IterEx

# The XP Lego Game

Learning Agile and XP the Fun Way!

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*http://www.iterex.co.uk*

# *The Goal of this Session*

- To demonstrate some of the concepts of Agile and introduce some of the common terminology
- We will simulate the Planning Game and Iterations of XP
  - Estimating User Stories
  - Planning Iterations
  - Incremental Implementation/Refactoring
  - Feed back with Retrospectives

- We will measure and use **Velocity**
- Everyone gets to play the Customer and Developer
- And remember... It's only a game.

# *Session History & Previous Credits*

- Extreme Hour (~2000 P.Merel)
  - Session using drawn Cartoons with acceptance criteria – teaches concepts of load factor
- XtC Extreme Hour (~2000 Bye, Freeman, Mackinnon, Simmons)
  - Based on the above, with refinements around velocity and visibility of customer tests
- XP: the LEGO brick road (2000 – Bye, Mackinnon, Simmons)
  - Demonstrated some tracking but with emphasis on incremental development, refactoring and pairing using Lego Mindstorms
- XP Game (2001 – Peters, Cauwenberghe)
  - Demonstrates planning and tracing with numerous fun props like balloons, string, puzzles. Well packaged game with tracking forms
- XP Lego Game (~2005 – Newman)
  - Loosely based on the XP Game with a few ideas from Extreme Lego
- XP Lego Game+ (2006 – Newman, Mackinnon)
  - As above, but borrows tracking sheets and slides from XP Game, but also uses real cards and introduces tracking tools

# *What is this Agile fairy tale?*

- An umbrella term covering development frameworks that adhere to the Agile Manifesto:

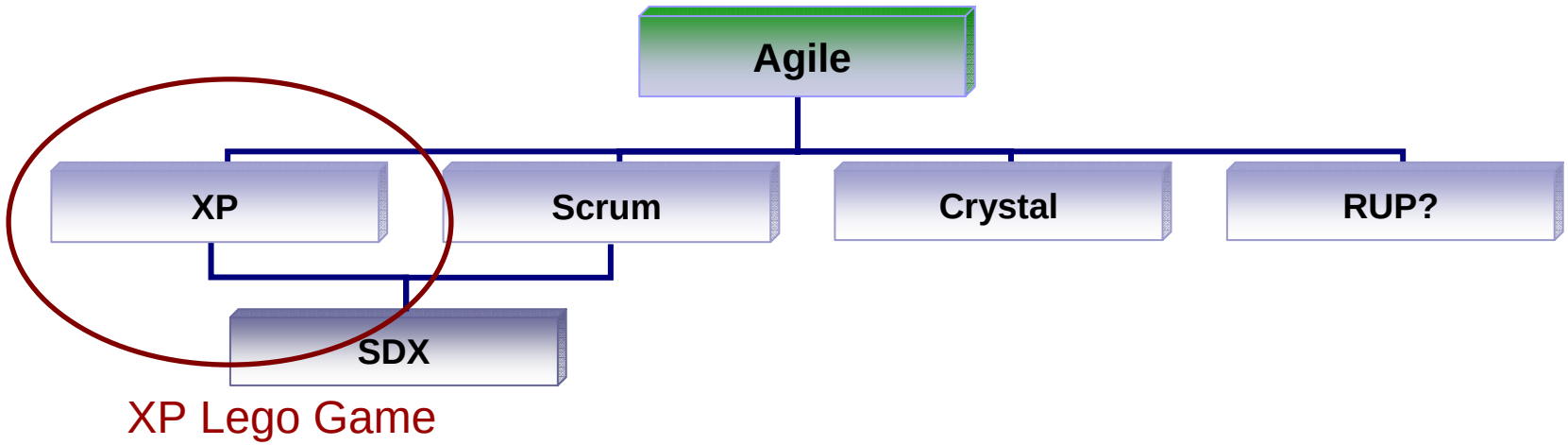
**"We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:**

- ***Individuals and interactions*** over *processes and tools*
- ***Working software*** over *comprehensive documentation*
- ***Customer collaboration*** over *contract negotiation*
- ***Responding to change*** over *following a plan.*

**That is, while there is value in the items on the right, we value the items on the left (bold) more."**

# *Agile Taxonomy*

- Of course, given this loose definition of agile, many things fall into this category
- Some are more extreme in their definitions
- Hybrid approaches are now quite common, and can work well if they are sympathetic to their roots.



