Planning Poker and Beyond the Planning Poker Party

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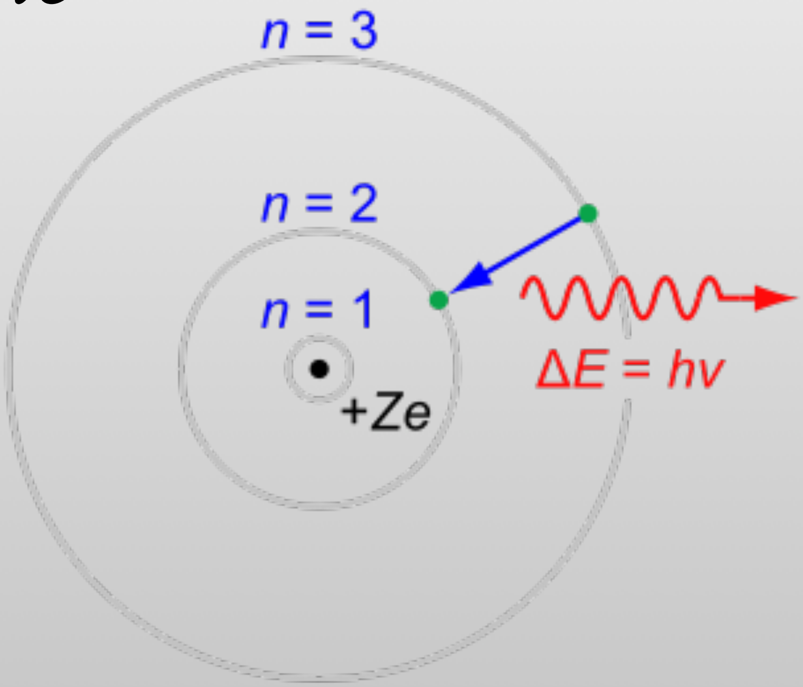
Neils Bohr says

“Prediction is very difficult, especially if it's about the future.”

$$\Delta E = E_2 - E_1 = h\nu \ ,$$
$$\nu = \frac{1}{T}$$
$$L = n\frac{h}{2\pi} = n\hbar$$



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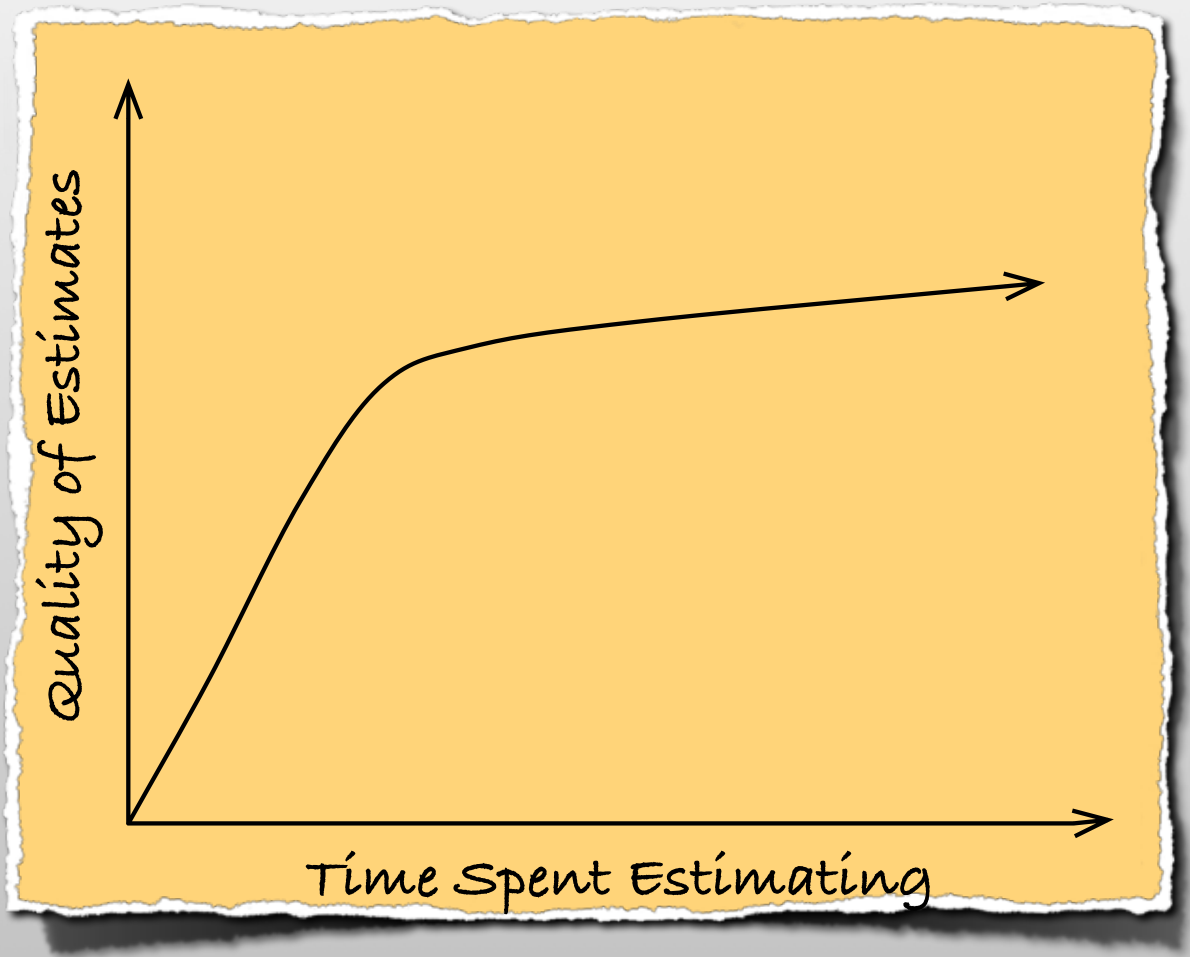
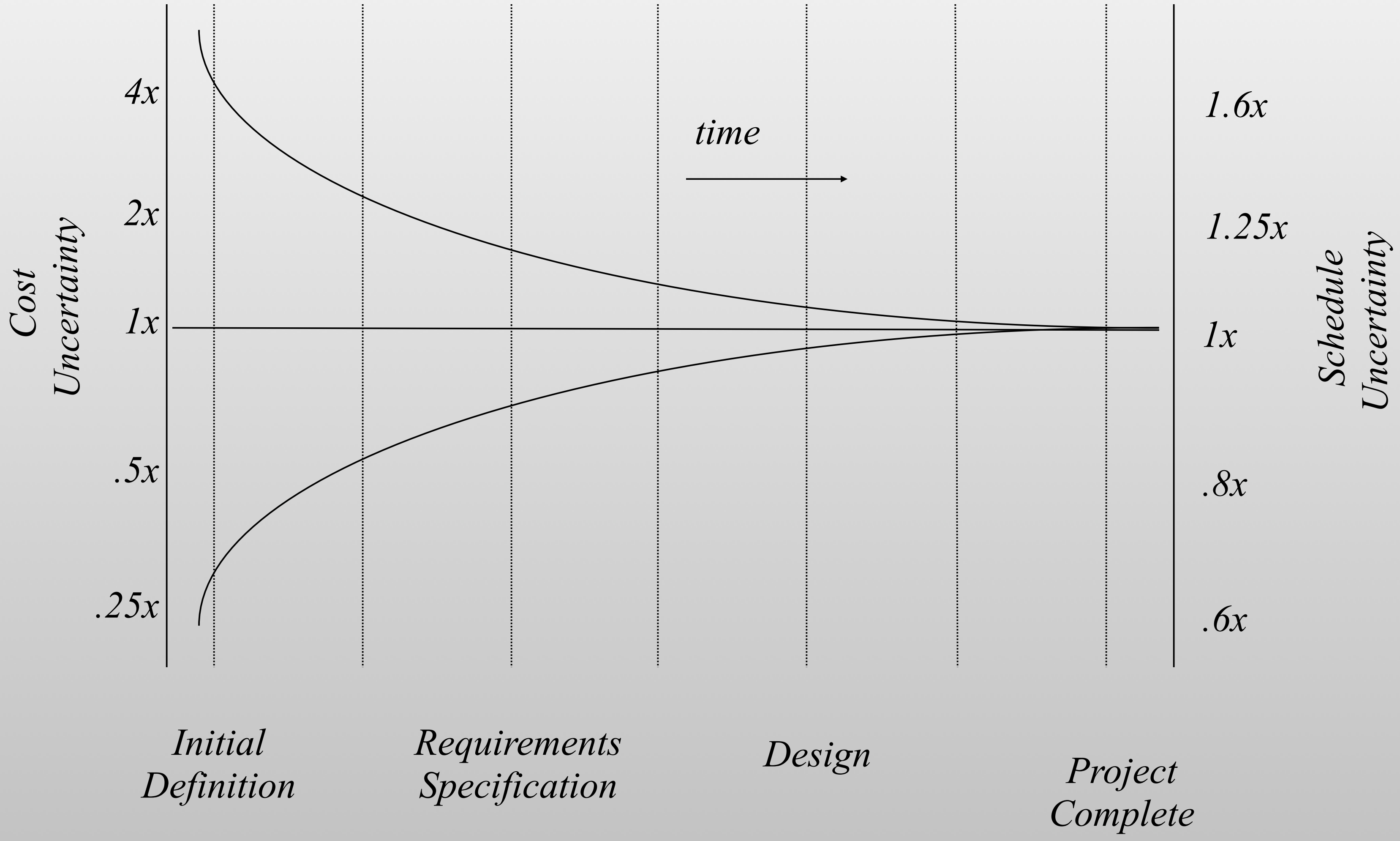
Businesses Needs Estimates

More Time Spent Does Not Mean Better Estimates

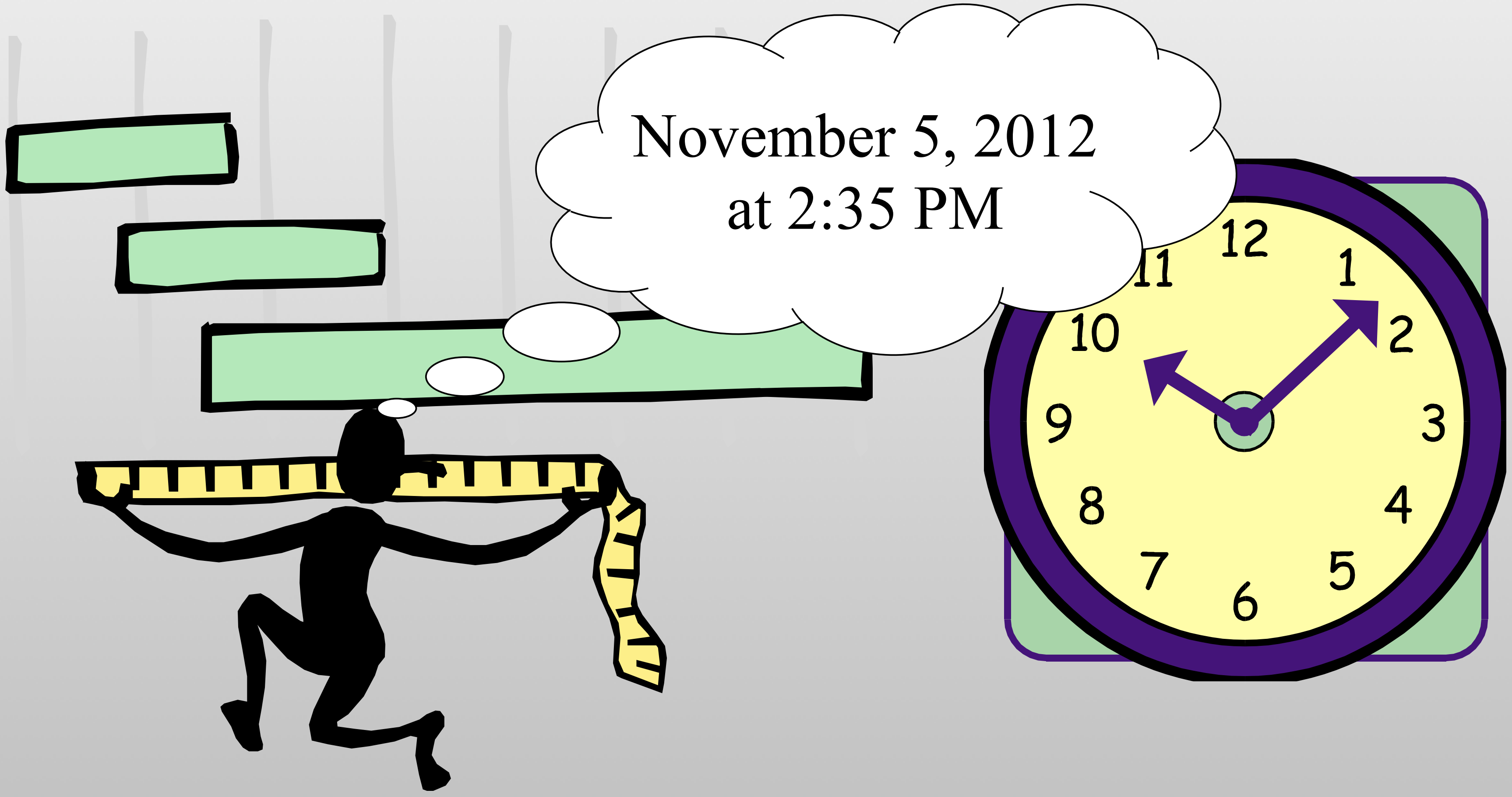


When is the Schedule Certain?

