



# Estimation

# The Art of the SWAG

Presented by: Chris Greatens

# WHO AM I?



- Senior Director, Digital Experience Platforms at Bounteous
- Working with Drupal and Bounteous since 2009
- Lover of: Astronomy, Baseball, Books, and Jigsaw Puzzles

# WHO IS BOUNTEOUS

We create big-picture digital solutions that help leading companies deliver transformational brand experiences.

The logo for Wilson, featuring the word "Wilson" in a red, serif font.The logo for the Commonwealth of Massachusetts, featuring a blue shield with a white cross and a figure, with the word "MASSACHUSETTS" in a grey, sans-serif font below it.The logo for Tesla, featuring the word "TESLA" in a black, sans-serif font.The logo for Ballad Health, featuring the word "Ballad" in a black, sans-serif font and "Health" in a smaller, black, sans-serif font below it, with a colorful graphic of three overlapping circles to the right.The logo for CHS Community Health Systems, featuring the letters "CHS" in a green, sans-serif font and "Community Health Systems" in a smaller, black, sans-serif font to the right, with a graphic of three stacked squares to the left.The logo for Zipcar, featuring a green circle with a white "Z" and the word "zipcar" in a black, sans-serif font to the right.The logo for Advance Auto Parts, featuring the words "Advance" and "Auto Parts" in a red, sans-serif font, with a black and white checkered flag graphic to the right.The logo for Centura Health, featuring a blue cross icon and the words "Centura Health" in a black, sans-serif font.The logo for Caesars Entertainment, featuring a laurel wreath icon and the words "CAESARS ENTERTAINMENT" in a black, sans-serif font.The logo for PBS, featuring a black circle with a white head profile and the letters "PBS" in a black, sans-serif font to the right.

# AGENDA

- 1. Estimation Basics**
- 2. Different Estimation Approaches**
- 3. Principles to Follow**
- 4. Questions**

# 1. ESTIMATIONS BASICS

## WHAT IS AN ESTIMATE?

An approximate calculation or judgment of the value, number, quantity, or extent of something.

# WE ESTIMATE EVERY DAY...

- 1. When will I arrive?**
- 2. When can I finish this task by?**
- 3. When is dinner going to be ready?**
- 4. How far can I drive before running out of gas?**

# WHAT AN ESTIMATE IS NOT...

- 1. Guess**
- 2. Plan**
- 3. Static**



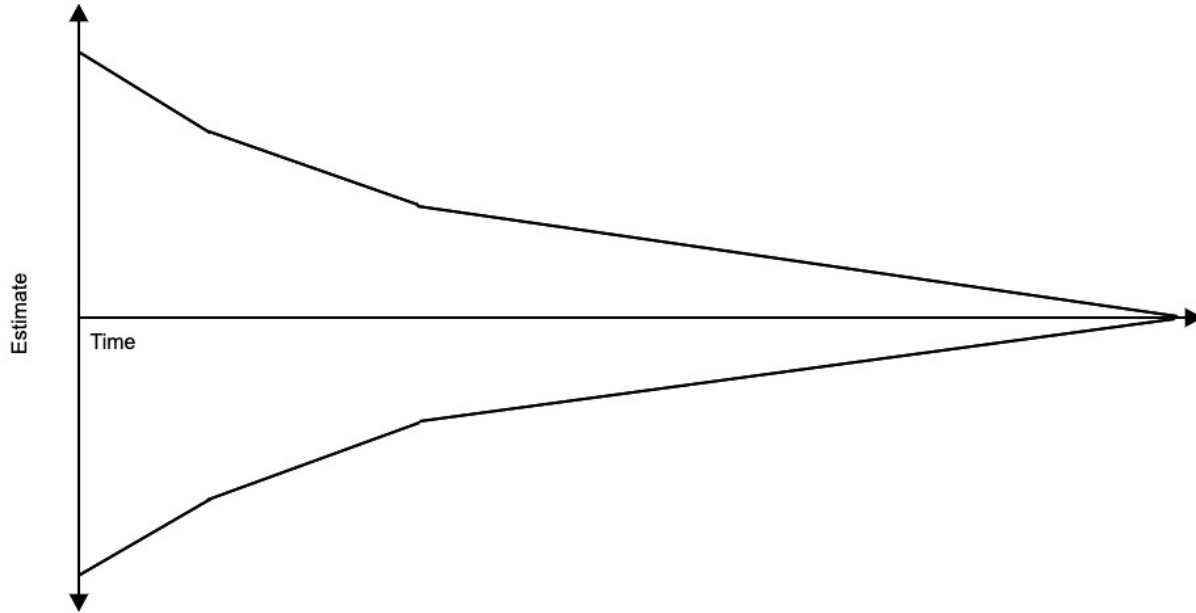
# PREPARING TO ESTIMATE

- What precision is needed for determining the estimate's accuracy?
- How confident do you need to be in the estimate?
- What direction should the error be made in?
- What question is the estimate helping to answer?

## MORE QUESTIONS...

- What kind of Mac & Cheese are we making? Store brand? Kraft? Gourmet?
- Is this new business? Fixed bid or T&M?
- Is this an existing client or a new client?

# WHEN SHOULD YOU ESTIMATE?



## **FACT**

We only know a project's cost or length with 100% certainty when it is complete.

