Module 3 – Topic 3.5

Validating Requirements

Hold on a moment!

Don’t we already talk about Acceptance Criteria and Tests?

Quick Question

Which term did we use to describe when a software product meets all the specified requirements?

A. Verification
B. Validation
C. Specification
D. Complete

Recall Acceptance Criteria and Tests (Topic 3.3)

Acceptance Criteria:	Acceptance Tests :
"are specific conditions which must be met for a user story"	"are the methods for verifying whether a condition has been met or not"

Once a user story is implemented, they are used to verify that the user story is done right

But what we will talk about here are demo and review techniques to validate that the right product is delivered

Topic Outline

- Spring Review Meeting
  - Where the product is demoed and reviewed to gain feedback
- User Studies
  - Observe how effective and efficient users are with the product
  - Measures for user satisfaction

Recall the principle of the Agile Manifesto "Our highest priority is to satisfy the customer through early and continuous delivery of valuable software"

Recall Monitoring, Metrics & Feedback (Topic 1.2)

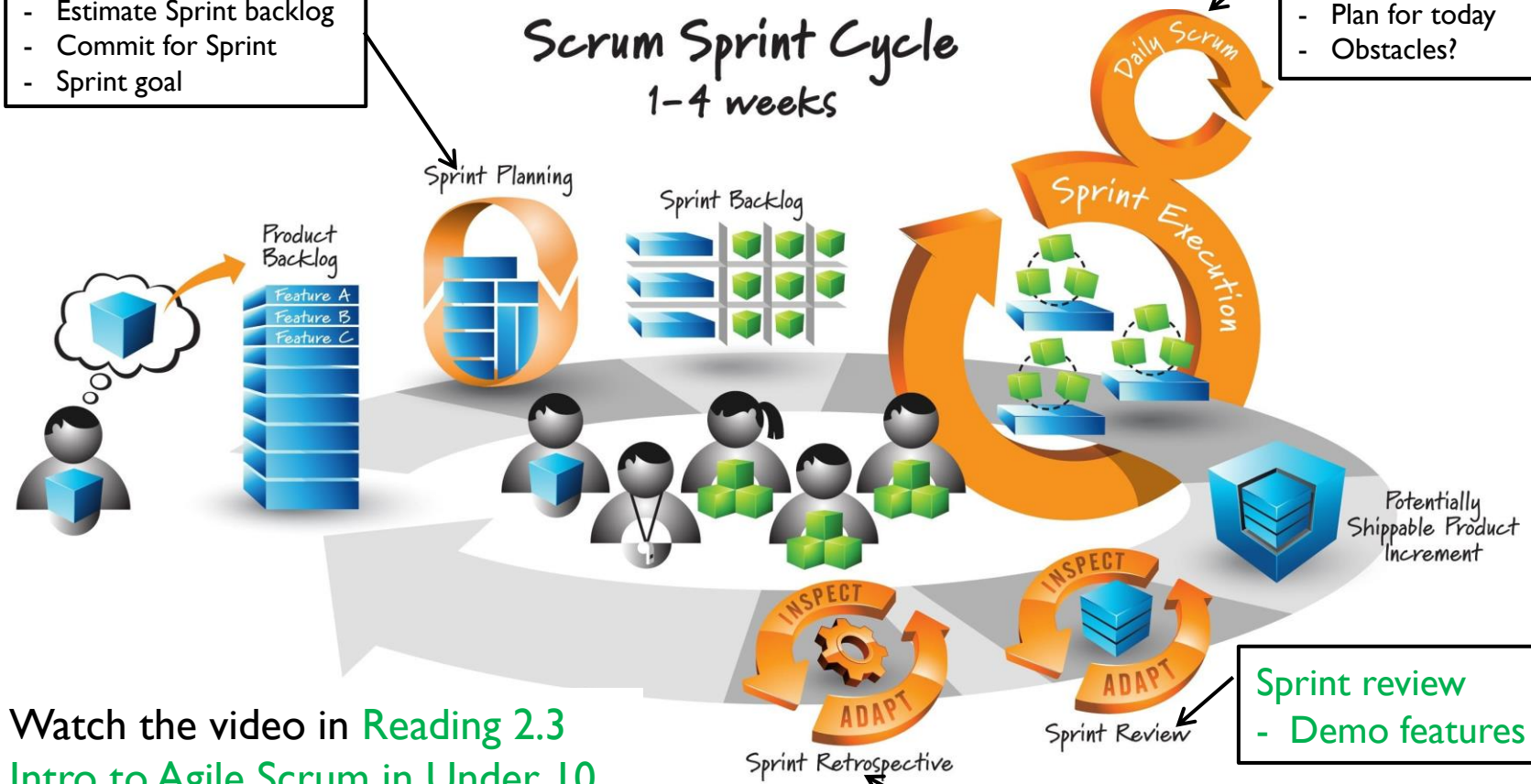
- Monitoring is essential for ensuring you are delivering the right product, done right and managed right
  - Module 3 Right Product – Topic 3.5 Validating Requirements
  - Module 4 Done Right – Topic 4.3 Software Metrics
  - Module 5 Managed Right – Topic 5.2 Monitoring Project Plan
- Metrics are an effective way of monitoring that gets quantifiable results
- Monitoring and metrics help to provide feedback that suggests improvements or affirms that you are on the right track

