Software Development Methodologies

Lecturer: Raman Ramsin

Lecture 13

Agile Methodologies: DAD
DAD: Disciplined Agile Delivery

DAD is an agile process framework with the following characteristics:

- People first
- Learning oriented
- Agile
- Hybrid
- IT solution focused
- Goal-driven
- Delivery focused
- Enterprise aware
- Risk and value driven
- Scalable
DAD: Lifecycle

- Daily Work
  - Daily Coordination Meeting
- Iteration
  - Iteration review & retrospective: Demo to stakeholders, determine strategy for next iteration, and learn from your experiences
  - Release solution into production
  - Working Solution
  - Operate and support solution in production
  - Enhancement Requests and Defect Reports
  - Feedback
  - Funding
- Working System
- Tasks
  - Working Backlog
  - Highest-Priority Work Items
  - Iteration planning session to select work items and identify work tasks for current iteration
- Initial Architectural Vision
- Initial Requirements and Release Plan
- Initial Vision and Funding
- Identify, prioritize, and select projects

Inception
- One or more short iterations
- Stakeholder consensus
- Proven architecture

Construction
- Many short iterations producing a potentially consumable solution each iteration
- Project viability (several)

Transition
- One or more short iterations
- Sufficient functionality
- Production ready
- Delighted stakeholders

[Ambler & Lines 2012]
## DAD: Phase Goals

<table>
<thead>
<tr>
<th>Goals for the Inception Phase</th>
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<tbody>
<tr>
<td>- Form initial team</td>
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<tr>
<td>- Identify the vision for the project</td>
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<tr>
<td>- Bring stakeholders to agreement around the vision</td>
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<tr>
<td>- Align with enterprise direction</td>
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<tr>
<td>- Identify initial technical strategy, initial requirements, and initial release plan</td>
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<tr>
<td>- Set up the work environment</td>
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<td>- Secure funding</td>
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<td>- Identify risks</td>
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<thead>
<tr>
<th>Goals for Construction Phase Iterations</th>
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<tbody>
<tr>
<td>- Produce a potentially consumable solution</td>
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<tr>
<td>- Address changing stakeholder needs</td>
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<tr>
<td>- Move closer to deployable release</td>
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<tr>
<td>- Maintain or improve upon existing levels of quality</td>
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<td>- Prove architecture early</td>
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<thead>
<tr>
<th>Goals for the Transition Phase</th>
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<tbody>
<tr>
<td>- Ensure the solution is production ready</td>
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<tr>
<td>- Ensure the stakeholders are prepared to receive the solution</td>
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<td>- Deploy the solution into production</td>
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<tr>
<th>Ongoing Goals</th>
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<tbody>
<tr>
<td>- Fulfill the project mission</td>
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<td>- Grow team members’ skills</td>
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<tr>
<td>- Enhance existing infrastructure</td>
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</table>

- Improve team process and environment
- Leverage existing infrastructure
- Address risk
DAD: Inception Phase

- **Coordinate**
  - Initiate team
  - Schedule stakeholders for envisioning sessions
  - Up to a few hours

- **Collaborate**
  - Build team
  - Requirements envisioning
  - Architecture envisioning
  - Consider feasibility
  - Align with enterprise strategy
  - Release planning (initial)
  - Develop shared vision
  - Set up environment
  - Ideally: Up to a few weeks
  - Average: Four weeks
  - Worst case: Several months

- **Conclude**
  - Light-weight milestone review
  - Communicate vision to stakeholders
  - Up to a few hours

[Ambler & Lines 2012]
DAD: Construction Phase

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<table>
<thead>
<tr>
<th>Coordinate</th>
<th>Collaborate</th>
<th>Conclude</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iteration planning</strong></td>
<td><strong>“Standard” practices:</strong></td>
<td><strong>“Advanced” practices:</strong></td>
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<tr>
<td><strong>Iteration modeling</strong></td>
<td>- Visualize work</td>
<td>- Test-driven development (TDD)</td>
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<td></td>
<td>- Daily coordination meeting</td>
<td>- Acceptance TDD (ATDD)</td>
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<td>- Refactoring</td>
<td>- Continuous deployment (CD)</td>
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<td>- Developer regression testing</td>
<td>- Look-ahead modeling</td>
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<td>- Model storming</td>
<td>- Parallel independent testing</td>
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<td>- Continuous integration (CI)</td>
<td>- Continuous documentation</td>
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<td></td>
<td>- Sustainable pace</td>
<td>- Non-solo development</td>
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<td></td>
<td>- Prioritized requirements</td>
<td>- Look-ahead planning</td>
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<td></td>
<td>- Architecture spike</td>
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<td></td>
<td>- Collective ownership</td>
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<td></td>
<td>- Burndown chart</td>
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<td></td>
<td>- Automated metrics</td>
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<tr>
<td>Two hours for each week of the iteration length</td>
<td>Typical: One to four weeks</td>
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<tr>
<td>Iteration start</td>
<td>Average: Two weeks</td>
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<td></td>
<td>Worst case: Six weeks</td>
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[Ambler & Lines 2012]

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DAD: Transition Phase

- Phase planning
- Transition planning
- End-of-lifecycle testing and fixing
- Data and user migration
- Pilot/beta the solution
- Finalize documentation
- Communicate deployment
- Prepare support environment
- Train/educate stakeholders

Coordinate

- Ideally: Nothing
- Typical: One hour per week
  of collaborate time

Collaborate

- Ideally: Nothing
  Average: Four weeks
  Worst case: Several months

Conclude

- Ideally: Less than an hour
  Worst case: Several months

Production ready

Delighted stakeholders

[Ambler & Lines 2012]
DAD: Roles

[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

Team Lead/Architecture Owner
Team Members
Product Owner

Small DAD Team

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

Supporting Cast

Produces
Consumable Solution

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

- Team Lead
- Product Owner
- Architecture Owner
- Specialist(s)
- Team Member

DAD Subteam

Produces

Feature/Component

Produces

Consumable Solution

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

Supporting Cast

[Ambler & Lines 2012]

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Reference