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K.Anantharaman
kanantharaman@wilp.bits-pilani.ac.in

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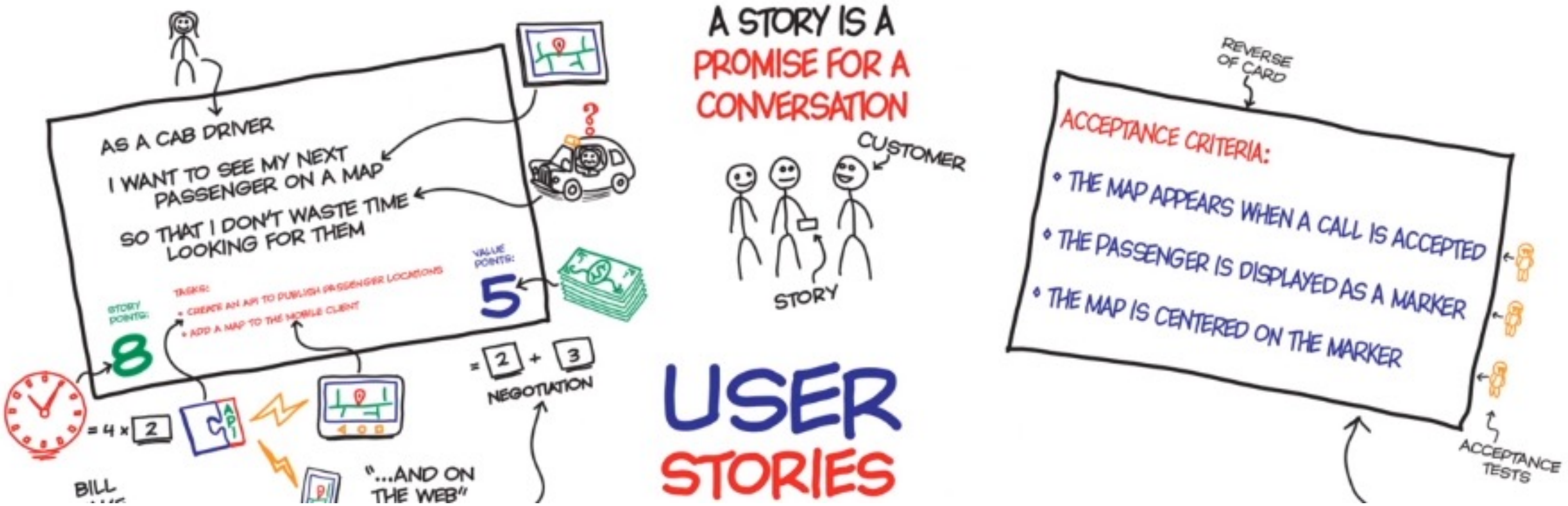
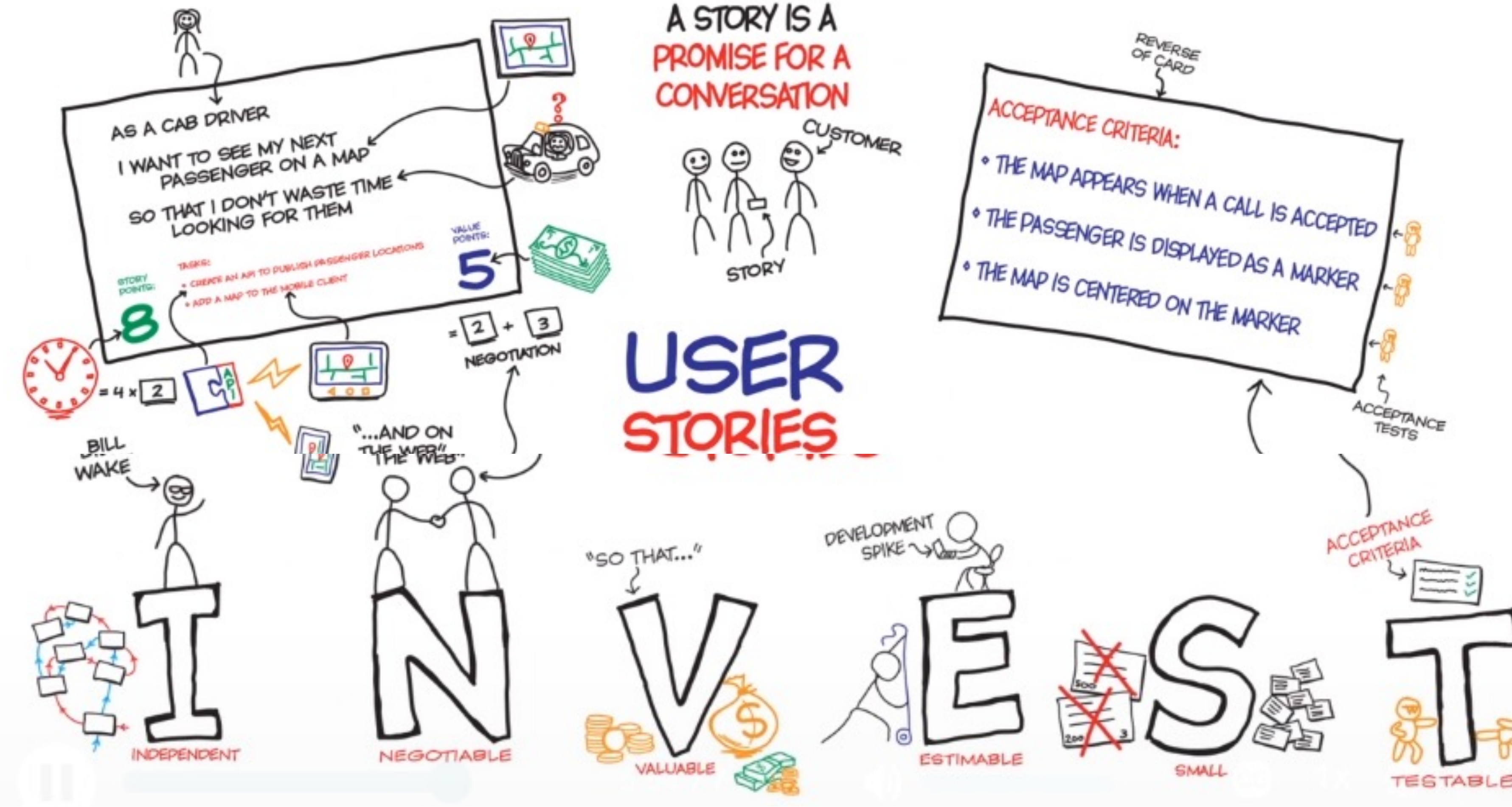
Module-5 Agile Requirements & Agile Estimation

Agile Requirements-1 (Effective User Stories - CCC)


AS A CAB DRIVER
I WANT TO SEE MY NEXT PASSENGER ON A MAP
SO THAT I DON'T WASTE TIME LOOKING FOR THEM
STORY POINTS:
8
TASKS:
• CREATE AN API TO PUBLISH PASSENGER LOCATIONS
• ADD A MAP TO THE MOBILE CLIENT
VALUE POINTS:
5
= 4 × 2
API
= 2 + 3
NEGOTIATION
BILL
"...AND ON THE WEB"
A STORY IS A PROMISE FOR A CONVERSATION
CUSTOMER
STORY
USER STORIES
REVERSE OF CARD
ACCEPTANCE CRITERIA:
• THE MAP APPEARS WHEN A CALL IS ACCEPTED
• THE PASSENGER IS DISPLAYED AS A MARKER
• THE MAP IS CENTERED ON THE MARKER
ACCEPTANCE TESTS

Effective User Stories (CCC & INVEST Guide)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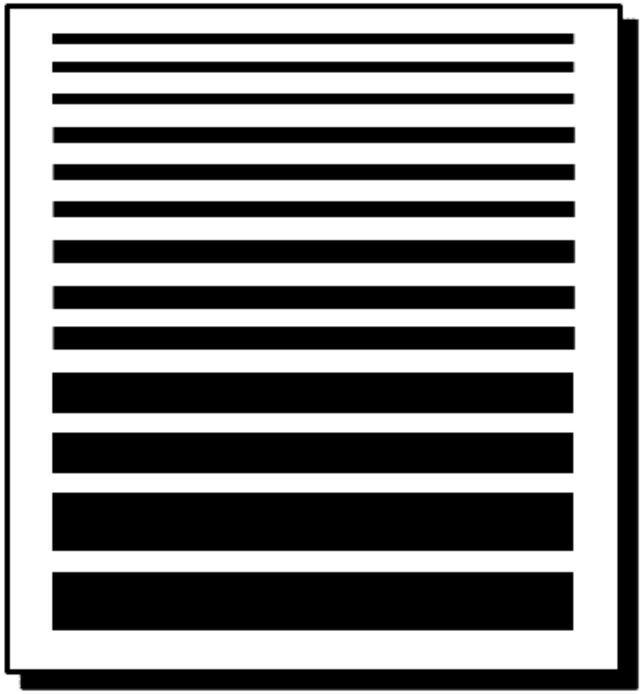
I
INDEPENDENT
N
NEGOTIABLE
"SO THAT..."
V
VALUABLE
DEVELOPMENT SPIKE
E
ESTIMABLE
500
200
3
S
SMALL
ACCEPTANCE CRITERIA
T
TESTABLE

Product Backlog

High Priority



Low Priority

Fine-grained, detailed items ready to be worked on in the next sprint

D E E P
Detailed Emergent Estimatable Prioritized

Large, coarse-grained items

- Themes, Epic

Q&A (Apply INVEST Test)

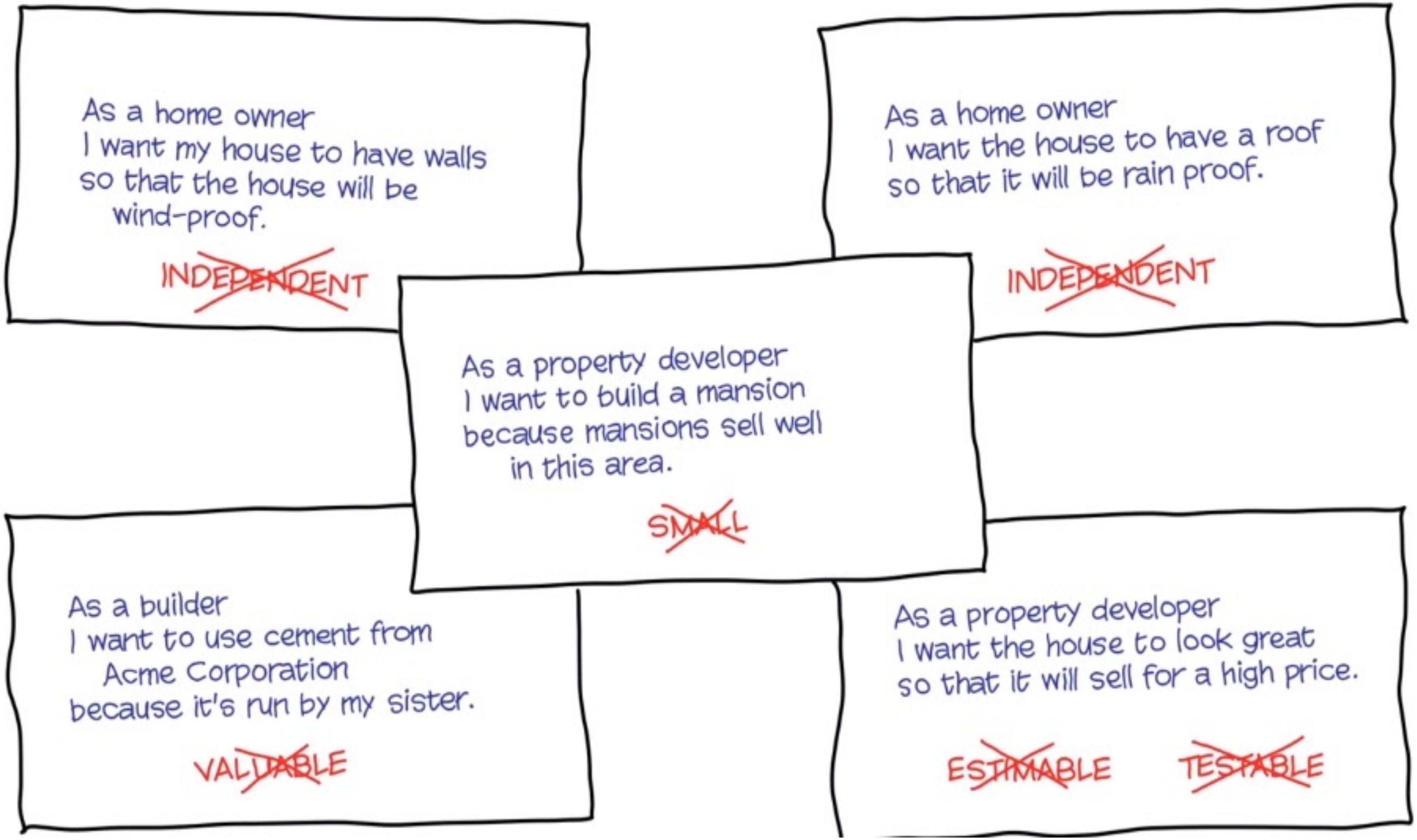
(Real Estate Project - House Construction)

1. As a home owner, I want my house to have walls so that the house will be wind-proof.
2. As a home owner I want the house to have a roof so that it will be rain proof.
3. As a property developer I want to build a mansion because mansions sell well in this area.
4. As a builder I want to use cement from Acme Corporation because it's run by my sister.
5. As a property developer I want the house to look great so that it will sell

https://forms.gle/bAjVy4iSD7QEhLGK9

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Q&A (Apply INVEST Test)-Answer



As a home owner
I want my house to have walls
so that the house will be
wind-proof.

~~INDEPENDENT~~

As a home owner
I want the house to have a roof
so that it will be rain proof.

~~INDEPENDENT~~

As a property developer
I want to build a mansion
because mansions sell well
in this area.

~~SMALL~~

As a builder
I want to use cement from
Acme Corporation
because it's run by my sister.

~~VALUABLE~~

As a property developer
I want the house to look great
so that it will sell for a high price.

