Agile Project Management

11 June 2014

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processes, people and technology

Welcome

14.00   **Arrival and welcome**
          Libby Hare – Adapta Consulting

14:15   **Overview of Agile project management**
          Libby Hare – Adapta Consulting

          ---- CAKE ----

15:00   **Case studies**

15:45   **Discussion and feedback**
          All

16.30   **Review and close**
          Libby Hare– Adapta Consulting

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About Adapta Consulting

Adapta is:
- A specialist information systems consultancy
- We only work with membership organisations, charities, associations, trusts and others in the NfP sector
- We are completely supplier-independent
- Our consultants have held senior positions in a broad range of different organisations
- Our advice and guidance is based on practical experience gained over many years

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What does Agile mean for me?

- What experience do I have of Agile?

- Why am I interested in this event?

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What is Agile?

What is Agile?

- Flexibility
- Working closely with the "customer"
- Making sure the solution meets the business need
- Deferring decisions about detail until as late as possible
- Building incrementally to deliver value early

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What is the Agile manifesto?

Manifesto for Agile Software Development

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 more.

Kent Beck	James Grenning	Robert C. Martin
Mike Beedle	Jim Highsmith	Steve Mellor
Arie van Bennekum	Andrew Hunt	Ken Schwaber
Alistair Cockbur	Ron Jeffries	Jeff Sutherland
Ward Cunninghamn	Jon Kern	Dave Thomas
Martin Fowler	Brian Marick	

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Agile methodologies

"Lightweight" approaches	"Fuller" approaches
Scrum	Agile Unified Process
Lean	Disciplined Agile Delivery
Extreme Programming (XP)	DSDM Atern
Kanban	

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Scrum

"A flexible, holistic development strategy where a development team works as a unit to reach a common goal"

- Emphasis on collaboration and continuous improvement
- Reliance on trust in teams
- Product build incrementally around sprints
- Customer collaboration more important than contract negotiation
- Importance of responding to change

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Scrum roles

- **Product owner**
  - business focus, decides what needs to be done
- **Scrum master**
  - helps the team follow the process and gives coaching
- **Development team**
  - carries out the work
  - is self-organising
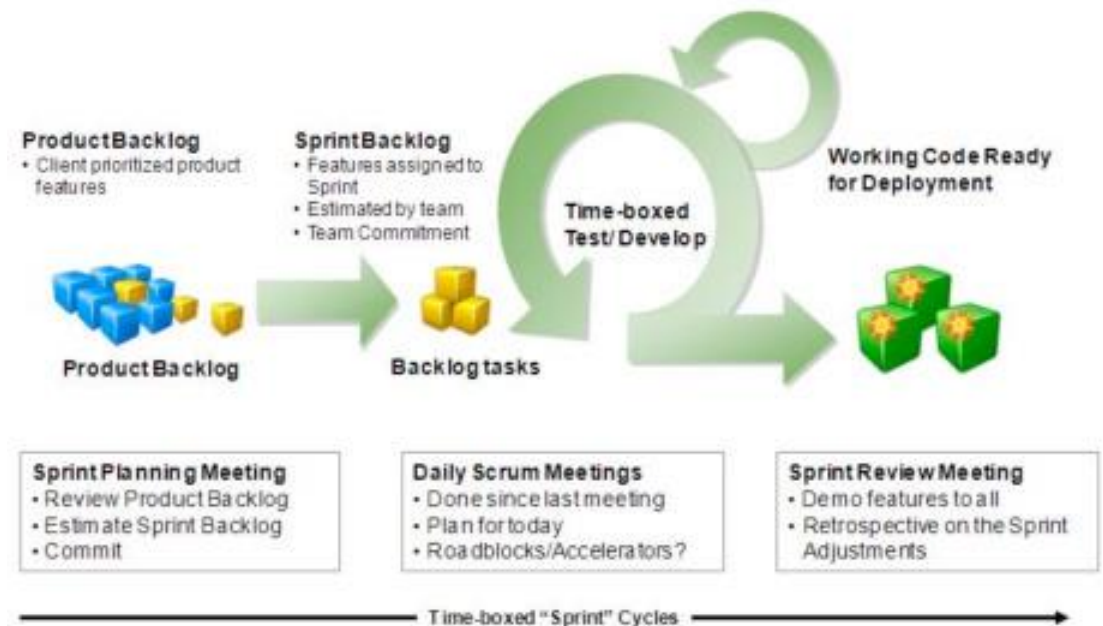 - decides what work to take on based on capacity