# *Principles behind the Agile Manifesto*

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
- **Business people and developers must work together daily throughout the project.**
- The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
- Working software is the primary measure of progress.

- + more… (see: http://agilemanifesto.org)

# *Important Agile Core Values*

- Good Agile methods promote Core Values
  - Communication
  - Simplicity
  - Feedback
  - Courage
  - Respect

- Its important to align team behaviour with similar values
- *Kent Beck refers to the 3 legs of Agile development – Practices, Principles and Values. If a practice doesn't work, back up and apply the others to derive a sympathetic new practice*

# *Back to the Game*

- 2 to 3 players per team
- Teams share Customers
- Each team has a coach to helps facilitate and direct

- Each team earns **Business Value** by implementing Stories in LEGO, that are accepted by the Customer

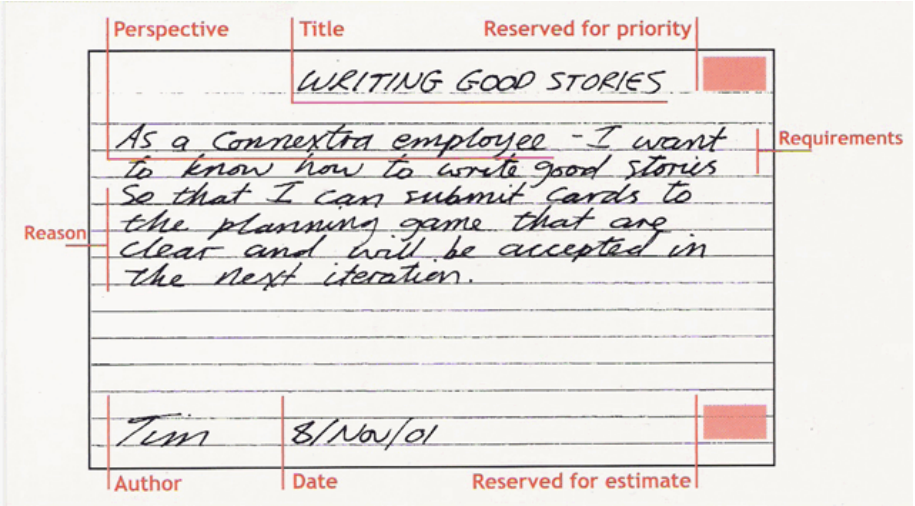
- The team with highest **Business Value** after 3 iterations wins

# *Warmup – Calibration Exercise*

- Try to build a tower 10 blocks high
- Look at the onscreen timer and see how long it took you
- Remember this number, as it will be a guide when estimating

# *Story Card Technology…*

- Planning is based on “Story Cards”
  - A simple but effective requirements capture tool
  - Resists overusing technology, keeps it simple and tactile
- A Story is a placeholder for a bigger conversation (often acceptance criteria)
- A Story has enough information to allow an estimate
- If possible a Story should have a measurable business value
- Useful specific format for clarity
  - A good title to make it easy to refer to
  - An “author” allowing developers to have a conversation
  - Format: As a “Role”, I want “Feature” so that “Business Value”



# *Iterations*

- For each Iteration …
  - Customer ***Writes*** Stories
  - Developers ***Estimate*** Stories
  - Team ***Plans*** Iteration
  - For each Story in the Iteration
    - Developers ***Implement*** the Story
    - Customer ***Performs*** the Acceptance Tests
  - Retrospective to learn how to improve

- We will run - **3** - Iterations

# *Tips for Planning and Estimating Stories*

- Order your Stories: Easy => Hard
- Estimate Stories based on ideal effort (mins)
  - (less) 0.5 0.75 1.0 1.5 ____ (more)
  - You can use your own number in ____
  - Or impossible (defer until you have more experience)