~~ESTIMABLE~~ ~~TESTABLE~~

Approaches to User Stories Prioritization

- Customer Valued Prioritization
  - Kano Analysis (Satisfied, Dissatisfied, Exciters)
  - MoSCoW Technique (Must have, Should have, Could have, Wont have)
- Relative Prioritization
  - Business Value Vs Risk Vs Effort
  - Relative Weighting Prioritization (Value/Cost)
- Story Mapping

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Agile Estimation – Story Point Estimation

Agile Estimation

Absolute Estimation

✓ Relative Estimation

✓ Fibonacci Sequence (1,2,3,5,8,13,21,34,55, ……)

✓ Story Point

✓ Value Point

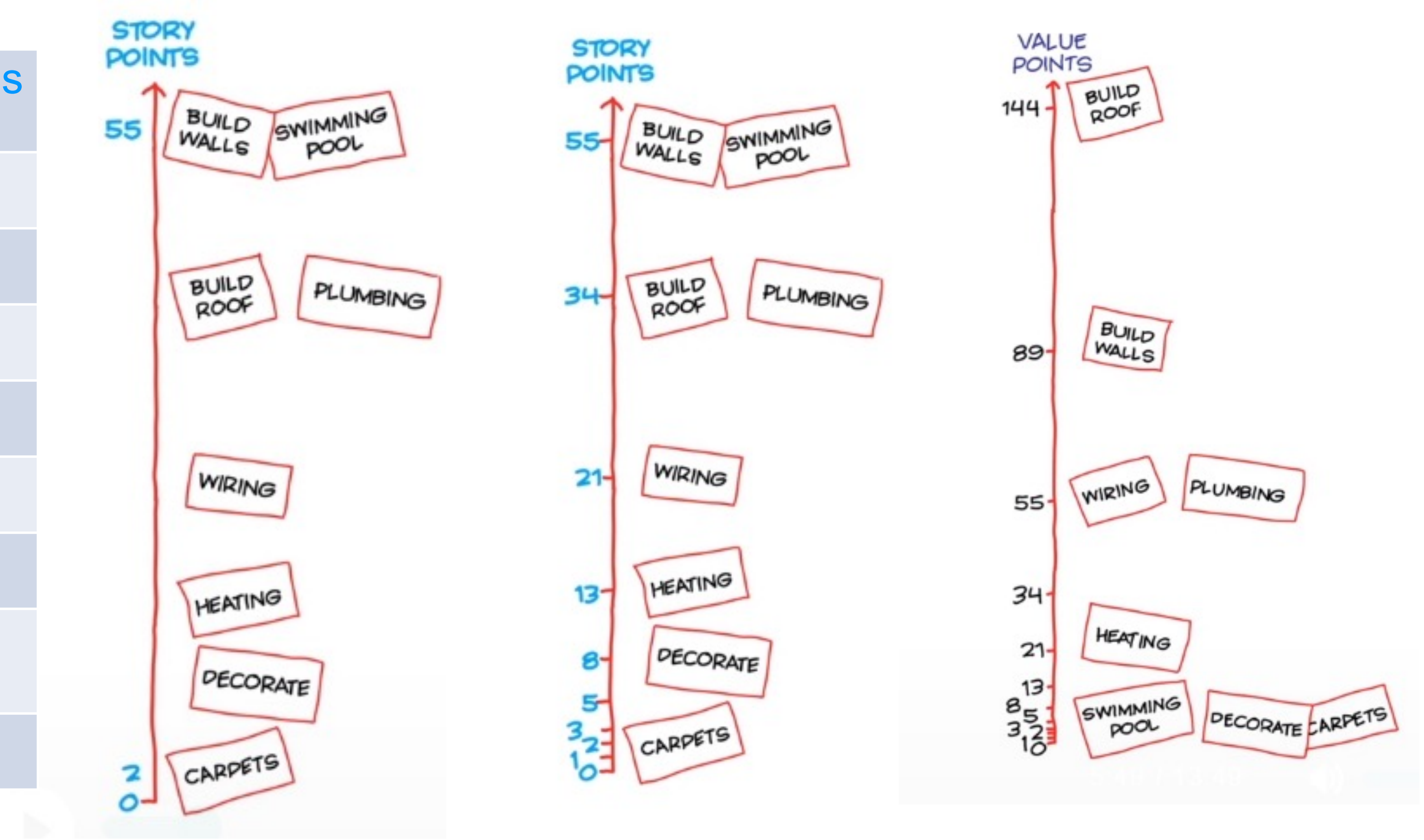
✓ Velocity

✓ Average Velocity

✓ BFTB (Bank For The Buck)= Value Point /StoryPoint

Agile Estimation - User Stories Example-Housing Project

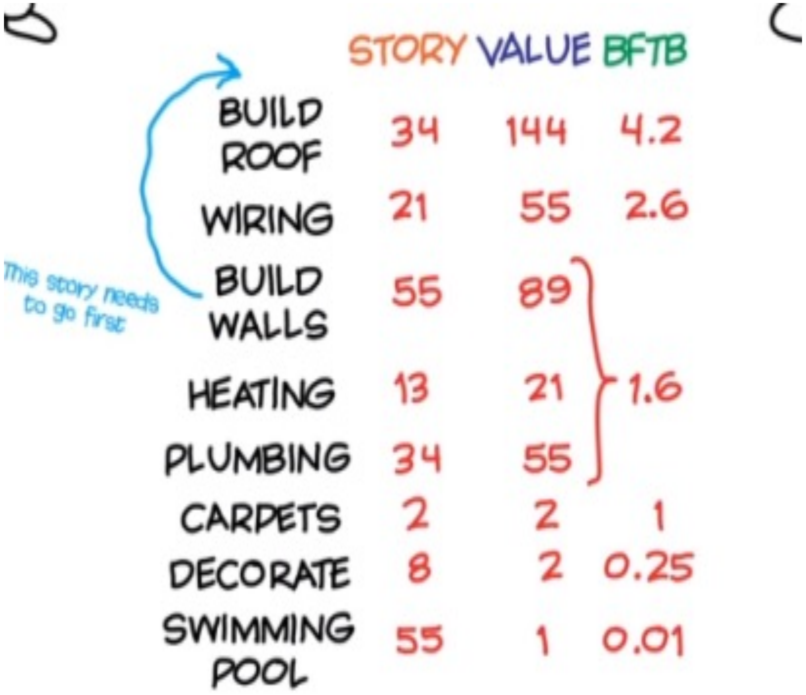
User Stories
Build Walls
Carpets
Decorate
Build Roof
Wiring
Plumbing
Swimming Pool
Heating



✓ Fibonacci Sequence (1,2,3,5,8,13,21,34,55, ……)

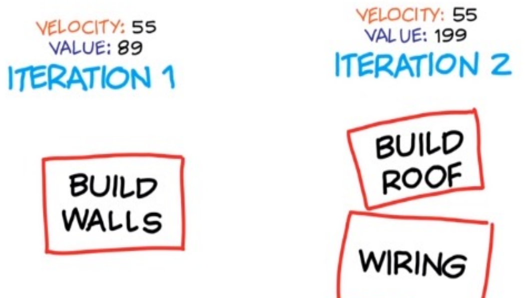
Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Agile Estimation



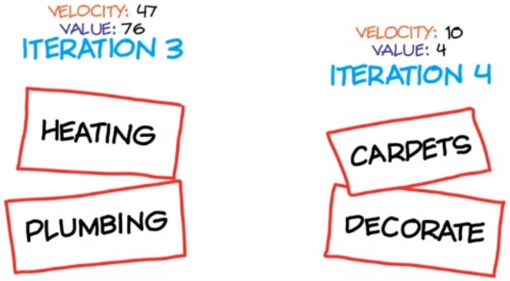
	STORY	VALUE	BFTB
BUILD ROOF	34	144	4.2
WIRING	21	55	2.6
BUILD WALLS	55	89	
HEATING	13	21	1.6
PLUMBING	34	55	
CARPETS	2	2	1
DECORATE	8	2	0.25
SWIMMING POOL	55	1	0.01

This story needs to go first



Cost: $20000,
Cost/Value=
20000/89 = $225

Cost:
199*225=$44000



Cost :76*225
=$17000

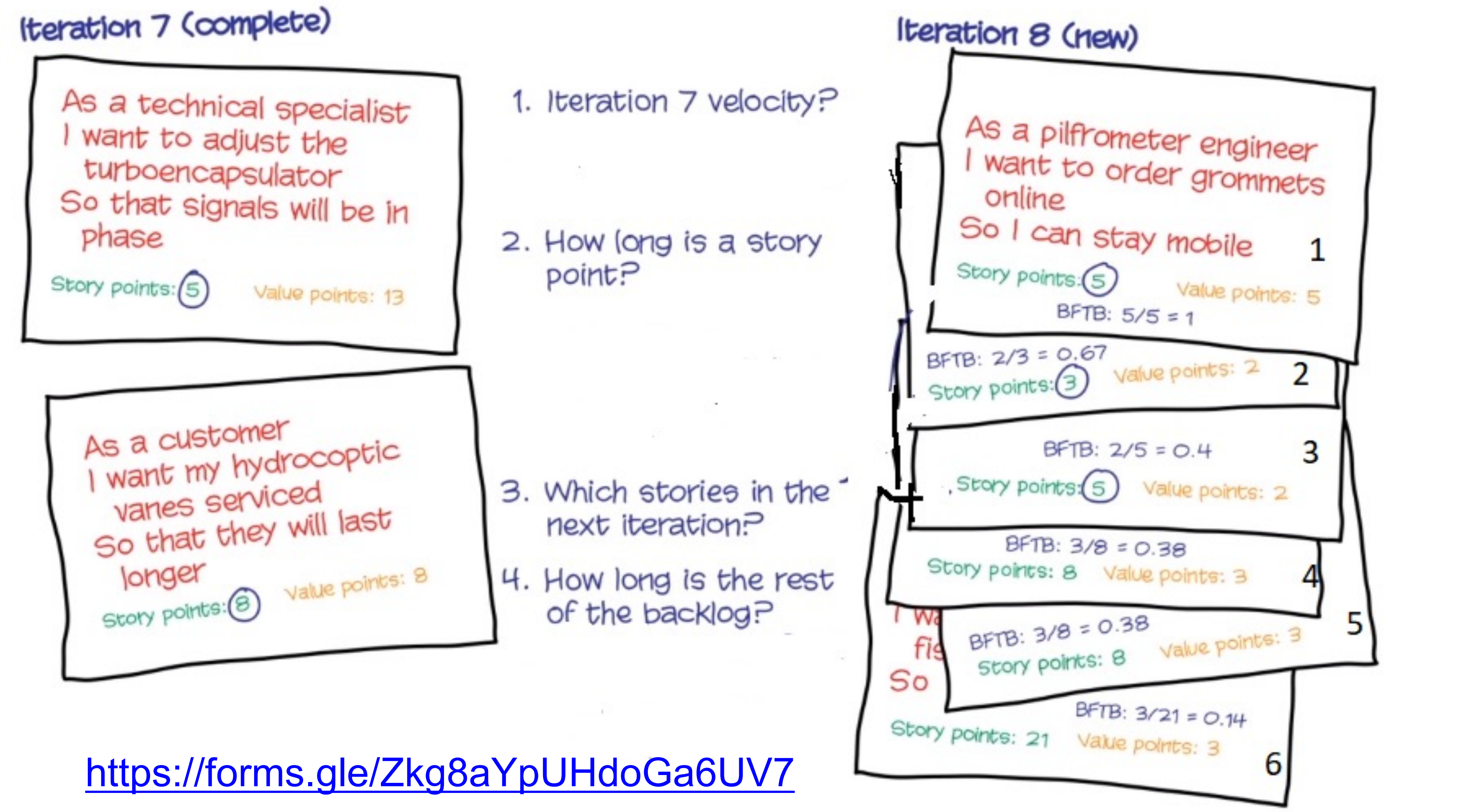
Cost:
4*225=900

~~Iteration-5~~

~~Swimming Pool~~

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Estimation Exercise (Iteration Length = 2 weeks (10 Days, 8hrs Per day)



Iteration 7 (complete)

As a technical specialist
I want to adjust the turboencapsulator
So that signals will be in phase

Story points: 5 Value points: 13

As a customer
I want my hydrocoptic vanes serviced
So that they will last longer

Story points: 8 Value points: 8

1. Iteration 7 velocity?
2. How long is a story point?
3. Which stories in the next iteration?
4. How long is the rest of the backlog?

