Title: Agile Research: sharing techniques and experiences

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Key Participants: Same as the organizers

Abstract

This session is about sharing methods and techniques that can be used in small scale, short iterative cycles, particularly to explore a novel research topic. It is inspired by the success of agile software development; a set of methods developed in reaction to traditional slow and inflexible "Big Design Up Front" methods that were found to be especially problematic when developing innovative software for new domains. In such cases the needs can change and stakeholders may realize that they are learning about what actually needs to be built as the software is being built and could not easily have determined this in advance. We believe similar conditions apply with certain kinds of innovative and exploratory research. Participants will share fast and light methods and consider how they can be applied to particular research problems – including acknowledging the challenges that arise with agile research, as well as its opportunities.

Description

Purpose

Most of us struggle when starting a novel research project, even if we have considerable prior experience. It is a new topic and we are unsure about what to do, how to do it and what it all means. Furthermore the way that research is described in the literature can be rather disheartening. Many papers describe what seems to be a clear, linear, logical, even inevitable progression through a series of stages. It seems like 'proper researchers' carefully plan everything out in advance and then smoothly execute that plan. How very different from the mess, the bewilderment, the false starts, the dead ends, the reversions and changes that we make along the way. Are we just doing research wrong? If it feels like that to established researchers with decades of experience and a nice publication record, how much worse must it feel to a new researcher, such as a Ph.D. student? It can be all too easy to feel like an imposter who must be doing it all wrong because what you are doing is not at all like what you read others are doing.

We want to explore ideas around a title (or at least a provocative metaphor) of “agile research”. We want to ask the question: “How might we take the ideas, the methods and the underlying philosophy behind agile software development and explore how these could be applied in the different context of doing research?”

This SIE is not about disseminating a set of methods that we have developed, but more about provoking a discussion about the issue: What might agile research be like? How might it work? When might it be useful? When might it be problematic? Is it worth trying? Are people doing it already? I bet you are! Come and share your experiences.

We are definitely not claiming that this idea is wholly new. Many people have been using small scale rapid iterative exploratory methods within the research process for a long time. Rather we think that it can be useful to consider these in the light of the successful deployment of agile software development processes, and to contrast them with more conventional research methods that rely much more on very careful advance planning. That is not to say that the latter methods are bad, just that other methods that might be characterized as more agile can be useful in particular circumstances. It can feel like we have to apologize for using these methods instead of the classic high status “Big Design Up Front” (BDUF) methods. But can’t we epistemically justify them?

The aim of the SIE is to share ways to get started on new projects in tight iterative ‘sprints’ of the size of a day or a week, rather than a semester or a year. To consider how such approaches can be useful in helping new researchers understand more about the often implicit or tacit methods of going about research, and to address common misconceptions and fears about the research process. With a tight iterative loop, small scale rapid learn-as-you-go methods allow a one week research ‘failure’ to be embraced as an interesting learning opportunity. This can be contrasted with the nightmarish fear of a BDUF years-long research ‘failure’ turning into a career ending unpublishable disaster.

We suspect agile research may be especially useful in helping new researchers such as PhD students get a better understanding of the research process in a less daunting manner. This SIE builds on a number of agile research workshops that the organizers have run at the universities of Illinois and Stockholm and which indicate to us the advantage of talking about approaches to research that involve tighter iteration cycles.

Intended Audience:

1) Researchers who already use methods that are fast and light.
2) Researchers thinking about embarking on a novel piece of research who would appreciate collective hints and tips of how to get started.
3) Researchers interested in ways to help their students learn how to do research by doing in low stakes iterative ways.

Goals and expected outcomes

- A set of techniques and approaches and ideas for how to tailor them to particular cases.

Proposed activities:

- Brief introduction. What can count as 'agile research'. How the term is inspired by agile software development but is not the same thing. Examples showing how it can apply in various research settings, even those with no software development involved.
- Invitation for research project help requests. Any participants who want to, are invited to write on a card a sentence about a research project they are considering where they suspect an agile research approach might be helpful. We collect the cards and use them later in the session.
- Sharing of agile research methods. We give some examples. Form participants into smaller groups around tables. Give them prompt cards and ask them to share any experiences of using agile-like methods.
- Plenary
    - Share, group, classify methods discussed in the groups
    - Identify problems and challenges around such methods
    - Identify ways to address these challenges
- Collective help brainstorming session.
    - Re-form groups, ensuring a balance of methods experience between groups
    - Assign one help requester per group
    - Requester briefly describes their research challenge
    - Group brainstorms ideas. Organizers provide prompter cards to help guide brainstorming to be applied to different aspects of the research process.
- Final Plenary
    - What happened in the groups
    - Additional ideas and suggestions from other groups
    - Summarize the SIE
    - Exploring how to use agile research methods in research and doctoral education

Relevance to the Conference/Significance to the Field:
Many iSchool researchers do innovative and multidisciplinary research. Understanding the wide range of research methods used in iSchools can be daunting for new doctoral students. Small scale iterated experiences of methods can help in learning about the research process. Additionally, it can often be the case that traditional methods just don't seem to work well in the novel settings or with the novel approaches that researchers want to explore. We think that an agile research approach can help in demystify the research process and so make it more accessible to a wider range of people looking at a wider range of problems.

Duration: One 90-minute session

References
Twidale, M.B. & Hansen, P. (2019). Agile research. First Monday, 24(1). doi: http://dx.doi.org/10.5210/fm.v24i1.9424