Scrum lifecycle
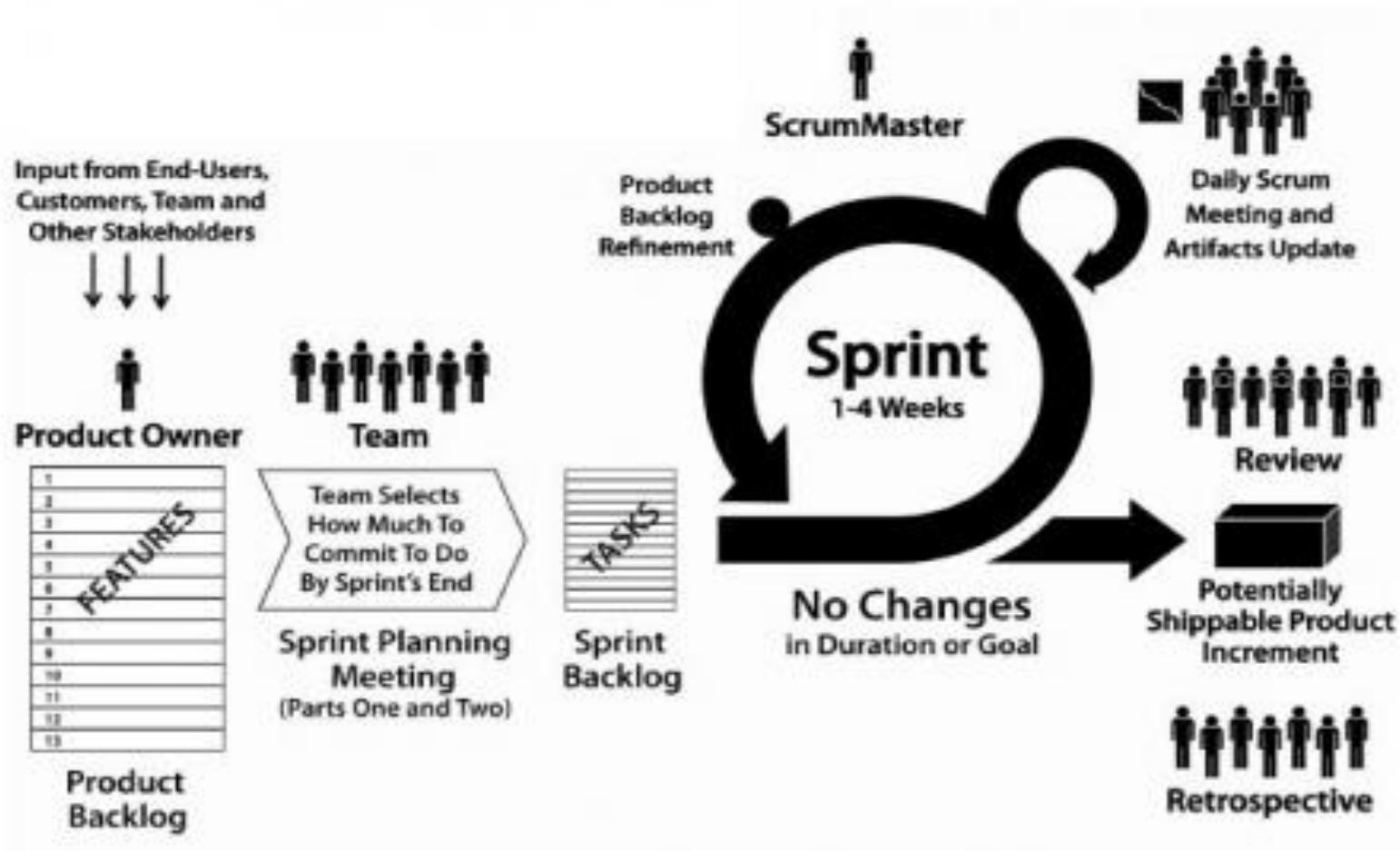
Scrum activities

- Backlog refinement
- Sprint planning
- Daily scrum
- Sprint review
- Sprint retrospective

ProductBacklog
- Client prioritized product features

SprintBacklog
- Features assigned to Sprint
- Estimated by team
- Team Commitment

Time-boxed Test/Develop

Working Code Ready for Deployment

Product Backlog

Backlog tasks

Sprint Planning Meeting
- Review Product Backlog
- Estimate Sprint Backlog
- Commit

Daily Scrum Meetings
- Done since last meeting
- Plan for today
- Roadblocks/Accelerators?

Sprint Review Meeting
- Demo features to all
- Retrospective on the Sprint Adjustments

Time-boxed "Sprint" Cycles

Scrum – key artifacts

- Product backlog – list of ideas in the order that they will be built
- Sprint backlog – detailed plan for the development of the next sprint
- Product increment – version of the product that the end of the sprint

Lean

- Create value by eliminating waste
- Have the right resources in place to do the right work … with the right quality at the right time
- Simultaneously improve:
  - Safety
  - Quality
  - Delivery
  - Cost
  - Morale

Lean principles

- Focus on delivering value to the customer
- Respect and engage the people
- Improve the value stream by eliminating all types of waste
- Maintain flow
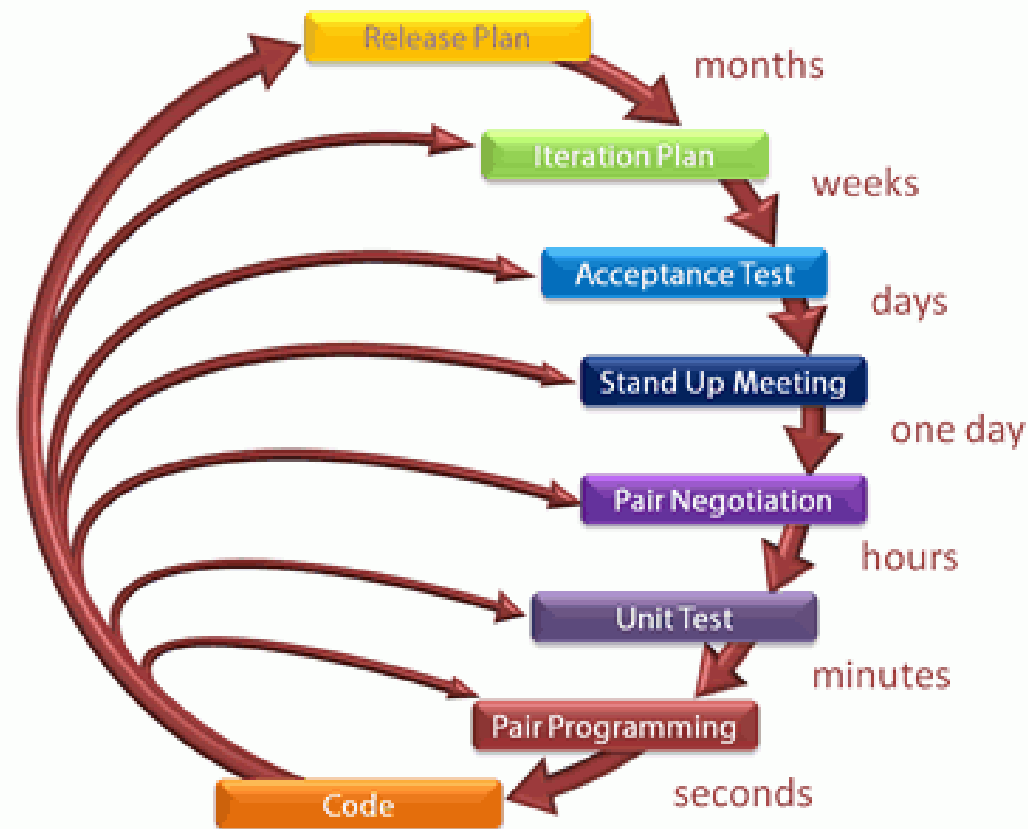- Pull through the system
- Strive for perfection