Iteration 8 (new)

1
As a pilfrometer engineer
I want to order grommets online
So I can stay mobile

Story points: 5 Value points: 5
BFTB: 5/5 = 1

2
BFTB: 2/3 = 0.67
Story points: 3 Value points: 2

3
BFTB: 2/5 = 0.4
Story points: 5 Value points: 2

4
BFTB: 3/8 = 0.38
Story points: 8 Value points: 3

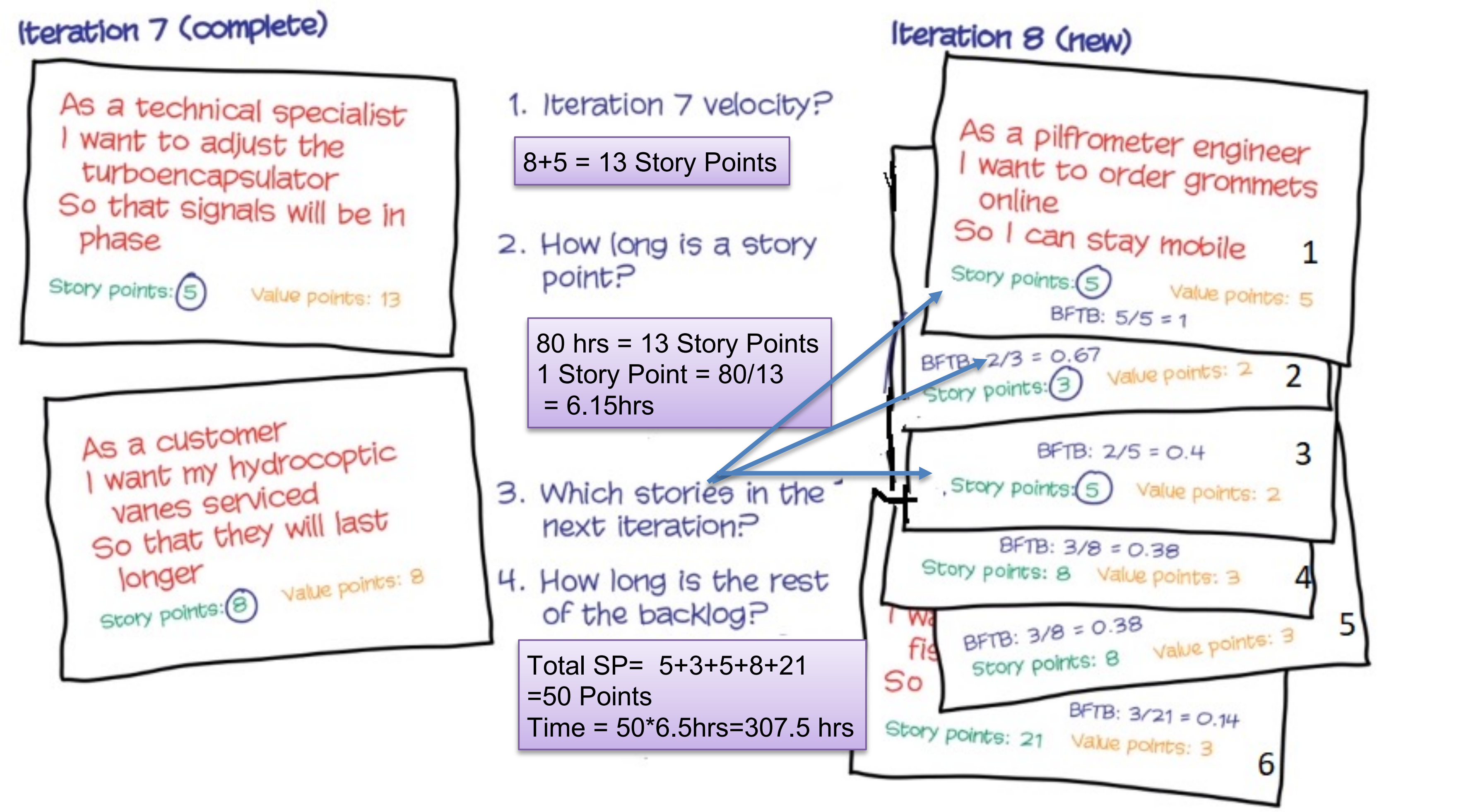
5
BFTB: 3/8 = 0.38
Story points: 8 Value points: 3

6
I wa
fis
So
BFTB: 3/21 = 0.14
Story points: 21 Value points: 3

https://forms.gle/Zkg8aYpUHdoGa6UV7

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Estimation Exercise (Iteration Length = 2 weeks (10 Days, 8hrs Per day)



Iteration 7 (complete)

As a technical specialist
I want to adjust the turboencapsulator
So that signals will be in phase
Story points: 5 Value points: 13

As a customer
I want my hydrocoptic vanes serviced
So that they will last longer
Story points: 8 Value points: 8

1. Iteration 7 velocity?

8+5 = 13 Story Points

2. How long is a story point?

80 hrs = 13 Story Points
1 Story Point = 80/13
= 6.15hrs

3. Which stories in the next iteration?

4. How long is the rest of the backlog?

Total SP= 5+3+5+8+21
=50 Points
Time = 50*6.5hrs=307.5 hrs

Iteration 8 (new)

As a pilfrometer engineer
I want to order grommets online
So I can stay mobile
Story points: 5 Value points: 5
BFTB: 5/5 = 1

BFTB: 2/3 = 0.67
Story points: 3 Value points: 2

BFTB: 2/5 = 0.4
Story points: 5 Value points: 2

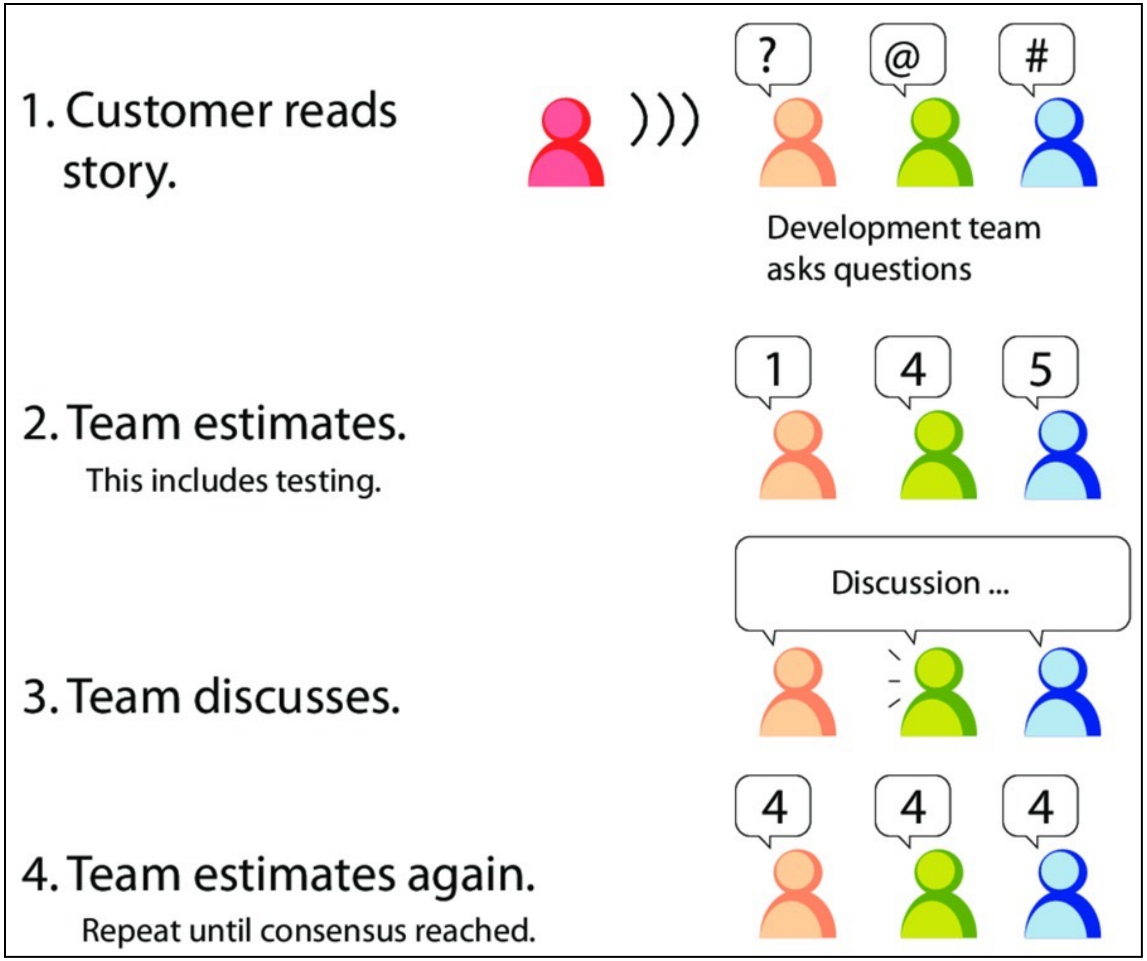
BFTB: 3/8 = 0.38
Story points: 8 Value points: 3

BFTB: 3/8 = 0.38
Story points: 8 Value points: 3

BFTB: 3/21 = 0.14
Story points: 21 Value points: 3

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Planning Poker
How User Stories are estimated by the team?



1. Customer reads story.

Development team asks questions

2. Team estimates.

This includes testing.

3. Team discusses.

4. Team estimates again.

Repeat until consensus reached.

Estimator	Round1	Round 2
Team member-1	3	5
Team member-2	8	5
Team member-3	2	5
Team member-4	5	8

Ref: The Agile Samurai by Jonathan Rasmusson Published by Pragmatic Bookshelf, 2010
Image source: https://www.pmi.org/learning/library/agile-project-estimation-techniques-6110

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Module – Agile Requirements & Agile Estimation – Additional Notes

Requirements Gathering in Waterfall Method

- In Waterfall model, We tend to describe upfront how the entire product/system will work and document them.
  - PRD or SRS or CRS

- The problem with gathering requirements as documentation isn't one of volume—**it's one of communication.** It's just really easy to misinterpret what someone wrote.

- Other Issues:
  - Lengthy Process (1 to 3 months), Sometime Project wont get started
  - Requirement change is hard, especially late in the cycle
  - Bad guesses and wrong assumptions and so on ….

Requirements Gathering in Agile

- In Agile Projects, **User Stories** are the main way to track the information or requirements, of the project.
- User Stories tell us about:
    - What customer the wants the team to do?
    - How valuable the work is?
    - How long it is likely to take completed?
- **User stories are fundamental unit** of product development in Agile environments
- User stories describe single feature **which enable rapid iteration.**

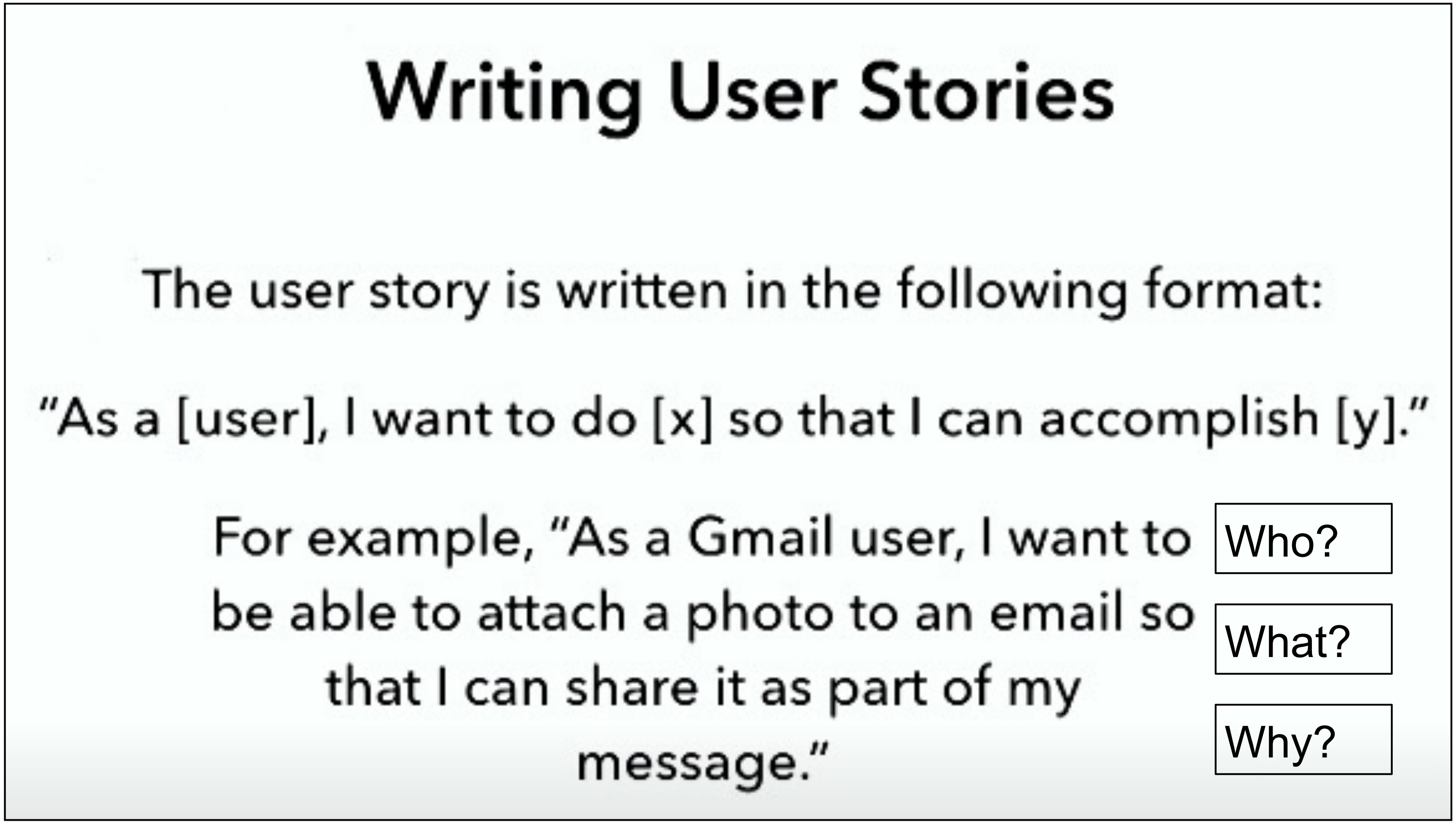
Why Write User Stories?

Empathic design is a user-centered design approach

- User stories also enable empathic design and development as they are written from the perspective of the end user
- A well-written user story will communicate both how a feature will work and how it will benefit the end-user
- User stories ensure that teams are building features to meet a user goal or need instead of "building stuff to build stuff"

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

Another User Story format and Examples



Writing User Stories

The user story is written in the following format:

"As a [user], I want to do [x] so that I can accomplish [y]."

For example, "As a Gmail user, I want to be able to attach a photo to an email so that I can share it as part of my message."

Who?

What?

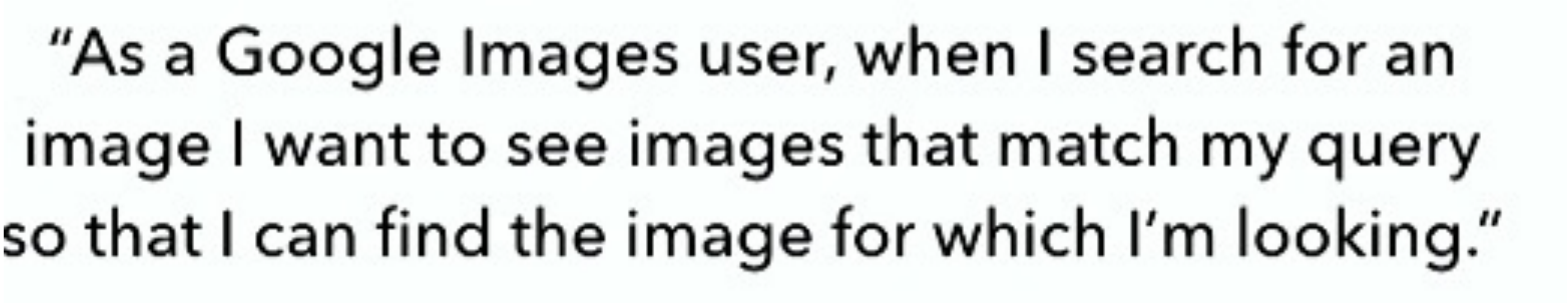
Why?

