The Life of Pi: Moving Beyond T-Shaped Skills for Agile Teams

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T-Shape Skill Set

In order for an Agile Team to truly become a cross-functional one and achieve high performance it must be comprised of members with T-Shaped Skills. A team member with a T-Shape skill set means that they possess deep expertise in a single skill, such as Business Analysis, which makes up the vertical bar of the T; but also possess a proficiency in other areas, such as UX design and Testing, that make up the horizontal bar of the T. Wikipedia defines it as:

The concept of T-shaped skills, or T-shaped persons is a metaphor used in job recruitment to describe the abilities of persons in the workforce. The vertical bar on the T represents the depth of related skills and expertise in a single field, whereas the horizontal bar is the ability to collaborate across disciplines with experts in other areas and to apply knowledge in areas of expertise other than one’s own.

Team Members that can play multiple roles during a Sprint based on the needs of the team increases the probability that the Team will meet its Sprint goals. The classic example is if the QA team members are falling behind with functional testing, a Developer or BA can step in to assist.

The Π-Shaped Skill Set

As the Team matures, there may be a need to grow each team member’s capabilities beyond the T-Shaped skill set. The next evolution is to that of a Pi shape. The Pi shape is unique and makes an excellent metaphor for team members that are truly adaptive. Rather than one area of expertise, a Pi-Shaped team member possesses two, such as: Developer and Tool Smith or Business Analyst and UX Designer, QA and Test Automation Engineer. Team Members with multiple areas of expertise provides even greater flexibility to the team, especially in
organizations that have limited resources. Another interesting aspect to Pi is that it infinitely repeats beyond the decimal point. This is an excellent metaphor that embodies the spirit of Agile. That is, you are never truly done being Agile. It is journey of self-improvement that never ends. It is series of small improvements, or Kaizen, that progresses you towards greater value creation.

How to Develop a Π-Shaped Skill Set

Growing team members while they are busy generating value is an ongoing challenge for learning organizations. There are various approaches to develop expertise in more than one area and proficiency in multiple areas.

Identify Skill Gaps

The ScrumMaster should assess the team to determine what skill(s) is either lacking and/or is an area of growth in order to mature and evolve the team. Once the gaps are identified, the ScrumMaster should have a conversation with each team member and their functional manager to discuss opportunities for growth and determine which skill(s) the team member is interested in and has the ability to pursue.

The next step is to incorporate the growth in these identified skills into a training plan to achieve the desired result. Fulfillment of the training plan should become part of each team member’s performance review so that the right priority and accountability is established.

Develop a Training Plan

The functional manager and team member are responsible for creating the training plan but ultimately the team member is accountable for its execution. The ScrumMaster provides guidance and an objective assessment of the results of the plan. The plan should be reviewed periodically with the team member so that the necessary assessments and adjustments are made.

The plan itself can be comprised of some of the following:

- **Formal Training**: Formal training can take the form of in-class or online learning sessions. This is a great way to get more in-depth training regarding a skill set and most incorporate exercises that reinforce the concepts learned. The more hands-on the class is, the better since most passive learning associated with training is lost if not applied shortly after class.

- **Informal Training**: Informal training is a cost effective approach to share knowledge among members of the same team or across teams. This can be as simple as conducting topic driven lunch-and-learns or participating in a Community of Practice that is pertinent to the skill needed. There are also several places on the web to register and attend free webinars.

- **Pairing**: Pairing is a powerful way to share knowledge among team members. It entails bringing an experienced team member together with a less experienced one to work
together in learning a new skill. This is a common approach in development in order to get another team member up-to-speed with a specific area of the code. The two work together either fixing a known defect, enhancing the code or refactoring it. The key is that the learning is hands-on and active thus generates a greater retention of the new skill instead of passive approaches, such as code reviews.

- **Self Study**: Self Study is a key component of any training effort. Ultimately, it is up to the team member to develop proficiency in the new skill and the more information they seek out on their own helps to improve their accountability and understanding. There are a plethora of web sites, wikis and books on every subject pertinent to any desired skill set. Any self-study effort should be incorporated into the training plan.

- **Mentoring**: Regardless of the means used to gain the new skill, establishing a mentor for the team member can greatly increase the chances of success. The role of the mentor is to assist the team member on their journey since they may be more accessible than the team member’s functional manager.

Regardless of the approach used to develop a new skill, it is imperative that the team member is held accountable for the growth in the defined skill and that their capacity is adjusted to accommodate the impact of the learning to the team’s velocity.

Growing team members to a T-Shaped skill set is a tremendous challenge in and of it itself. Evolving a team member from a T-Shaped skill set to a Π-Shaped one is not for the faint of heart and may not be necessary for all teams or team members. However, in the spirit of Agile and Kaizen, organizations, teams and team members must strive to make incremental improvements in order to remain viable in a world of constant change.

**About Tom Wessel**

Tom has over 20 years experience working in the software development field in the industries of banking, healthcare, cable and satellite and graphics. Tom's experience spans the entire end-to-end software development lifecycle with expertise in the areas of program and project management, quality assurance and control, configuration management, knowledge management, release management, development and technical support. With over 6 years experience as a ScrumMaster, Agile Trainer and Agile Coach, Tom has worked with various sized organizations to plan, implement and train them on agile principles and evolve their agile discipline. Tom's passion is working with people to transform how they deliver software so that they become an optimized enterprise that delivers greater value and quality to its customers. Tom is an accredited PMP and PMI-ACP from the Project Management Institute and a Certified ScrumMaster and Certified Scrum Professional from the Scrum Alliance.