Lean lifecycle

Extreme Programming (XP)

- Software development approach
- Discipline that organises people to produce a higher quality software more productively
- Frequent releases in short development cycles

Extreme Programming (XP) basic values

- Communication
  - Simple designs, frequent communications, collaboration, feedback
- Simplicity
  - Start with the simplest solution then add extra functionality later
- Feedback
  - Feedback at all levels
- Courage
  - Know when to throw away code, persistence
- Respect
  - Respect your own work and that of others

Extreme Programming (XP) lifecycle


Extreme Programming
Planning/Feedback Loops

Release Plan — months
Iteration Plan — weeks
Acceptance Test — days
Stand Up Meeting — one day
Pair Negotiation — hours
Unit Test — minutes
Pair Programming — seconds
Code

© J. Donovan Wells

Kanban

- Scheduling for Lean or just in time
- Delivery of the required quantity, no more no less
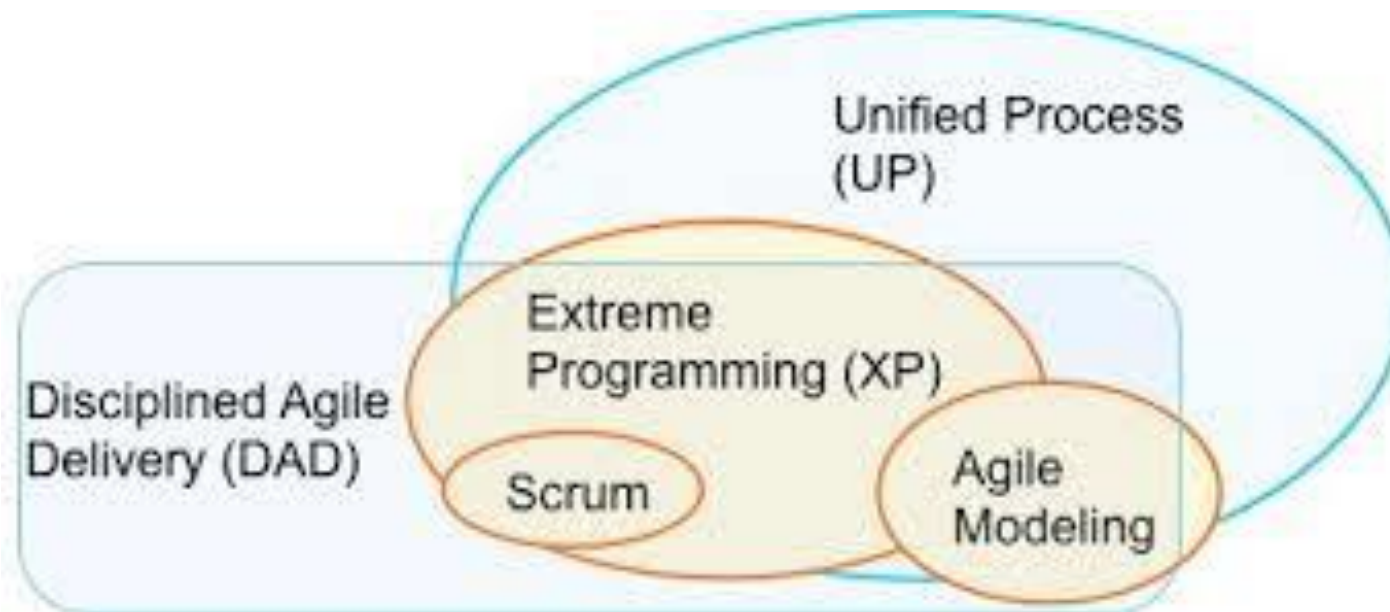- Use of Kanban cards to move materials and trigger the next activity