Note: If the user story involves a frontend (user-facing) design component, the design files should be included with the user story

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

User Story Examples

A user story for returning images in Google Image search.



"As a Google Images user, when I search for an image I want to see images that match my query so that I can find the image for which I'm looking."

- Note that, user story does not focus on how the images will be returned or displayed, but rather on end user's goal and needs.

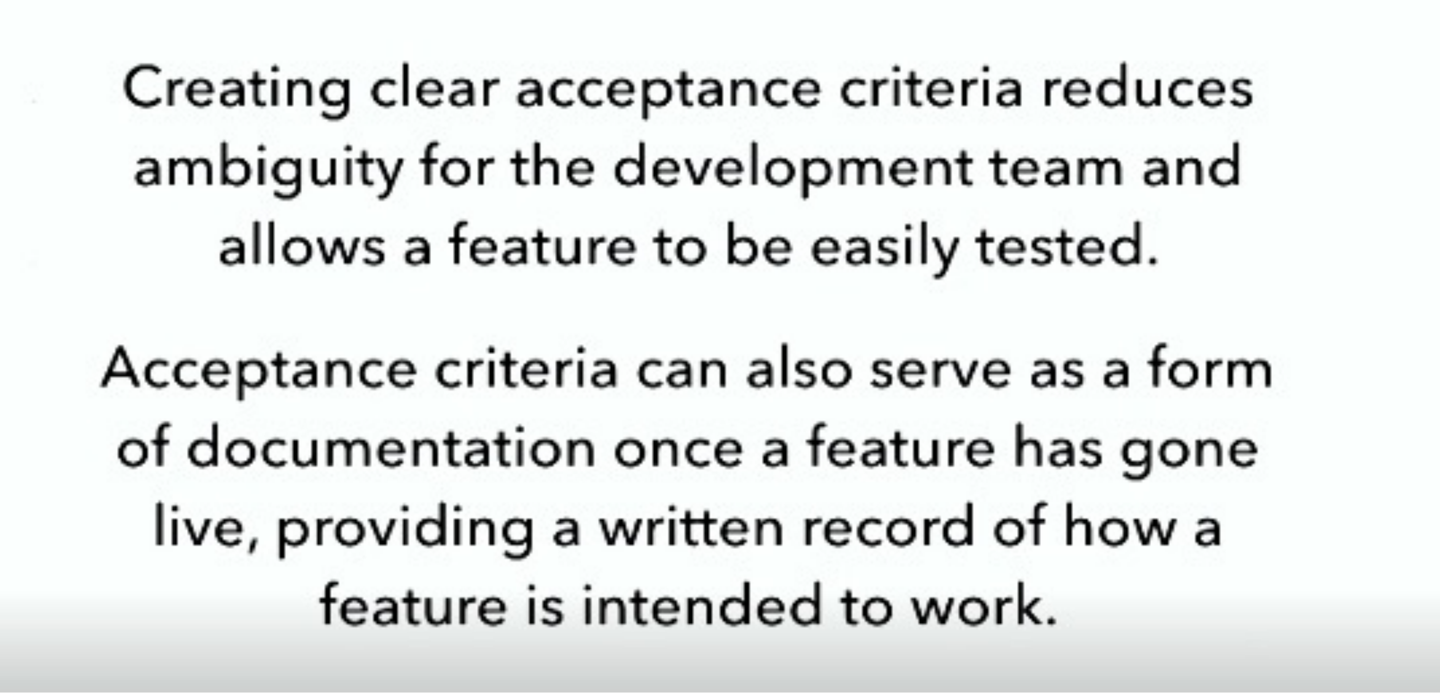
Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

Writing Acceptance Criteria for User Stories

- The second part of the user story , **the acceptance criteria**, explains how the feature will work.

- The acceptance criteria consists of series of **boolean statements (true or false)**, such as “ When [x] happens, [y] should happen

Acceptance Criteria/Conditions of Satisfaction



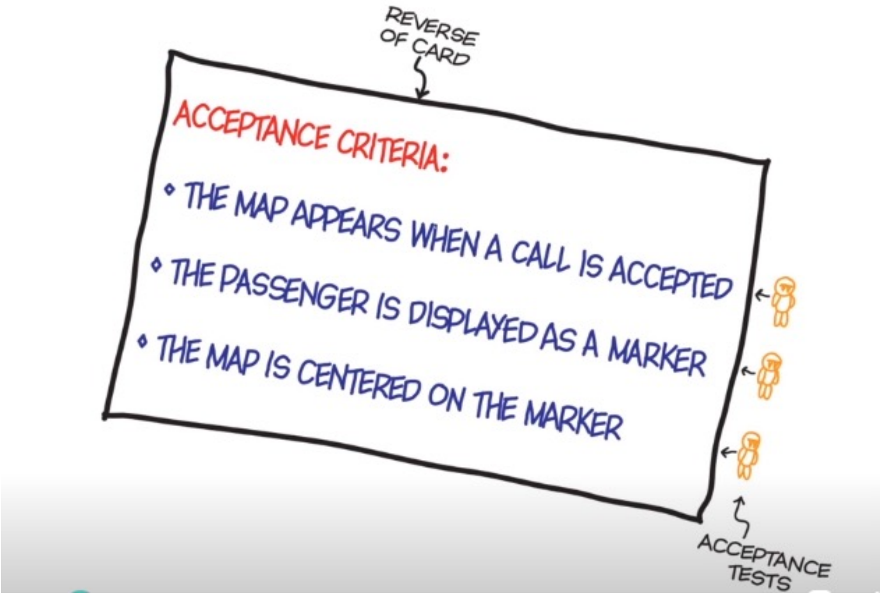
Creating clear acceptance criteria reduces ambiguity for the development team and allows a feature to be easily tested.

Acceptance criteria can also serve as a form of documentation once a feature has gone live, providing a written record of how a feature is intended to work.

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

Examples Acceptance Criteria

Back of the User Story card


REVERSE OF CARD
ACCEPTANCE CRITERIA:
• THE MAP APPEARS WHEN A CALL IS ACCEPTED
• THE PASSENGER IS DISPLAYED AS A MARKER
• THE MAP IS CENTERED ON THE MARKER
ACCEPTANCE TESTS

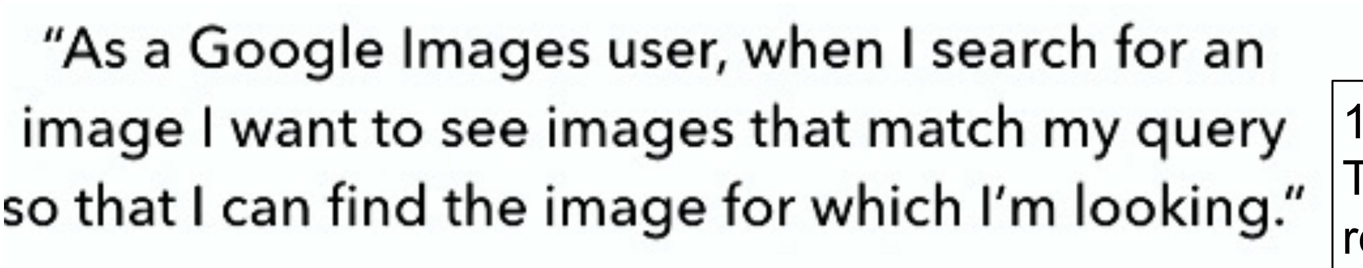
For example for an Gmail user,

“ When the user saves an email that has not been sent, it should be stored in the user’s Drafts folder”

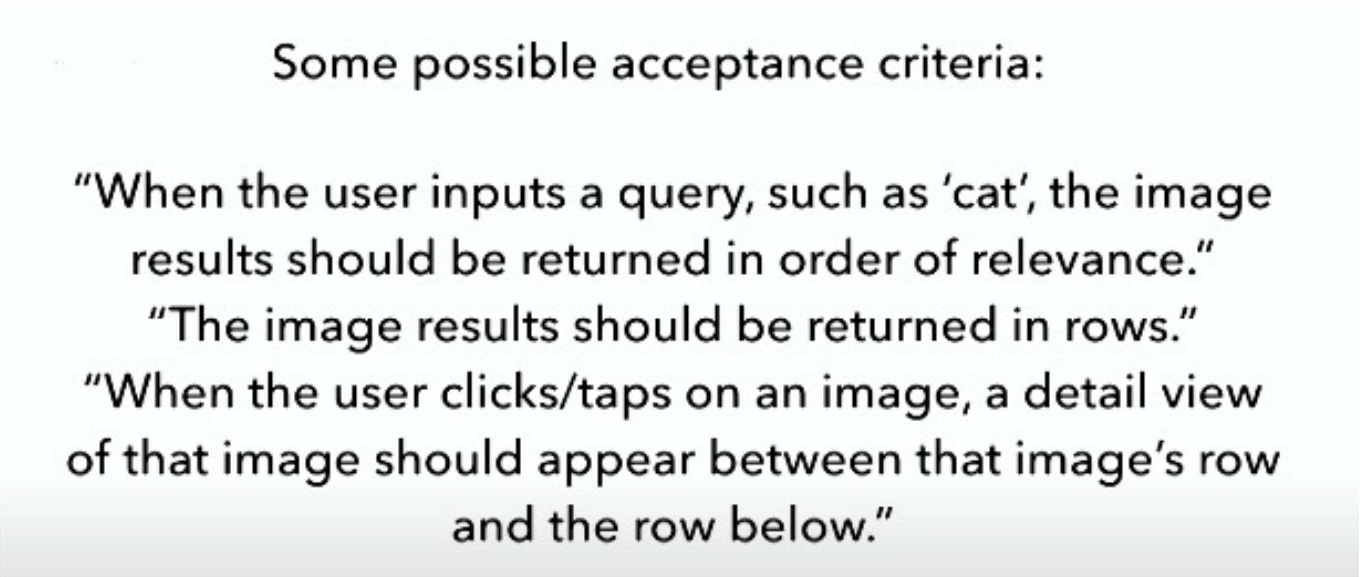
Outcome: Email stored in Drafts (Yes) or Not (No)

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Acceptance Criteria for Google Image search



"As a Google Images user, when I search for an image I want to see images that match my query so that I can find the image for which I'm looking."



Some possible acceptance criteria:

"When the user inputs a query, such as 'cat', the image results should be returned in order of relevance."

"The image results should be returned in rows."

"When the user clicks/taps on an image, a detail view of that image should appear between that image's row and the row below."

1. Relevance: The image most related to user query appears first, the images least related to user query appears last
2. Rows: Layout function
3. Tap on Image: how user will interact with the image

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

Elements of Good User Stories

- Bill Wake came up with the **INVEST** acronym for good user story.
- Good user stories also have the following characteristics:

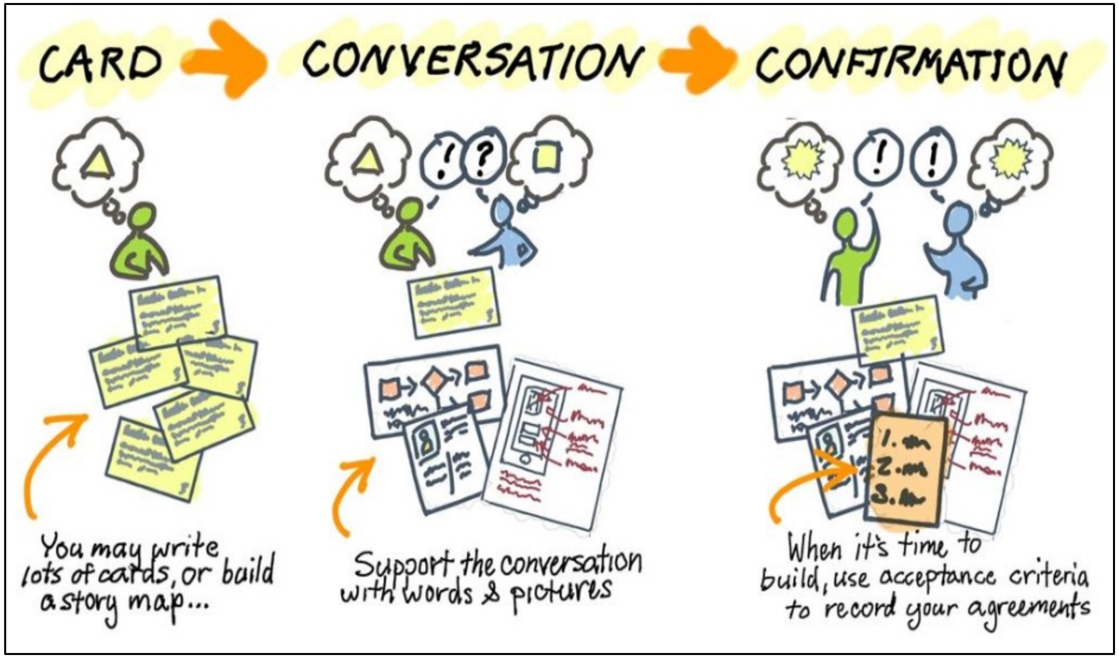
- **I**ndependent
- **N**egotiable
- **V**aluable
- **E**stimatable
- **S**mall
- **T**estable