- **Tip:** Estimate Stories relative to other Stories
- **Remember**: Ask your Customer about the stories if details are unclear

# *Team Plans The Iteration*

- How many stories per iteration (5 mins)?
  - ES1+ES2+ESX = 5
- Prioritize Stories ... to maximize potential Business Value
- **Tip:** Try to Have a mixed portfolio of easy and difficult stories
- **Remember**: Don’t over-commit (exceed 5)

# *Filling out your tracking sheet*

Iteration #1

| Story # | Title Summary | Estimate | Accepted | Only If Accepted: Business Value | Only If Accepted: Original Estimate |
|---|---|---|---|---|---|
| 11 | Head | .5 | ❑ | | |
| 13 | Legs | .5 | ❑ | | |
| 15 | Arms | 2 | ❑ | | |
| 17 | Eyes | 2 | ❑ | | |
| | | | ❑ | | |
| | | | ❑ | | |
| | Estimate Total (max 5 mins): | 5 | Totals: | | |

<< Velocity 1

# *Implementing Stories*

- Take the first story from the iteration plan
  - Implement Story
  - Customer can verify implementation

  - Repeat until the timer is finished
  - If a story goes badly, you may abandon it ... **iff** your Customer agrees

  - We will review all the cards and calculate your score in your showcase at then end of the iteration

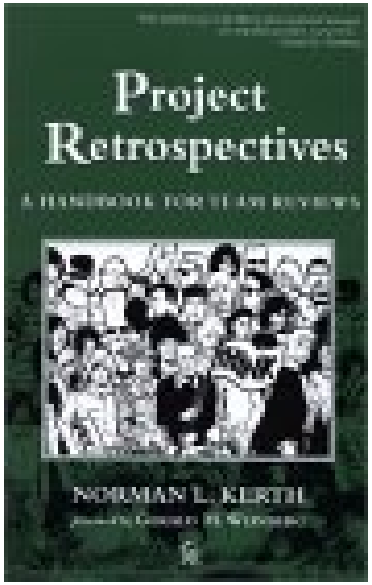
# *Tallying your tracking sheet*

Iteration #1

| Story # | Title Summary | Estimate | Accepted | Only If Accepted: Business Value | Only If Accepted: Original Estimate | |
|---|---|---|---|---|---|---|
| 11 | Head | .5 | ☒ | 200 | .5 | |
| 13 | Legs | .5 | ☒ | 100 | .5 | |
| 15 | Arms | 2 | ❑ | | | |
| 17 | Eyes | 2 | ☒ | 300 | 2 | |
| | | | ❑ | | | |
| | | | ❑ | | | |
| | Estimate Total (max 5 mins): | 5 | Totals: | 600 | 3 | << Velocity 1 |

# *Retrospective Key Questions*

- What did we do well?
  (that if we don't discuss we might forget)
- What should we do differently next time
- What still puzzles us?
- What did we learn?
- Actions to apply in our next iteration



# *Enough Talk! Iteration #1*

- **20** minutes …
  - To **Estimate** (5)
  - To **Plan** (5)
  - To **Implement** (5)
  - To **Tally and Retrospect** (5)

# *What Did We Learn?*

- Estimates vs Actuals
  - With a Fixed Iteration length (5 mins)
    - Estimated we could do **Y** effort points
    - Actually, we only implemented **N** effort points

- **VELOCITY = effort points completed per iteration**

- *Velocity is like driving a car, however instead of talking about miles per gallon (mpg) its better to consider the range that you can drive on a tank of fuel. Your project velocity is how far your team is likely to go in a single iteration (which might be less if your journey is uphill)*

- For your next iteration, choose stories up to **N** VELOCITY effort points, to fit the fixed Iteration length

