Role Oriented Challenges for User Experience Design in Agile Scrum

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Abstract— Paper is the output of a research study conducted with professional designers to explore the challenges practicing user experience in Agile scrum. The challenges are compiled as eight key postulates. Revealing hidden pain points of designers, this paper gives a clear axis to stakeholders of Agile scrum and Agile organizations to streamline their user experience design process along with the scrum.

1. Introduction

Agile software development is a set of approaches for software development under which requirements and solutions evolve through the collaborative effort of self-organizing cross-functional teams as well as their customer(s) /end user(s) [1]. Agile has taken over the software-development world and shaped information technology business over the globe. Scrum is not only one of the most widely used software development method in the agile world but also one of the most popular frameworks [2]. In recent years; it has become the most popular software-development framework. Agile development features a lot of benefits: an incremental approach, the...power to...vary direction supported customer and stakeholder feedback, short timeframes that keep the teams focused. Agile methodologies and frameworks are focused on development of a digital application. However they grew out of programmer's attempts to solve common pain points experienced during big software development projects [3]. Surprisingly the Agile Manifesto (still the primary reference document delineating Agile principles) doesn't include user experience design practices, people and their efforts in the framework. It also doesn't account for the time, resources, and research that user experience professionals require in order to create excellent designs where the designs are first handedly required for development.

2. Objective

In industrial assignments user experience designers has to perform coping with the Agile development process where hence execution of user experience design process along with agile method creates friction. This paper explores and presents the challenges of user experience designer in a scrum team for agile delivery.

3. Introduction to Agile Scrum

The history of the Scrum method starts in 1986 with two Japanese business experts who introduced the term within the context of development. Hirotaka Takeuchi and Ikujiro Nonaka published the article, "New development Game" (the double "New" is indeed a part of the title) within the Harvard Business Review [4]. The authors described a replacement approach to commercial development that might increase speed and adaptability. Inspiration for his or her work came from case studies conducted in manufacturing firms of the automotive, photocopier, and printer industries. Jeff Sutherland originated the primary Scrum project in 1993.Sutherland, working with Ken Schwaber, developed Scrum as a formal process in 1995 [4].

4. Composition of Scrum Team

A scrum team may be a collection of people working together to deliver the requested and committed product increments [5]. A scrum team is made by three roles: Team members, Scrum Master and merchandise Owner. a perfect scrum team contains 7–9 members, however this will vary counting on requirements.

Fig.1: Scrum team structure

The assignment objectives are a set of backlog which is a list of tasks identified by the Scrum team to be completed in a fixed timeframe. The timeframe is called sprint, during the sprint planning meeting the team selects some number of product backlog items usually in the form of user stories and identifies the tasks necessary to complete each user story [6].

5. Product Owner

Product Owner is a representative of customer to the team and gives direction to the team towards right goal. Role takes care of product backlog and its prioritization, user stories grooming and sprint start/end. He/she is available for his team to answer their queries. A product owner holds the merchandise vision and its business value in industry and conveys this vision to the team through product backlog.

5.1 Scrum Master

Scrum Master looks after the team and shelters it from external interruptions. He/she is the scrum coach, and facilitates the team to focus on their goal within a sprint.

5.2 Scrum Team Member

The scrum teams are self-organized team and are responsible for completing the tasks they picked up in a sprint. Typically a scrum team has 1 user experience designer, 1 tester and multiple developers.

6. Research Method

Information regarding the study conducted for collecting data regarding roles and challenges of user experience designers is as follows.
- *Research method:* Contextual inquiries, informal interviews, literature study.
- *Participant:* A set of 50 professional designers.
- *Locations:* designers employed over the globe, not collocated.
- *Nature of employment:* Regular and long term contract.
- *Type of organizations:* Multinational companies.
- *Professional experience range of participant:* 1 to 10 years Average duration of interview: 40 to 90 minutes.
- *Analytics using design thinking:* Card sorting, mind mapping, personal building and user journey mapping.

7. Research Outcomes

Collected qualitative data was analyzed using design thinking methods to derive meaningful information.

Interrelated data sets were clustered to cover maximum analyzed information.
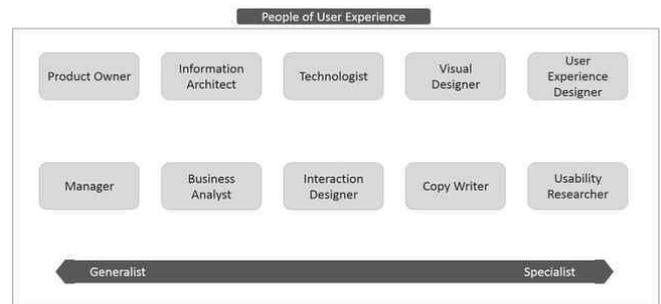

Fig-2: Roles influencing user experience design in a scrum team

Figure 2 is an arrangement representing generalist to specialist roles which are stakeholders in shaping and delivering user experience in scrum framework. Product owner and user experience designers are at the far end of the bar however in practice they should be the closest as product owner is the representative of client to the team and user experience designer is representative of end user to the team. The analyzed and clustered challenges are presented in the further section of this paper and discussed under the 8 key postulates.

The following postulates share 8 key challenges faced by user experience designers.

7.1 Development Based Estimation

Sprints are time bound activates and divides the time for user stories in an even pattern, where estimation is done for the development output inclusive of design estimation.

7.2 Lack of Design Progress Tracking

Progress of any project/assignment is measured by the development progress, so there is no progress if there is no development irrespective of the design progress.

7.3 Absence of Design Brief

Problem statement or design brief is replaced by user stories which lag in projecting overall vision of the product to be designed. User experience design requires holistic understanding of the product vision where user stories are micro specification fails to articulate the product vision.

7.4 No Validation of Requirement

User stories convey design requirements but are not accompanied with any validation, which can articulate the

requirement. Contrary to user experience design process where needs are first validated before stepping to ideation and other steps.

7.5 *Development Driven Approach*

Sprints are development driven as they are selected for the development priorities and not by design priorities. This practice gives control as good as no control to user experience designer aligns or creates their design plan.

7.6 *Skipping the Design Process*

In the design process there are several steps (e.g. research, ideation, prototype, testing and iterations) involved before reaching final design, these steps enables to deliver user experience. However in agile scrum the design process is trimmed for steps to directly land on the prototype.

7.7 *Ignorance of Meta Steps*

Extracting design requirements, interaction touch points, system flow, journey mapping etc. are the Meta steps of user experience design process and takes time to perform, however in scrum practice they are neither considered in time estimation nor in progress measurement.

7.8 Lack of Design Understanding among Team Members

Lack of design understanding creates issues like interchanging various design terminology and process e.g. user experience design to interaction design or visual design.

8. Conclusion

There is a need of systematic approach/framework to integrate the user experience design along with agile scrum. A method or framework which can complement the Agile development process and smoothly enable user experience designer to deliver with confidence and efficiency.

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