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Kanban boards

Kanban board
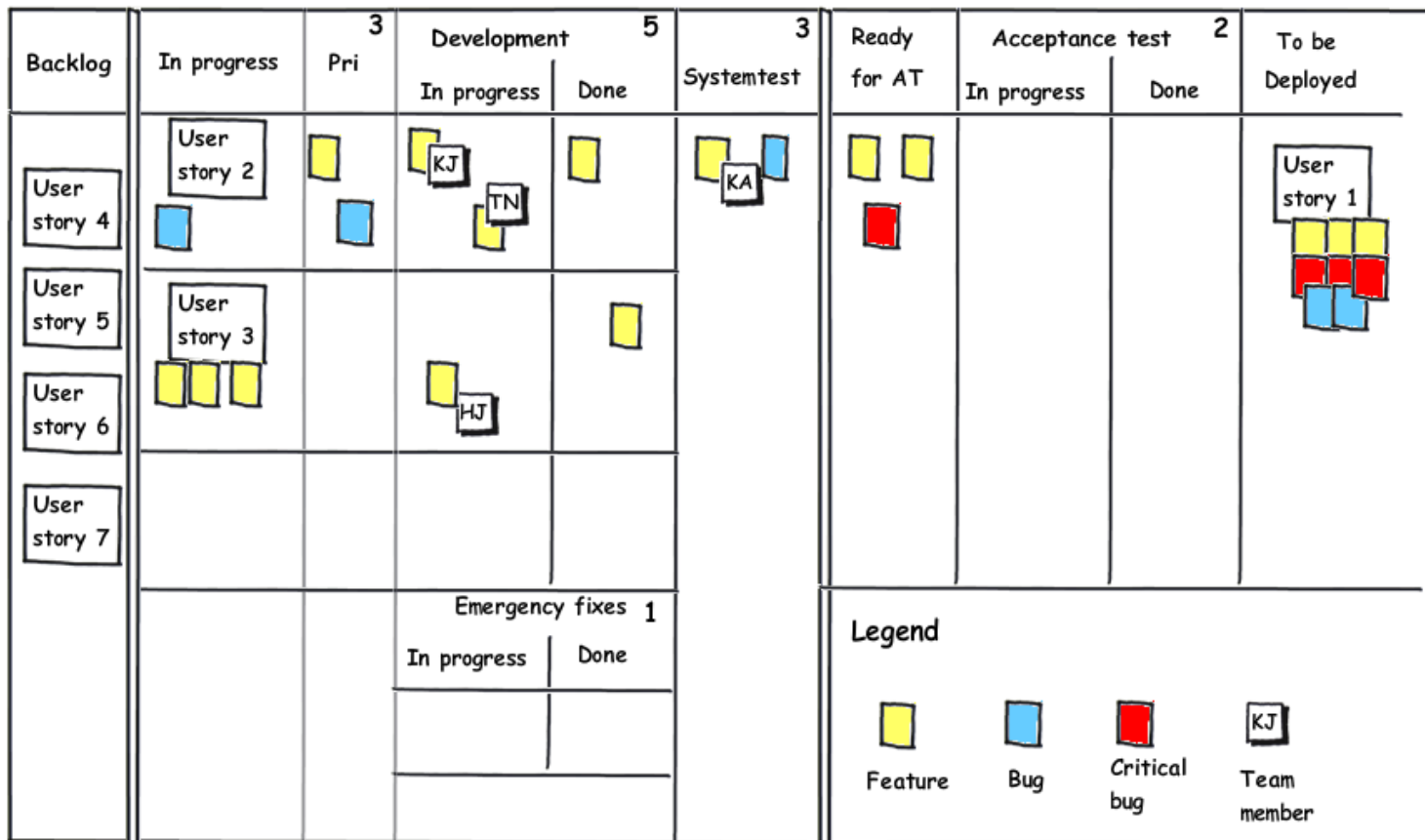
Disciplined Agile Delivery

- Designed to move beyond Scrum
- Streamlines IT work and enables scaling

Disciplined Agile Delivery goals

- Fulfil the project mission
- Grow team members
- Address risk
- Improve team process and environment
- Leverage / enhance existing infrastructure
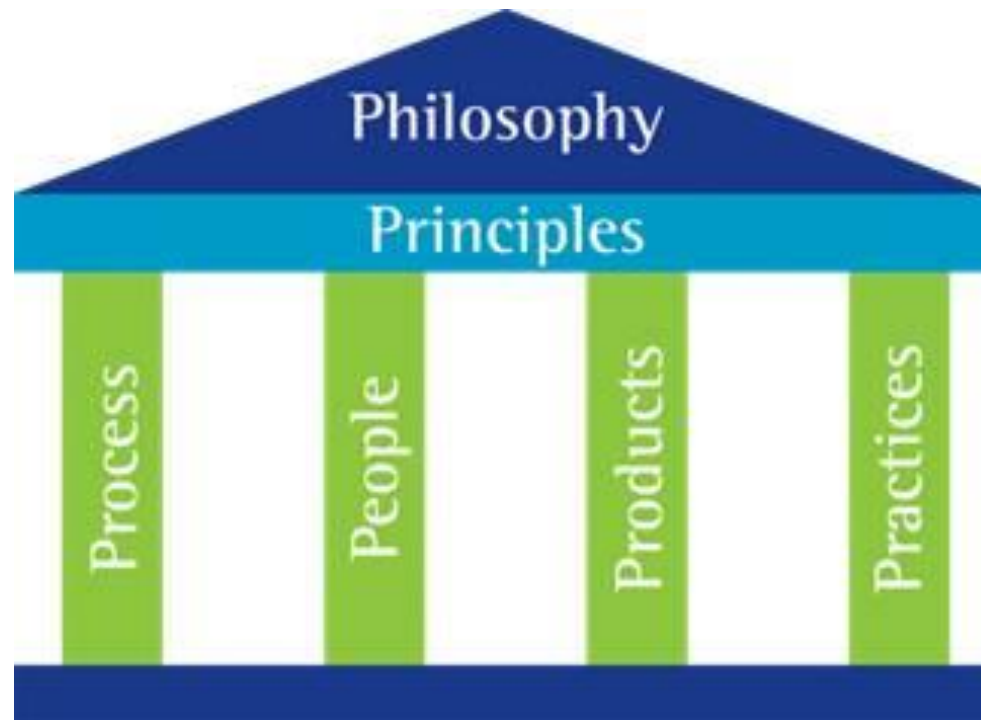
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Disciplined Agile Delivery lifecycle

DSDM Atern

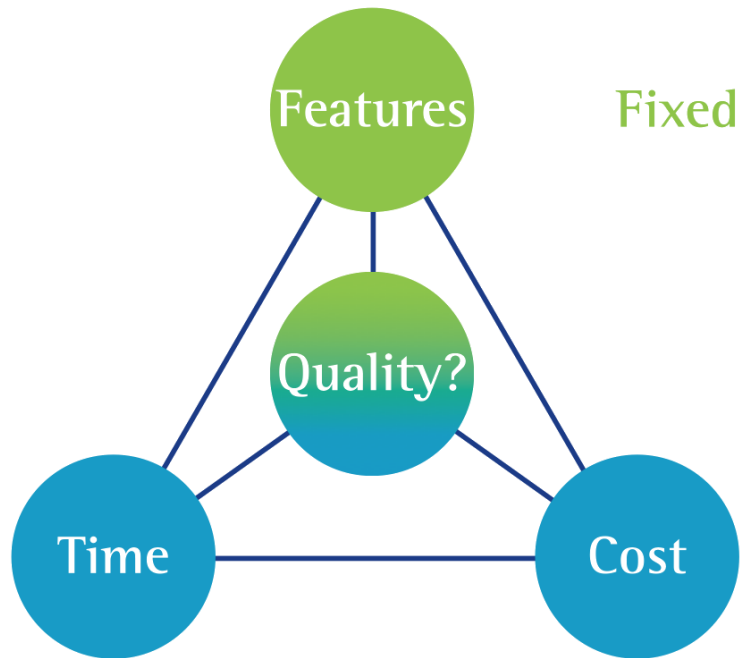"An agile project delivery framework that delivers the right solution at the right time"