Spring Review Meeting

Recall A Summary of Scrum Practices (Topic 2.3)

Spring Planning
- Review product backlog
- Estimate Sprint backlog
- Commit for Sprint
- Sprint goal

Daily scrum
- Done since last meeting
- Plan for today
- Obstacles?



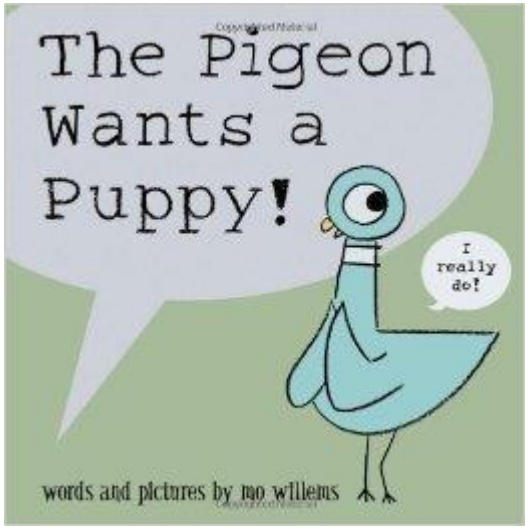
Sprint review
- Demo features to **all**

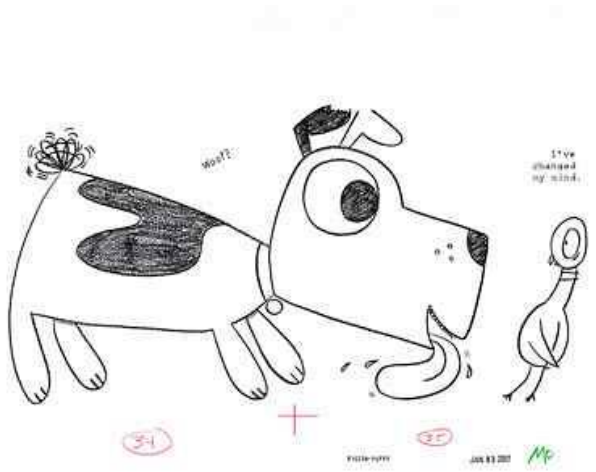
Watch the video in Reading 2.3 Intro to Agile Scrum in Under 10 Minutes

Sprint retrospectives
- Inspect and adapt

Recall Subconscious Acceptance Criteria (Topic 3.3)

- Subconscious acceptance criteria emerge
  - It can be difficult to articulate exactly what is considered acceptable until you see what is *not acceptable*