Barry Boehm, 1995



Estimates are Not Exact

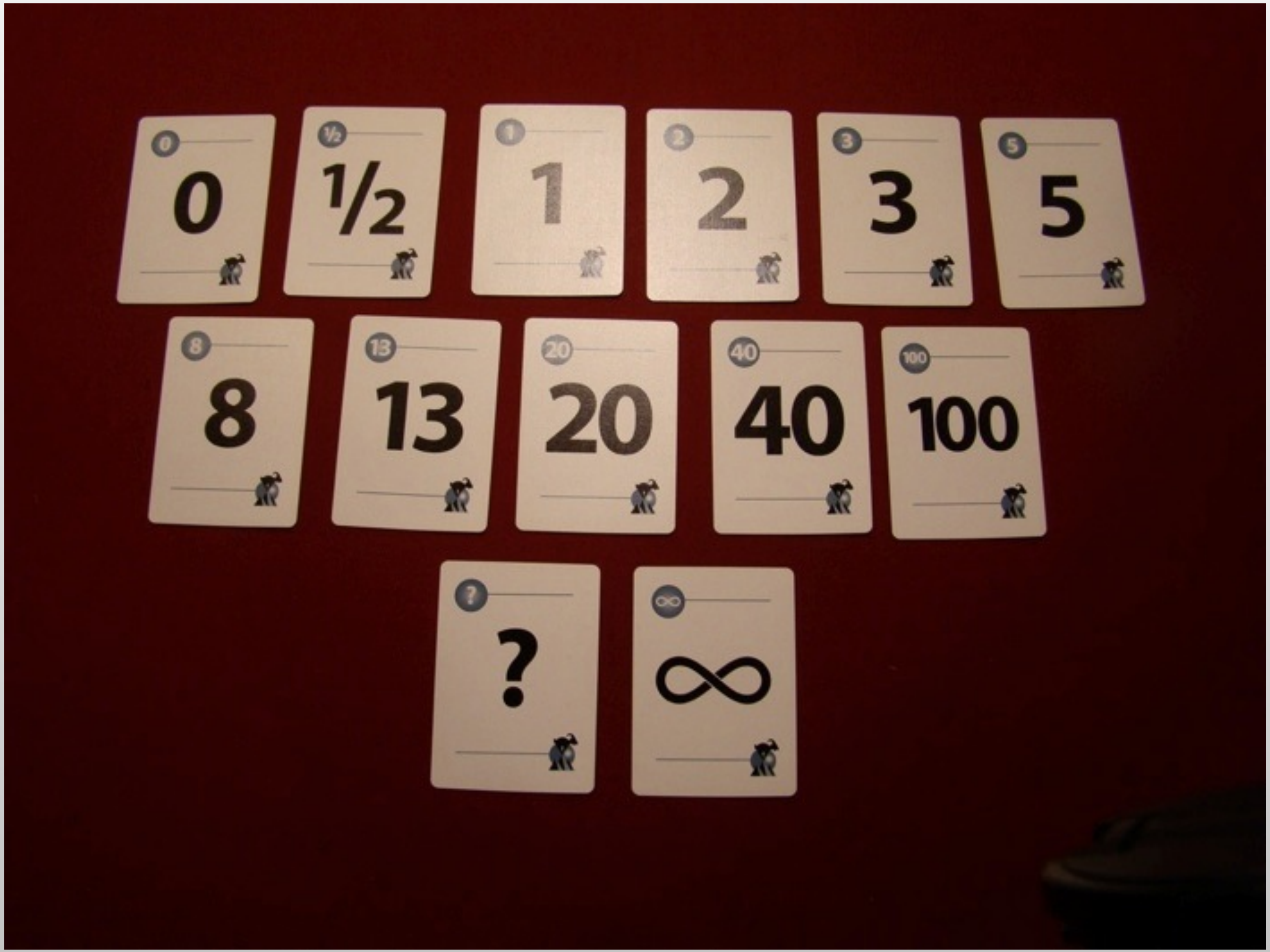


A Plan is Not a Promise

What is Planning Poker?

Planning Poker Hand

each developer has these cards



Players and Roles?

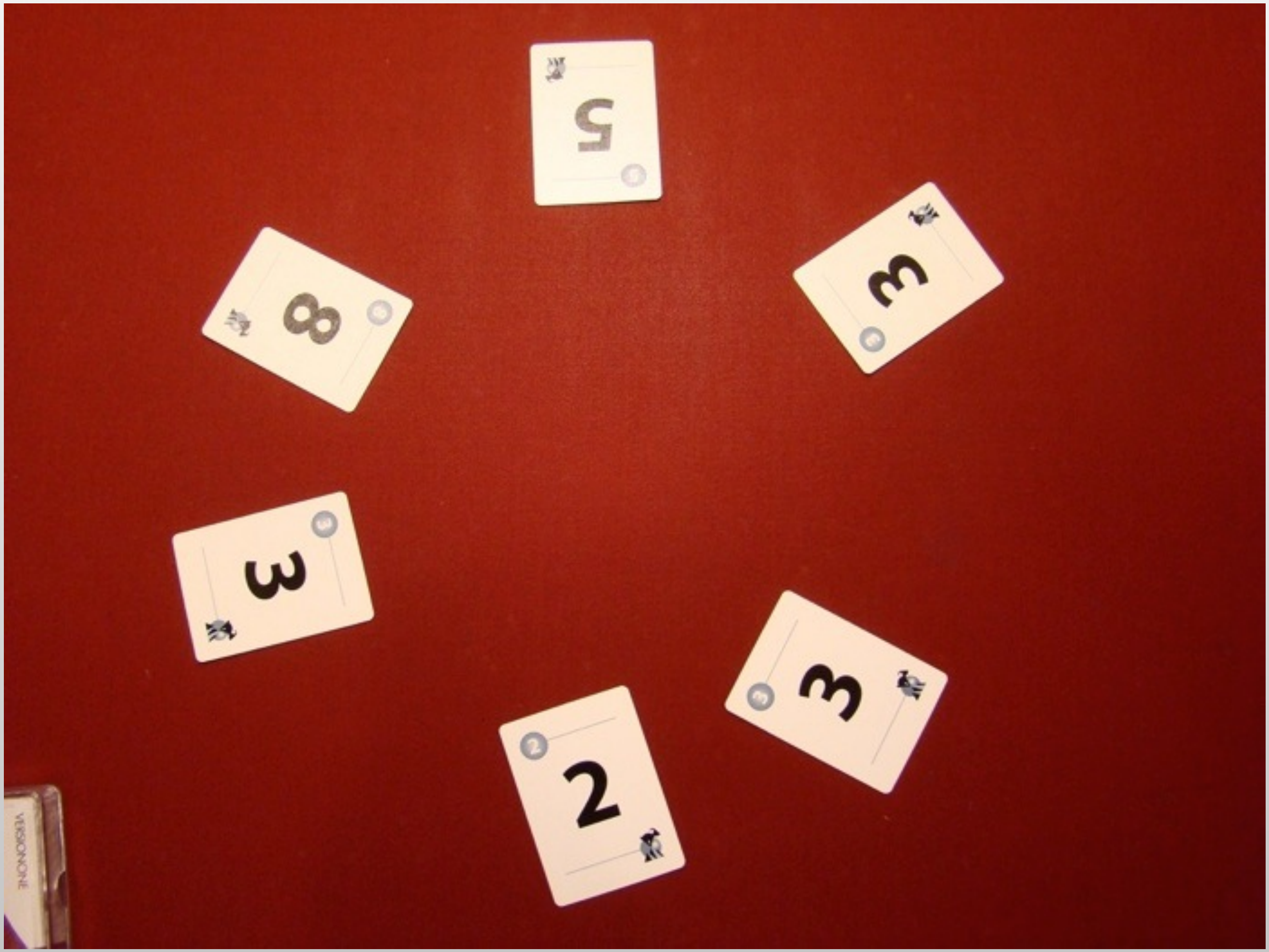
- Customer (or Product owner) read the story
  - They don’t estimate

- Developers
  - Do the estimates

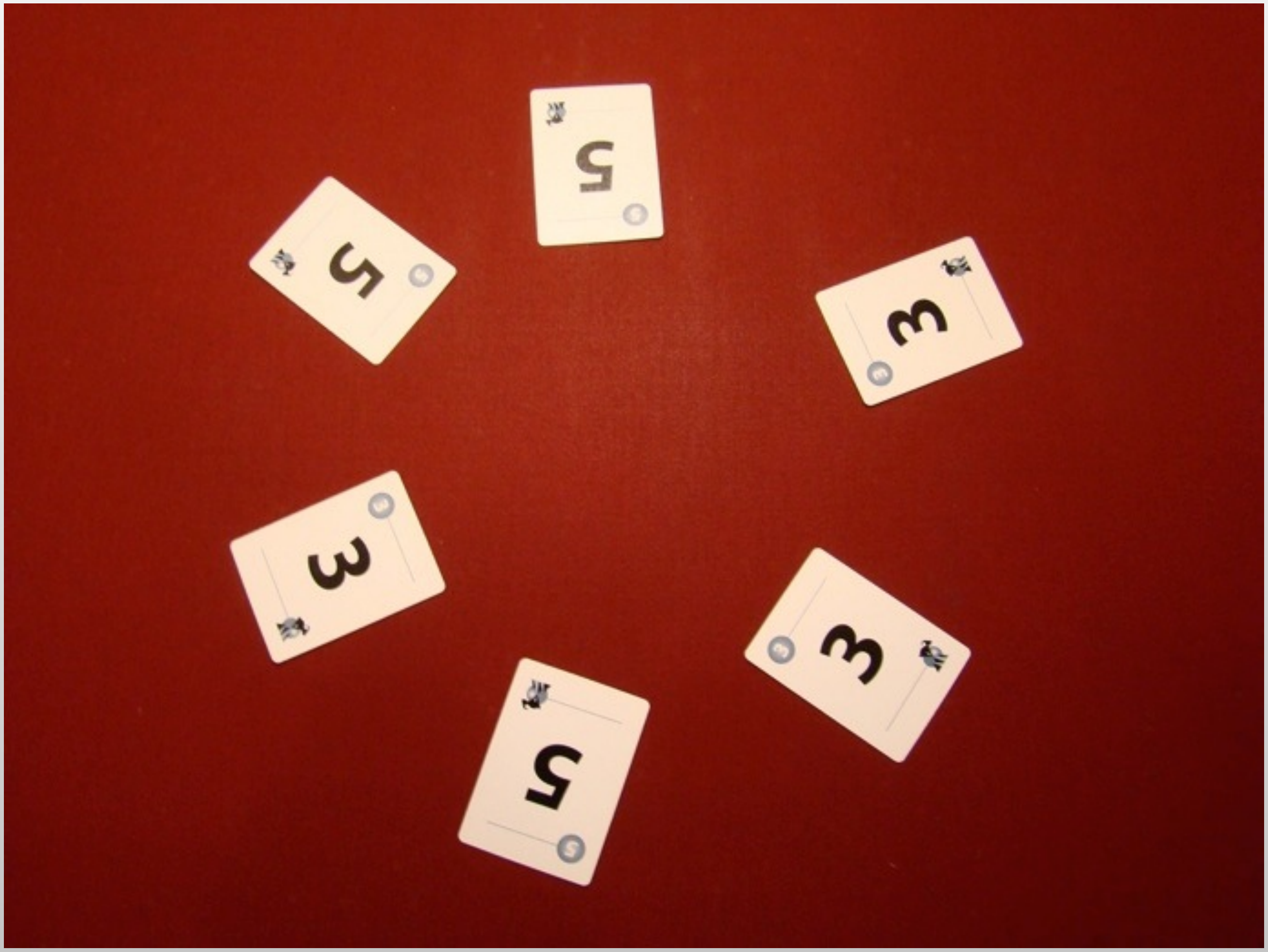
Planning Poker Mechanics

- Each player (developer) has a hand of planning poker cards (or blank note cards).
- *Customer* (a.k.a. Product Owner) reads a story.
- Until estimates converge
  - Developers discuss to make sure they understand the story, not how they would build it.
  - Each secretly chooses their estimate.
  - All expose their estimate simultaneously.
  - Discuss extremes, re-deal if needed.
- No need to discuss how, if all give the same estimate
  - Allows faster estimation.

Discussion Needed



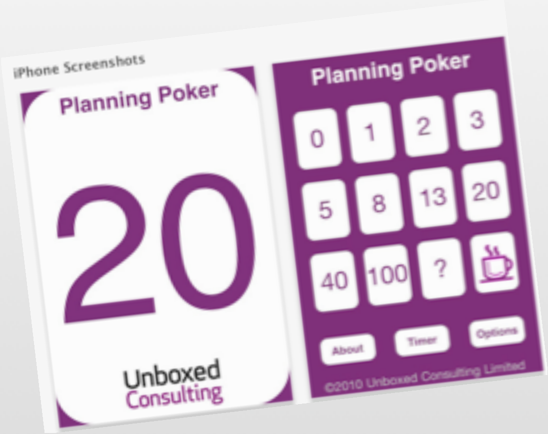
Converging

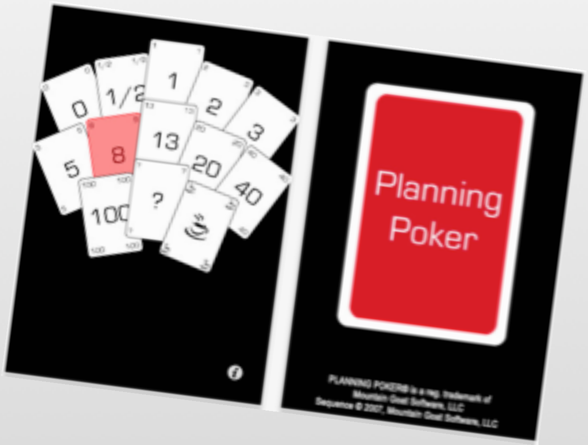


Agreement

Planning Poker is Popular
- lots of give-away card decks -

iPhone and Android Apps
- here are a few -




0 1/2 1 2 3
5 8 13 20 40
100 ?
Planning Poker
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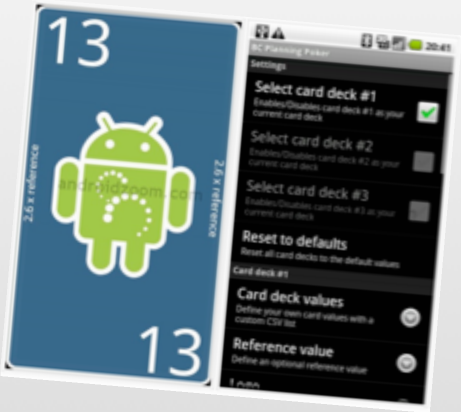
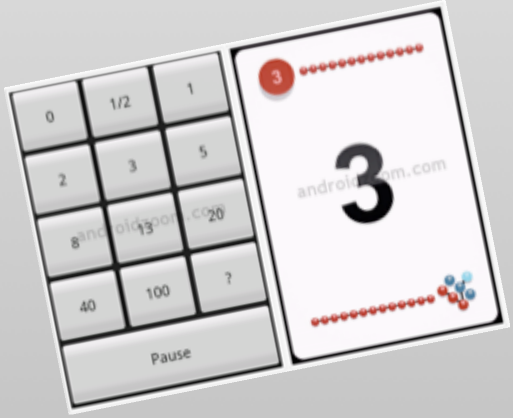
Sequence © 2007, Mountain Goat Software, LLC