DSDM Atern philosophy

- Projects aligned to clearly defined strategic goals
- Focus on early delivery of real benefits
- Stakeholder understanding of the business benefits
- Empowerment to appropriate level
- Collaboration
- On time delivery according to business priorities
- Stakeholders willing to deliver a fit-for-purpose solution
- Acceptance that change is inevitable

DSDM Atern approach
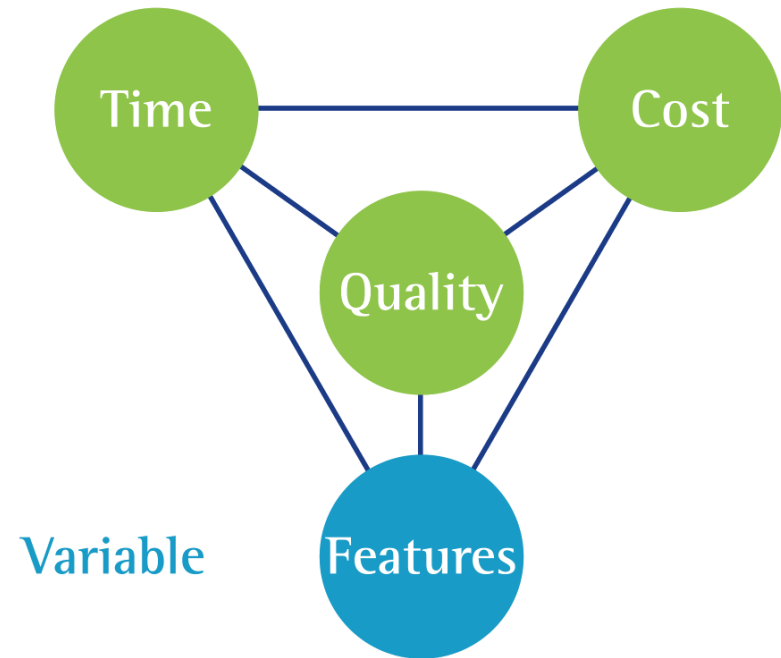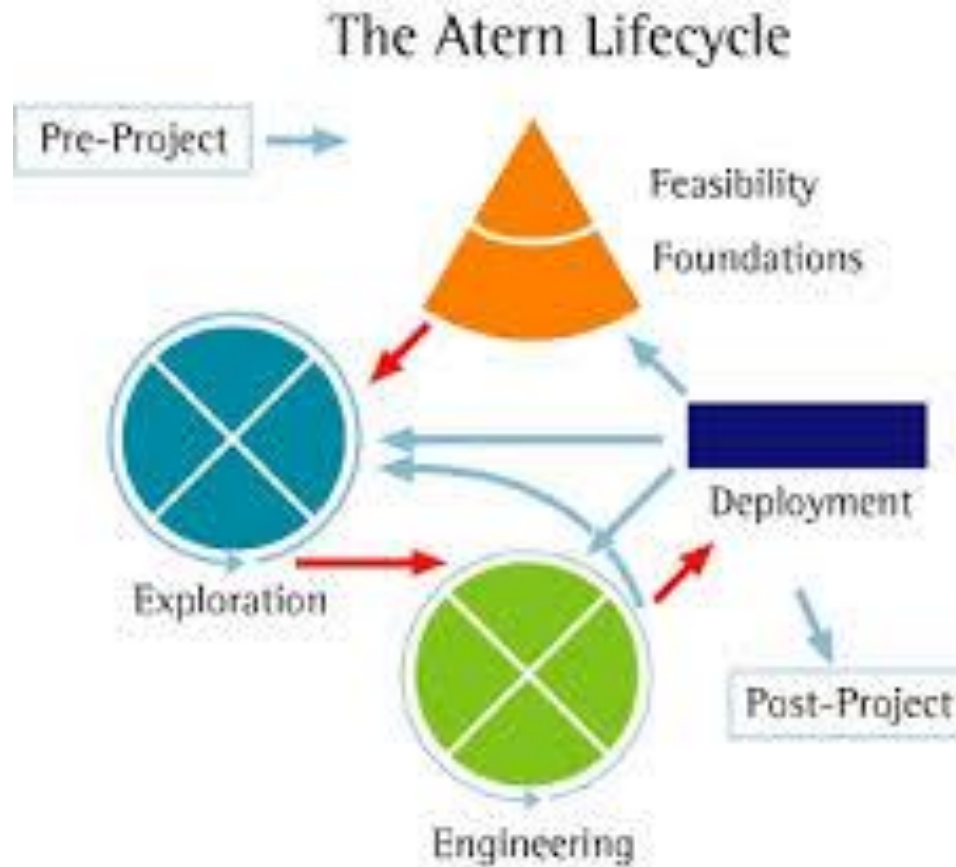
DSDM Atern principles

- Focus on the business need
- Deliver on time
- Collaborate
- Never compromise quality
- Build incrementally from firm foundations
- Develop iteratively
- Communicate continuously and clearly
- Demonstrate control

DSDM Atern roles and responsibilities

- Project
  - Business sponsor, business visionary
  - Technical coordinator
  - Project manager, business analyst
- Solution development
  - Team leader, business ambassador
  - Technical advisor
  - Solution developer, solution tester
- Other roles
  - Workshop facilitator, DSDM coach

DSDM Atern lifecycle

The Atern Lifecycle

Pre-Project

Feasibility
Foundations

Deployment

Exploration

Post-Project

Engineering

* 2008 Dynamic Systems Development Method Limited

Summary

- Various approaches including Scrum, Lean, Extreme Programming (XP), Kanban, Disciplined Agile Delivery, DSDM Atern
- Key values:
  - Collaboration
  - early delivery
  - empower teams
  - prioritise to deliver business value
- Fixed time, fixed cost
- Acceptance that change is inevitable