## 2. DIFFERENT ESTIMATION APPROACHES

# COMPARISON-BASED ESTIMATION

- Take the current project and compare it to other completed projects.
  - How does this work compare to that work?
  - How does this work differ from that work?
  - How many stacks of that work would it take to make this work?
- The more experience and data you have for this method, the better it works.
- You **must** know the actual data of the comparison projects. If you have data, do you know it is accurate?
- Good method for getting a quick estimate. Accuracy is often lacking
- Can be used in combination with decomposition to get a more accurate estimate

# COMPARISON-BASED ESTIMATION

## Decomposition

- The larger the project, the hard it is to compare it to other projects
- Break the projects down into smaller parts and compare the smaller parts
  - By Project Phase
  - By Components
  - By Functionality

# BOTTOMS-UP

- This is like comparison-based decomposition, but in general this goes much deeper.
- This method works by breaking a project down into features/tasks and so we are estimating many smaller projects/features rather than one big project.
  - Estimating one big project means the estimation error is either high or low
  - Estimating many smaller features, the errors (and there will be errors) will be on both sides (both high and low) and, thus, will balance each other out.
- It is important not to get fixated on specific estimates: the whole is better than the individual parts.



# COUNT STUFF

- Lots of things in a project that correlate with the effort/time it takes to complete a project can be counted. (e.g. User Stories, Requirements, Defects)
- Need more than a handful of items to be useful. The more, the better (to a point).
- Need historical data from previous projects about what you're count and how it relates
- What you are counting should be consistent from project to project
- This is a good method a pretty much every stage of a project

# T-SHIRT SIZE BY FEATURE

- List out all the features for the project
- For each features, give it a t-shirt size (e.g. Small, Medium, Large, Extra Large)
- Count the number in each group and multiply by the average time it takes to do one of that type of feature
- Good for getting a rough (less accurate) estimate of effort

# STAFF PLANNING

- Having data and numbers is great, but that does not always give a complete picture.
- A staffing plan is a complete view of who is on the project and when each person is on the project and at what allocation.
- Creating a staff plan can help tease out a better idea of how long a project will take or how much a project will cost.
  - How will the staff ramp up into the project?
  - When do various inputs (e.g. requirements, wireframes/comps) need to be received by?
  - How do you account for “non-work” (e.g. status meetings, grooming sessions)
  - Is the plan feasible?

# 3. PRINCIPLES TO FOLLOW

## **FACT**

We only know a project's cost or length with 100% certainty when it is complete.

You need to convey, in some way, your confidence level of an estimate.

The assumptions you made to get to an estimate are as important as the estimate.

When estimating, don't assume the most qualified person on your team will do the work.



Don't give off-the-cuff estimates.

Don't imply a preciseness that your estimate is not providing.

For a project estimate to be accurate, the project leadership needs to exert project control.

“

A good estimate is an estimate that provides a clear enough view of the project reality to allow the project leadership to make good decisions about how to control the project to hit its targets.

---

**Steve McConnell**

If something is hard, do it more often.  
Estimation is hard.

Underestimating a project by a significant margin will cause it to be even later/more overbudget than you would expect. Prefer overestimates to underestimates

Do not confuse estimation with pricing. The two are distinct.

When estimating, use two methods and compare the results



# SUMMARY

- 1. Understand what question is being asked.**
- 2. Cone of Uncertainty**
- 3. Have multiple estimation approaches at your disposal**
- 4. Prefer data to 'expert opinion'.**

# GOOD BOOKS TO READ

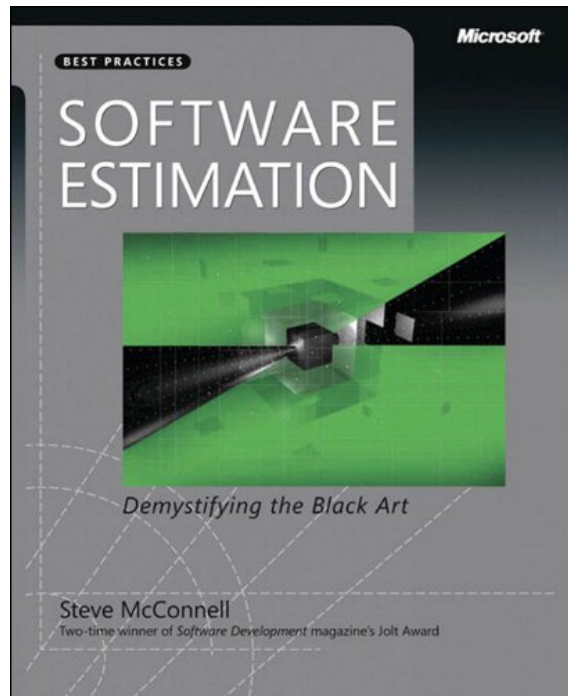
The Pragmatic Programmers

## Software Estimation Without Guessing

Effective Planning in an Imperfect World



George Dinwiddie  
edited by Adaobi Obi Tulton



# PLEASE PROVIDE YOUR FEEDBACK!

<https://mid.camp/6325>

The top-rated sessions will be captioned, courtesy of Clarity Partners



# CONTRIBUTION DAY

Saturday 10am to 4pm

You don't have to know code to give back!

New Contributor training 10am to Noon  
with AmyJune Hinline of Kanopi Studios

# THANK YOU, QUESTIONS?