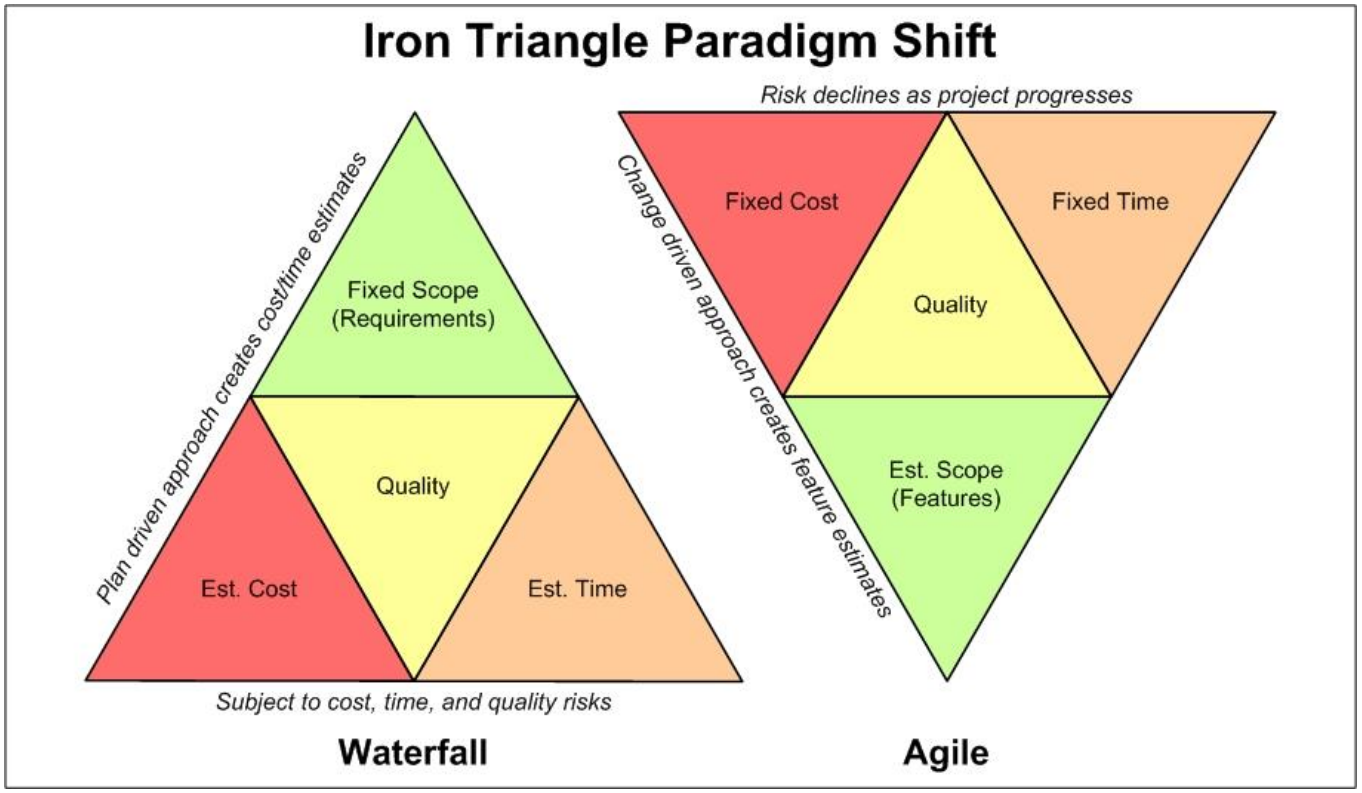




Sprint Review Meeting allows subconscious acceptance criteria and changing requirements to emerge.

Sprint Review Meeting is Time-Boxed

- Suggested duration – one hour for each week of the sprint



In fact, all scrum events are **time-boxed**!