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Agile – Case Study

- e-Commerce Project Background
- Project Structure
- Experience/Lessons Learned
- What now

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E-Commerce - Project Background

3rd project in Web Strategy Programme to deliver an e-Commerce solution
Objectives of the e-Commerce project:

- Deliver a new online shop with the front end integrated with new website and integration with existing back office systems for sales order management and fulfilment
- Introduce new streamlined processes supported by new systems - more efficient back end processes
- Deliver functionality to support the majority of users - not to provide boutique solutions
- Offer more products and services for sale through online shop

E-Commerce - Project Structure

Delivered with 2 main suppliers (and a host of minor suppliers):

- Supplier 1 - online shop – Agile methodology
- Supplier 2 - data hub and integration to back end systems

Our Project Team

- Project Manager - 3.5 days per week
- Information Architect became Training Manager - 2.5 days per week
- Business Analyst became Test Manager - 2.5 days per week
- Lead developer - 4 days per week
- Ad-hoc support on testing and data preparation

3 key business users - no more than 1 day per week each

Agile used as the Systems Development Methodology within the organisations
Project Management Framework

Overall Experience/Lessons Learned

- ✓ Large, complex project delivered in comparatively short timescale
- ✓ Initial delivery of functionality faster than Waterfall - visible progress
- ✓ Agile considered to have provided focus and momentum

- • The organisation did not have Agile experience - team learnt on the project
- • Business users felt they needed a better understanding of Agile and the consequence of user stories being de-scoped
- ➢ **In future: Ensure project team and business users have better understanding of Agile**

- • Initial user stories focused on business users. Technical requirements not captured in sufficient detail for integration and system requirements
- ➢ **In future: Capture detailed system stories in addition to user stories**

- • On large complex projects, with significant integration, Agile worked well for front end development but was not so good for backend integration
- ➢ **In future:**
  - **•Ensure appropriate methodology is used for scale and complexity of a project**
  - **•Consider using a combination of approaches**

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Agile Features and Our Experience

❖ *User stories instead of detailed requirements. No analysis/design stages*
- Design decisions made throughout project - no comprehensive documentation of what decisions are made, when and by whom
- ➢ **In future – Implement a means of documenting key decisions**

❖ *Development broken into small increments with minimal planning based on prioritised user stories*
❖ *Iterations with short time frames typically 1 to 4 weeks*
❖ *Each iteration involves full software development cycle including acceptance testing when working product is demonstrated to stakeholders*
- Iterations did not deliver working products so difficult to fully test
- Lack of certainty about supplier's delivery times - hard for PM to plan ad hoc resource requirements
- ➢ **In future – Be more realistic about what can be delivered when and what can be tested**

Agile Features and Our Experience

- ❖ *Team composition usually cross-functional and self-organizing without consideration of existing corporate hierarchy. Each agile team will contain a customer representative*
- • Worked well having just 3 business user representatives in an organisation which is typically very consultative
- ➢ **In future - Assign small number of key business users to projects**

- ❖ *Emphasize face-to-face communication over written documents with team co-located. Produces less written documentation*
- • Agile is resource heavy - we were not prepared for this. Could not always respond as fast as the supplier wanted
- • Need to consider location of developers in relation to project team / business users - we were based in 3 different locations
- ➢ **In future:**
    - •**Be prepared for the necessary resource commitment**
    - •**Core team should be released to work full time on the project**
    - •**Ideally the team including business users should be co-located**

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Agile Features and Our Experience

❖ *Prioritised user stories - not fixed scope and change control*
❖ *Changes welcomed even late in development*
• If not constrained by budget, Agile delivers more successfully as user stories less likely to be de-scoped. Our budget was fixed and there was a minimum set of functionality needed for working end-to-end system
• Fixed budget and timescales meant changing requirements were not welcomed
➢ **In future – Make users aware of this at the start and be realistic about what is achievable with fixed budgets/timescales**

After the e-Commerce project, we planned to try Agile again:
• Small scale project
• Internal development only
• Less integration involved
• Shorter timescale

What now - Applying Lessons Learned

The organisation have used Agile again

Project to Implement a new Volunteering System

- Standalone system with web front end
- No integration
- Single Supplier who uses Agile
- Shorter timescale

Outcome

- ✓ Project delivered on time
- ✓ Favourable response from everyone involved
- Experienced challenges with other parts of project like data migration

The Future

- Drive to deliver functionality faster
- Will continue to review projects to determine best delivery approach
- Increasing use of Agile

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Case Study

Gregor Waddell

Assistant Director IT, Anglia Ruskin University

Agile Project Management at Anglia Ruskin University

11th May 2014

Gregor Waddell – Assistant Director IT

Introduction

- Gregor Waddell MBA - Assistant Director IT Services

- (Prince 2 Practitioner, Agile PM Certified Practitioner, TOGAF Certified Enterprise Architect)

- Using Agile Project Management since about 1996 – with Dynamic Systems Development Method v1.

- Responsible for IT project delivery teams – including a Project Office.   About 60 FTE IT staff working on projects. Plus, around 6 seconded from elsewhere in University (full time)

- Our project portfolio includes about 40 active projects – ranging from very small to £4m.

- Our (new Oct 13) IT strategy includes a capital investment plan of about £15m over two years.

A bit about Anglia Ruskin

- Around 31,000 students (9,000 part-time) and 3000 staff
- 20% Postgraduate
- 60% Undergraduate
- 20% Ongoing Professional Development – mostly medical
- Two main campuses in Chelmsford and Cambridge
- Regional partnerships and campuses e.g. Peterborough, King's Lynn, Harlow, Benfleet, London
- Also delivering degrees in Trinidad, China, India, and Malaysia with partners

Current Projects – A flavour

- All projects are customer led and sponsored as a principle – not IT sponsored

- All projects are mostly delivered within a Business Process Improvement context

- A web Content Management System – October 2014 launch

- New Customer Relationship Management system – June 2014 launch

- Business Intelligence (BI) – Latest project started delivery March 2014

- New student records system – Launch scheduled for December 2015. This is our largest and most impactful project.

