



CSSE 372 Software Project Management: Hard Choices Game and maybe Introduction to Business Cases

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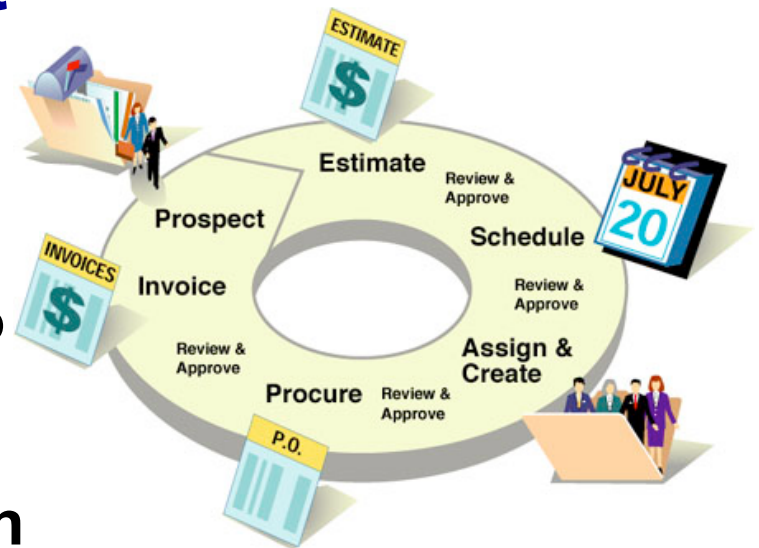


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Objectives: Fundamental Elements

Identify fundamental elements of Software Project Management

- Finish up Tuesday's discussion
- Determining the project's constraints and opportunities to succeed
- Examine pitfalls of not having an ongoing strategy
- Exercise basic strategies for managing changes in a project



State of the Art vs. of the Practice

“The gap between the best software engineering practice and the average practice is very wide—perhaps wider than in any other engineering discipline.”

– Fred Brooks

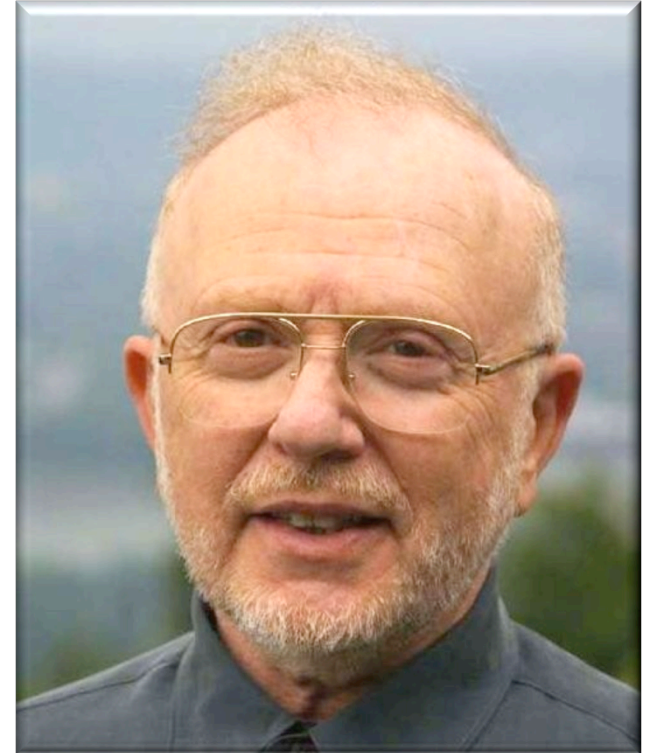


What are exciting SE techniques?

**Q: What are the most exciting/
promising software engineering
ideas or techniques on the
horizon?**

**A: “I don’t think that the most
promising ideas are on the
horizon. They are already here
and have been here for years
but are not being used properly.”**

— *David L. Parnas*





What's Parnas Talking About?

