Agile Software Development

Lecturer: Raman Ramsin

Lecture 8

DAD Framework
DAD: Disciplined Agile Delivery

- DAD is an agile process framework with the following characteristics:
  - People first: Supports a tailorable, robust set of roles, rights, and responsibilities.
  - Learning-oriented: Based on the lessons learnt during projects.
  - Hybrid: Integrates great ideas from various methodologies.
  - Full delivery lifecycle: Covers the full delivery lifecycle.
  - Support for multiple lifecycles: Supports six lifecycles.
  - Complete: Fully covers development, modeling, architecture, management, requirements/outcomes, documentation, governance and other strategies.
  - Context-sensitive: Tailored to effectively address the project situation at hand.
  - Consumable solutions over working software: Potentially shippable software is a good start but we need consumable solutions that delight our customers.
  - Self-organization with appropriate governance: Self-organizing teams work in an enterprise-aware manner, governed appropriately by senior leadership.
Generic Agile Project Lifecycle (as seen in DAD)

[Ambler & Lines 2020]

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Generic Agile Project Lifecycle: Phases

- DAD sees the generic agile project lifecycle as consisting of three phases:
  - Inception: We do just enough to get organized and go in the right direction.
    - The team will form itself, perform initial requirements/architecture exploration, initial planning, alignment with the organization, and securing funding.
    - This phase should be kept as simple and as short as possible; the average agile/lean team spends 11 work days in Inception activities.
  - Construction: The aim is to produce a consumable solution with sufficient functionality, a Minimal Marketable Release (MMR), to Stakeholders.
    - The team will work closely with Stakeholders to understand their needs, build a quality solution, get feedback regularly, and then act on that feedback.
    - The team will be performing analysis, design, programming, testing, and management activities potentially every single day.
  - Transition: The aim is to successfully release the solution into Production.
    - The average agile/lean team spends 6 to 8.5 work days on Transition activities.
DAD: Process Goals

**Form Team**

- Align with Enterprise Direction
- Explore Scope
- Identify Architecture Strategy
- Plan the Release
- Develop Test Strategy
- Develop Common Vision
- Secure Funding

Inception
Get the team going in the right direction.

**Prove Architecture Early**

- Address Changing Stakeholder Needs
- Produce a Potentially Consumable Solution
- Improve Quality
- Accelerate Value Delivery

Construction
Incrementally build a consumable solution.

**Ensure Production Readiness**

- Deploy the Solution

Transition
Release the solution into production.

**Grow Team Members**

- Coordinate Activities
- Leverage and Enhance Existing Infrastructure
- Address Risk
- Govern Delivery Team

Ongoing
Improve and work in an enterprise aware manner.

[Ambler & Lines 2020]

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DAD: Lifecycles

DAD supports six lifecycles for teams to choose from:

- **Agile**: Based on the Scrum lifecycle, teams following this project lifecycle will produce consumable solutions via short iterations (aka sprints or time boxes).

- **Continuous Delivery - Agile**: Teams work in very short iterations, typically one week or less; at the end of each iteration, the solution is released into production.

- **Lean**: Based on Kanban, teams visualize their work, reduce work in progress (WIP) to streamline their workflow, and pull work one item at a time.

- **Continuous Delivery - Lean**: Teams release their work into production whenever possible, typically several times a day.

- **Exploratory**: Teams explore a business idea by developing one or more Minimal Viable Products (MVPs), to determine what potential customers actually want.

- **Program**: A program is effectively a large team that is organized into a team of teams.
DAD: Six Lifecycles

- Agile teams
  - Agile
  - Continuous Delivery: Agile
- Lean teams
  - Lean
  - Continuous Delivery: Lean
- Experimental
  - Exploratory

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[Ambler & Lines 2020] Sharif University of Technology
DAD Lifecycles: Agile
DAD Lifecycles: Continuous Delivery – Agile

[Ambler & Lines 2020]
DAD Lifecycles: Lean

[Ambler & Lines 2020]
DAD Lifecycles: Continuous Delivery – Lean

[Ambler & Lines 2020]
DAD Lifecycles: Exploratory (Lean Startup)

[Ambler & Lines 2020]
DAD Lifecycles: Program

[Ambler & Lines 2020]
DAD: Choosing Your WoW (Way of Working)

[Ambler & Lines 2020]
DAD: Evolving Lifecycles

Greater discipline
Broader skills

New work arrives
often

Reasonably stable work (for
iteration)

Greater bureaucracy
Specialized skills

Infrequent releases
Project teams
Long feedback cycles
Manual regression testing

Continuous releases
Long-lived stable teams
Short feedback cycles
Automated regression testing

Lean

Drop iterations and
increase flexibility of
work prioritization

Continuous
Delivery: Lean

Continuous
Delivery: Agile

Shorten iterations
and release cycle

Shorten release
cycle

[Ambler & Lines 2020]
DAD: Roles

Team Roles:
- Team Lead
- Product Owner
- Team Member
- Architecture Owner

Primary Roles:
- Stakeholder

Secondary Roles:
- Specialist
- Independent Tester
- Domain Expert
- Technical Expert
- Integrator

[Ambler & Lines 2012]
DAD: Teams

- DAD teams are typically small-to-medium sized.
  - We consider teams of 15 people or fewer to be small, and teams between 10 and 40 people to be medium-sized.

- DAD teams are also typically collocated or near-located.
  - The definition of collocation is that everyone, including primary stakeholders, is in the same work room.
  - The definition for near-location is that everyone on the team is close enough that they could drive in to attend a coordination meeting.

- DAD’s advice is to reduce the project risk by keeping the teams as small and as geographically close as possible.
DAD: Structure of Small Teams

Small DAD Team

- Team Lead/Architecture Owner
- Team Members
- Product Owner

Produces

Consumable Solution

Supporting Cast

- Technical Expert(s)
- Domain Expert(s)
- Independent Tester

[Ambler & Lines 2012]
DAD: Structure of Medium-Sized Teams

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References