# Using your measured velocity for Iteration #2

Iteration #1

| Story # | Title Summary | Estimate | Accepted | Only If Accepted: Business Value | Only If Accepted: Original Estimate | |
|---|---|---|---|---|---|---|
| 11 | Head | .5 | ☒ | 200 | .5 | |
| 13 | Legs | .5 | ☒ | 100 | .5 | |
| 15 | Arms | 2 | ❑ | | | |
| 17 | Eyes | 2 | ☒ | 300 | 2 | |
| | | | ❑ | | | |
| | | | ❑ | | | |
| | Estimate Total (max 5 mins): | 5 | Totals: | 600 | 3 | << Velocity 1 |

# *Preparing Iteration #2*

- Planning Game and execution again …
- However, team choose stories up to the **measured** total of **VELOCITY** effort points

- Estimate consistently:
  - Assign “ideal” effort points by comparing with previously implemented stories
  - Unfinished stories can be re-estimated
  - Our measured velocity accounts for the fact that there is overhead in doing **quality** work

# *Second & Third Iterations*

- And again (20 mins)...
  - Estimate (5)
  - Plan (5)
  - Implement (5)
  - Retrospect (5)
- OFF YOU GO!

# *Concept Review*

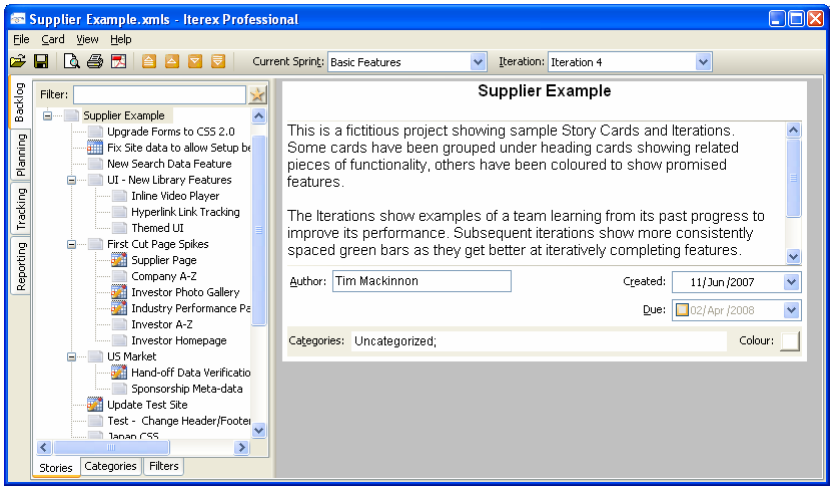
- Roles and Responsibilities
  - Customers
  - Developers
- Estimating
  - Accuracy vs Consistency
  - Story Points are a popular method
  - Planning poker as an aid
- Iterations
  - Measure Velocity => consistent estimates
  - Deliver Business Value

# *But What About Tools?*

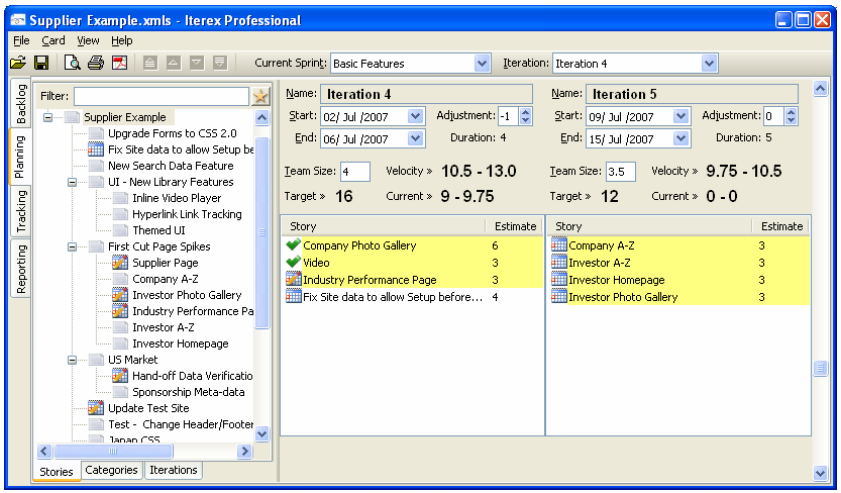
- There are many “Agile” tools available
- Unfortunately many seem to have lost the simplicity of Cards, Conversations, Collaboration
- Common Pitfalls
  - No Card Printing facility – the tactile nature of cards is important
  - Over specific measurements giving false confidence (they are still estimates after all)
  - The downfalls of tracking “actuals” and behavior it can encourage
- Some Benefits
  - Hard backup of cards
  - Ability to easily “refactor” ideas
  - Automatically calculate velocity and do some forecasting
  - Big Visible charts to help retrospect