- **Project planning and management practices**
 - Automated estimation tools (1973)
 - Evolutionary delivery (1988)
 - Measurement (1977)
 - Productivity environments (1984)
 - Risk management planning (1981)

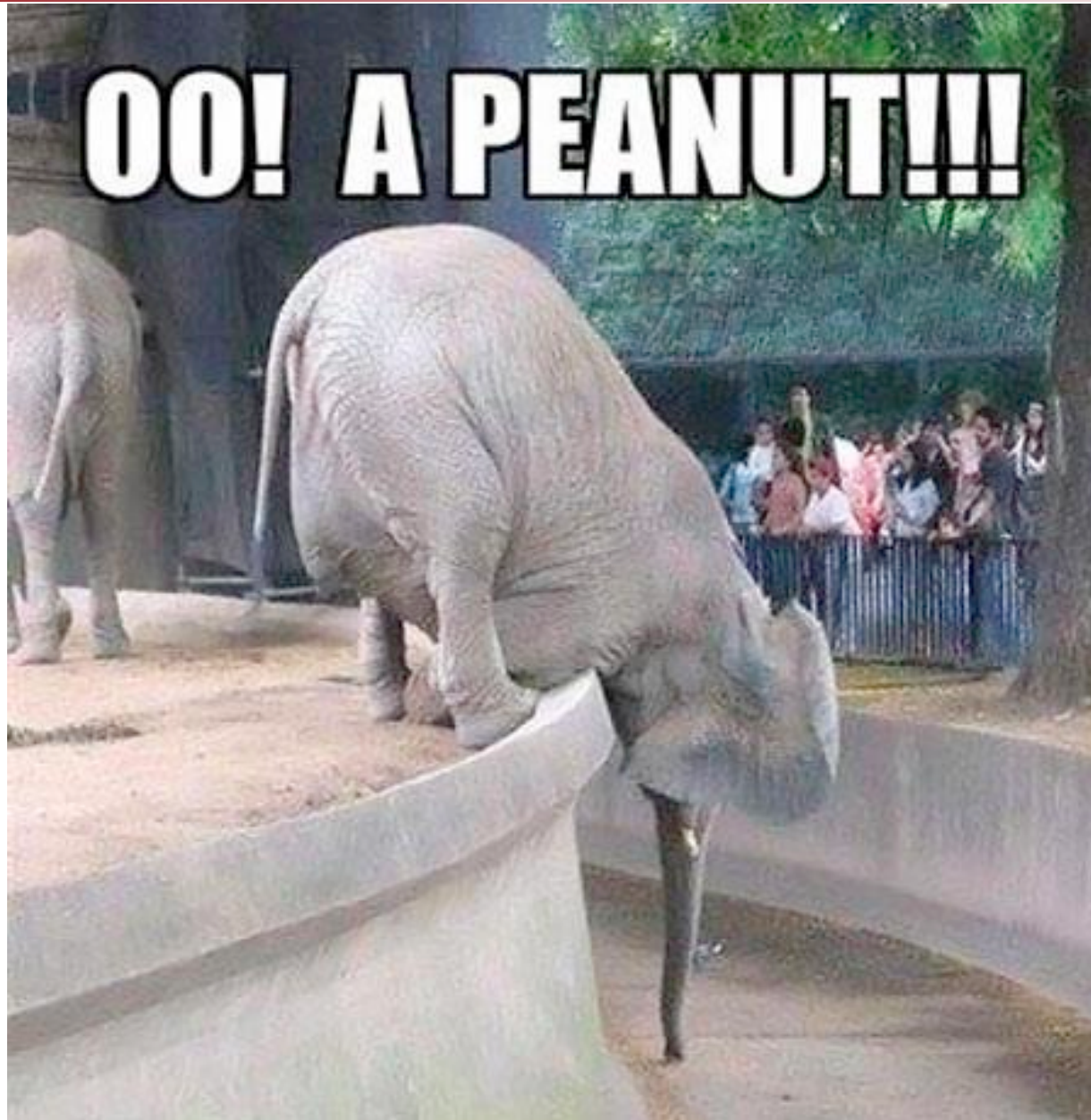
 - **Requirements engineering practices**
 - Change board (1979)
 - Throwaway user interface prototyping (1975)
 - JAD sessions (1985)
 - Requirements scrubbing (1989)
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Ever-Important Question - SO WHAT?