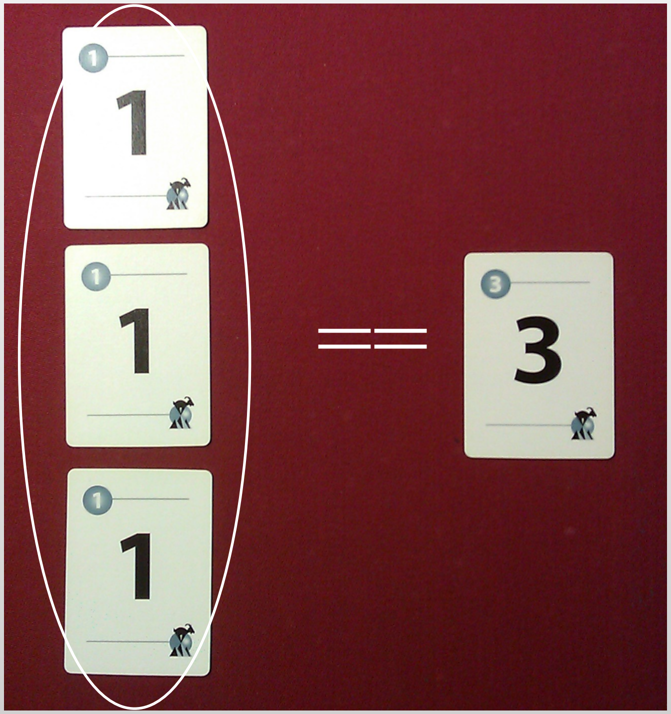
Select card deck #1
Enables/Disables card deck #1 as your current card deck
Select card deck #2
Enables/Disables card deck #2 as your current card deck
Select card deck #3
Enables/Disables card deck #3 as your current card deck
Reset to defaults
Reset all card decks to the default values
Card deck #1
Card deck values
Define your own card values with a custom CSV list
Reference value
Define an optional reference value



The Original Deck Replica

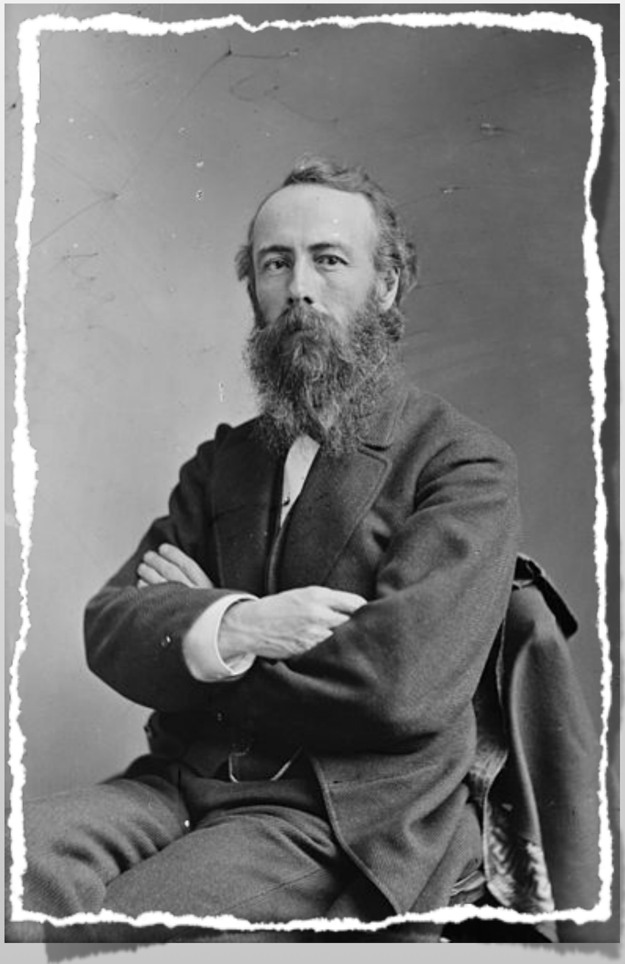
What are the Units?
What do the Numbers Mean?

- The units are Story Points
- The values are proportional
- Three single point stories will, on average, take about the same time as the three point stories' average



Where's time?
Why not use Ideal Days?

- What reaction does an programmer give when you ask how long something will take to complete?



Henry V Boynton - by Mathew Brady [Public domain], via Wikimedia Commons

How Long Will This Take?

Time Based Estimates

- We’re not too good at them
- We’re OK when the thing being estimated is small
- We’re awful when the thing is big
- We’re optimists
- Individuals have wildly different skills and abilities

We’re Better at Relative Measurements

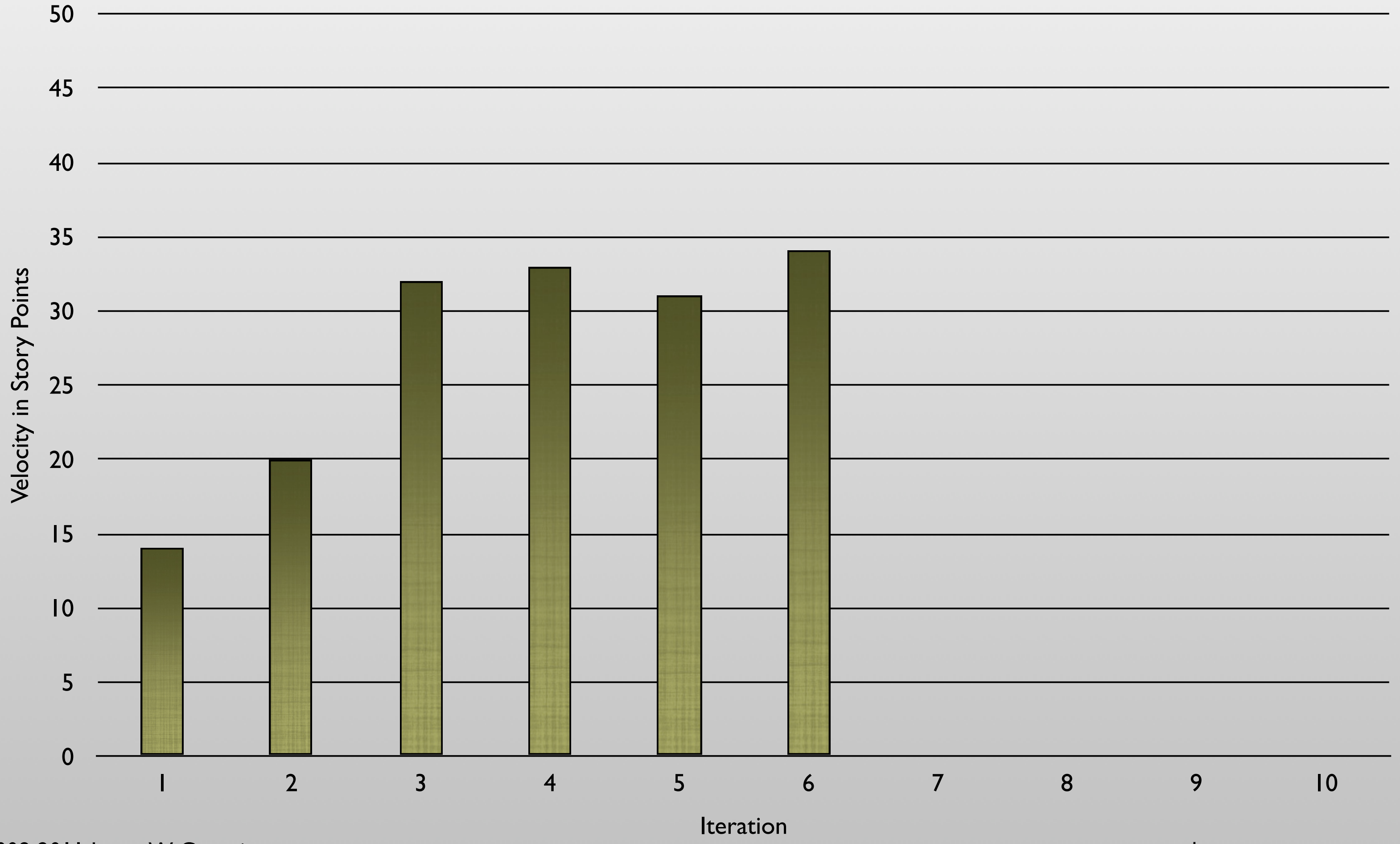
- small, big, really big

Developers are Happy to Give Relative Estimates

Estimation and Planning

1. First determine relative sizes of stories in *Story Points*
2. Estimate team *velocity* (story points per iteration)
3. Derive duration
4. Lay out a *Release Plan*
5. Calibrate plan by doing the planned work
6. Adjust the plan with feedback from measured velocity
7. Regularly revise the plan as you learn more

Measure Development Velocity
Estimated work per Iteration



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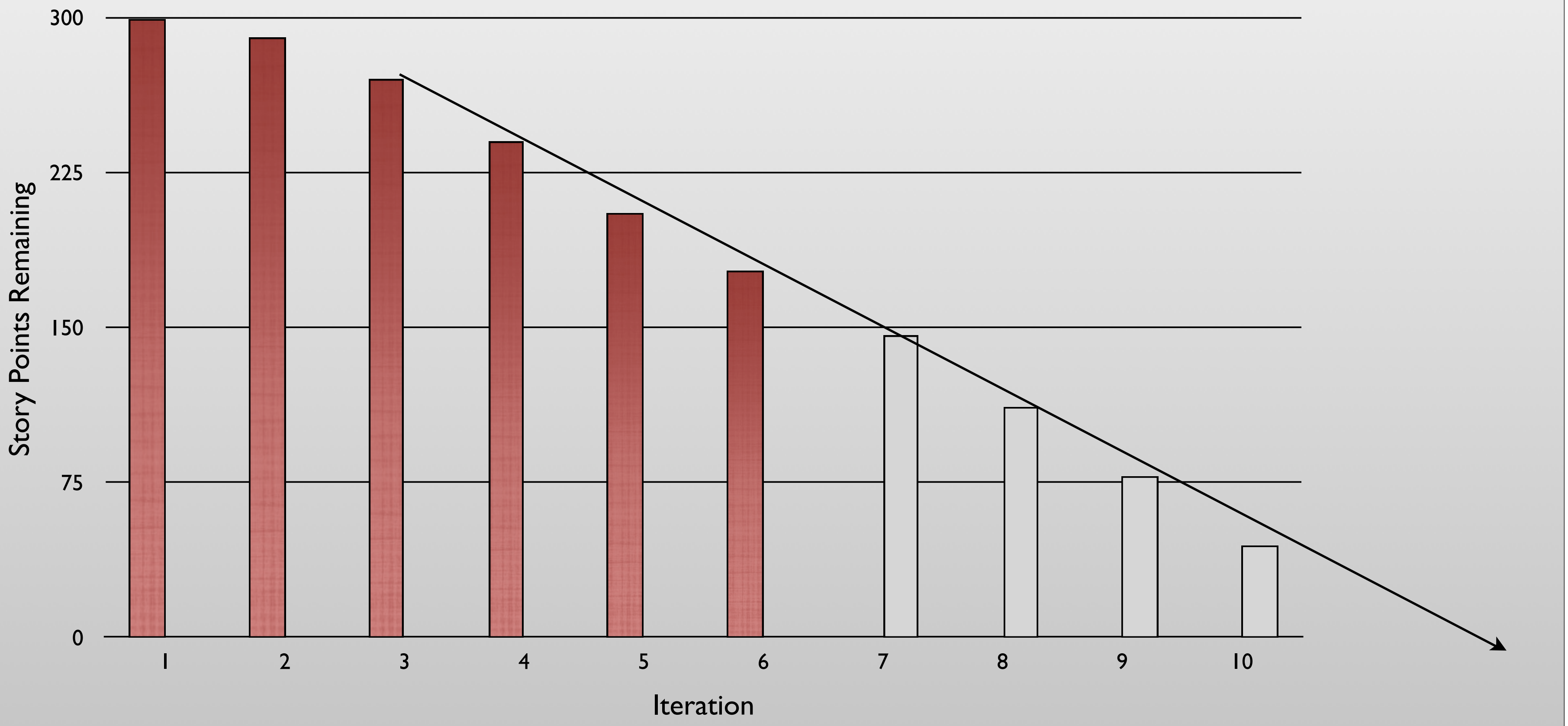
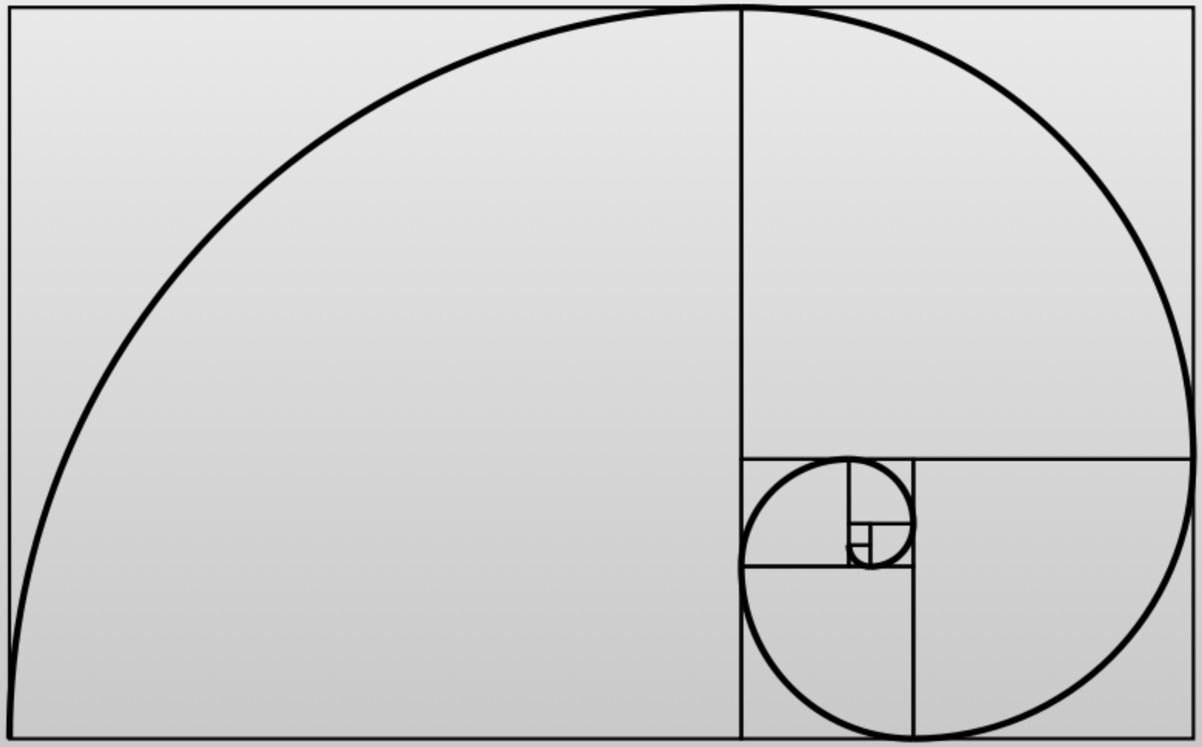
Estimate Size
Derive Duration