DEMO to ALL

- Who gets invited to the sprint review meeting – ALL
  - the scrum master, the product owner, the development team, management, some customers and users, and maybe developers from other projects

- What to do – DEMO
  - no slide presentations and minimal preparation
  - the only preparation needed is to develop the product into working software
  - the rationale of little preparation is that the meeting should not be a distraction for the development team

Roles in a Sprint Review Meeting

- Scrum master – facilitate the meeting
  - make sure that conversations stay on track
  - the people are voicing relevant comments
  - people are asking questions and providing feedback appropriately
- Development team – run the meeting
  - Everyone in the development team should have some input into the meeting, since they all played a part
- Product owner – approve the features
- ALL – suggest feedback and improvements at the end of the meeting

Main Events in a Spring Review Meeting

1. Product demonstration
   - Be realistic, e.g., demo a mobile app on a mobile device
   - Be authentic – not hard coded, but a live demo
   - Only fully completed features – meet the definition of done
2. Product owner approval
   - Approve completed features. Once a feature is approved, it is then removed from the product backlog
   - May happen at the meeting or after the meeting
3. Stakeholder (anyone) feedback
   - Praise, change or improvement, new problems or revisiting assumptions
   - Anyone can suggest, but the product owner determine if or when these features get developed
   - Changes that affect the current sprint goal should not be added to the backlog in the middle of a sprint

Quick Question

You are the scrum master at the sprint review meeting. As the development team is demoing the product, one of the stakeholders offers a suggestion for a new feature. The development team, product owner, and the stakeholder start discussing this new feature.

As the scrum master, what should you do?

A. Join the discussion
B. Add the feature to the backlog
C. Let them finish their discussion
D. Ask that they save future suggestions until the end of the meeting

Quick Question

In the current sprint, the development team had four features that were scheduled to be built. Let's call them user stories A, B, C, and D. User stories A and B met the team's definition of done. User story C is done and works, but has not yet been fully tested. User story D is pretty far from being complete, but the developers could hard code it to make it look like it works for the demo.

Which user stories, if any, should the development team demo at the sprint review meeting?

A. user story A
B. user story B
C. user story C
D. user story D

Quick Question

In the sprint review meeting, you have reached the third stage that opens the meeting up for suggestions and feedback.

Who can suggest additional features at this time?

A. The product owner
B. The stakeholders
C. The development team
D. The scrum master

User Studies

Measuring the usability of a product

Recall Define "User" (Topic 3.2)

- End user - anyone that is going to be directly using the product

- Stakeholder – anyone who is affected by, or has an effect on the success of a project
  - Primary users – who will be directly using the product
  - Secondary users - who will occasionally use the product, or those who use it through an intermediary
  - Tertiary users – who will be affected by the use of the product

Recall Involving not Just the Client, but End Users (Topic 3.2)

- Interview end-users to see how they work, what they want, and what they like
- Observe end-users to see how they use the product
- If the end-users had used a previous product, you can consult the products user manual to see what they're used to

There, we were talking more about eliciting requirements that will work for your users.

Here, we will talk about validating that your product works for your users

Usability (FURPS+)

Representative, unbiased

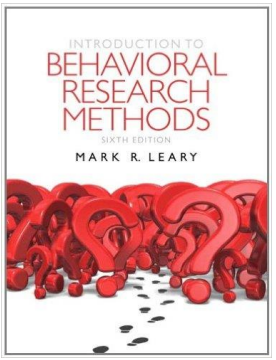
Quantitative – time, click, page viewed, etc.
Qualitative – confidence, fun, aesthetics, etc.

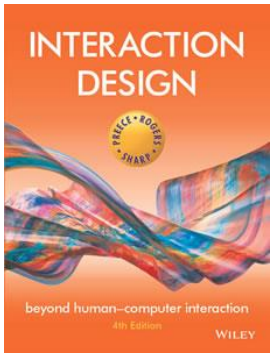
The measure of effectiveness, efficiency and satisfaction with which specified users can achieve goals in particular environments

In the intended way or an unintended way? Why? A new goal?

control the environment and test method

Learn more in the paper "Current practice in measuring usability: Challenges to usability studies and research" by Kasper Hornbæk





Quick Question

In the study, you give your subject a goal to achieve. You then review how the users interact with the product to achieve the goal. You are also timing how long it takes them to achieve the goal and how many clicks it takes for them to achieve the goal.

Which factors is this user study measuring?