- New Unified Communications Platform

- Extending our 2000 seat Virtual Desktop Infrastructure – delivering graphically intensive applications

- And, various storage, network, audio visual and other line of business applications

Agile History at ARU

- Initial introduction in 2008/9 of Dynamic Systems Development Method (DSDM)

- (by me!)
  (DSDM now called 'Atern' www.dsdm.org)

- Previous 'Waterfall' / Prince 2 projects – poor reputation

- First Agile project successfully and incrementally delivered a new Virtual Learning Environment (VLE) for our 3000 staff and 31000 students

- Overall development took about 18 months – but with initial deployment into live after about five months

- Our Agile approach sat within an overall Prince 2 based project management framework

- Customers now enthusiastic on approach because of success – also complemented a Business Process Improvement initiative

- Within a Prince 2 'light' framework

Prince2 and DSDM - context
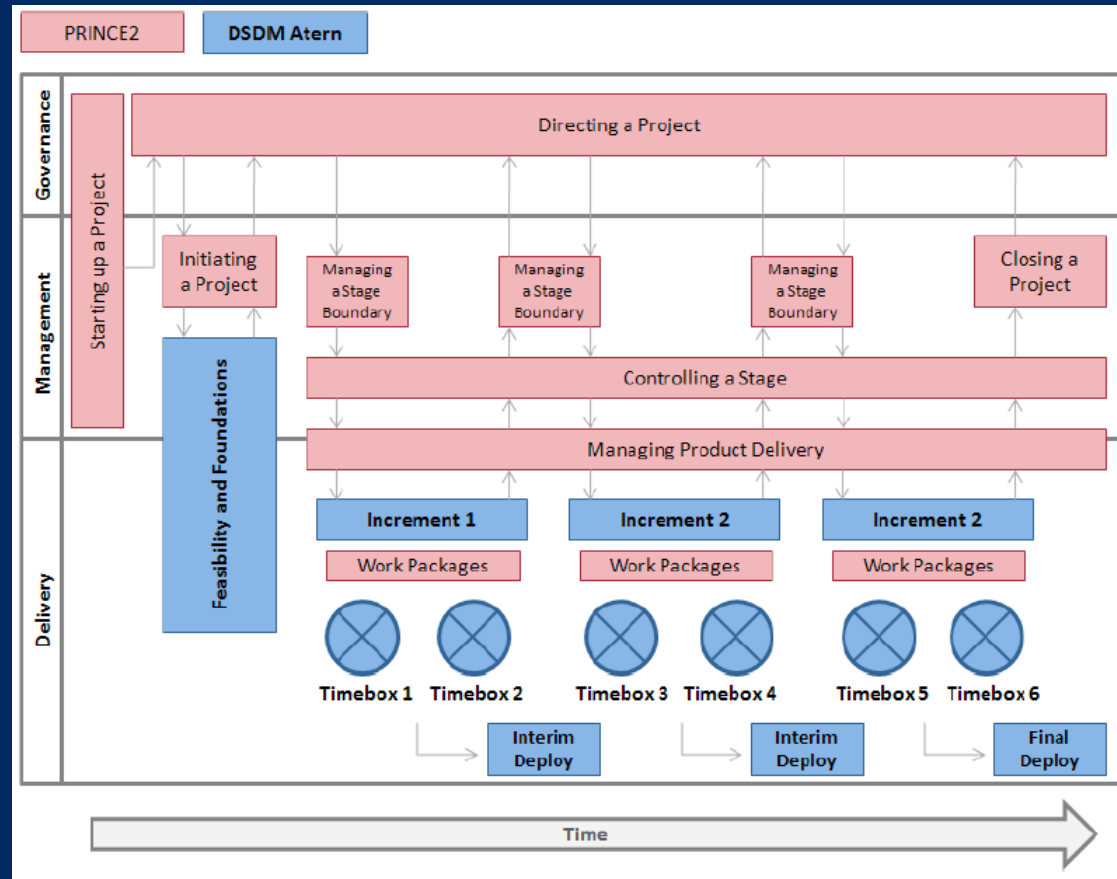
Our first Agile Project at ARU

- **First project key up-front points?**

- Championed / sponsored by IT Director team and enthusiastic head of Projects
- Lots of training - DSDM PM Training for Project Manager and Business Sponsor; DSDM Practitioner training for project team – including business representatives
- DSDM based half day introduction to Agile provided to wider community
- User representative physically located next to developers
- Careful adherence to the (eight) DSDM principles
- Mostly a software development project

Why (in hindsight) was it successful?

Anglia Ruskin University

- Existing Business Process Improvement (Lean) initiatives lead to supportive University management board – already used to some of the language

- Senior team believed in the Agile approach and supported strongly - IT Director team and Head of Projects

- Investment in training – paid back. The half day introduction to Agile sessions worked well – delivered to everyone involved

- We had a good PM (who did not have agile experience) and experienced development team

- Committed to the ideas behind agile –bought in to the approach

- Our user community were supportive and had experienced traditional project failures – Agile approach mostly made intuitive sense to our customers

- Early and often deployment of software

What bits were challenging?
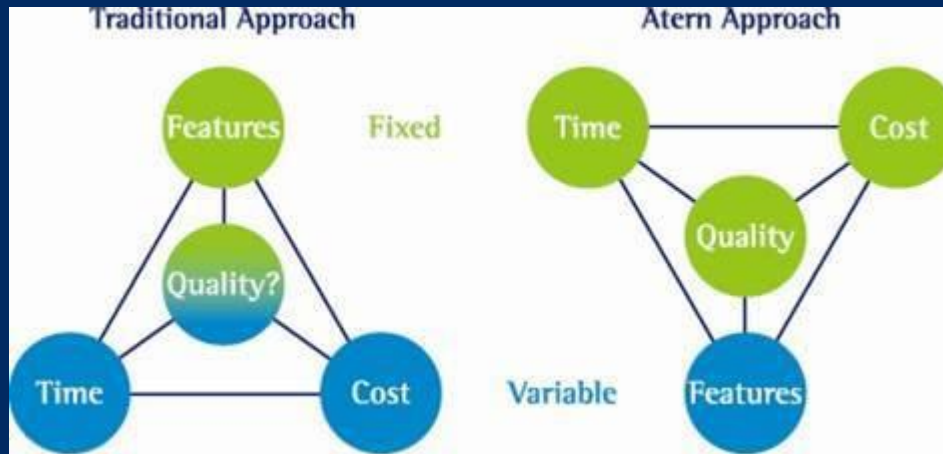
- The idea of fixed time vs fixed features – user community and our developers sometimes wanted to revert to 'signed off' requirement approach. This was mostly when new customers or technical staff started to get involved – who had not been through the initial intensive Agile training