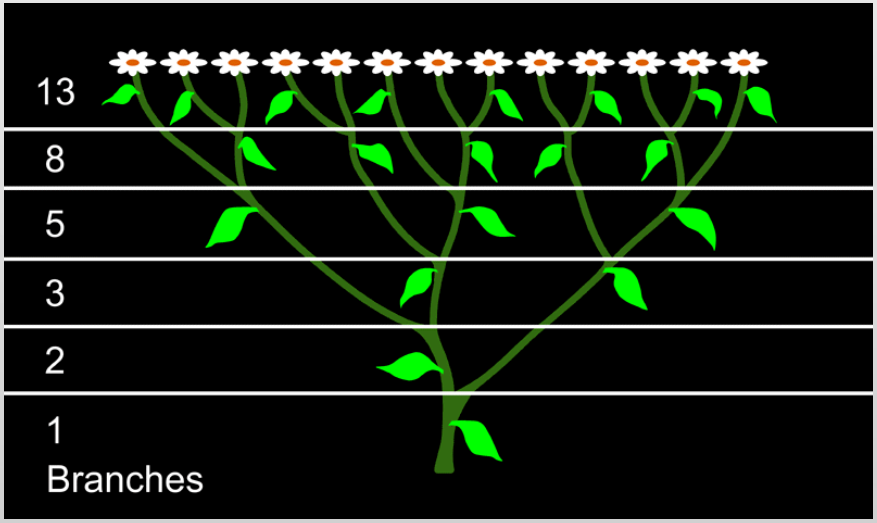


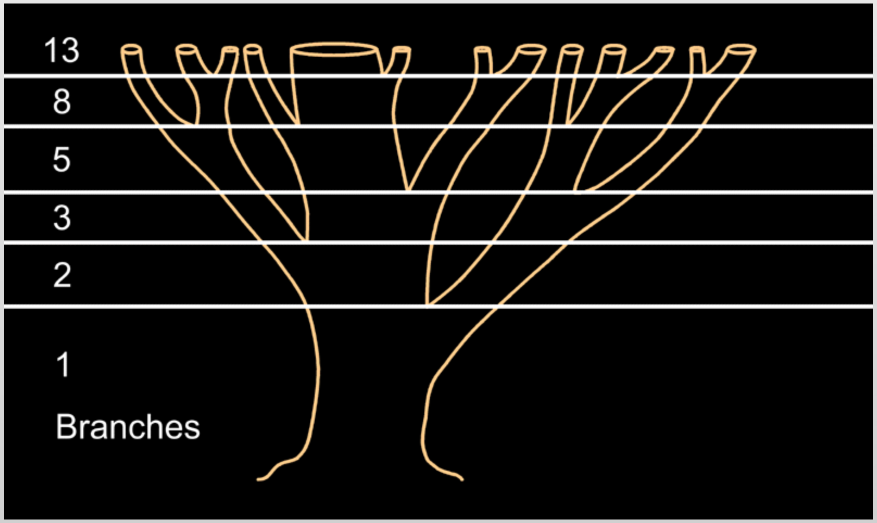
Why Fibonacci?



Pedals on Flowers are Often One of the Fibonacci Numbers

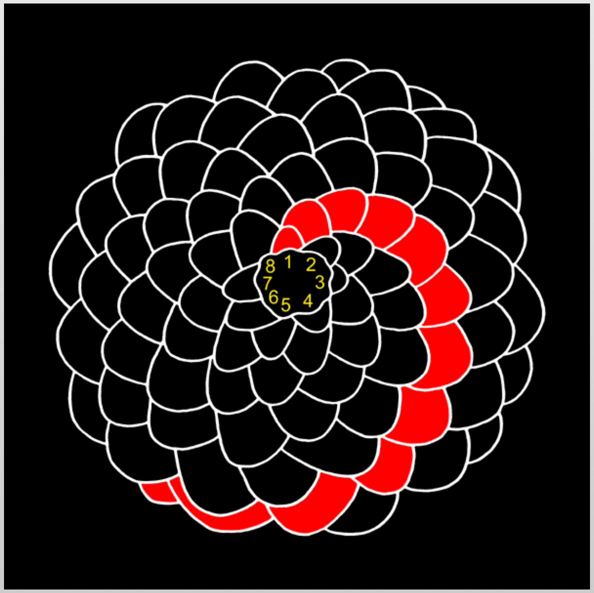
Branching in Plants



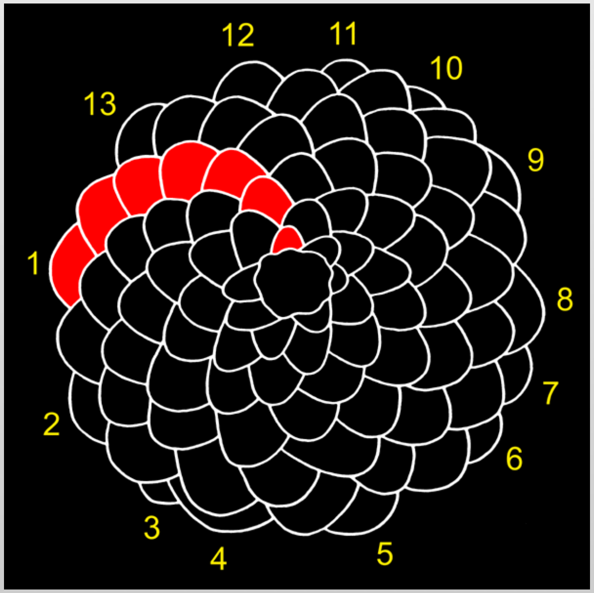


Pine Cone Spirals

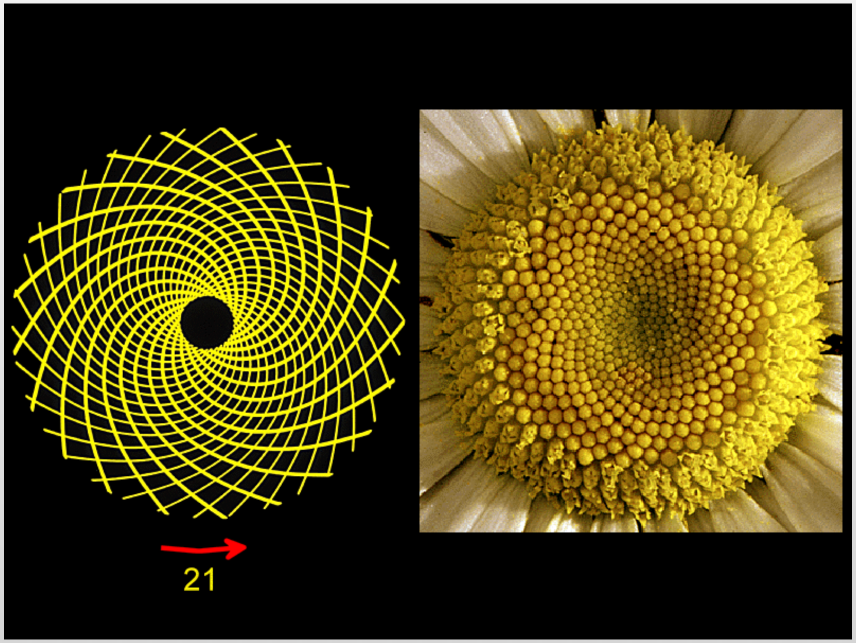
8 Clockwise

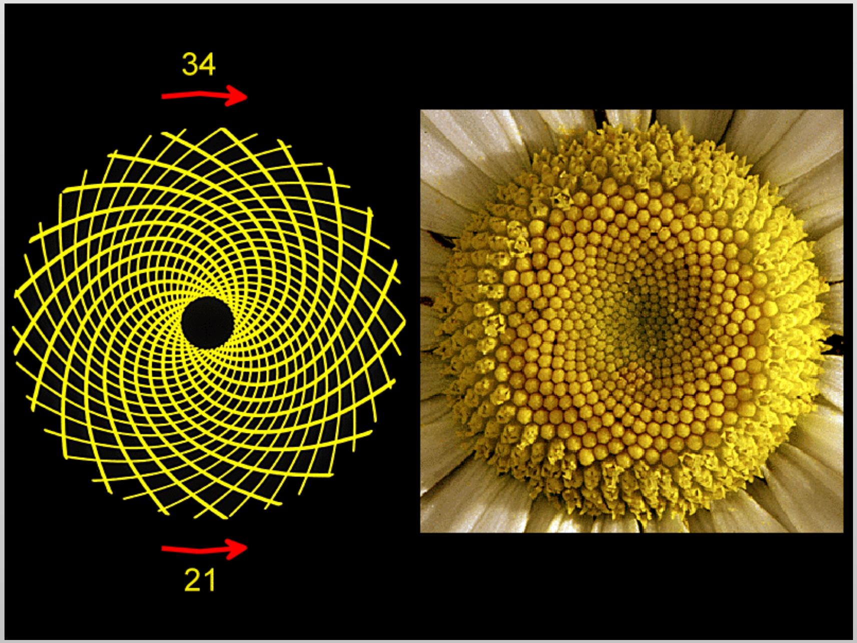


13 Counter-Clockwise

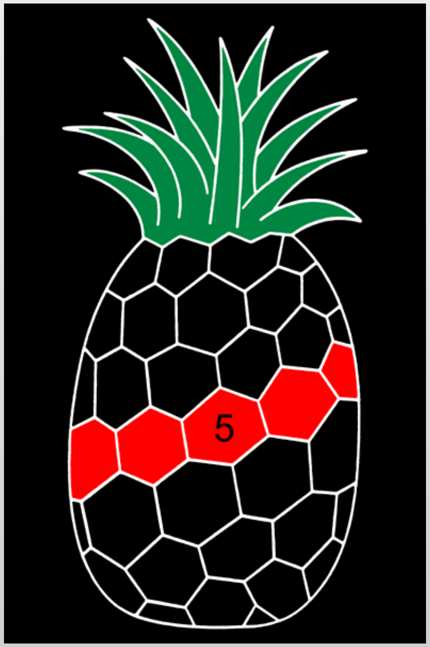


Sun Flower Spirals

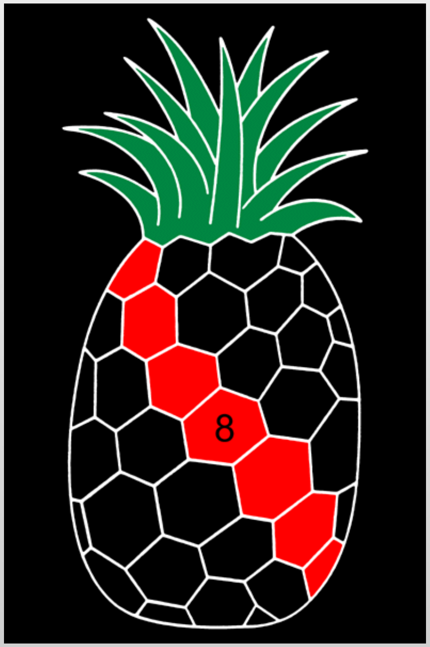




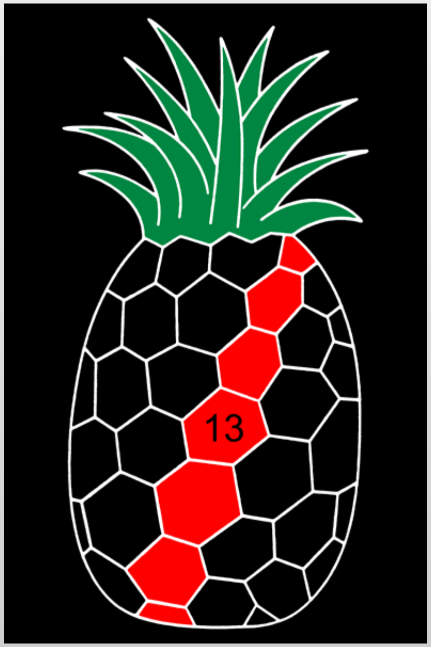
Pine Apple Spirals



Set of 5
Spirals



Set of 8
Spirals



Set of 13
Spirals

Alas, There is no Fibonacci Law of Software Estimation Physics

- It’s just a sparse sequence, with more numbers in the lower range

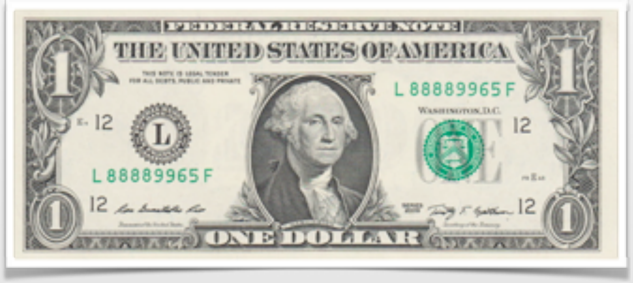
Why don’t I use Fibonacci?