The Agile Samurai by Jonathan Rasmusson Published by Pragmatic Bookshelf, 2010

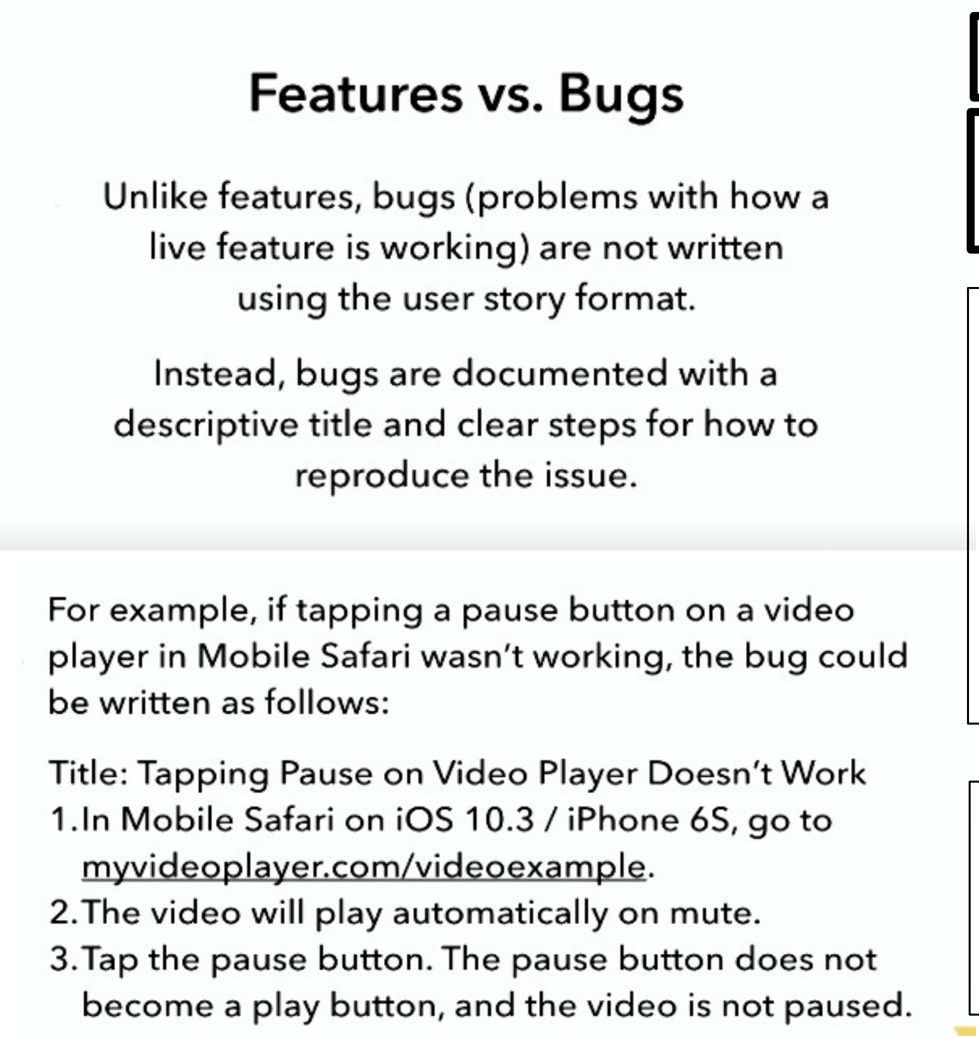
The 3 Cs- Story Process

- In the book *Extreme Programming Installed*, Ron Jeffries et al. (Addison-Wesley Longman Publishing) **describe the story process** best:

- Card:
  - Write what you'd like to see in the software on a bunch of index cards.
- **Conversation**
  - Get together and have a rich conversation about what software to build.
- **Confirmation**
  - Together agree on how you'll confirm that the software is done.


CARD
CONVERSATION
CONFIRMATION
You may write lots of cards, or build a story map...
Support the conversation with words & pictures
When it's time to build, use acceptance criteria to record your agreements

Difference Between User Story, Bugs, Constraints



Features vs. Bugs

Unlike features, bugs (problems with how a live feature is working) are not written using the user story format.

Instead, bugs are documented with a descriptive title and clear steps for how to reproduce the issue.

For example, if tapping a pause button on a video player in Mobile Safari wasn't working, the bug could be written as follows:

Title: Tapping Pause on Video Player Doesn't Work

1. In Mobile Safari on iOS 10.3 / iPhone 6S, go to myvideoplayer.com/videoexample.
2. The video will play automatically on mute.
3. Tap the pause button. The pause button does not become a play button, and the video is not paused.

Constraints

Story: Website must be super fast

Story: Design should look really good – Constraint Card

- **Stories like these, we call constraints**.
- But they are important because they describe characteristics our customers would like to see in their software.
- For example, The Website must be super fast can be written like this.

All web pages must load in less than 2 sec

A constraint card

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

How to take care of Frontend Design?

- If a user story includes a new design, the design files illustrating that design (including any interactions) are included with user story.
  - Design tools: Adobe Photoshop, Sketch and Invision
  - Design files: Wireframes, Mockup, Prototypes

https://justcoded.com/blog/wireframe-mockup-and-prototype-whats-the-difference/

Story Grooming Meeting

- Story grooming meetings give the engineering team a chance to review user stories **before they are scheduled for a development sprint.**
- Story grooming meetings are **critical for securing the development team's buy-in.**
- The team is given a chance to ask the questions that would normally arise during sprint planning:
  - What should we do if the user enters invalid data here?
  - Are all users allowed to access this part of the system?
  - What happens if…?
- The team provides feedback on the feasibility, viability, and size of each feature and may provide alternate solutions/ or identify previously unforeseen prerequisites or roadblocks for the user needs identified in the user stories.

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

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Agile Estimation

Absolute Estimation

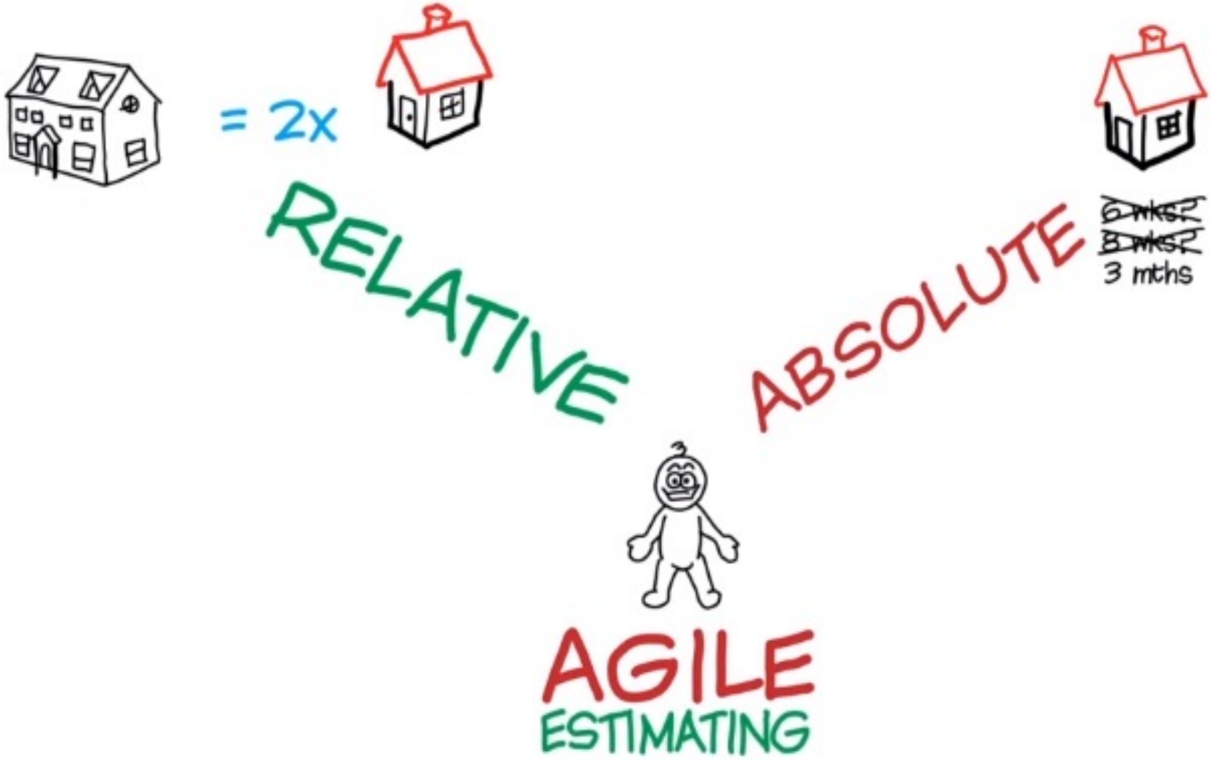
- We estimate our work in hours, days, and weeks.
- We use all the knowledge and experience at hand to make a guess about the amount of time it is going to take.
- Estimation is **approximate and not accurate**

- Absolute estimation:
  - Estimating in absolute values (Examples, days, weeks, months or KMs, Miles ….)
  - **Absolute values are not easier to judge**
  - **People are not good at absolute estimation**

Relative Estimation

- Agile team use relative estimation.
- Relative estimating compares what you don't know against what you do know.
  - For example, You might not be able to guess how much a truck weighs, but if you saw the truck, you can probably guess how many cars equal a truck.
  - A “customer search” story, as it probably involves double the effort to implement than a simple “Login user” story.
- Relative estimation is easier to judge than absolute values.
  - This means judging how big or complex tasks are with respect to other tasks
- This estimation in not designed to be precise.
  - But that doesn't mean it's useless. Instead it gives you a starting point, a way to start the discussion on what it takes to deliver your stories.

Absolute vs Relative Estimation



As an analogy, it is much easier to say that Delhi to Bangalore is twice the distance of Mumbai to Bangalore than saying that the distance from Delhi to Bangalore is 2061 kms.

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Why Agile team use Relative Estimation?

1. Relative estimation takes away from the false comfort of precision.
   - The team is accepting the fact that the estimates will be imprecise.
   - That way we can start talking about what it takes to deliver this story instead spending too much time on estimates.
2. Agile uses relative estimating is that it keeps the team from **confusing estimates from commitments**.
   - An estimate is the useful information you might give a co-worker. A commitment is something that you usually give to a supervisor. An estimate is a best guess. A commitment is often a worst case scenario. That's why for Agile planning, you want estimates and not commitments.
3. Relative sizing across stories tends to be much more accurate over a larger sample, than trying to estimate each individual story for the effort (in hours) involved.

Story Point Estimation

Story Point for Estimation

- In Agile, we use relative estimation
- We do this by comparing the time to take one story vs time to take another story without using absolute estimates
- We do this by using Story points.
- We will have an exponential number sequence.
  - Something like 1,2,3,5,8, 13 ….. These are the points for each of the stories.
- When we estimate with story points, we assign a point value to each item.
  - **The raw values we assign are unimportant**. What matters are the ***relative values***. A story that is assigned a 2 should be twice as much as a story that is assigned a 1. A 2 point story is 2/3 of 3 point story.
  - Instead of assigning 1, 2 and 3, that team could instead have assigned 100, 200 and 300. Or 1 million, 2 million and 3 million. It is the **ratios that matter**, not the actual numbers.

What does a Story Point represent ?

- **Represents the amount of effort or fixed period of time** required to implement a user story. **(Size)**
- Story Point is not an estimate of the amount of time it takes to implement a Story.
- Some argue that it is **a measure of complexity**, but that is only true if the complexity or risk involved in implementing a user story translates into the effort involved in implementing it.

Fibonacci series as Story points

- The most common way is to estimate a user story is to use the **Fibonacci series** (1, 2, 3, 5, 8, 13, 21, 34, 55….. with each number the sum of the preceding numbers.

- Why Fibonacci?
  - It’s because numbers that are too close to one another are impossible to distinguish as estimates.

- In Fibonacci series, after the 2 (which is 100% bigger than one), each number is about **60% larger** than the preceding value.

Predictability of User Stories Estimation

- Small stories tend to result in a more accurate and reliable estimates.

- Small stories reduces variability and improves predictability.

- So, a 13 or 20-point story is likely much less predictable than several 2, 3, or 5-point stories.

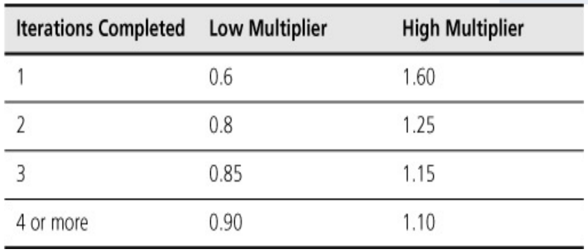
- Relative story point estimates using the Fibonacci sequence are, by design, increasingly **less accurate for larger estimates** – like the “cone of uncertainty”

Velocity

- **Velocity** = Number of story points the team can deliver in an iteration/Sprint (OR)
- **Calculating Velocity:**

Sprints	Number of Story points Delivered
Sprint-1	16
Sprint-2	15
Sprint-3	17
Sprint-4	20

1.Average = (16+15+17+20) / 4 = 17 Story points



Iterations Completed	Low Multiplier	High Multiplier
1	0.6	1.60
2	0.8	1.25
3	0.85	1.15
4 or more	0.90	1.10

2. Give it as a range

- Velocity is a rolling average. That means that the velocity may increase or decrease depending on what happens with the team.
- After some iterations the velocity will become stable.

Examples from Software Development- Story Points are relative

1 –QUICK TO DELIVER AND MINIMAL COMPLEXITY. AN HOUR

Example: add field to a form

2 –QUICK TO DELIVER AND SOME COMPLEXITY. MULTIPLE HOURS

Example: Add parameter to form, validation, storage

3 –MODERATE TIME TO DELIVER, MODERATE COMPLEXITY, POSSIBLE UNKNOWNS

Example: Migrate somewhat complex static CSS into a CSS pre-processor

5 –LONGER TIME TO DELIVER, HIGH COMPLEXITY, LIKELY UNKNOWNS

Example: Integrate with third-party API for pushing/pulling data, and link to user profiles in platform

8 –LONG TIME TO DELIVER, HIGH COMPLEXITY, CRITICAL UNKNOWNS

Example: Overhaul the layout/HTML/CSS/JS of a web application

13 –LONG TIME TO DELIVERY, HIGH COMPLEXITY, MANY CRITICAL UNKNOWNS

Example: Migrate application from an outdated data store to new DB technology and ORM

Ref: GenMan solution Inc.

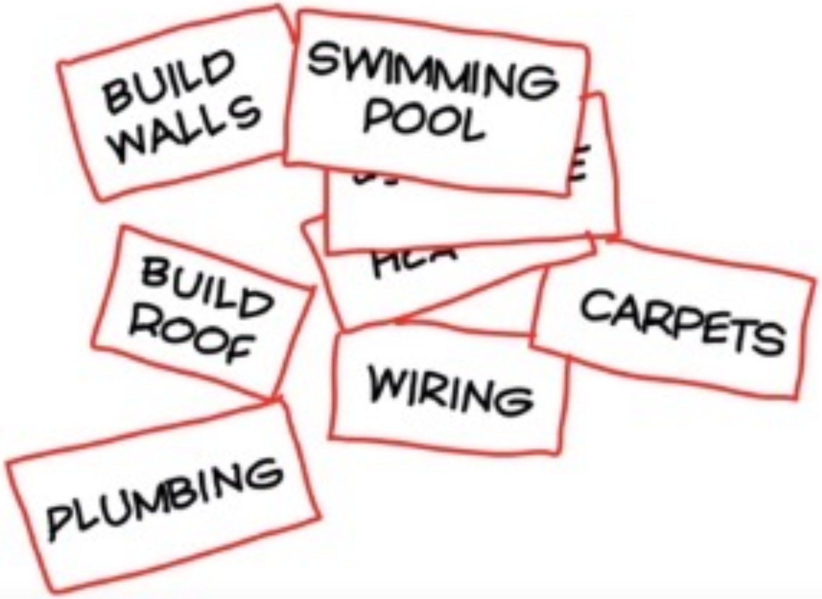
How User Stories are estimated by the team?

