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UNIT 6

UX Methods for Agile Development

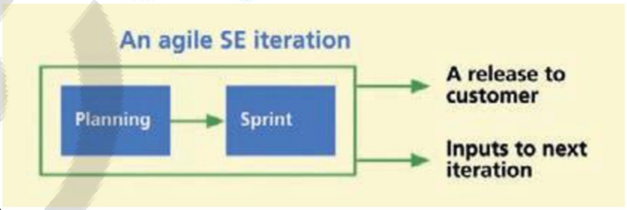
Introduction, Basics of agile SE method, drawbacks of agile SE method from the UX perspective, A synthesized approach to integrate UX

Introduction

Agile SE approaches, now well-known and popularly used, are incremental, iterative, and test-driven means of delivering pieces of useful working software to customers frequently, for example, every two weeks. However, agile SE approaches do not account for UX. Because traditional UX processes do not fit well within a project environment using agile SE methods, the UX side must find ways to adjust their methods to fit SE constraints. Therefore, the entire system development team needs an overall approach that includes UX while retaining the basics of the SE approach.

Basics of agile SE method

- **Characteristics of Agile SE Methods**
- In simplest terms, agile SE development methods “describe the problem simply in terms of small, distinct pieces, then implement these pieces in successive iterations”.
- The agile software development methods are further characterized by the need for communication, especially continuous communication with the customer. Informal communication is strongly preferred over formal.
- **Lifecycle Aspects**
- For example, building an e-commerce Website in the waterfall approach would require listing all requirements that must be supported in the Website before starting a top-down design. In an agile approach, the same Website would be built as a series of smaller features, such as a shopping cart or check out module.



- Planning in Agile SE Methods Customer stories The planning part of each iteration in Figure yields a set of customer-written stories, prioritized by cost to implement. A customer story, a key concept in the process, has a role a bit like that of a use case, a scenario, or a requirement. A customer story, written on a story (index) card, is a description of a customer- requested feature.

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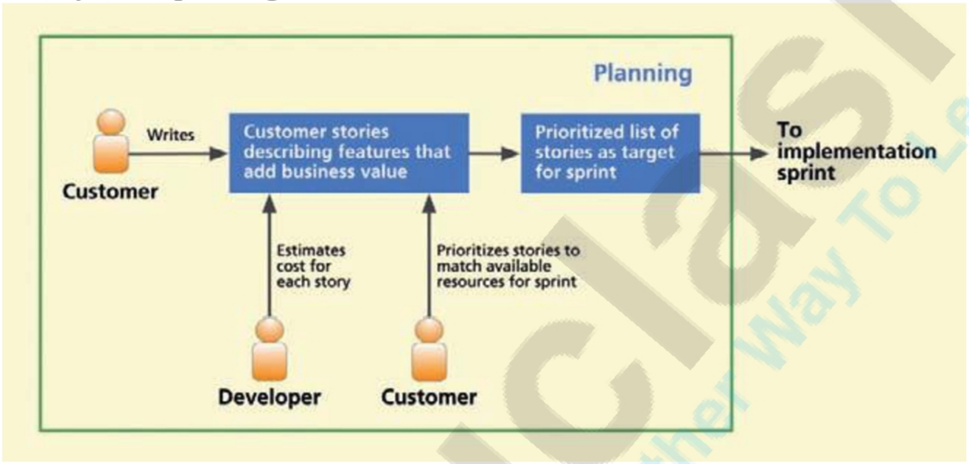
- **Story-based planning**


Planning
Writes
Customer
Customer stories describing features that add business value
Prioritized list of stories as target for sprint
To implementation sprint
Estimates cost for each story
Prioritizes stories to match available resources for sprint
Developer
Customer

- As shown in Figure 19-3, developers start the planning process by sitting down with onsite customer representatives. They ask customer representatives to think about the most useful chunks of functionality that can add business or enterprise value. The customer writes stories about the need for these pieces of functionality. This is the primary way that the developers understand users and their needs, indirectly through the customer representatives.
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- Developers assess the stories and estimate the effort required to implement (program) a solution for each, writing the estimate on the story card.
- Typically, in XP, each story gets a 1-, 2-, or 3- eek estimate in "ideal development time." The customer sorts and prioritizes the story cards by choosing a small set for which the cost estimates are within a predetermined budget and which represent features they want to include in a "release."
- Prioritization might result in lists of stories or requirements labeled as "do first," "desired—do, if time," and "deferred—consider next time." Developers break down the stories into development tasks, each written on a task (for the developers to do) card.