- Customers continued to worry that features would not be delivered

2009 Agile becomes our first choice

- Principle becomes Agile approach first – fall back to iterative or waterfall approach if necessary
- Agile projects develop reputation for success
- Around 15 projects delivered using DSDM / Atern – with SCRUM used on some projects for the low level timebox (sprint) planning – with product backlogs used rather than prioritised requirements lists
- Must Should Could Would (MOSCOW)– good idea but….
- The MOSCOW approach of Atern – sometimes resulted in overly difficult discussions with customers – where 'product backlogs' easier to agree for some
- Development vs Infrastructure projects?

ARU Agile 2014

- New Agile refresh launched based on Atern and bits of SCRUM within an overall Prince 2 framework
- New training – Atern PM and SCRUM training – for all PMs, Business Analysts and Developers
- Agile projects either use Atern or SCRUM – SCRUM for small projects
- Half day sessions on Agile for customers (e.g. business advisors)
- Coaching from an external Agile consultancy for PMs
- Training was combined with Business Process Improvement initiative which seemed to work well – 'Leaning' techniques such as SIPOC fit quite well with Agile
- New enthusiasm

SCRUM and Atern

Questions?

- ?
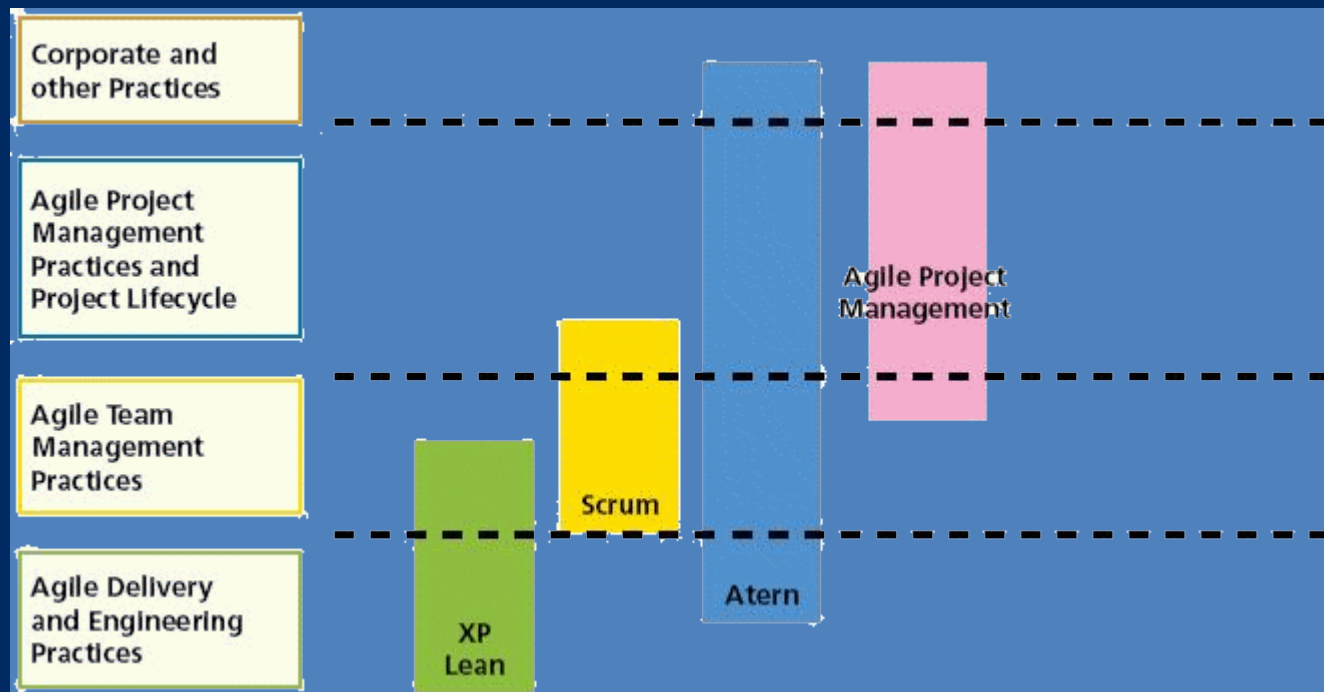
Discussion

- Would it work for my organisation to manage projects in a more agile way?

- What are the challenges for my organisation in introducing an agile approach?

Resources

- Agile manifesto - http://agilemanifesto.org
- Agile Alliance - http://www.agilealliance.org
- Disciplined Agile Delivery - http://disciplinedagiledelivery.com
- DSDM Consortium and handbook - http://www.dsdm.org
- Lean Enterprise Academy - http://www.leanuk.org
- Lean Enterprise Institute - http://www.lean.org
- Scrum and the Scrum guide - https://www.scrum.org
- Scrum Alliance - http://www.scrumalliance.org/why-scrum

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Resources

- Association for Project Management - http://www.apm.org.uk/

- British Computer Society - http://www.bcs.org/

- British Standards for Project Management - http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030170007

- Charity Projects Manifesto - http://www.linkedin.com/groups/Charity-Projects-Manifesto-7453111

- Third Sector Project Management Forum - libby@adaptaconsulting.co.uk

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processes, people and technology

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