- Software Projects are about RISK
- Over 95% of all project failures can be avoided by commonly known, but not so commonly practiced Software Project Management Principles and Practices



A Business Case is a good start!



Projects have Hard Choices

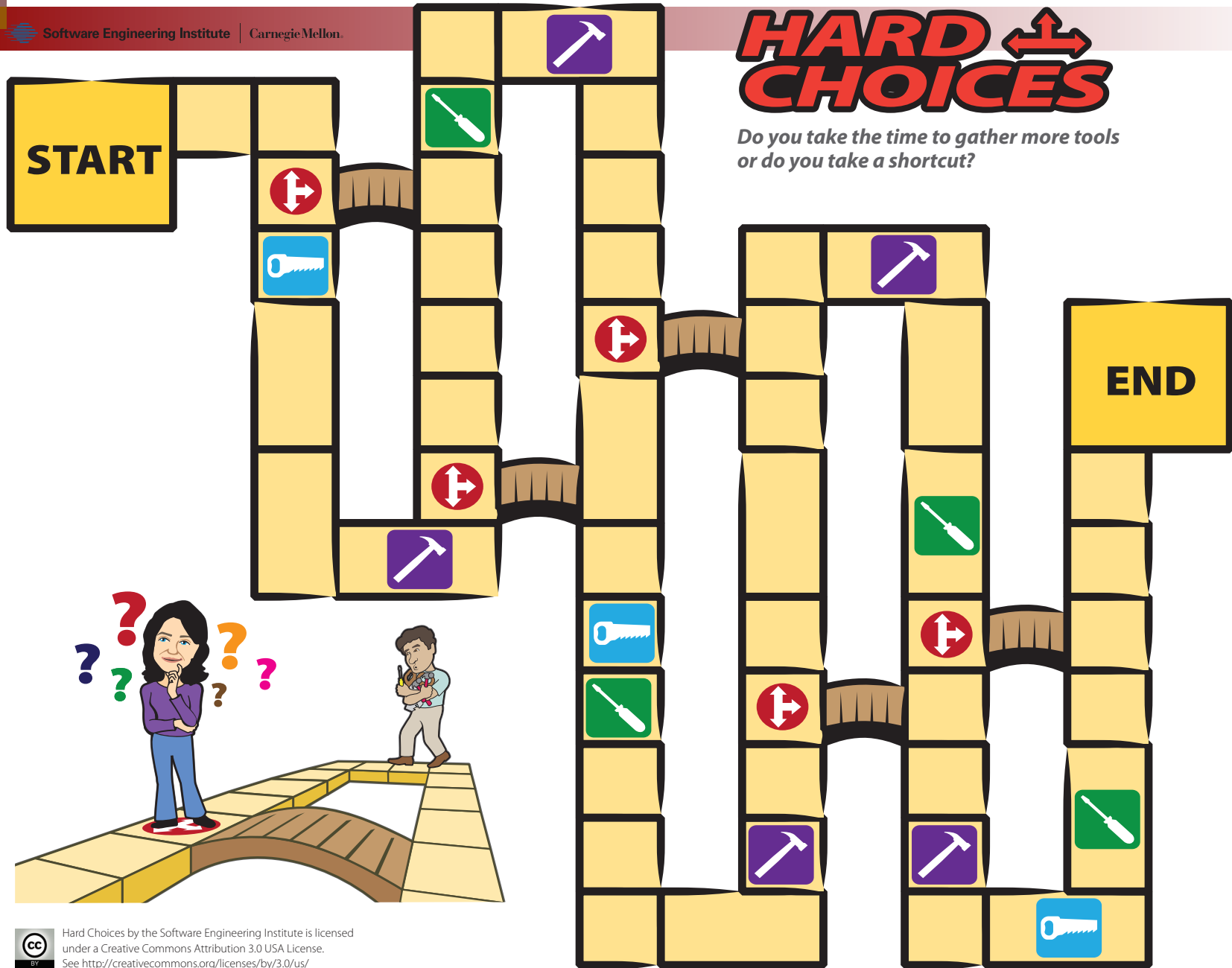
- As projects start, there are **choices** about the **rules** or policies over the life of the project
- As the project proceeds, there are **cross-roads** where you must make choices that have short-| medium-| long-term implications
- Then as forces outside of the project bear down, new rules may be imposed
 - E.g., new deadlines, unanticipated roadblocks