- One method is to play **Planning poker** game.
  - Planning poker helps give everyone a voice.
  - Combining of individual estimates through group discussion leads to better estimates
  - Combat Groupthink-meaning, the way that people tend to agree with the most popular idea.
- Planning poker is a game where the development team estimates stories individually first (using a deck of cards with numbers like **1, 2, 3, 5, 13** …on them) and then compares the results collectively together after.
- If everyone's estimate is more or less the same, the estimate is kept. If there are differences, however, the team discusses them and estimates again until consensus is reached.

Story Point Estimation – An Example

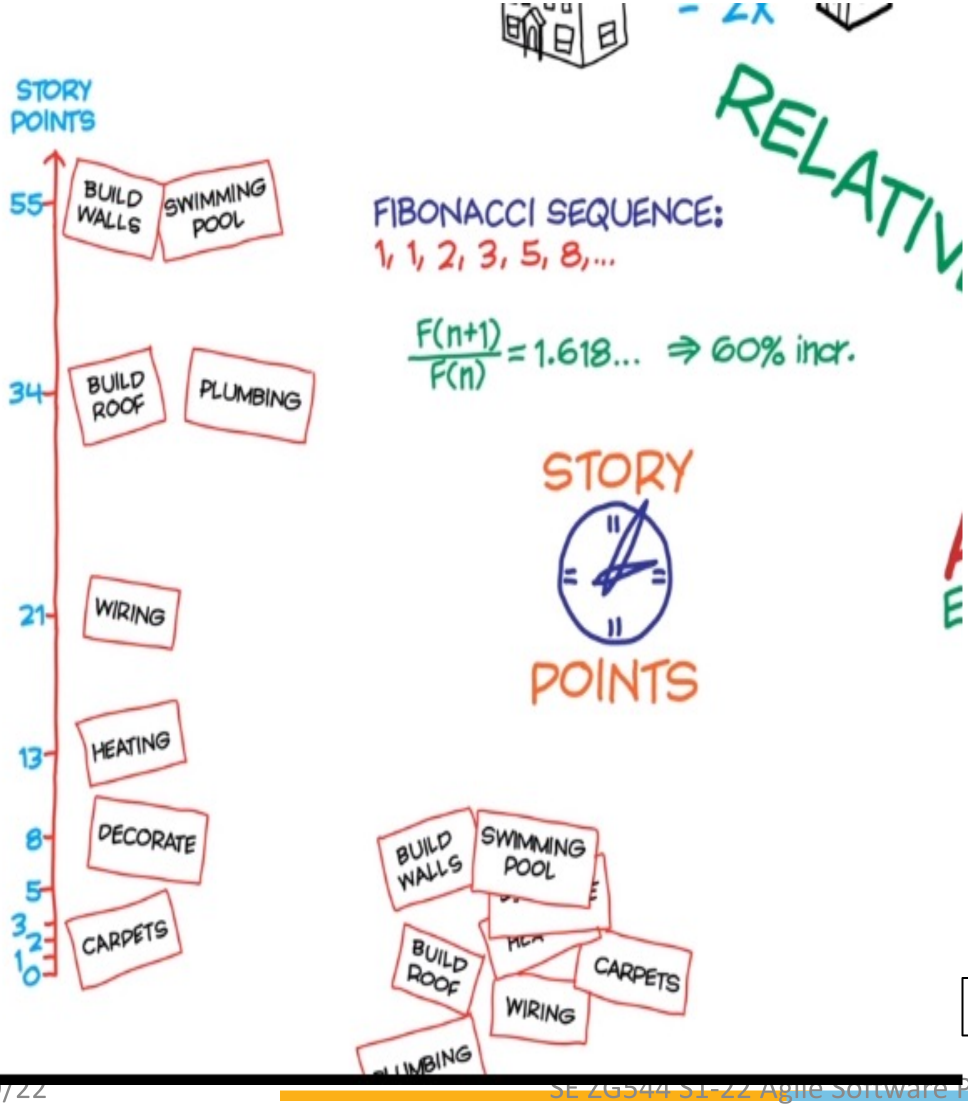
Project : Build a House, Suppose we have the following bunch of user stories to be estimated. How do we start?

User stories



Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Story Point Estimation – Example



Steps:

1. The team may start with the smallest - Carpets Story , assign 2 points.

2. Next, for example, we may discuss the Build wall story. We agree on, it is 30 times larger than Carpet story. Hence, we assign 55 points in Fibonacci scale.

3. Then relatively, assign story points to other stories, Decorate, Heating etc.…

At this point, We do not know the effort of each story

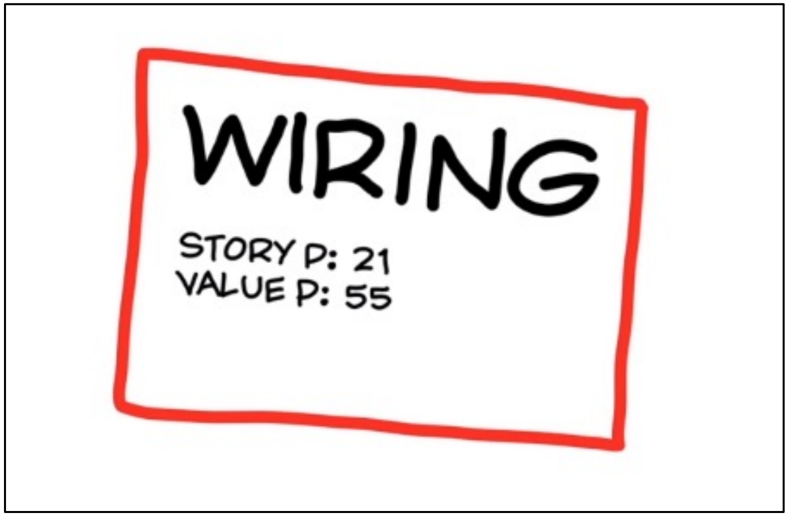
Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Value Point

- A user Story has two estimates.
  - Story point – estimate of time
  - Value Point – estimate of value
- Developers , the people who do the work, estimate User Stories in Story points,
- Customer / Product owner estimates User Stories in Value Point, in the same way.

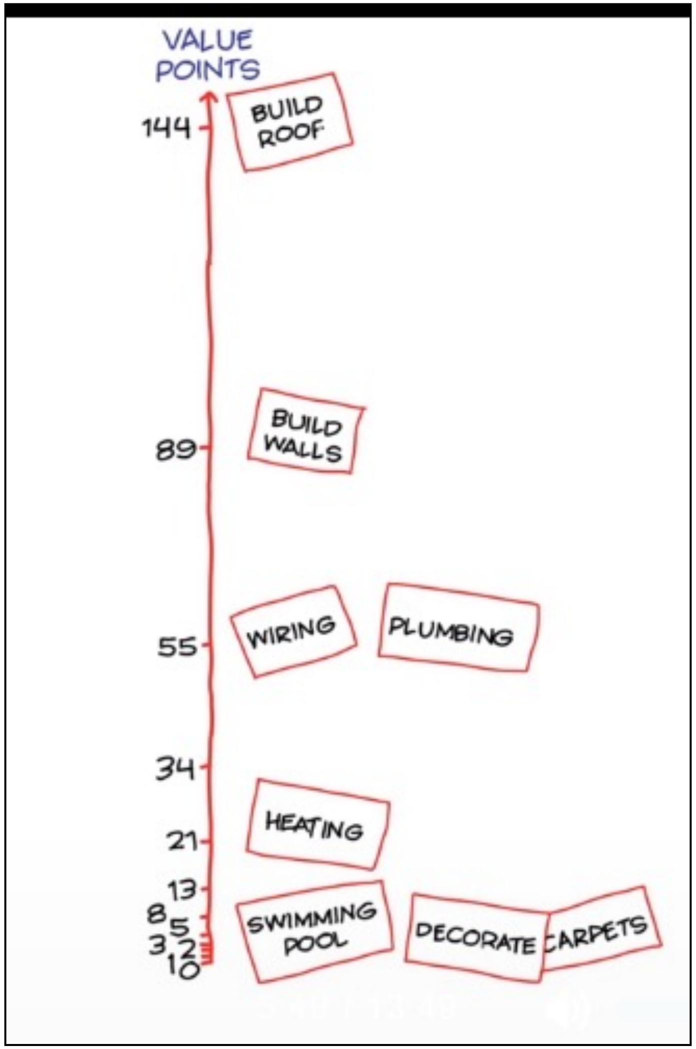
Story Card
Story Point : Amount of time/effort
Value Point : Worth to Customer

Agile is about delivering value early.



Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Value Point Estimation – use the previous example



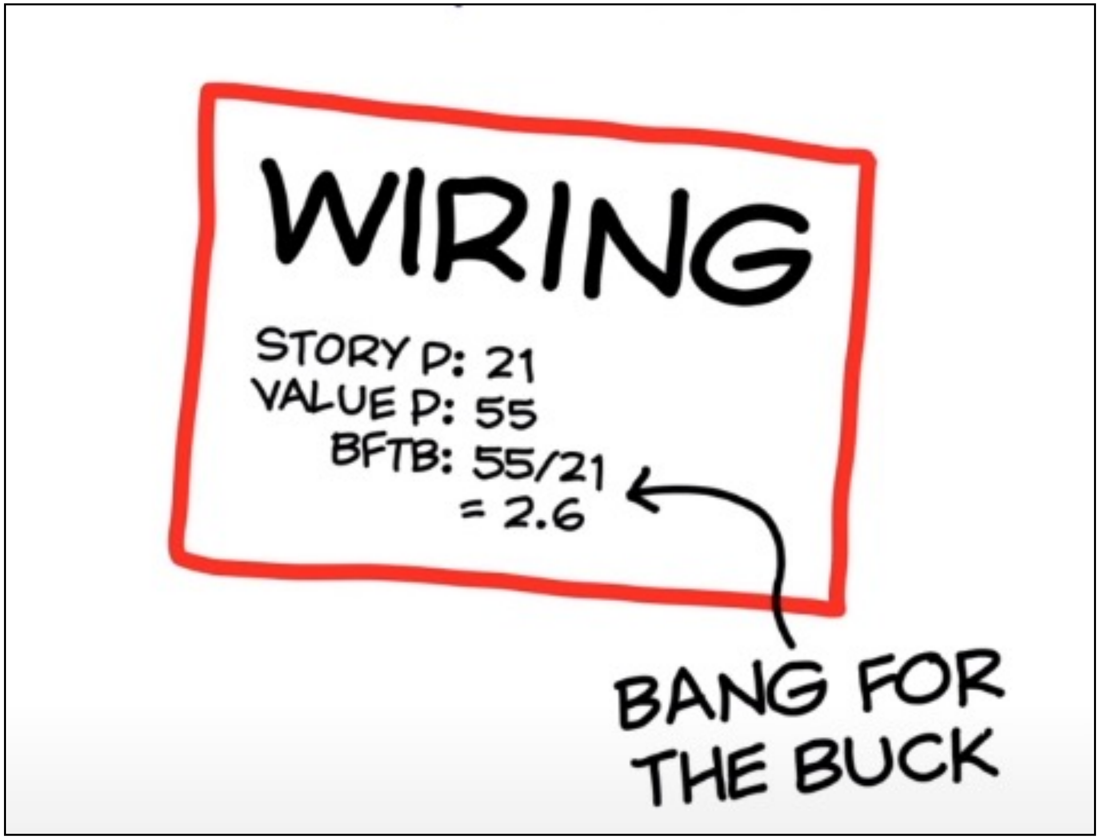
Highest Valued Stories at the top of Product backlog

Relatively Valued Stories

Lowest Valued Stories at the bottom

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Bang For the Buck (BFTB) (OR) Priority