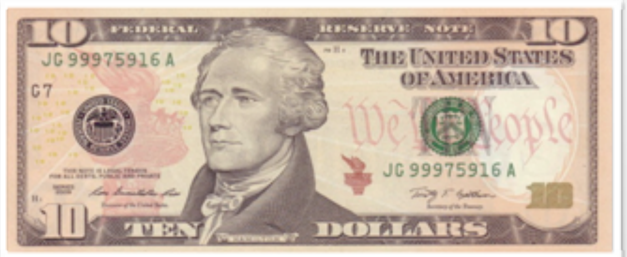
- Numbers like 13 and 21 give a false sense of accuracy
- Numbers like 13 and 21 are harder to add and multiply with than 10, 15, or 20

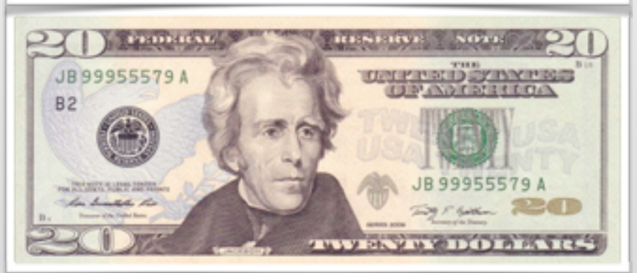
Planning Poker Numbering Principles

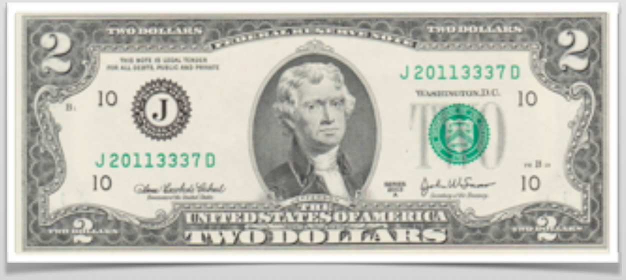
- Lower numbers have more resolution
- As estimates grow, so does uncertainty, so the gaps grow
- Each number represents the average guess-timate
- Realize to work on a story, the guess-timate better be under a 10, probably under a 5
- Numbers should be easy to add and multiply with in your head
- Don’t worry about the dogma

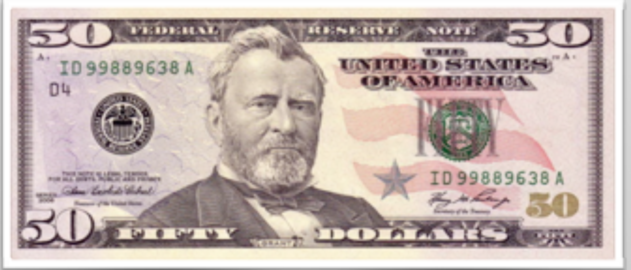
Currency Numbering

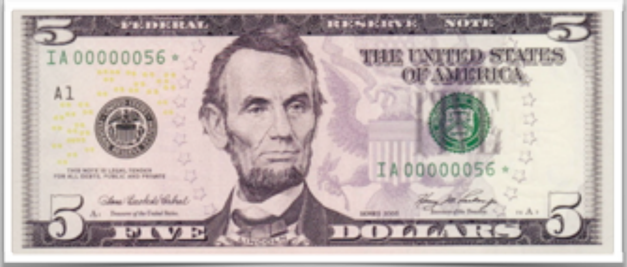


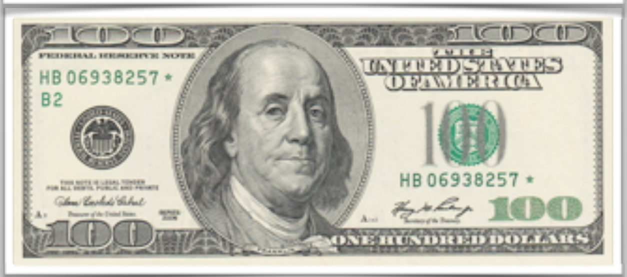












Small Enough and Probably Well Enough Understood to Work on

Budgetary Estimates Only

Stories with These Denominations Must be Split

Where Did Planning Poker Come From?

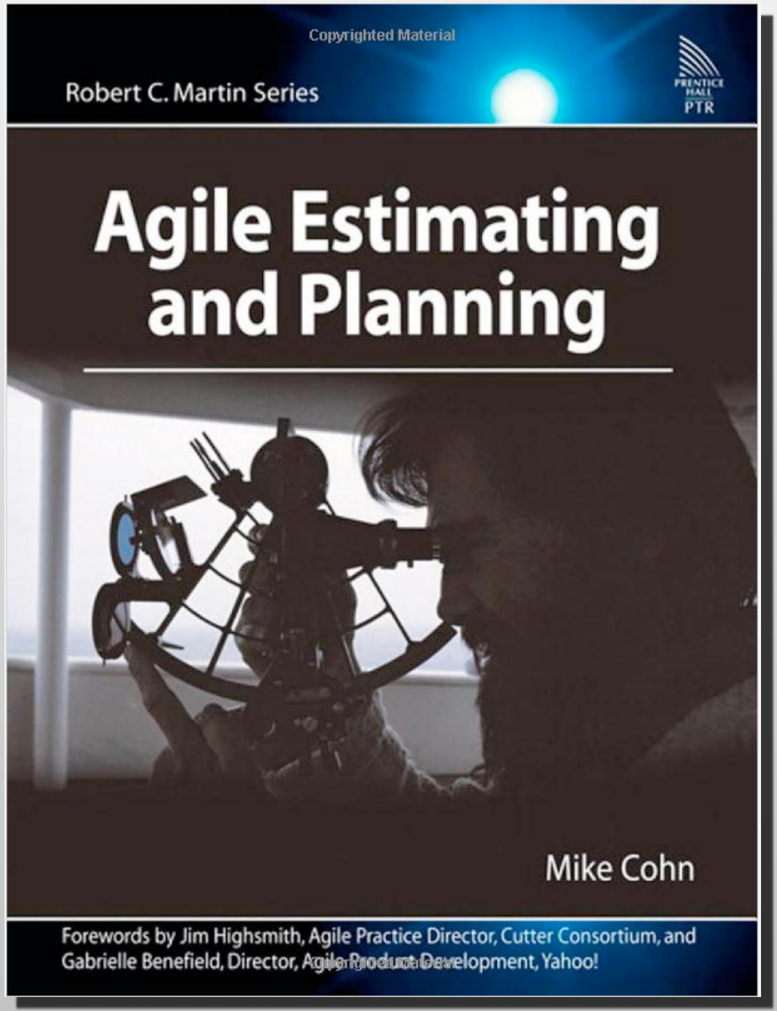
- Some say it’s derived from Wide-band Delphi
  - it’s not
  - though there is obvious similarity

Planning Poker Came form a Stalled Planning Meeting

By White House (Pete Souza) ([1]) [CC-BY-2.0 (www.creativecommons.org/licenses/by/2.0)], via Wikimedia Commons

The Mike Cohn Connection

- Planning Poker started as a small paper
- I taught it at Object Mentor
- Mike refined it and wrote about it in his book
- It became part of Scrum training
- It went viral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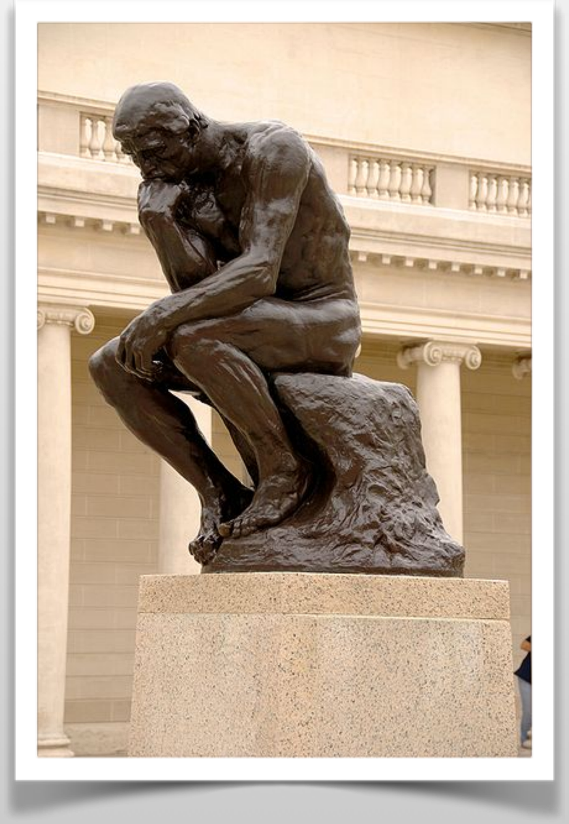
Mike Cohn
Forewords by Jim Highsmith, Agile Practice Director, Cutter Consortium, and Gabrielle Benefield, Director, Agile Product Development, Yahoo!

Why Do People Like Planning Poker?

Team's Estimates Rather Than Individuals'

- Creates a sense of team
- Leverage the collective knowledge and wisdom



Wisdom of the Crowds

[by Daren Brown]

- Teams do better than experts.
- Diversity within a group is needed.
- The more diverse the knowledge and opinions of the group, the smarter the group.
- A random group does better than an expert group.

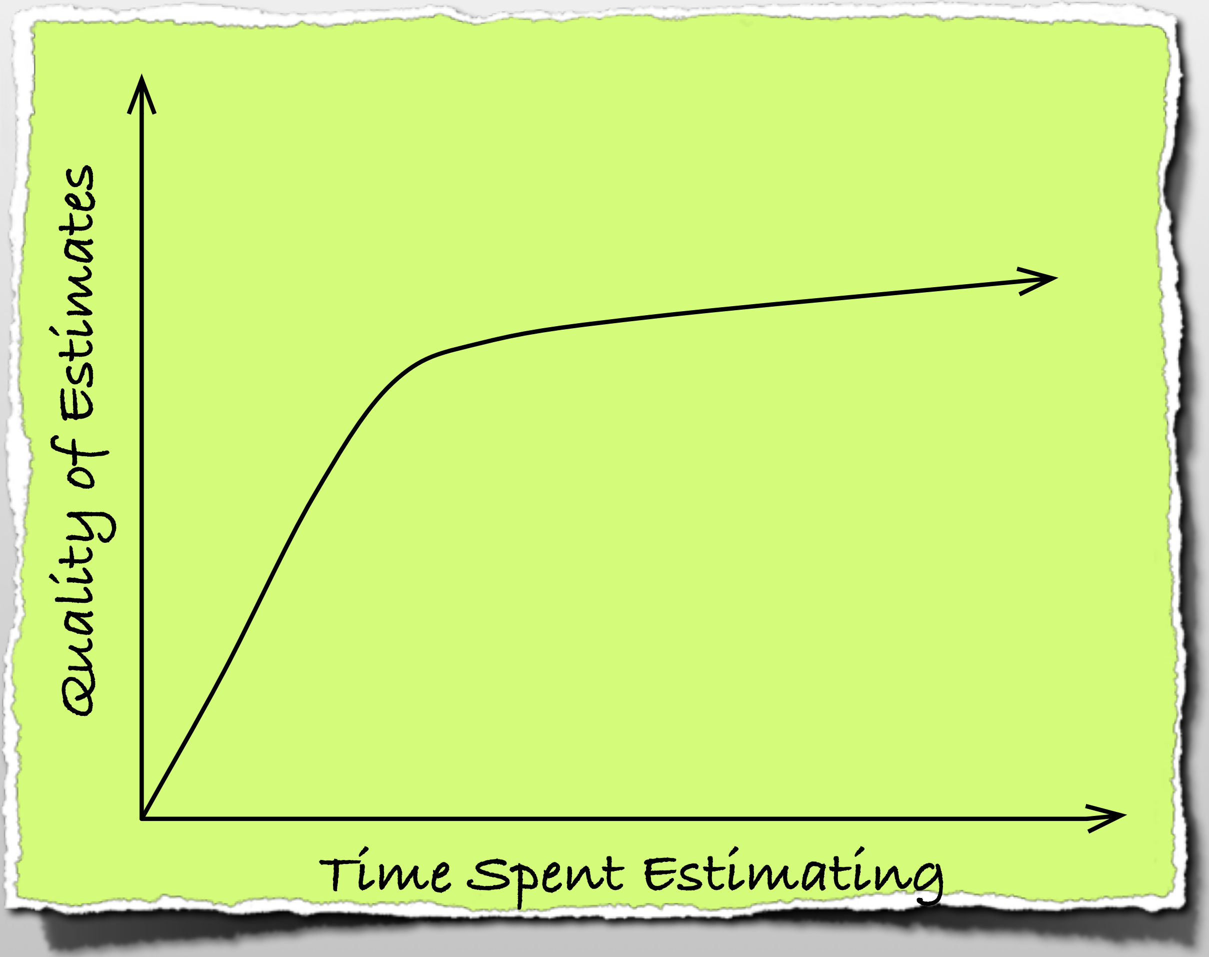
Ask the audience?

(95% of the time correct.)