A. Effectiveness
B. Efficiency
C. Satisfaction.

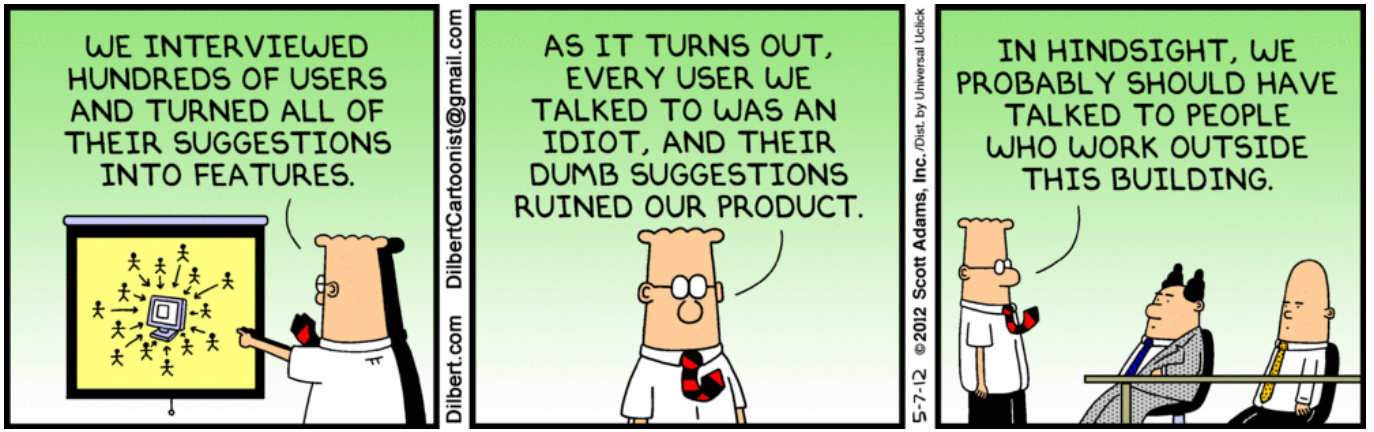
User Studies

- A user study measures the usability of a product

Controlled experiment – having a test participant use the product to achieve a goal	Field study – having a test participant use the product however they feel	A/B testing – comparing two versions of the product against each other
⬇	⬇	⬇
- Whether or not the product is allowing a user to achieve the goal - Any parts that may be hindering the user from achieving the goal	- What the product is naturally encouraging users to do - How the product can be used for different purposes - Is it fun? Aesthetic pleasing?	- How the product fares with the new feature compared to the older product?

Choosing Participants

- Be representative
  - specified users have similar characteristics to the people you actually intend to use your product, such as their background, computers skill level, …
- Be unbiased
  - Your friends and family may just tell you what you want to hear



Module 3 Summary

Topic 3.1 – Introduction to Requirements

- A requirement to be a specific description of your client's needs
- Five requirements activities
  - Eliciting, expressing, prioritizing, analysing, and managing
- Types of requirements
  - Product as a whole – business requirements, business rules
  - Product details – user requirements, functional & non-functional requirements
  - Interfaces and constraints – external interface, physical setting, development constraints
- The fuzzy boundary between requirements and design
  - Avoid too much design sneaking into the requirements

Topic 3.2 – User Interaction

- Define "user" – primary, secondary, tertiary
- Human limitations and how to accommodate them
- Involving clients and users in the requirement elicitation
  - Good questions to asks and questions to avoid
- Techniques to express requirements
  - Use cases, Wireframes, Storyboards

Topic 3.3 – Writing Requirements

- User stories – as a <who>, I want to <what>, so that <why>
- Acceptance criteria and tests – verify that the user story is done right
- Product backlog and story map – prioritize and organize the elicited and expressed user stories

Topic 3.4 – Quality Requirements

- The criteria to met – INVEST + correct, clear, consistent, feasible, and traceable

- Ambiguous requirements – pay attention to 11 categories of ambiguous words

Topic 3.5 – Validating Requirements

- Sprint review meeting – DEMO to ALL
  - Roles and main events in a sprint review meeting
- Usability and user studies
  - Client ≠ end users