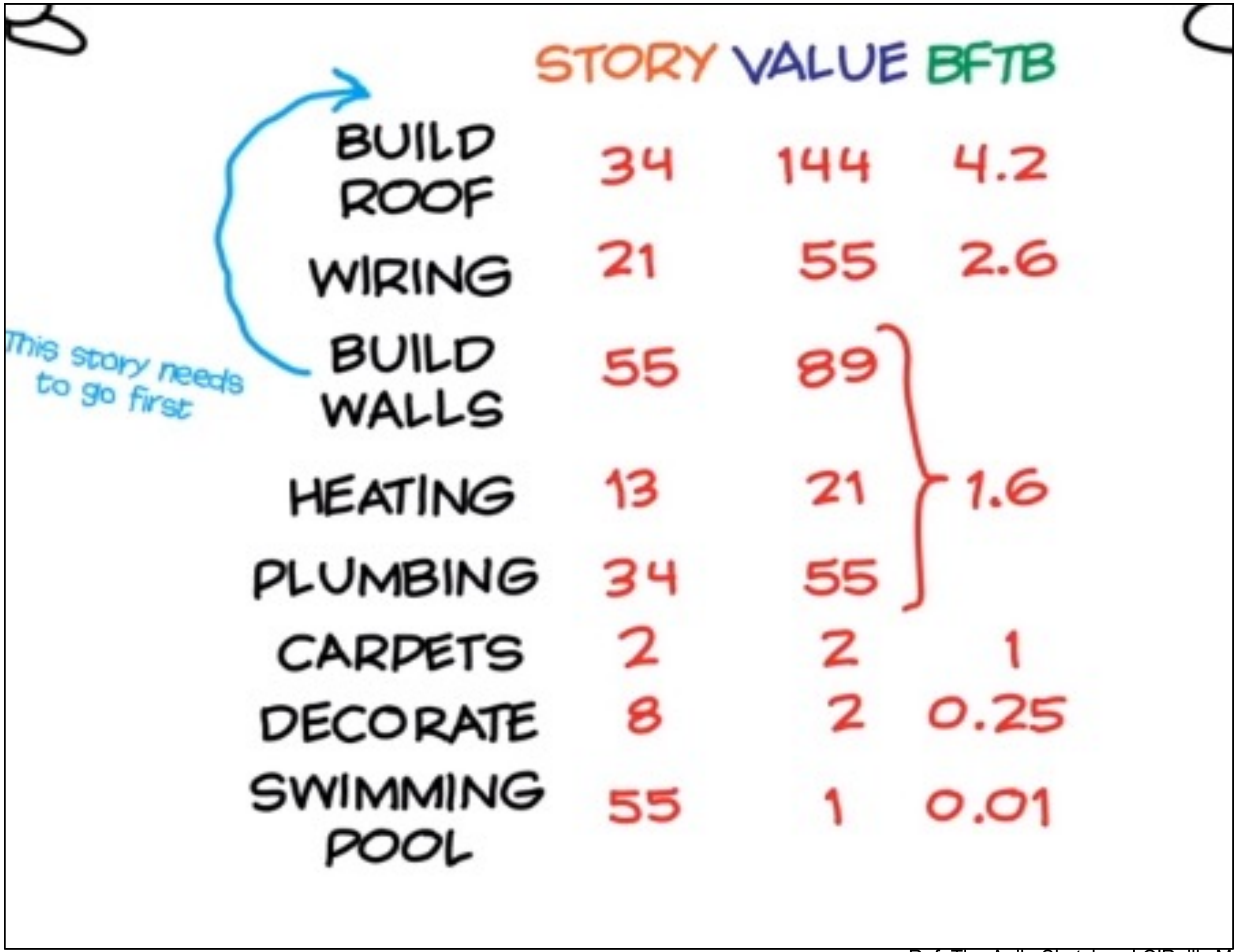


BFTB = Value Point divided by Story Point for each story

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

How stories are prioritized for each Iteration – by BFTB

Product Backlog

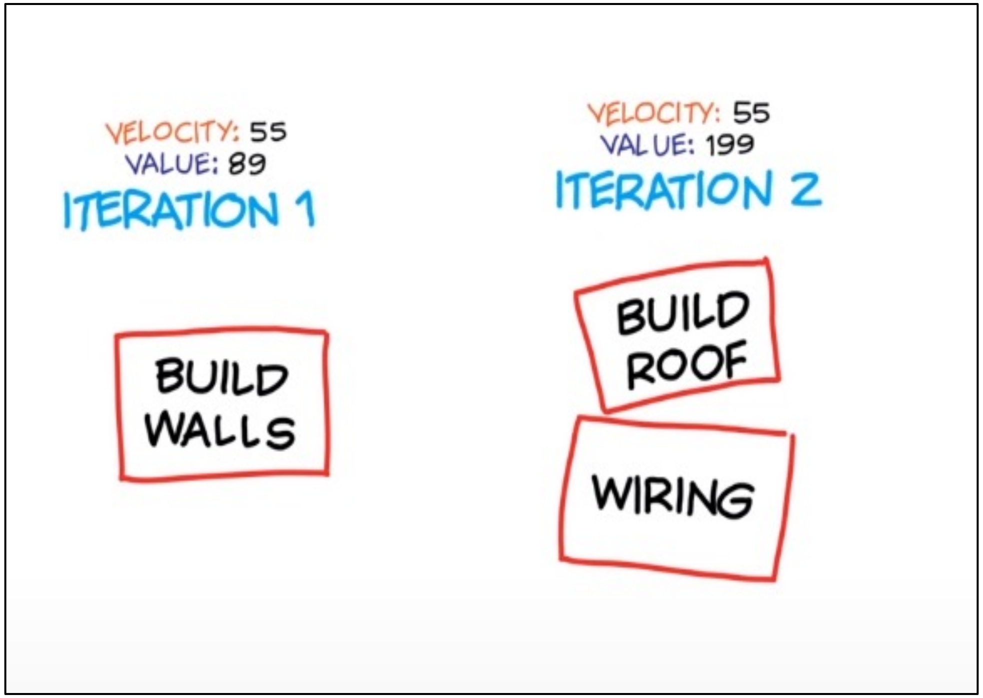


	STORY	VALUE	BFTB
BUILD ROOF	34	144	4.2
WIRING	21	55	2.6
BUILD WALLS	55	89	1.6
HEATING	13	21	
PLUMBING	34	55	
CARPETS	2	2	1
DECORATE	8	2	0.25
SWIMMING POOL	55	1	0.01

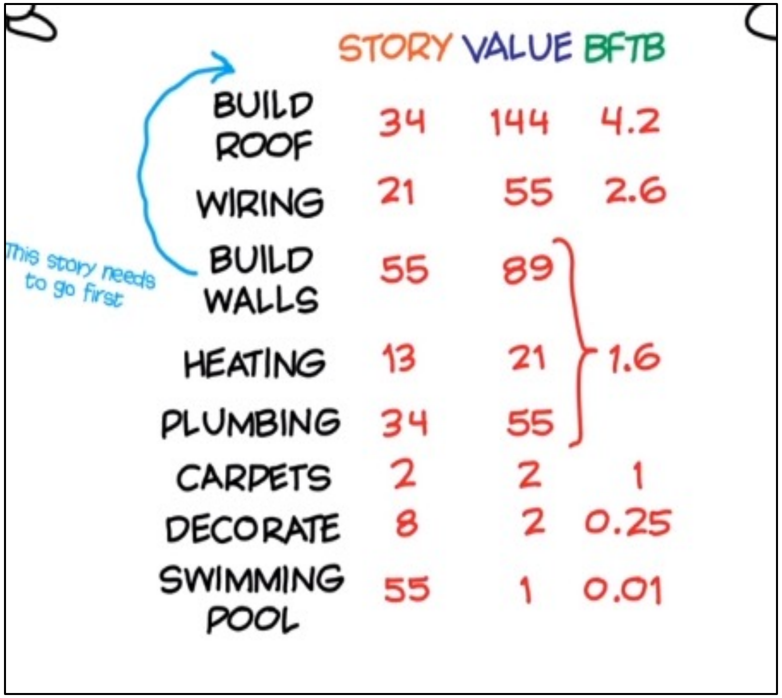
This story needs to go first

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Highest value delivered in early Iterations



Product Backlog



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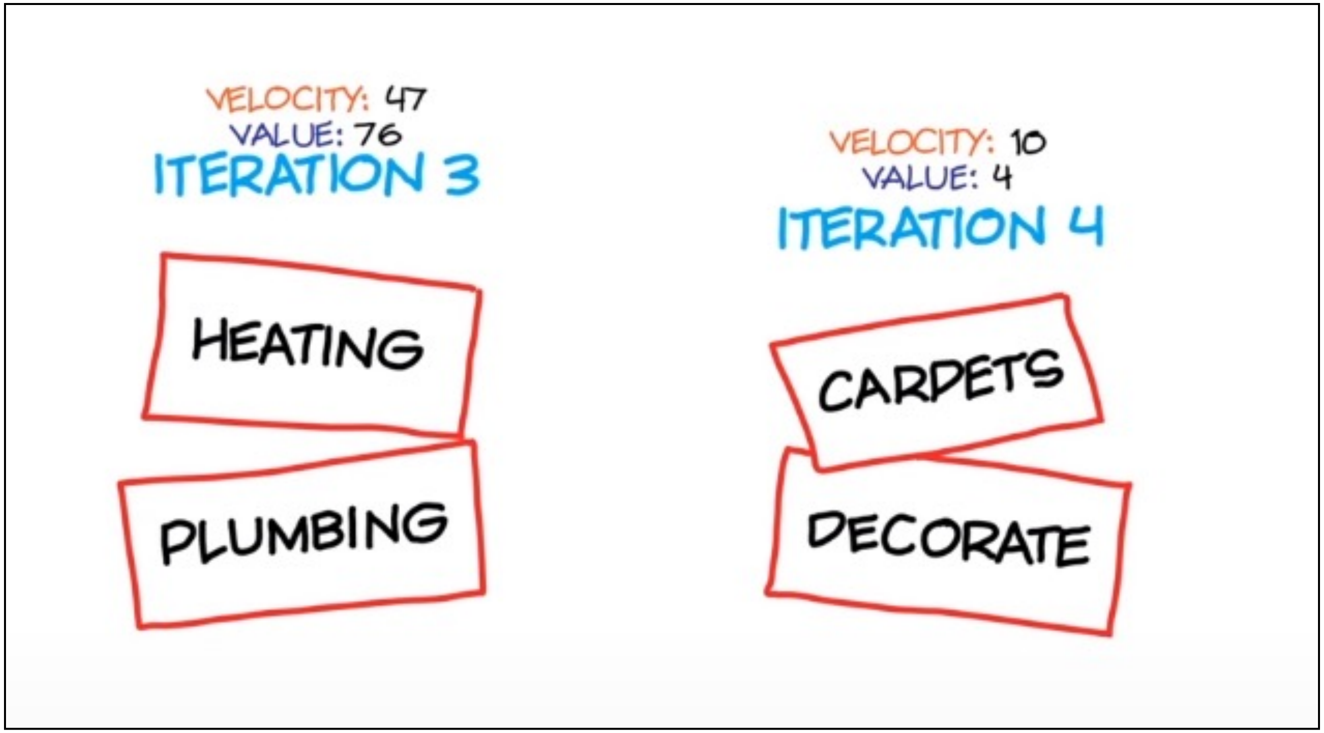
This story needs to go first

Suppose, Cost of this iteration-1 is 20000$;
= 20000/89 ~ 225$ Per Value Point.
For Iteration-2 = 225*199 ~ $44,000 (Highest value delivered)

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Value delivered decreases as iteration progress



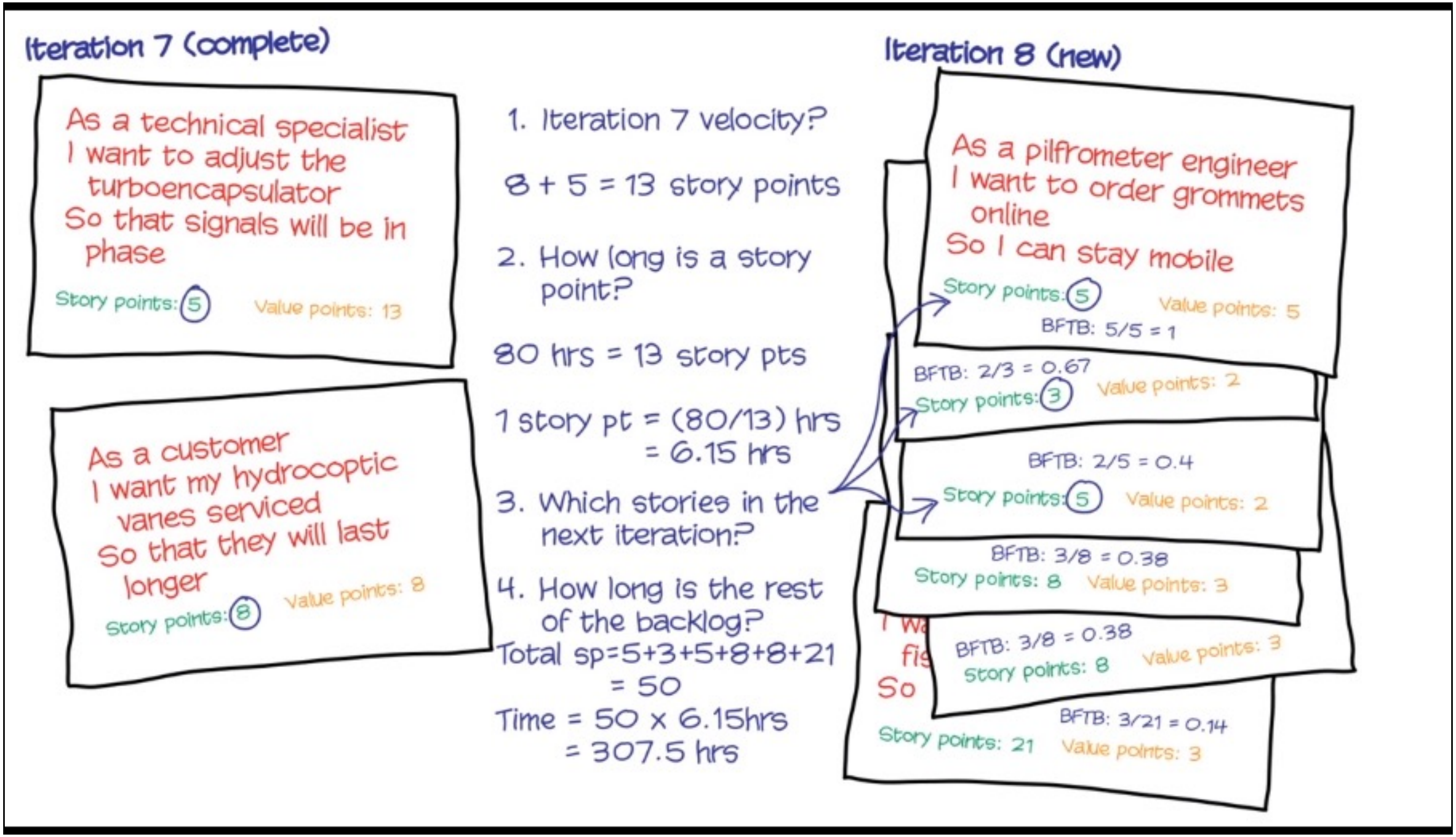
Iteration-3 value = 76*$225 = $17,100; Iteration-3= 4*225=900

•**This is an example**, but In reality, the value will decrease after many iterations, then customer can take a call to continue the project or not.

•Over the period of time, after some iterations the velocity will become stable and value delivered will decrease.