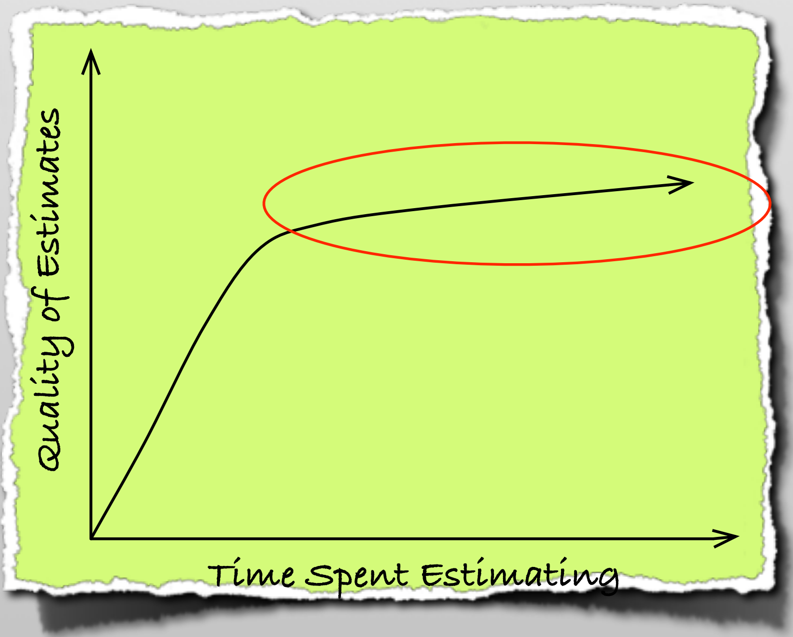
See blog article:

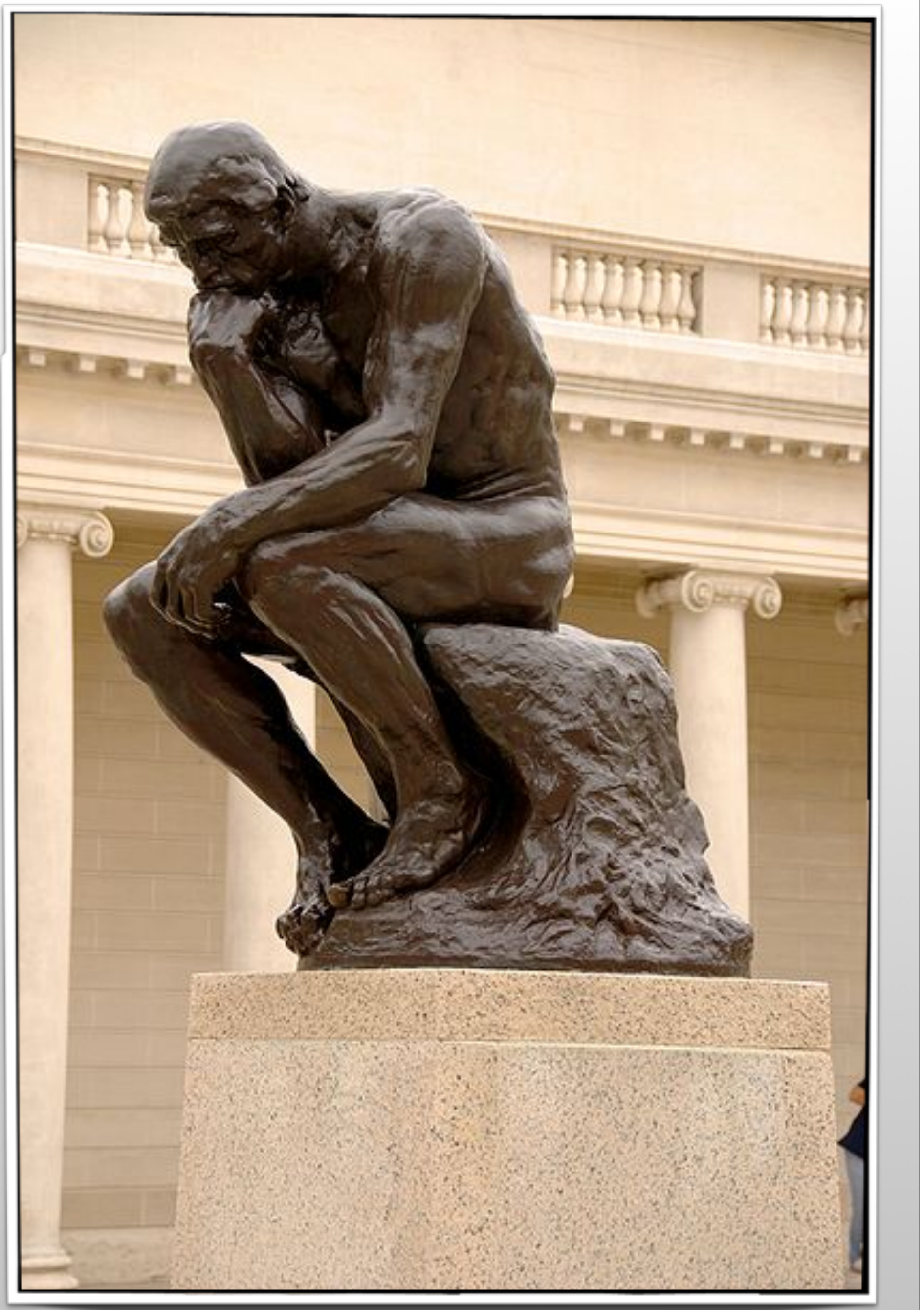
http://www.renaissancesoftware.net/blog/archives/20

Faster Than Traditional Approaches, with Good Results

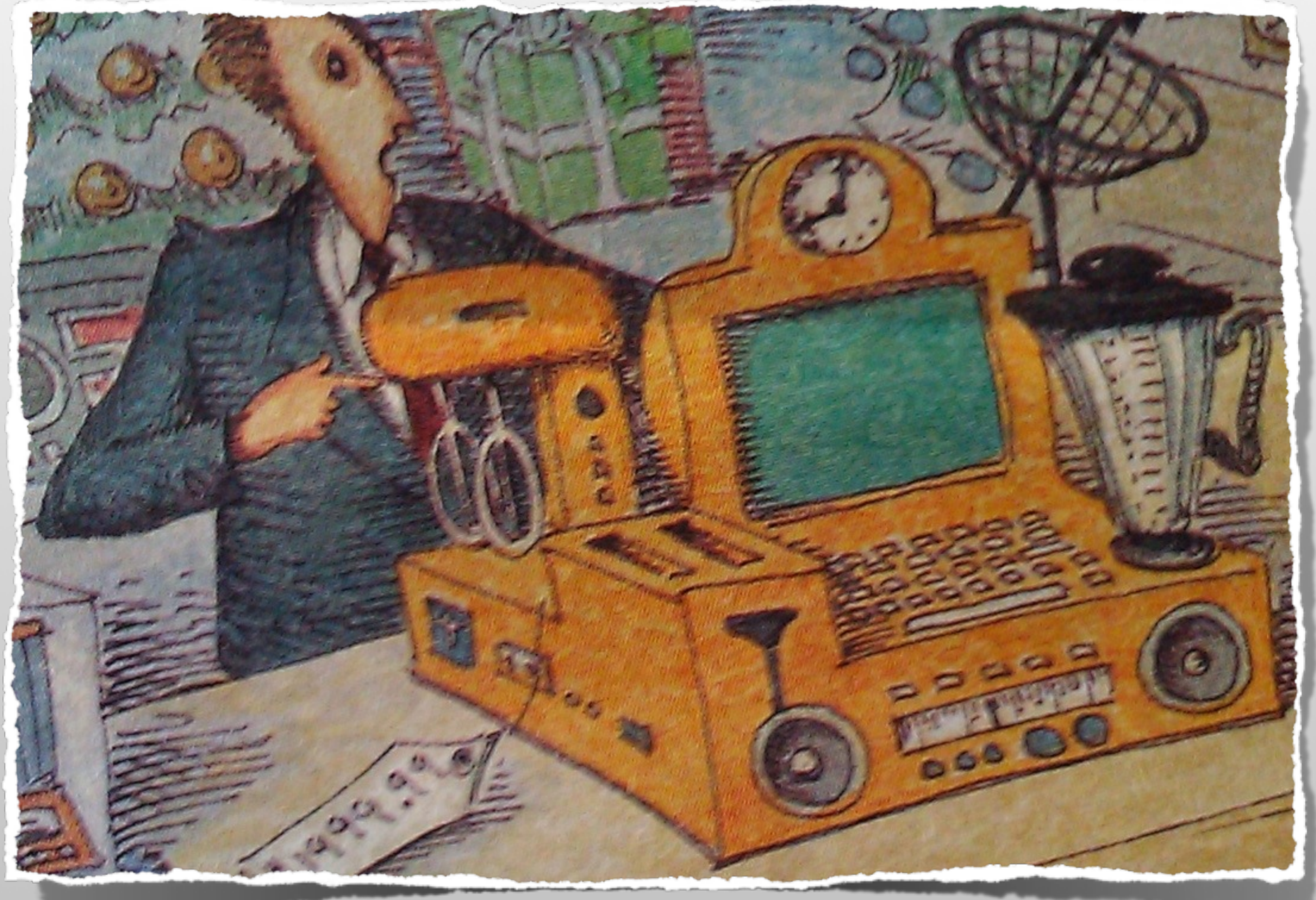


Helps Avoid Analysis Paralysis

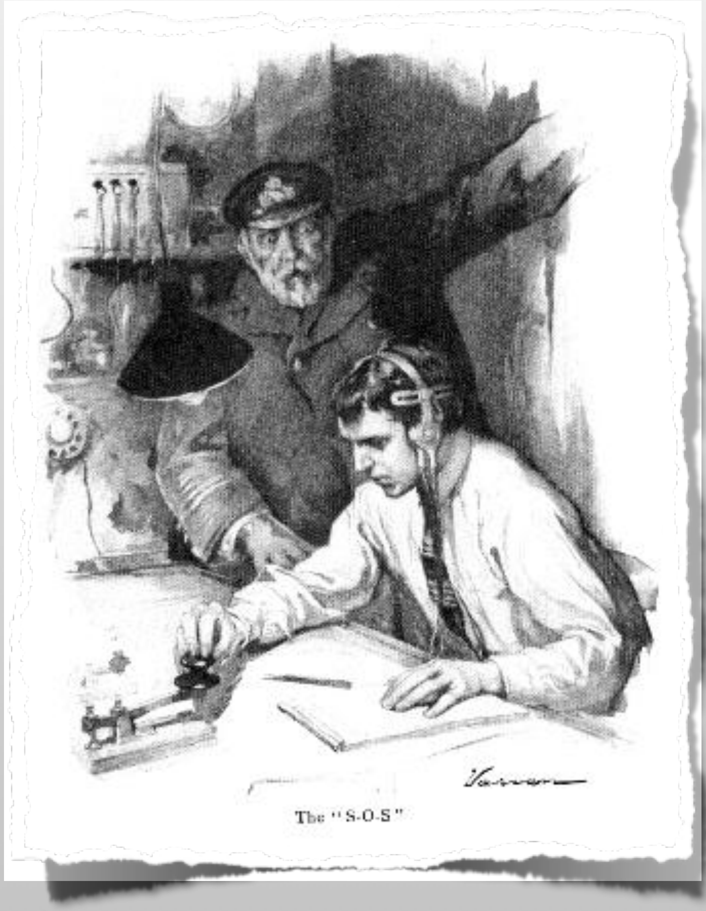




Shows Premature Stories and Requirements

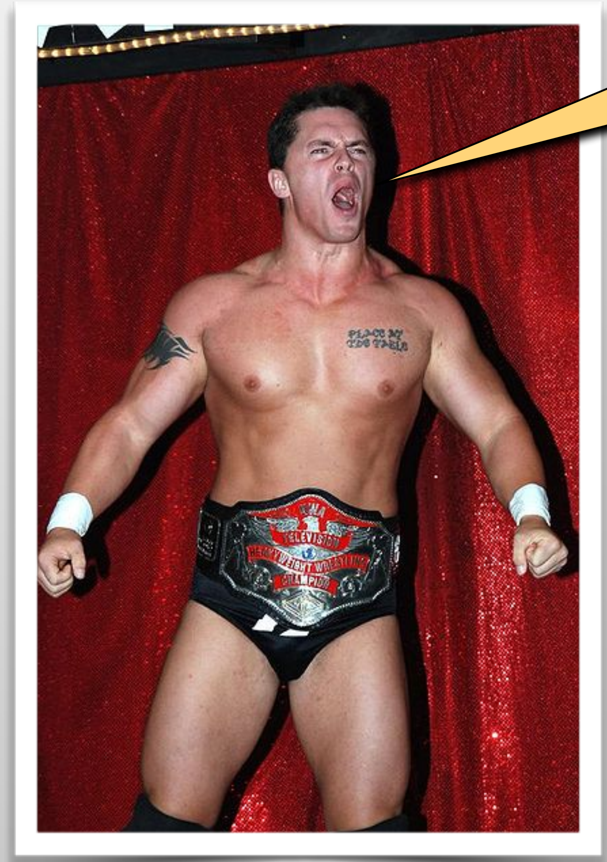


Avoids Anchoring
or
Telegraphing



The "S-O-S"

