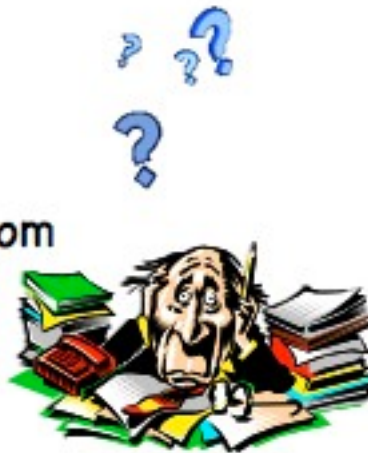


# How to Estimate ANYTHING

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## What's an "Estimate"?

A rough calculation/prediction of the quantity or size of something



## Demonstration

### Increased Error...    Less Error...

- |                  |                  |
|------------------|------------------|
| - No time        | - Smaller chunks |
| - Can't see all  | - Familiar       |
| - Distractions   | - Well defined   |
| - No experience  | - Comprehensible |
| - Highly complex |                  |
| - Moving target  |                  |



## Estimation Basics

- Clear written definition
- Divide & conquer
- Manageable hunks
- Extra credit if hunks resemble familiar things
- Expect change as more information becomes available



## Another Demonstration

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## Estimation Process

0. Document what is being estimated & what's excluded
1. Identify relevant factors - What do you wish you knew?
2. Gather data/make assumptions - Write them down
3. Consult - Problem definition, relevant metrics & assumptions
4. Do math - Show your work
5. Compare estimate & actual - Seek process improvement

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## Challenging Assumptions

- Assumptions are place-holders for uncertain things
- The future is uncertain
- There are NO facts about the future
- Assumptions essential to estimation
- Easy to mistake assumptions for truths