How do you view these choices in a way that you maximize your chances of success?

HARD CHOICES

Do you take the time to gather more tools or do you take a shortcut?



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The Hard Choices Game – Basic Rules

- Roll dice and move any direction, & may even change directions in a single turn
- 1st person to reach end gets 5 points, 2nd gets 3 points, and 3rd gets one point
- To enter Finish cell, must roll a # “>=“ remaining squares
- Hard choices squares have bridges and bridges cost a bridge card signifying 1 subtracted from roll of dice
- Bridge cards can be returned by skipping a turn
- If you have a particular tool card and land on that tool card, then you have another choice – take the card with the point or take another turn
- Also get 1 point for each tool collected...
- Game ends when only one player remaining
- Player with most points wins!



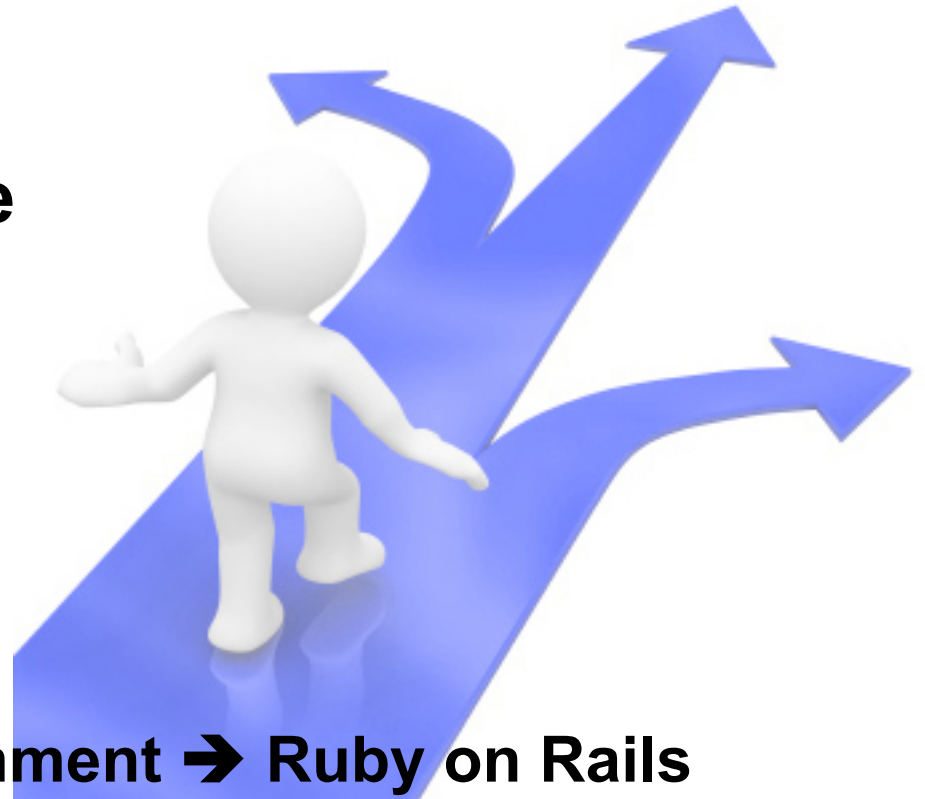
Let's play!

