goal: Write an elevator test statement for an online travel website.

Setup: Teams of 3-5

Rules

- Be Creative
- You can focus on any area of the business, etc.
- You can look at it from the perspective of starting from scratch or add a piece of functionality

Duration: 20 minutes, 10 minutes Presentation and Retrospective

DESIGN-THE-BOX

Key Principle – Every project should be considered to produce a "product".

Design-The-Box Exercise - The team makes the assumption that the product will be sold in a shrink-wrapped box, and their task is to design the product box front and back. The box consists of:

- Product Name
- A Graphic
- 3-4 Key Bullet Points on the front of the box
- Detailed Feature Descriptions on the back
- Operating Requirements

DESIGN-THE-BOX EXAMPLE

DESIGN-THE-BOX EXAMPLE

WHAT NOT TO DO...

http://www.youtube.com/watch?v=EUXnJraKM3k

EXERCISE: DESIGN-THE-BOX

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PROJECT DATA SHEET

Clients/Customers

Project Leader

Product Owner

Project Objective Statement: A specific, short (25 or fewer words) statement that includes important scope, schedule and cost information.

Tradeoff matrix

Exploration Factor

Delay Cost

Capabilities

Quality Objectives – Quantitative and qualititiave quality goals for a releasable product.

Issues/Risks

TRADEOFF MATRIX

	Fixed	Flexible	Accept
Scope	X		
Schedule		X	
Cost			X

REQUIREMENTS VARIABILITY GUIDE

Category	Requirements Variability
Erratic	> 35%
Fluctuating	20-35%
Routine	5-20%
Stable	< 5%

EXPLORATION FACTOR

Product Requirements Dimension	Bleeding Edge	Leading Edge	Familiar	Well-Known
Erratic	10	8	7	7
Fluctuating	8	7	6	5
Routine	7	6	4	3
Stable	7	5	3	1

DELIVERY APPROACH

Determine the best approach to achieve the vision

Practice Selection and Tailoring

- What practices are required?
- What supplementary practices do we need?
- What modifications do we need to make to the selected practices?
- What level of formality or ceremony should be used for documentation, approvals, changes?

Bias towards barely sufficient process and barely sufficient practices

SPECULATE

Plan implies too much…

SPECULATION RESOURCES

Agile Project Management: Creating Innovative Products (2nd Edition), Jim Highsmith

Kent McDonald - http://www.slideshare.net/kentjmcdonald/estimating-in-software-development-no-silver-bullets-allowed

Dan North –

http://dannorth.net/2009/07/01/the-perils-of-estimation/

SPECULATE

Plans are guides, not straightjackets

Plans must adapt
- Customers understanding of the requirements change
- Estimates of work effort vary
- People arrive/depart
- And many other reasons…

- Establish a target and a direction – we expect change over the life of the project