# *Case Example: Iterex Professional*

- An agile outliner for efficiently printing, tracking and refactoring ideas
- Helps teams split projects into meaningful pieces for easy estimation and progress tracking.

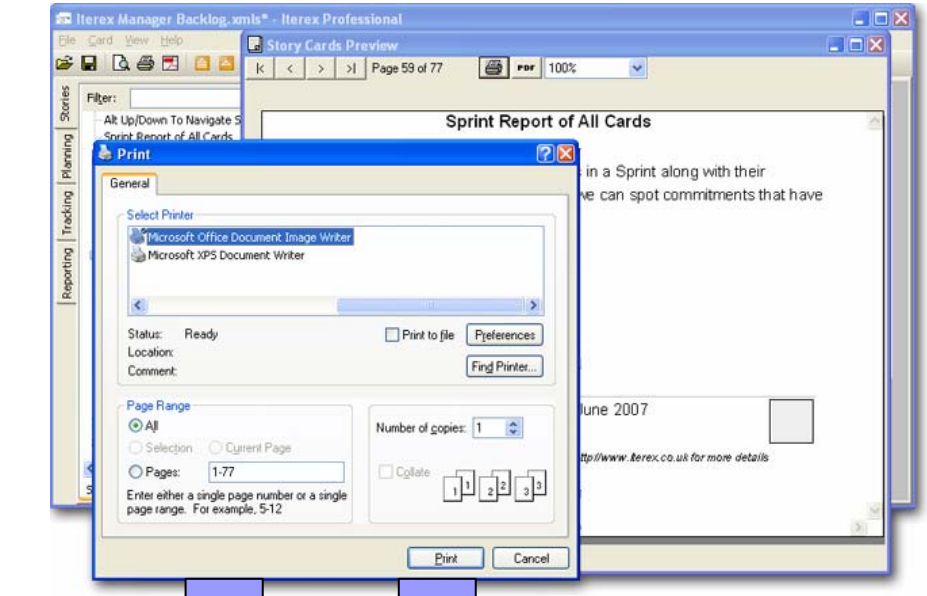



- Features:
  - Rich native Windows interface
  - Produces vivid tracking charts for group reflection.
  - Prints 4x6 index cards
  - Integrates with any VCS