Not Dominated by the Most Dominating



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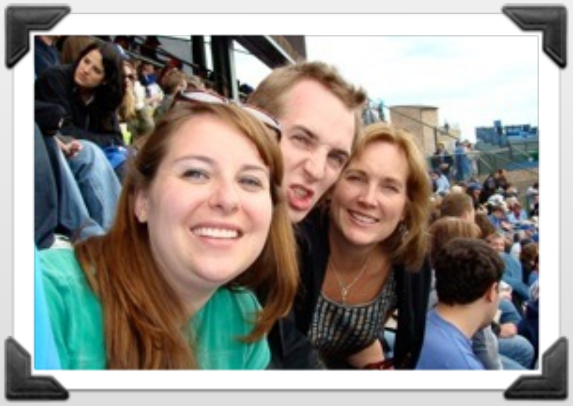
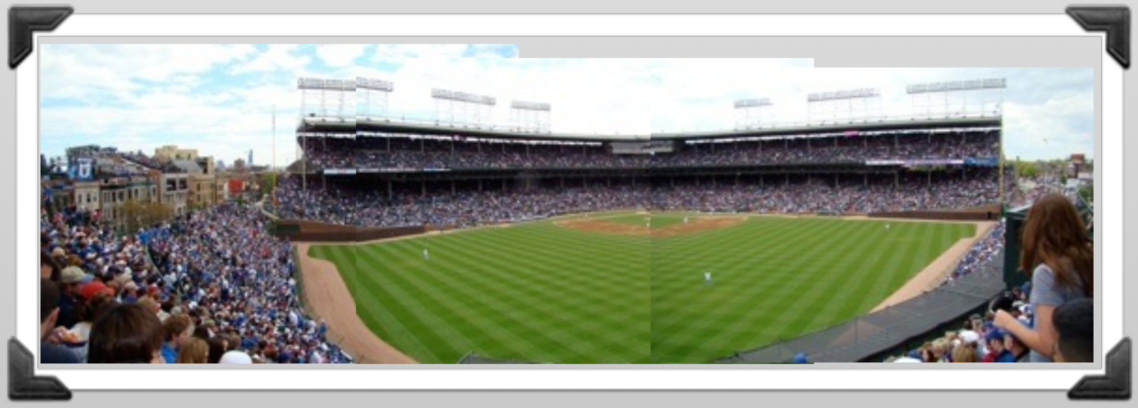
Not Just the Opinion of the Authorities

Most Cited Benefit: Creates an Open Discussion of the Stories

- M

It’s Fun

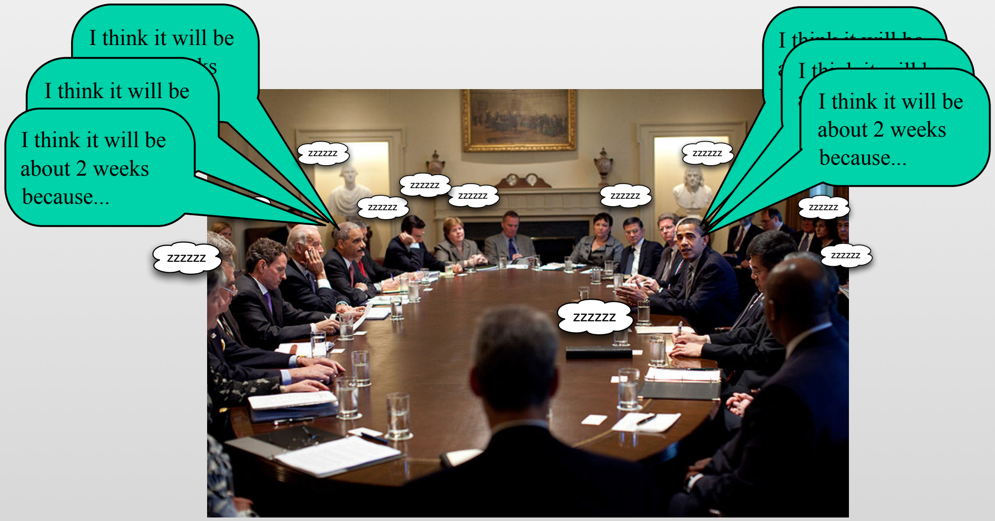




It Keeps Everyone Engaged

Over-looked Benefit

- To quickly get through where we already agree.



By White House (Pete Souza) ([1]) [CC BY 2.0 (www.creativecommons.org/

Critics Say

- Planning poker is not about planning…
  - its about estimation
- Planning poker is not about planning…
  - its about sizing
- It takes too long

Do These Names Help

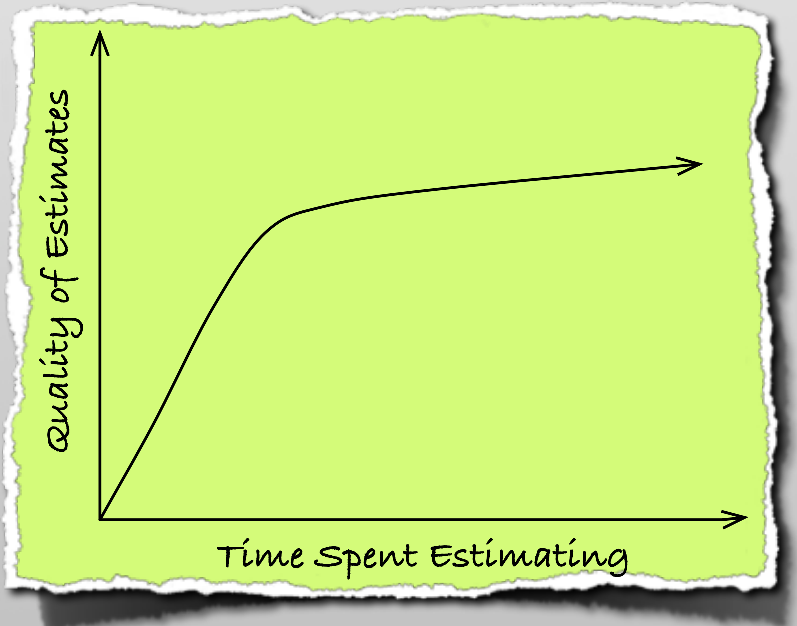
- Estimation Euchre

- Sizing Slapjack

In Many Areas of Software Development...

- The slow and careful way is the fast way

- For estimation, it means deriving guesses from other guesses



Planning Poker is too Slow

- When you have a big batch of stories to estimate

Planning Poker is Too Slow

My Advice for Planning Poker

Using Planning Poker

Planning Poker is Popular
- but it's not the only game in town -

- Use the ideas that make Planning Poker successful
  - involve the whole group
  - give all participants a voice
    - not just the loudest
  - avoid anchoring
  - reduce need to debate on areas of agreement
    - debate only when there are differing opinions
  - Fun

- Could there be another way?

Planning Poker Party

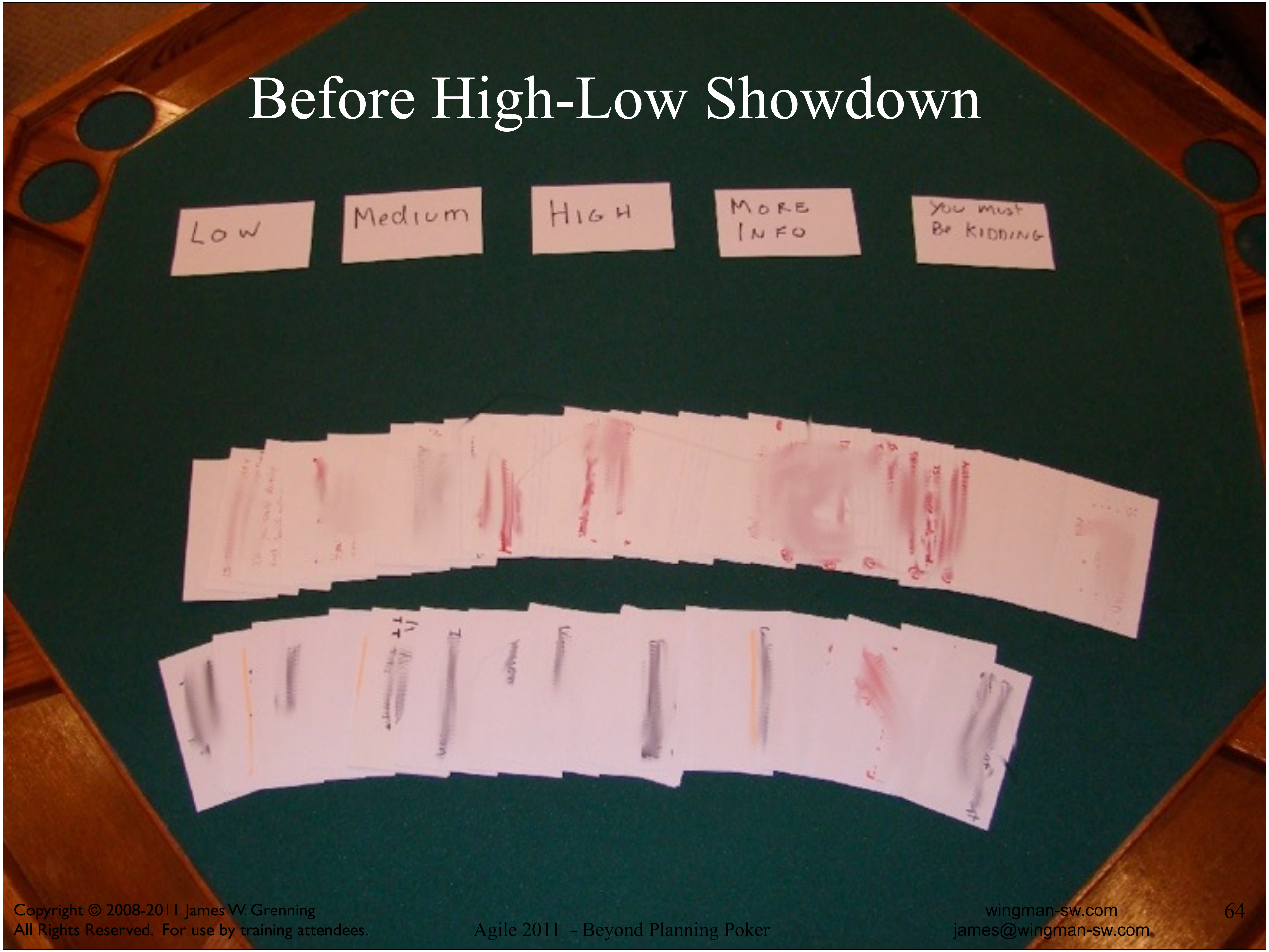
- Based in Effort-Affinity Grouping
  - Thanks to Lowell Lindstrom for introducing the idea to me at Object Mentor
- The games that make up the party
  - High-Low Showdown
  - Deal and Slide
  - Planning Poker (by Affinity Group)
  - Developer Guts
  - Customer Guts
- Described here
  - http://www.renaissancesoftware.net/blog/archives/36

High-Low Showdown

- Quickly try to get stories into relative effort groupings
  - Low effort
  - Medium effort
  - High effort
  - More information

- Don’t worry about exact placement
- Deal and slide (the next step) can override
- Timing: Fast - 15 minutes for a couple hundred stories