AGILE PROJECT SPECULATING

Determine how the product and its features will evolve in the current release

Balance anticipation with adaptation

Focus on the highest value features early

Think about business goals

Provide necessary cost and schedule information to management

Establish priorities and tradeoffs

Consider alternatives

SPECULATE PRACTICES

Build a product backlog

Release Planning

Candidate Architecture

Estimating

First Feasible Deployment

AGILE IN PRACTICE
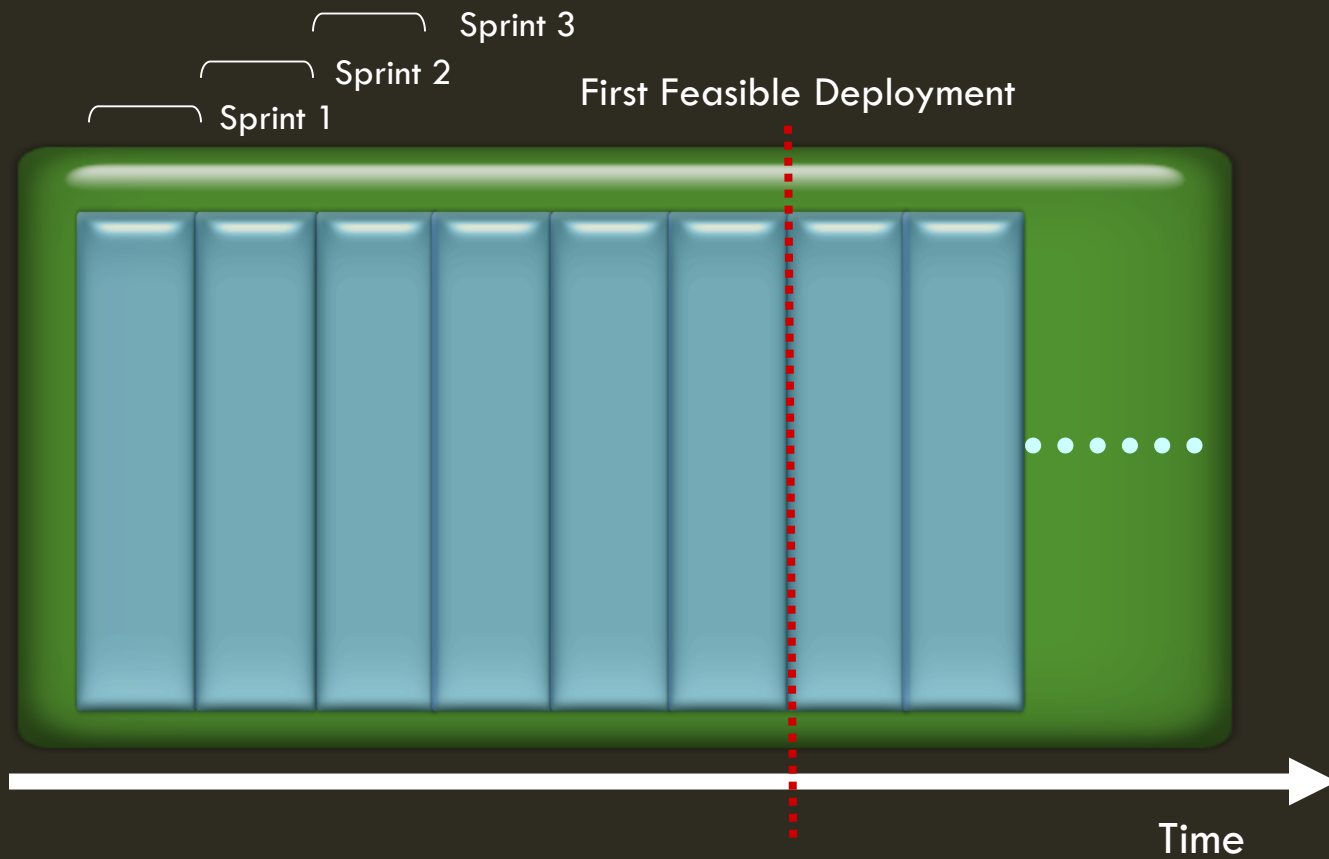
PRODUCT BACKLOG: WHAT IS IT?

Prioritized list of stories

High level estimates
- T-shirt sizing: XS, S, M ,L, XL
- Points: 1, 2,3,5,8,13
  - 10, 20, 40, 80