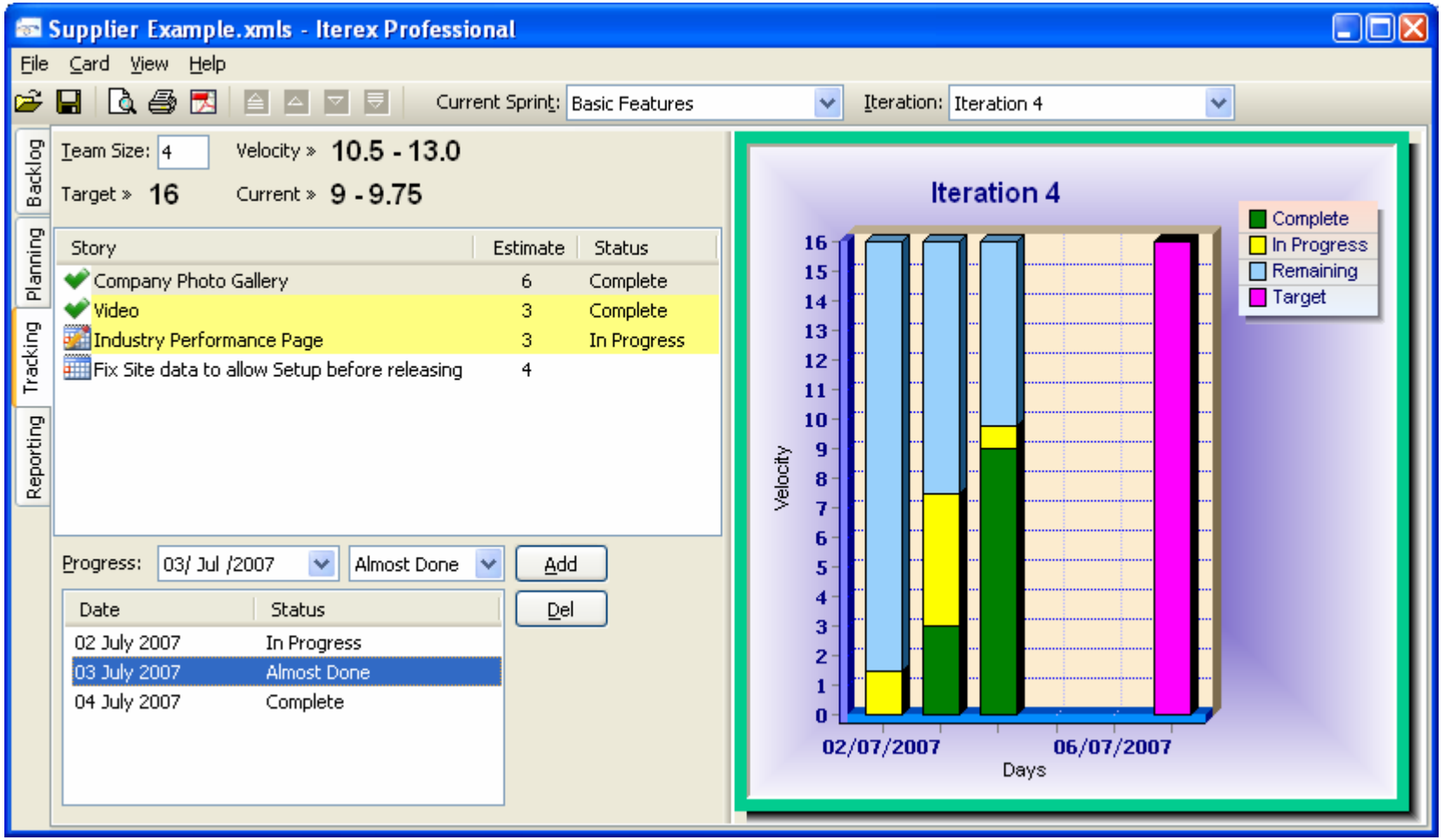

http://www.iterex.co.uk

# *Card printing…*

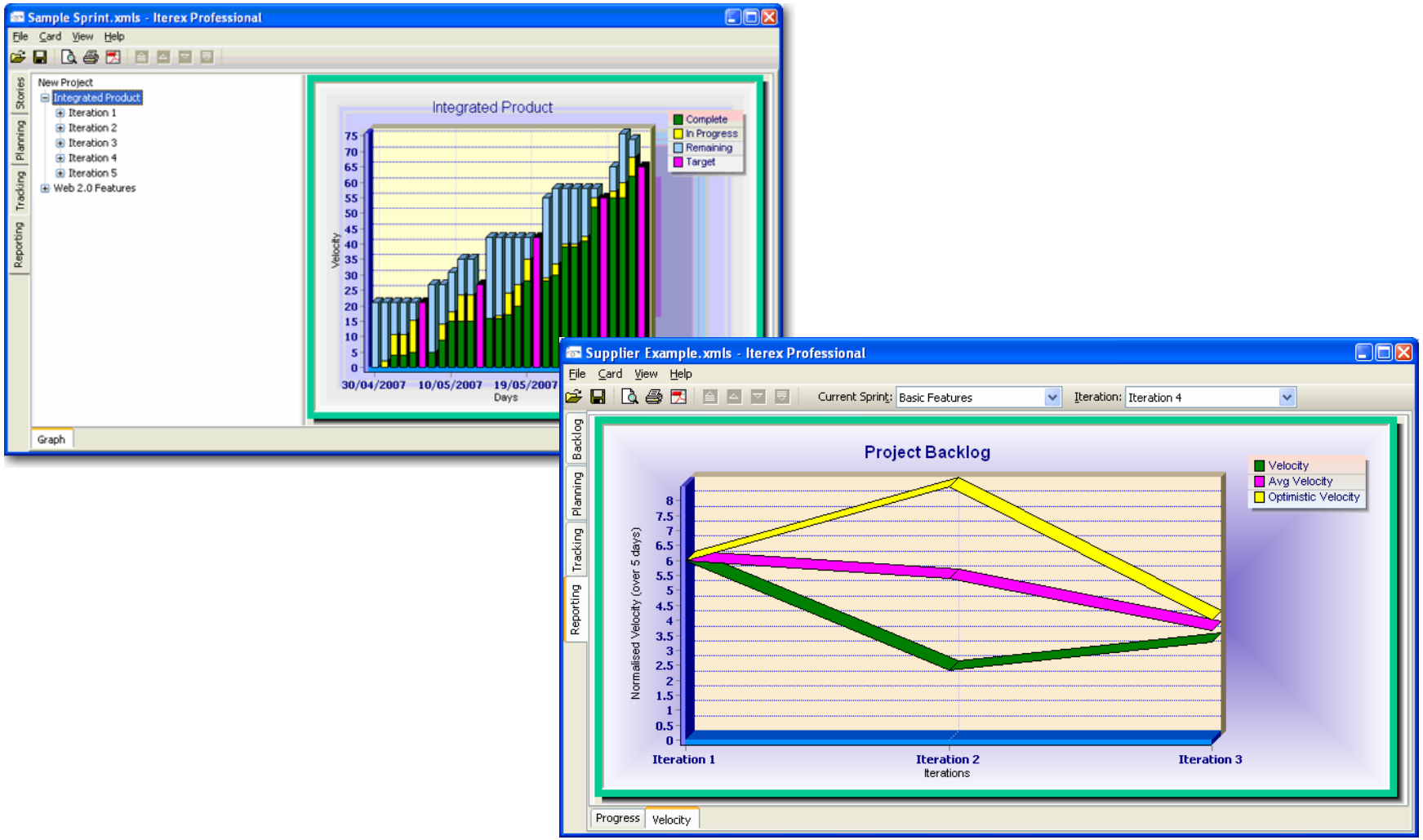


The coloured cards for the workshop were printed using Iterex on an HP 4700 printer