Before High-Low Showdown

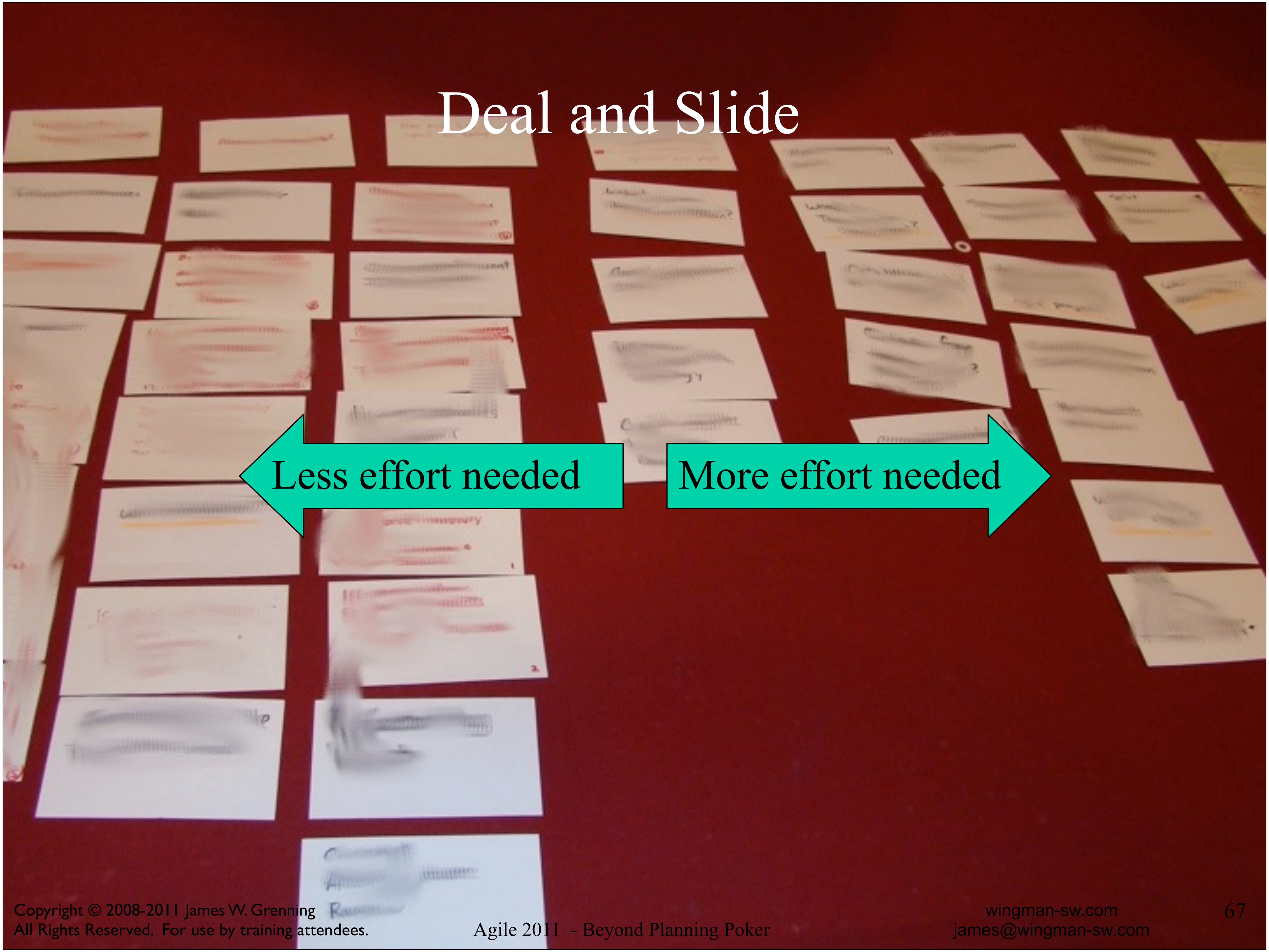


After High-Low Showdown

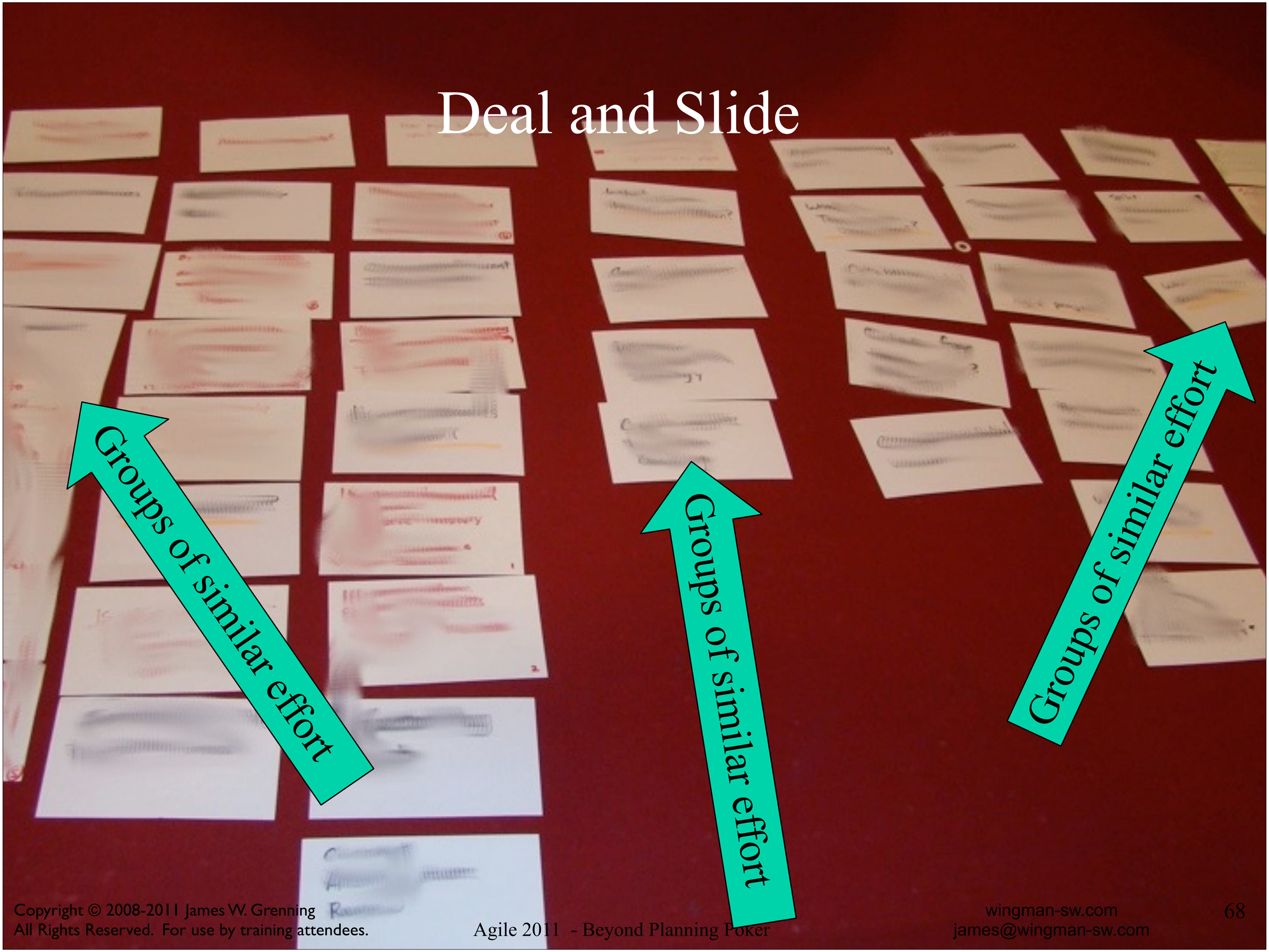
Deal and Slide - Affinity Grouping

- Group by similar effort
- Use high-med-low stacks where there are many stories, then use affinity on the low stack first
  - Less stories on the table at the beginning
- Bring in medium and high stacks as previous stacks are placed.
- Once on the table, don’t worry about high-med-low boundaries

Deal and Slide



Deal and Slide



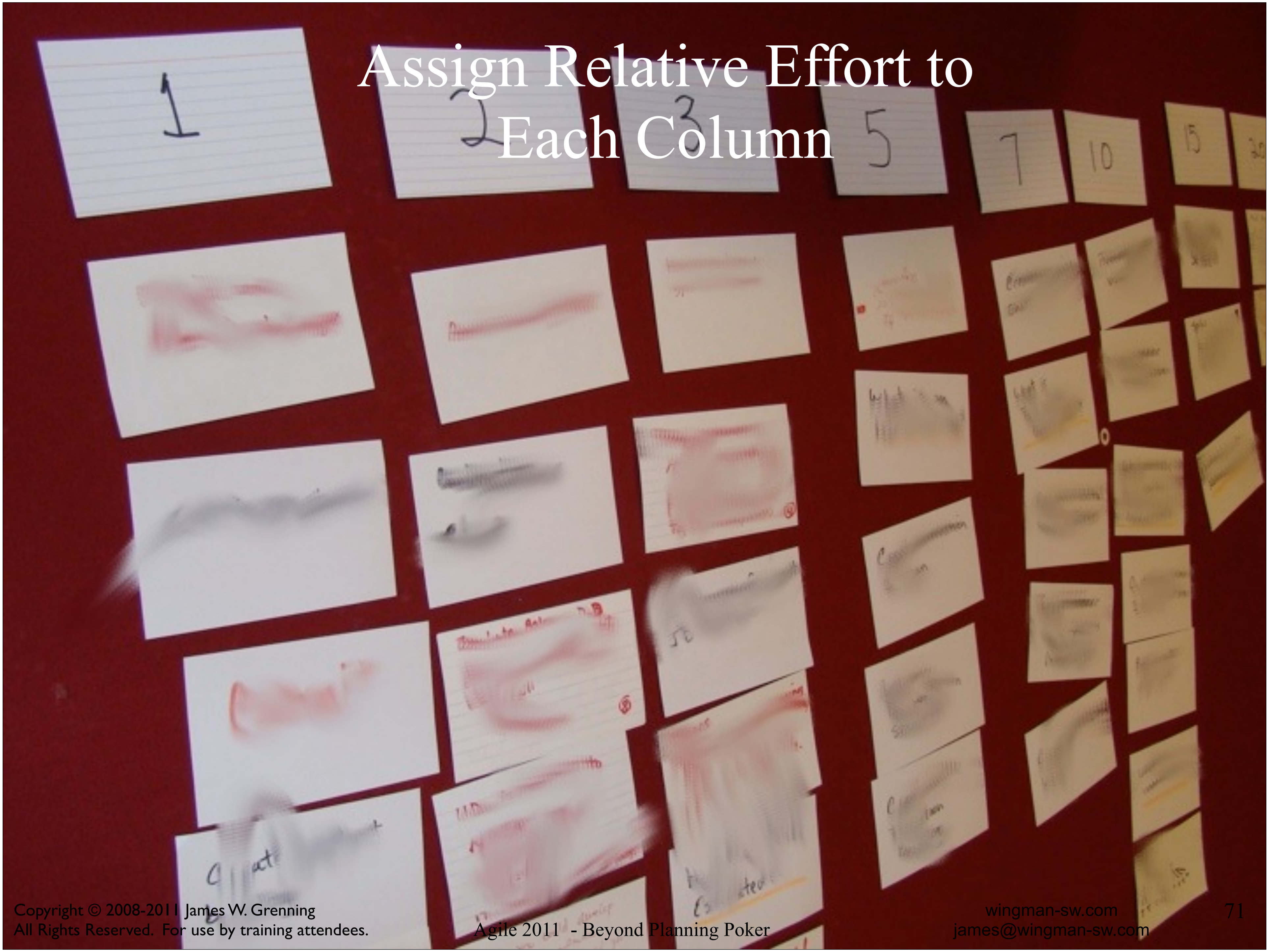
Deal and Slide

- Silent Grouping
  - Play without a lot of discussion
- It’s OK to move a card someone has placed
- If the card can’t settle down, set it aside or have a brief discussion

Use Planning Poker to Put Estimates on Groups of Similar Effort

- The easiest column of similar value is assigned “1”
- Other columns are multiples of the easiest stories
- There should be gaps in estimates as the estimates get bigger.
- Don’t sweat minor differences in larger estimation groups
  - law of averages evens things out
- Numbers bigger than 5 or 10 probably are too big to work on before splitting further

Assign Relative Effort to Each Column



Developer Guts

- Developers estimate (guess) team velocity
  - Velocity = points completed in one iteration
- One technique
  - Let developers choose the first couple iterations of work
  - Only choose single digit stories
  - Add up the points for each iteration to see if guessed velocities are similar

Velocity

V = story points completed per iteration

- Initially estimated
- Later measured as estimated points completed

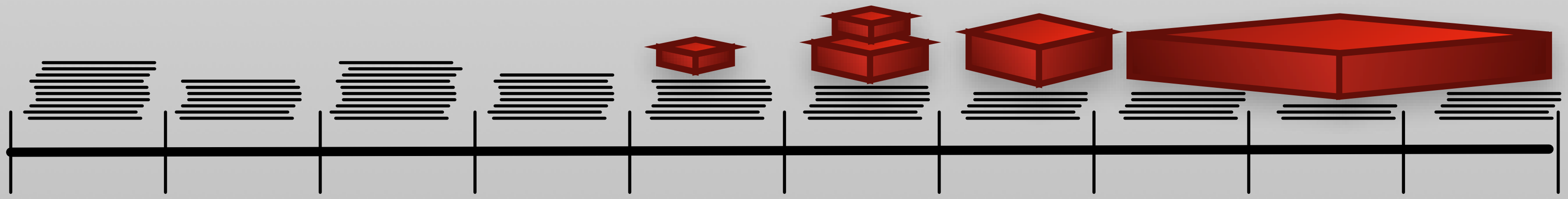
- Never dictated or “stretched”
- Never compared between groups

- Valuable to project working stories by date

Customer Guts

- Lay out the release plan as a series of iterations.
- Total story points per iteration cannot exceed estimated velocity.
- Near-term iterations are usually are higher value or risk.

- Further out plan is more vague, less resolution.



You Don’t Have to Completely Give Up Planning Poker

- Planning poker works well when there are fewer stories and an established baseline
- The Planning Poker Party is better when there are many stories, and/or a baseline needs to be developed

There are Other Games Out There

- Steve Brockman - Team Estimation Game
- Boris Gloger - Magic Estimation

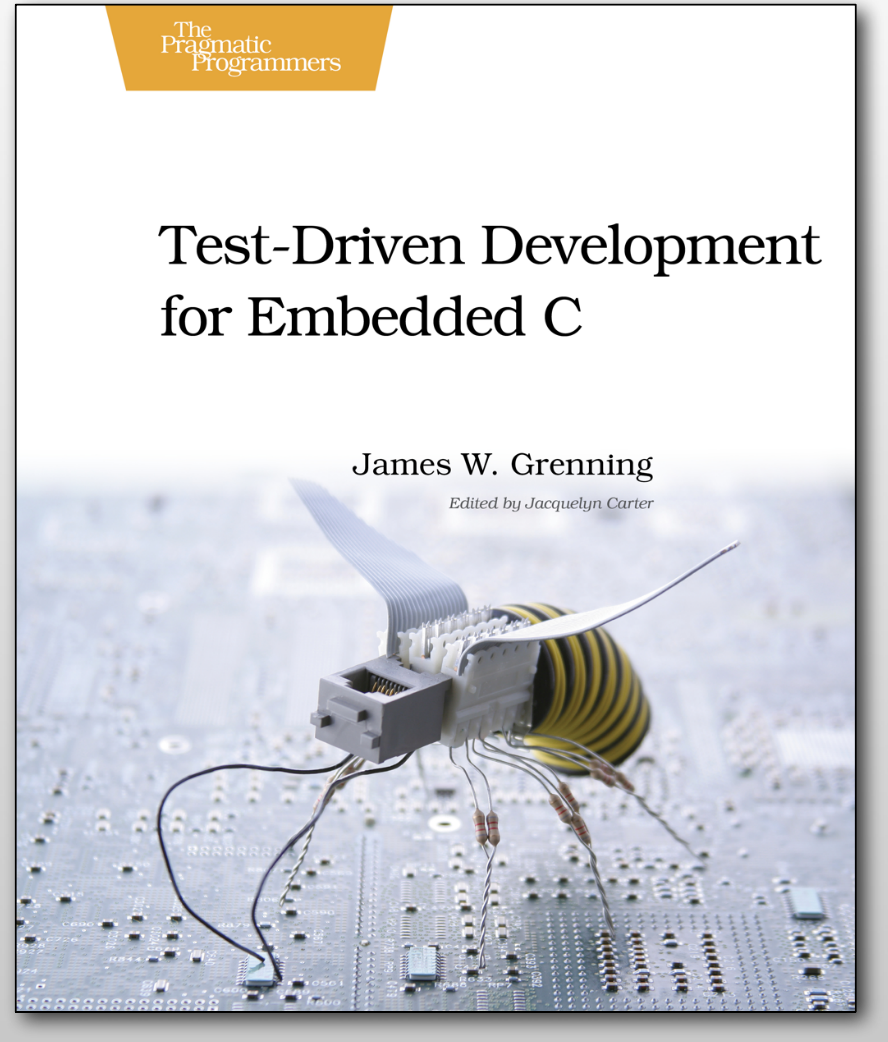
Plan to Re-plan

- The plan is wrong, it’s an educated guess.
- Re-plan every few iterations, or as needed
- Do another Planning Poker Party
- When small batches of stories are brought in by the *customer*, use Planning Poker

More Information

- Iteration Zero - Paper written for the Embedded Systems Conference
    - www.renaissancesoftware.net --> Papers and Presentations
- Various articles on my blog
    - www.renaissancesoftware.net/blog
- Mike Cohn’s Agile Estimation and Planning

http://pragprog.com/titles/jgade/



The Pragmatic Programmers

Test-Driven Development for Embedded C

James W. Grenning

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