Items added at any time

Owned and prioritized by the Product Owner

PRODUCT BACKLOG PRIORTIZATION
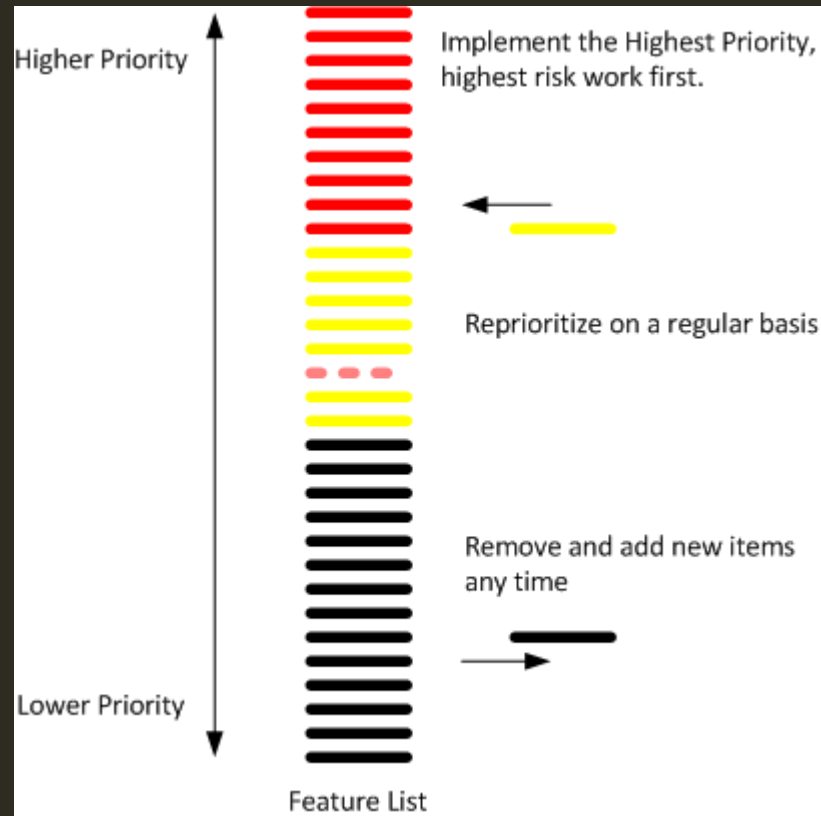
PRODUCT BACKLOG STACK RANKING

The product backlog is a stack ranked list of stories

Use the eye test to determine stack rank

INVEST IN YOUR PRODUCT BACKLOG

William Wake, 2003

Invest	
	Independent
	Negotiable
	Verifiable
	Estimable
	Small
	Testable

INVEST IN YOUR PRODUCT BACKLOG

William Wake, 2003

Independent

- Dependencies lead to problems estimating and prioritizing
- Can ideally select one item to work on without pulling in 18 others

Negotiable

- Product backlog items are not contracts
- Leave or imply some flexibility

Valuable

- To users or customers, usually not to developers
- Re-write developer-oriented backlog items in terms of value to customers

Estimable

- Because plans are based on user stories, we need to be able to estimate them

Small

- Complex backlog items are intrinsically large
- Compound backlog items are multiple items in one

Testable

- Make backlog items testable by having acceptance tests

PRODUCT BACKLOG CONTENTS

User Stories (aka features)

- A Story: <user> takes an <action> and gets a <result>
  - Example: An administrator looks up this month's patient report and is able to see who is over the user defined threshold
- Have business value
- Are easily identifiable by the Product Owner, customers and the team

Bugs

- Bugs are prioritized along with user stories, treat them as first class citizens

Work Items

- Build environment, categorized as a precondition

PRODUCT BACKLOG AND CUSTOMERS

"Collectively, the developers have a sequence in which they would like to implement the features, as will the customer.

When there is a disagreement to the sequence, the customer wins. Every time.

However, customers cannot prioritize without some information from the development team.

It is up to the development team to provide information (assumptions, constraints, alternatives) to the customer in order to help her prioritize the features"

▪ Mike Cohn, User Stories Applied

CANDIDATE ARCHITECTURE

Single Architecturally Significant Story

Vertical Slice – implemented end-to-end

Production Quality Code

Provides a Reference for Estimation

- Code Base
- Team

ESTIMATION

Initial Uncertainty -
http://www.slideshare.net/kentjmcdonald/estimating-in-software-development-no-silver-bullets-allowed

Estimation is Fractal

False Precision

ESTIMATION IS FRACTAL

http://dannorth.net/2009/07/01/the-perils-of-estimation/

To compound this, it turns out that estimation is fractal. The more fine-grained you break down the requirements, the more "edges" you will discover. This means that the more detailed you estimate, the more the total will tend towards infinity, simply due to rounding errors and the fear factors that we multiply into fine grained estimates.

ESTIMATING – THE DELPHI TECHNIQUE AKA PLANNING POKER

http://www.slideshare.net/kentjmcdonald/estimating-in-software-development-no-silver-bullets-allowed

EXERCISE - ESTIMATION

Goal: To practice planning poker with actual stories

Setup: Team of 3-5 people

Rules:
http://www.robbiemaciver.com/documents/presentations/PMIHC-PokerExercise.pdf

Time: 20 Minutes

FIRST FEASIBLE DEPLOYMENT

First Iteration in which the product could be deployed

Codeplex Example

- An open source project hosting site
- High Level Features
  - Source Control
  - Work-Item Tracking
  - Download Capabilitiy
  - Project Home Pages

Waiting for a full featured product is often a mistake

- Xerox Laser Printers

SUMMARY

Agile Delivery Framework Overview

Envision

- Exercises
  - Elevator Test Statement
  - Design-a-box

Speculate

- Exercise
  - Estimation