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## Presenting Estimates



- Best estimate for now
- What could improve
- When we'll be smarter

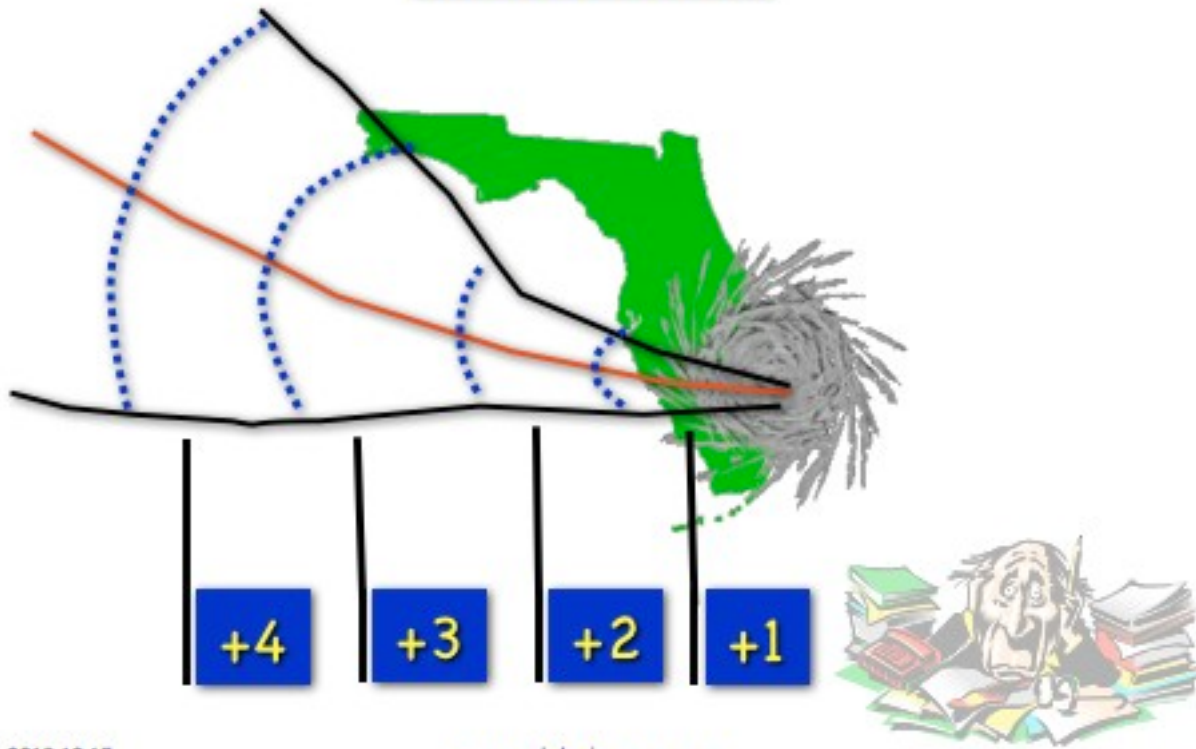


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# Uncertainty

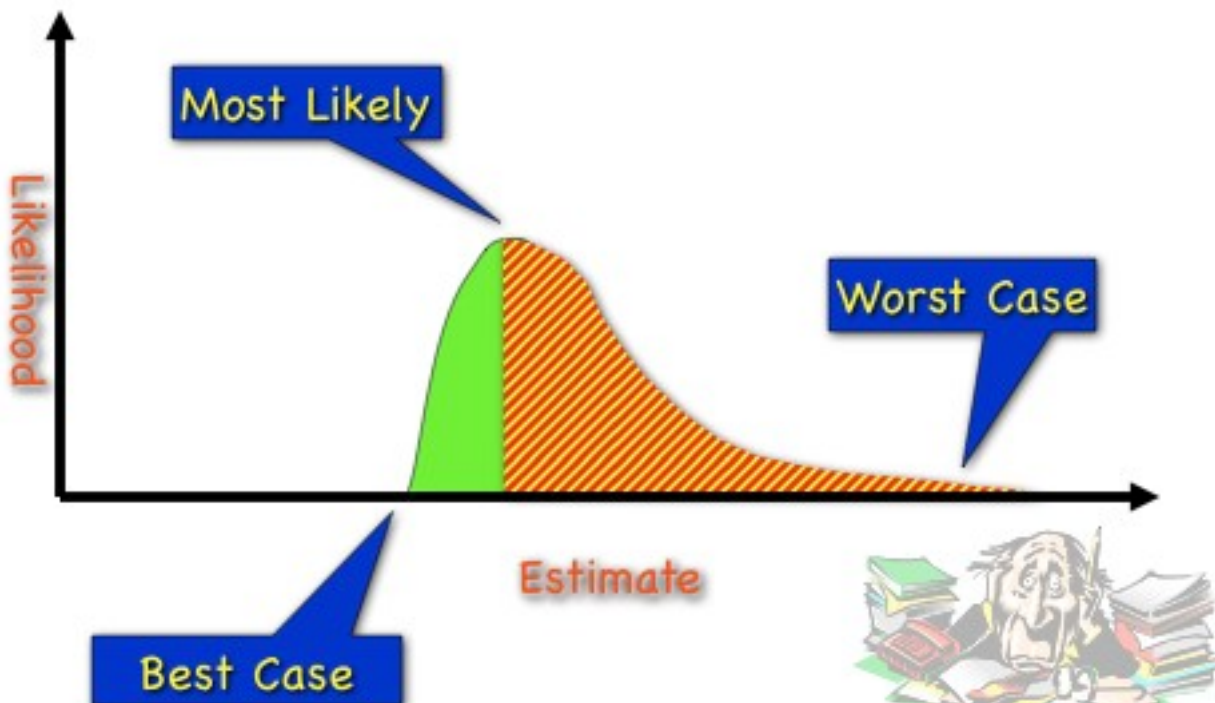


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# Range Estimates



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## Practice: How Many... ?

1. ID Relevant factors
2. Gather data/make assumptions
3. Consult
4. Do Math (Extra credit: Range)



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## Wrap

- Questions?
- Thank you!

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