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

Estimation Exercise (Assume, 2 week Iteration)



Iteration 7 (complete)

As a technical specialist I want to adjust the turboencapsulator So that signals will be in phase

Story points: 5 Value points: 13

As a customer I want my hydrocoptic vanes serviced So that they will last longer

Story points: 8 Value points: 8

1. Iteration 7 velocity?

8 + 5 = 13 story points

2. How long is a story point?

80 hrs = 13 story pts

1 story pt = (80/13) hrs = 6.15 hrs

3. Which stories in the next iteration?

4. How long is the rest of the backlog?

Total sp=5+3+5+8+8+21 = 50

Time = 50 x 6.15hrs = 307.5 hrs

Iteration 8 (new)

As a pilfrometer engineer I want to order grommets online So I can stay mobile

Story points: 5 Value points: 5

BFTB: 5/5 = 1

BFTB: 2/3 = 0.67

Story points: 3 Value points: 2

BFTB: 2/5 = 0.4

Story points: 5 Value points: 2

BFTB: 3/8 = 0.38

Story points: 8 Value points: 3

I wa

fis

So

BFTB: 3/8 = 0.38

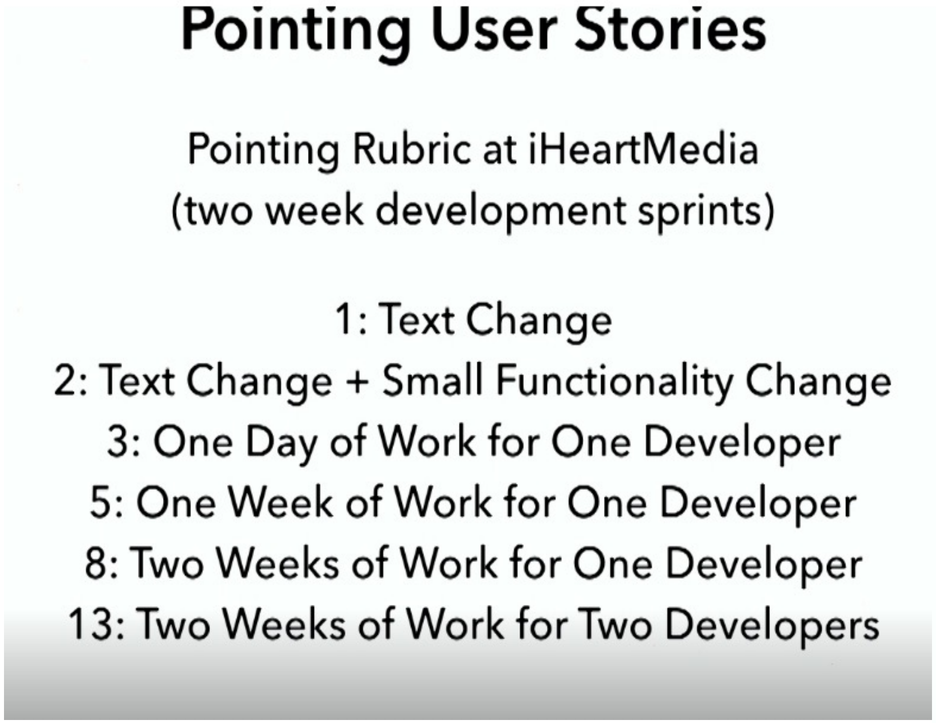
Story points: 8 Value points: 3

BFTB: 3/21 = 0.14

Story points: 21 Value points: 3

Ref: The Agile Sketchpad,O'Reilly Media Dawn Griffiths ,David Griffiths

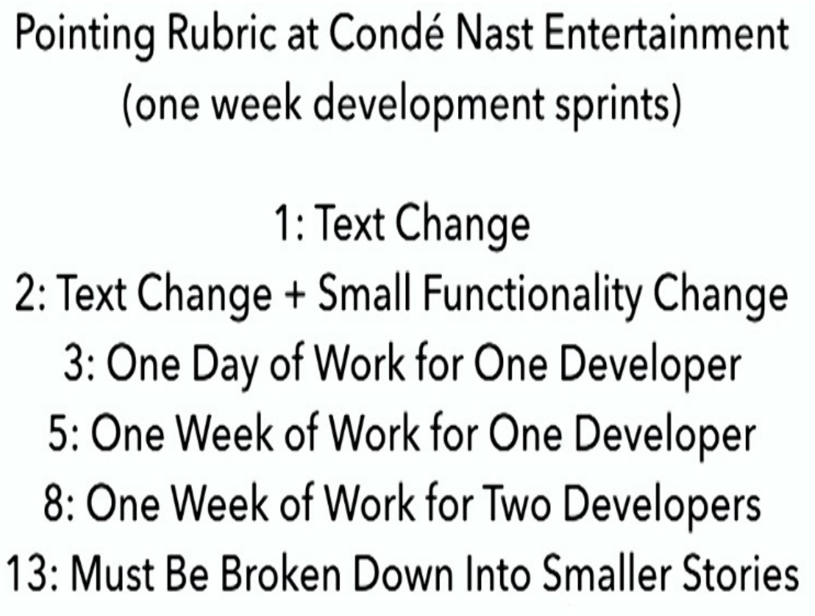
Story Points – Real Examples



Pointing User Stories

Pointing Rubric at iHeartMedia
(two week development sprints)

1: Text Change
2: Text Change + Small Functionality Change
3: One Day of Work for One Developer
5: One Week of Work for One Developer
8: Two Weeks of Work for One Developer
13: Two Weeks of Work for Two Developers



Pointing Rubric at Condé Nast Entertainment
(one week development sprints)

1: Text Change
2: Text Change + Small Functionality Change
3: One Day of Work for One Developer
5: One Week of Work for One Developer
8: One Week of Work for Two Developers
13: Must Be Broken Down Into Smaller Stories

Ref: Writing User Stories By Ryan Harper O'Reilly Media -Video

innovate achieve lead

BITS Pilani
Pilani Campus

Other Estimation Techniques

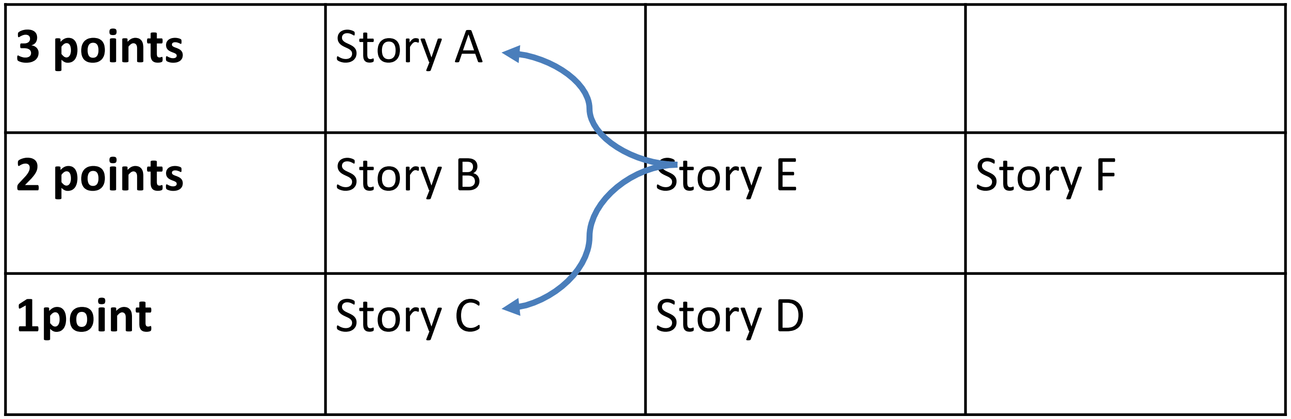
Estimate by Analogy

- Comparing a user story to others
  - "This story is like that story, so its estimate is what that story's estimate was."

- Don't use a single gold standard
  - Triangulate instead
  - Compare the story being estimated to multiple other stories

Triangulation

- Confirm estimates by comparing the story to multiple other stories.
- Group like-sized stories on table or whiteboard



3 points	Story A		
2 points	Story B	Story E	Story F
1point	Story C	Story D	

Ideal Time

- How long something would take:
  - If it’s all one person worked on
  - Had no interruptions
  - And everything you need is available.

- The ideal time of a football game is 90 minutes
  - Four 15-minute quarters
  - The elapsed time is much longer (3+ hours)

- It’s easier to estimate in ideal time.

- It’s too hard to estimate directly in elapsed time.
  - Need to consider all the factors that affect elapsed time at the same time you’re estimating

Story Points Vs Ideal Time

- Story points help drive cross-functional behavior
- Story point estimates do not decay
- Story points are a pure measure of size
- Estimating in story points is typically faster

- My ideal days cannot be added to your ideal days
- Ideal days are easier to explain outside the team
- Ideal days are easier to estimate at first

T –Shirt Sizing, Disaggregation

- Level of Effort (LOE) or T-Shirt Sizing
  - T-shirt size,” “level of effort” (LOE), or “small, medium, large.” (Easy, but lack precision, inability to add up several stories into a meaningful measure.)

Extra small	**Small**	**Medium**	**Large**	**Extra Large**	**Extra Extra Large**
1 point	2 points	3 points	5 points	8 points	13 points

- Disaggregation
  - – Breaking a big story into smaller stories ,we know how long the smaller stories take, So, disaggregating to something we know lets us estimate something bigger we don’t know

Affinity Grouping

- Team members simply group items together that are like-sized, resulting in configuration similar to the one in figure.

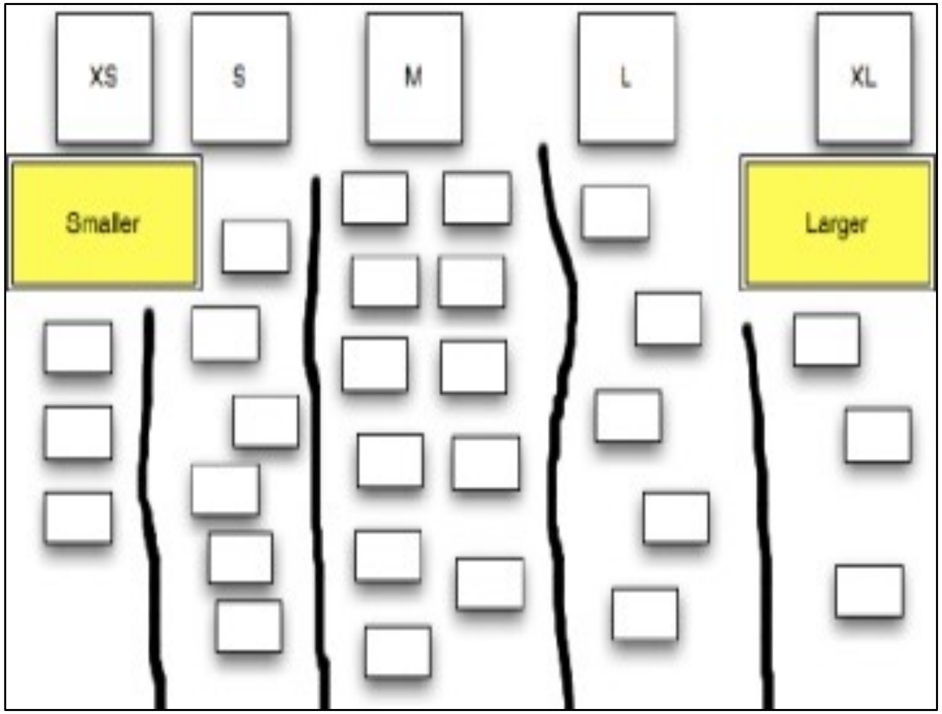
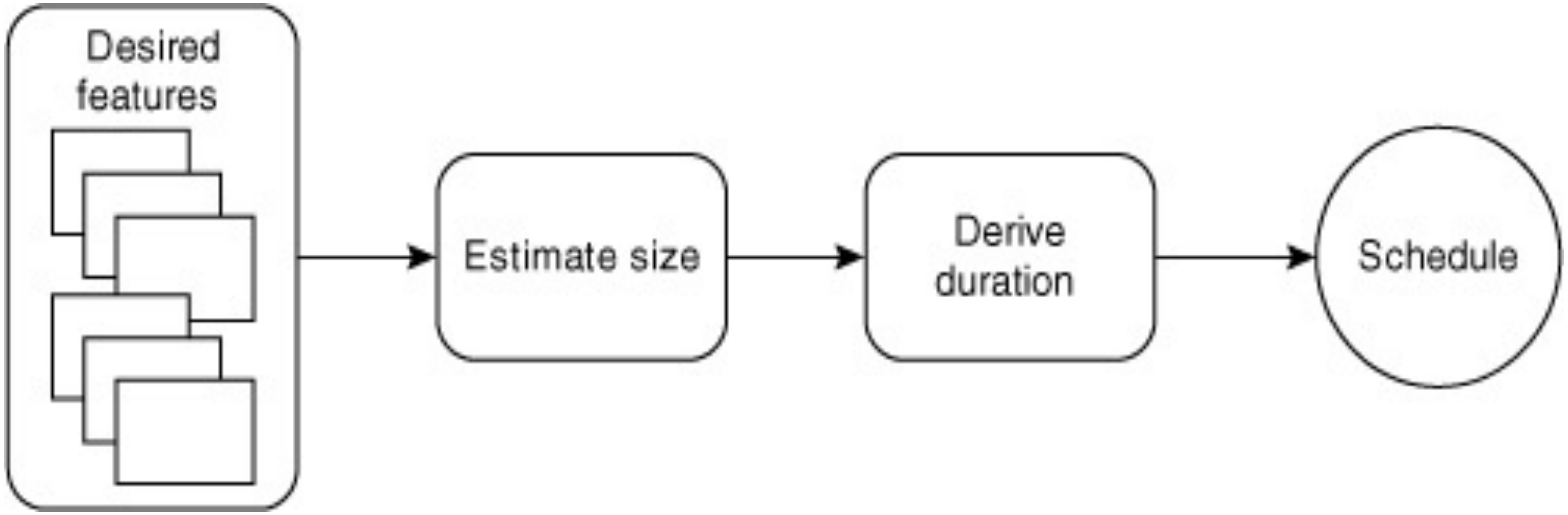


Image source: https://www.pmi.org/learning/library/agile-project-estimation-techniques-6110

Estimating the duration of a project begins with estimating its size.



- Sum the story-point estimates for all desired features we come up with a total size estimate for the project.
- If we know the team's velocity we can divide size by velocity to arrive at an estimated number of iterations.
- We can turn this duration into a schedule by mapping it onto a calendar.

Source: Agile Estimating and Planning by Mike Cohn
Published by Addison-Wesley Professional, 2005

Re-estimating

- Remembering that story points and ideal days are estimates of the size of a feature helps you know when to re-estimate.
- You should re-estimate only when your opinion of the relative size of one or more stories has changed.
- Do not re-estimate solely because progress is not coming as rapidly as you’d expected.
- Let velocity, the great equalizer, take care of most estimation inaccuracies.

Source: Agile Estimating and Planning by Mike Cohn
Published by Addison-Wesley Professional, 2005

Thank you