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- **Controlling scope**
- At the beginning there is a time and effort "budget" of the person-hours or level of effort available for implementing all the stories, usually per release. As the customer prioritizes story cards, the total of the work estimates is kept and, when it reaches the budget limit, the developers' "dance card" is full.
- Later, if the customer wants to "cut in" with another story, they have to decide which existing customer story with an equal or greater value must be removed to make room for the new one. So no one, not even the boss, can just add more features.
- **<u>Sprints in Agile SE Methods</u>**
- **Acceptance test creation:** The customer writes the functional acceptance tests. There is no process for this, so it can be kind of fuzzy, but it does put the customer in control of acceptance of the eventual code. With experience, customers get good at this.
- **Unit code test creation:** The team divides the work by assigning customer stories to code for that sprint. A programmer picks a customer story card and finds a programming partner. Before any coding, the pair together writes unit tests that can verify that functionality is present in the code that is yet to be written as an implementation.
- **Implementation coding:** The programming pairs work together to write the code for modules that support the functionality of the customer story. As they work, the partners do on-the-fly design
- **Code testing**: By testing the new functionality with not only tests written for this functionality, but with all tests written for previous pieces of functionality, SE developers make sure that the realization of this functionality in code is correct and that it does not break any of the previously implemented modules.
- **Acceptance testing and deployment:** Developers submit this potentially shippable product functionality to the customer for acceptance review. Upon acceptance, the team deploys this small iterative "release" to the customer.

<u>DRAWBACKS OF AGILE SE METHODS FROM THE UX PERSPECTIVE</u>

- From the SE perspective, much about agile SE methods is, of course, positive. These methods are less expensive, faster, and lighter weight, with early deliverables.
- Nonetheless, agile SE methods are programming methods, developed by programmers for programmers, and they pose some drawbacks from the UX perspective.
- Agile SE methods, being driven predominantly by coders, are optimized for code, judged by quality of code, and have a strong bias toward code concerns.

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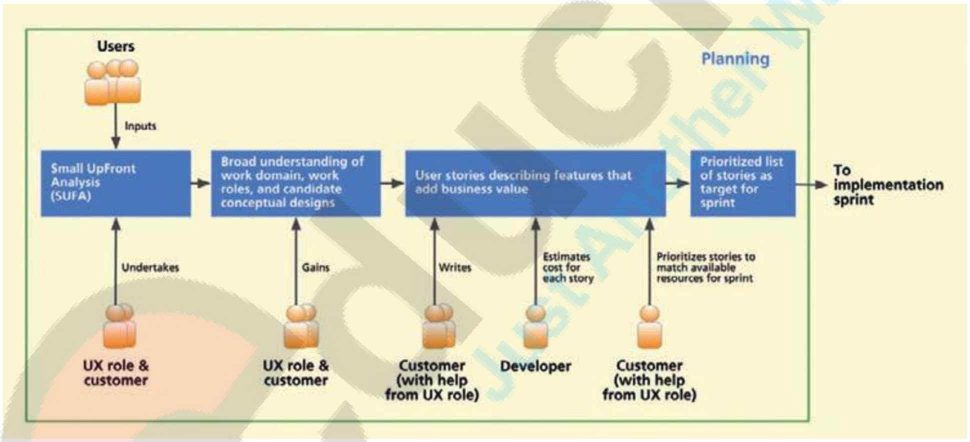
- There is no definition or consideration of usability or user experience. Users, user activities, and the user interface are not part of the mix; the user interface becomes whatever the code hackers produce.
- In addition, there is no upfront analysis to glean general concepts of the system and associated work practice. There is no identification of user tasks and no process for identifying tasks.
- Beyond these specific drawbacks, the agile SE method has no room for ideation in design. And it can be difficult to scale up the process to work on very large systems.
- The number of customer stories becomes large without bounds.
- Similarly, it is difficult to scale up to larger development groups; the time and effort to communicate closely with everyone eventually become prohibitive and close coordination is lost.

