Distributing Expertise in Agile Software Development Projects

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Presentation Outlines

- Introduction: Agile Teams
- Research Motivations
- Grounded Theory
- Research Findings
- Conclusion
Agile Teams

• Promoting cross-functional teams
• Being familiar and understanding others’ roles and tasks
• Participating beyond area of expertise
• Distributing expertise – to enable the team knowledge can be shared and accessed
Research Motivations

• Most studies focus on knowledge sharing
• A few empirical studies focus on skills
• Leveraging expertise – integration of knowledge and skills
• It is not easy to distribute expertise (Cho et al. 2011)

• Research Question

“ How Agile teams leverage expertise through distribution of expertise”
Grounded Theory

Inductive research method that aims to infer new theories from observed data

The reasons for choosing Grounded Theory:
more appropriate for exploring human behavior and social interaction (Glaser, 1992)
# Data Collection

<table>
<thead>
<tr>
<th>Person</th>
<th>Location</th>
<th>Agile Role</th>
<th>Agile Methods</th>
<th>Project Domain</th>
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Distributing Expertise

- Embracing a master-apprentice model
- Coaching and mentoring
- Engaging hands-on learning
- Establishing discussion platform
- Disseminating explicit knowledge
Embracing a Master-Apprentice Model

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<th>Purpose</th>
<th>To pull new expertise into Agile teams</th>
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<tr>
<td>Implementation</td>
<td>• Master – apprentice</td>
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<td></td>
<td>• Learning by doing</td>
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<tr>
<td></td>
<td>• Temporary basis relationship</td>
</tr>
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<td></td>
<td>• Rotation with other team members</td>
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Coaching and Mentoring

• **Coaching** – Agile coach
• **Mentoring** – Mentor and mentee
• **Purpose** – to pull new expertise or disseminate available expertise

<table>
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<th>Coaching and Mentoring vs Master-Apprentice Model</th>
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<tbody>
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<td>Purpose</td>
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<td>Disseminate new expertise</td>
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<tr>
<td>Implementation</td>
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<tr>
<td>Facilitation and training</td>
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Engaging Hands-on Learning

- Pair-programming
- Coding Dojo
- Internship Program
Establishing Discussion Platforms

- Interest group
- Chatting tools
- Robust debate
Disseminating Explicit Knowledge

- Video
- Sketching on whiteboard
- Document management tools
Discussion

• **Successful methods**
  - Pair-programming
  - Coaching and mentoring

• **Further investigation**
  - Master-apprentice model *(Judy, 2009)*
  - Internship program *(Lindvall, 2002)*
  - Document management tools *(Settina and Heijstek, 2011)*

• **Inconsistent finding – debate tends to delay knowledge transfer** *(Chau and Maurer, 2004)*
Conclusion

• Several techniques to disseminate and pull expertise into teams

• More techniques through further investigation

• In future – identify factors that affect the distribution of expertise in Agile teams
References

Thank you!

Any enquiry, please feel free to contact:

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