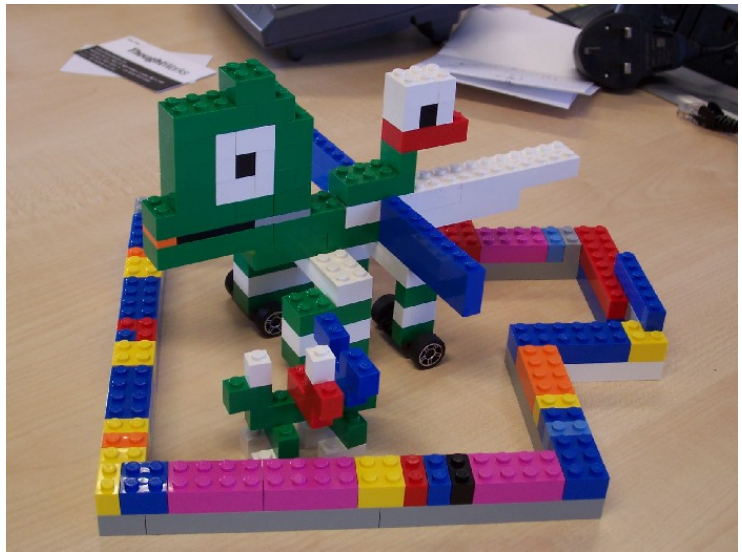
# *Light weight Progress Tracking*



# And Visualise Performance



# *And the Winner Is …*

- And The Winner Is ... the team with the highest earned Business Value...

  Let's see the **Final Scores**!