- Teams of 3 or 4 people

- Tools:

- Hammer – Dev. Environment → Ruby on Rails
- Saw – Software Design → Web-Based
- Screwdriver – Schedule → Aggressive

- Take 15 minutes to play first round...



Next round

■ Project change

- Ruby Jock shared with another project
- Project Slowed significantly

■ New rules

- Schedule impacted, so Screwdrivers now count like Bridges

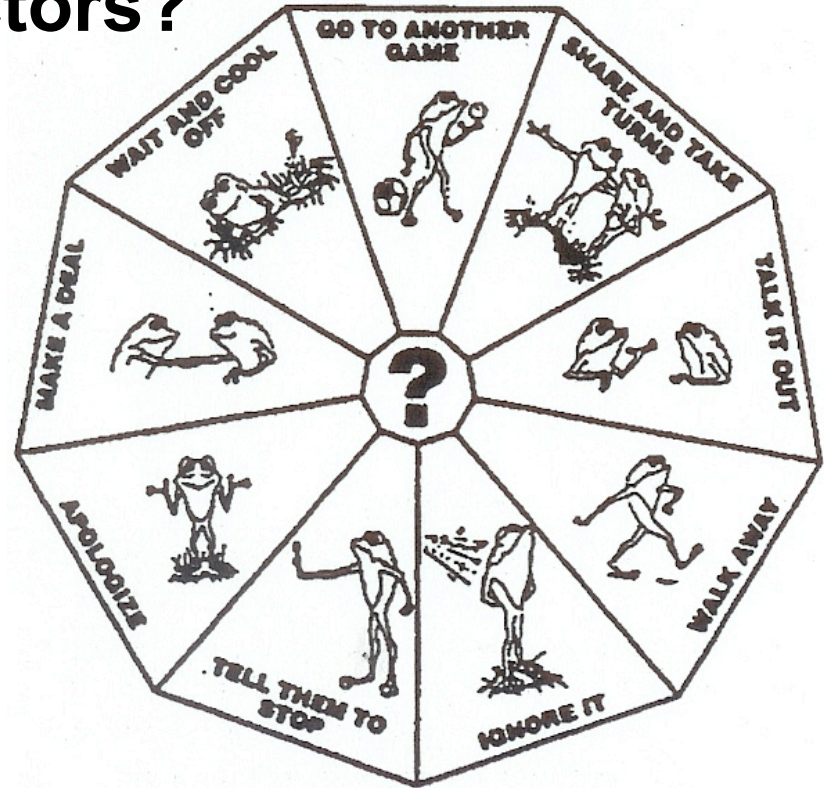
■ Start from where you are... keep cards

■ Go...