A SYNTHESIZED APPROACH TO INTEGRATING UX


Users
Planning
Inputs
Small UpFront Analysis (SUFA)
Broad understanding of work domain, work roles, and candidate conceptual designs
User stories describing features that add business value
Prioritized list of stories as target for sprint
To implementation sprint
Undertakes
Gains
Writes
Estimates cost for each story
Prioritizes stories to match available resources for sprint
UX role & customer
UX role & customer
Customer (with help from UX role)
Developer
Customer (with help from UX role)

Because traditional agile SE methods do not consider the user interface, usability, and user experience, there is a need to incorporate some of the user-centered design techniques of UX into the overall system development process.

- **Integrating UX into Planning**
- **Add some small upfront analysis (SUFA):** If we simply try to include the UX role as an add-on to the agile SE process, the entire operation would still proceed without benefit of any upfront analysis or contact with multiple people in the customer organization and with multiple users in all the key work roles.

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- As a result, there would be no initial knowledge of requirements, users, work practice, tasks, or other design-informing models. This would be crippling for any kind of UX lifecycle process.
- Any serious proposal for integrating UX into planning must include an initial abbreviated form of contextual inquiry and contextual analysis, something that we call "Small Up Front Analysis" (SUFA), in the left-most box of Figure Above.
- **Goals of the SUFA include:**
    - understand the users' work and its context
    - identify key work roles, work activities, and user tasks
    - model workflow and activities in the existing enterprise and system
    - forge an initial high-level conceptual design
    - identify selected user stories that reflect user needs in the context of their work practice
- A broad understanding of scope and purpose of the project (second box from the left in Figure) will allow us to plan the design and implementation of a series of sprints around the tasks and functionality associated with different work roles.
- **UX role helps customer write user stories**
- UX person helps the customer write user stories. Because both roles participated in the SUFA, user story writing will be easier, faster, and more representative of real user needs.
- **UX role helps customer prioritize user stories**
- By helping the customer representative prioritize the user stories, the UX person can keep an eye on the overarching vision of user experience and a cohesive conceptual design.
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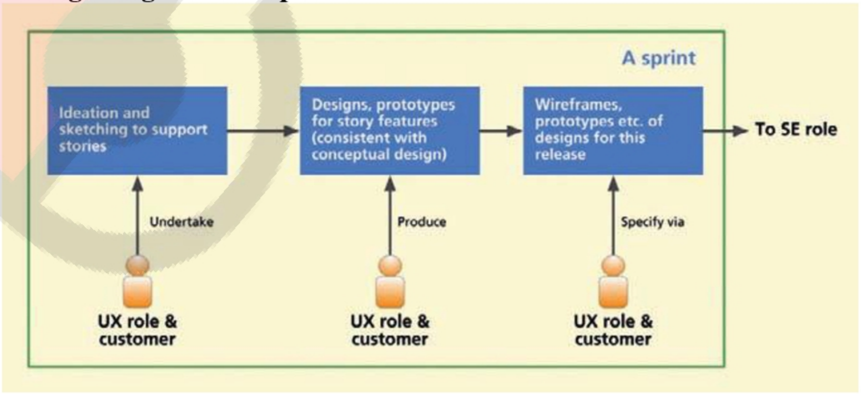
- **Integrating UX into Sprints**


A sprint
Ideation and sketching to support stories
Designs, prototypes for story features (consistent with conceptual design)
Wireframes, prototypes etc. of designs for this release
To SE role
Undertake
Produce
Specify via
UX role & customer
UX role & customer
UX role & customer

- W

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hile the SE people are doing a sprint, the UX person and customer perform their own version of a sprint, which is shown in Figure 19-6. They begin by picking a story and, with the conceptual design in mind, start ideation and sketching of an interaction design to support the functionality of the user story.

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