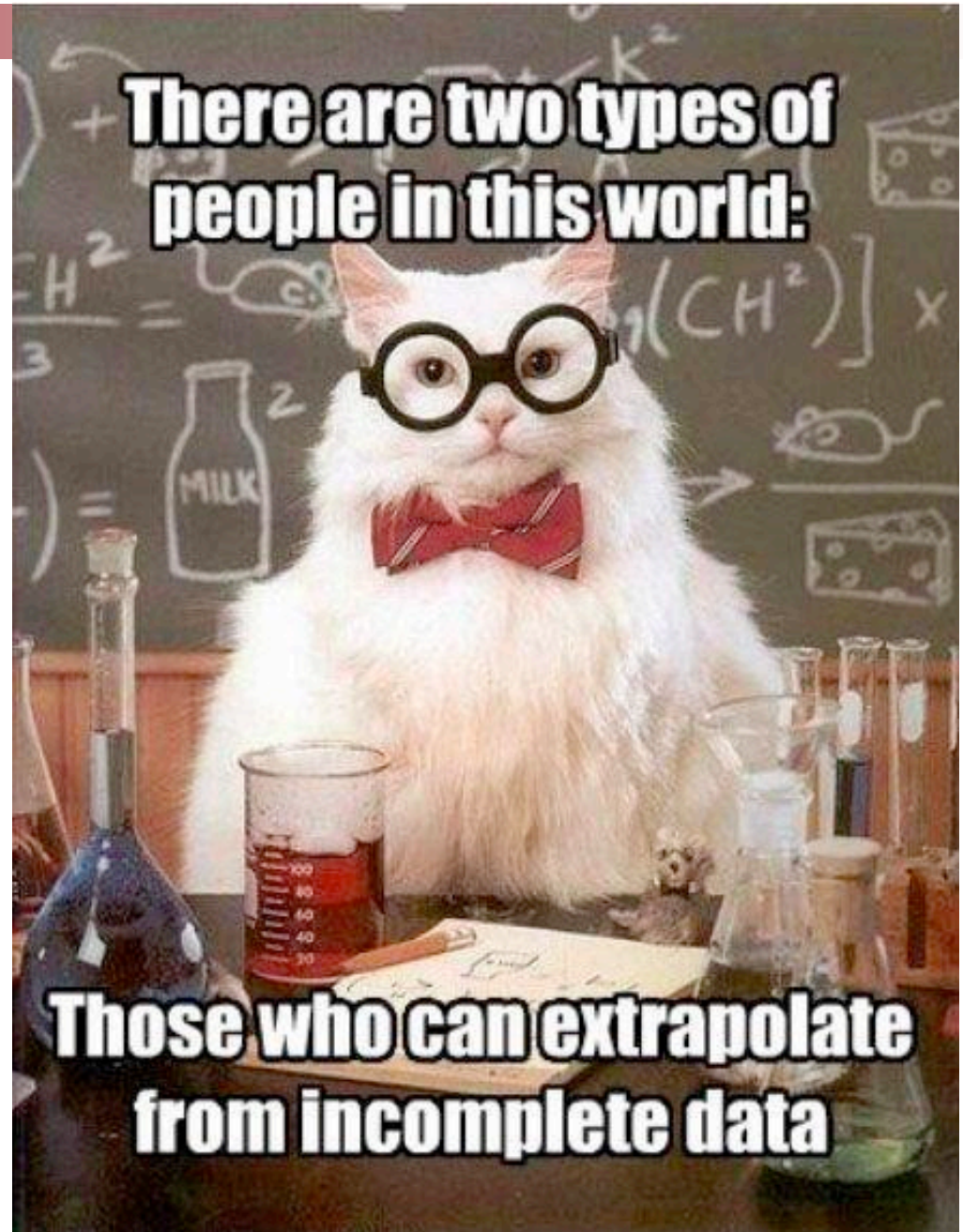
Discussion

- With your team discuss the implications of the game and your strategies to win...
- Who were the card collectors?
- Who the short cutters?
- Who were the opportunists?



*I found one to go
along with:*

*“There are 10 types of
people in the world,
those who understand
binary
and those who don’t.”*



What is a Business Case?

- A business case outlines the overall costs and risks and compares them to the benefits that justify the initial and on-going commitment of time, resources, and funding for a software project.

Financial

Costs, benefits and impact on business performance measures

Strategic

New capabilities and improved competitive position

ROI

Return on Investment

Technical

Benefits to organization's infrastructure and support for technology strategy

Operational

Process and engineering improvements
(Tangible and Intangible)



Fundamentals of the Business Case

- View software as a business
- Use business measures to justify improvements

Reduce	Avoid/Cut
Time to Market	Cost
Productivity	Quality
Increase	Improve

- Making the leap forward involves overcoming the resistance to change



What's in a Business Case?

- **Problem or situation addressed by the proposed project**
- **Features and scope of the proposed initiative**
- **Options considered and the rationale for choosing the solution proposed**
- **Proposed Project's conformity with existing policies, etc.**
- **An initial implementation plan (very high-level)**
- **Expected costs and budget**
- **Anticipated benefits and outcomes**
- **Potential risks**



Homework and Reading Reminders

- **Read “Requirements and the Business Case” by Suzanne Robertson**
- **Write-up this Case Study as before and come prepared to discuss the paper**