

# **I Know You Think You Understand What You Thought I Said But.....**

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# Agenda

- Setting the Scene
- Project meets requirements
- The Pitfalls
- TTC “Take Aways”



# Setting The Scene

“I know you think you understand what you thought I said but I'm not sure you realize that what you heard is not what I meant”

Alan Greenspan



# Setting The Scene



# Setting The Scene

- Not a requirements lesson
- Project meets requirements
- Theory meets practical
- Program, technical/non-technical
- How to deal with changes



# Setting The Scene

## Definition of a Requirement

- A thing that is needed or wanted
- A thing that is compulsory; a necessary condition



# Setting The Scene

## Traceability

- Documents life of a requirement
- Trace back to the origin of every change
- Must be documented
- Traceable even after implemented



# Setting The Scene

- Natural language
- Formal language
- Contract language
- Requirements Engineering
  - “where informal meets the formal”
- Program requirements
- Technical requirements





# Setting The Scene

## Requirement Tools

- DOORS
- Clear Quest/Clear case
- Excel
- Napkins
- Gentleman's/Ladies agreements



# Setting The Scene

- Ambiguity
  - Unintended ambiguity is the Achilles heel of SRSs
- Language
  - Natural, Formal, Contract & Second languages
- Consistency
  - Always saying and meaning the same thing



# Project meets requirements

- I want this
- Sure, we can do that
- Here it is
- That's not what I asked for (well it's not what I meant)
- It's what we understood you meant
- .... what do you do at this point



# Project meets requirements



How the customer explained it



How the project leader understood it



How the analyst designed it



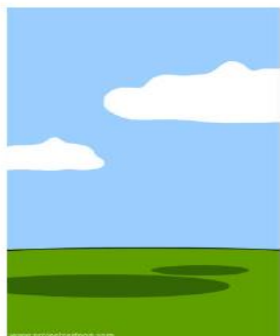
How the programmer wrote it



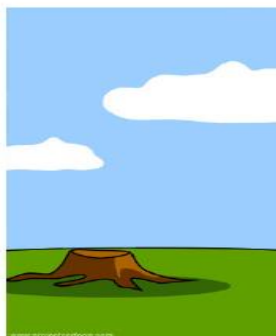
What the beta testers received



How the business consultant described it



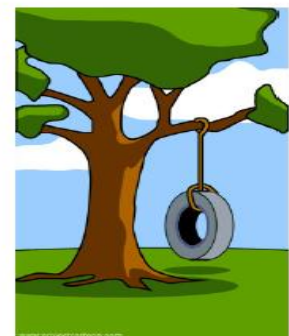
How the project was documented



How it was supported



What marketing advertised



What the customer really needed

how different from what the customer actually intended



# Project meets requirements

- Upfront work by customer - CONOPS
- Focus on outputs - NEEDS
- Who does what
- Teamwork



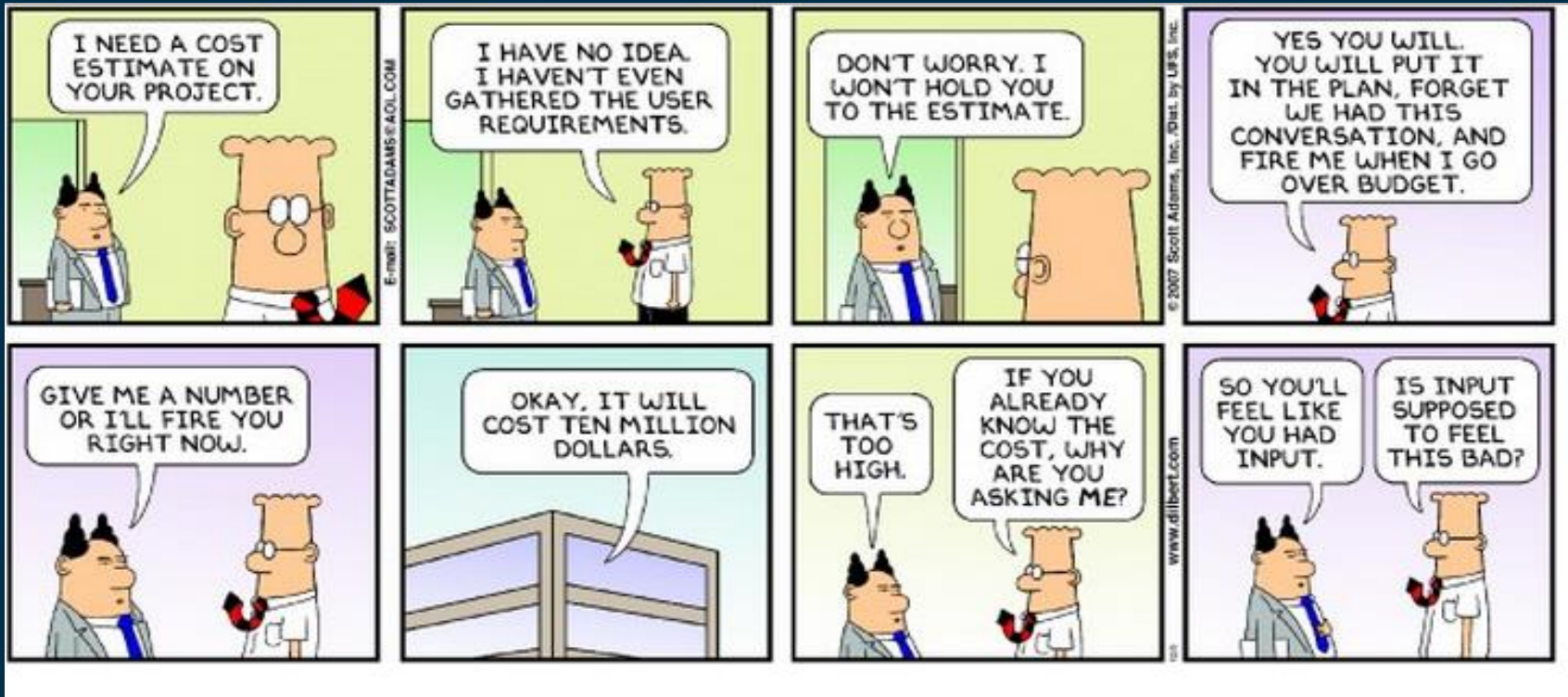
# Project meets requirements

- Managing requirement change
  - Time constraints
  - Scope creep
  - Stakeholders
  - Collaborative
  - Focused
  - Fair
  - Cost



# Project meets requirements

## Cost impact on requirements





# The Pitfalls

- Promise makers, promise keepers
- Not knowing what you need
- Want/like verses need
- Modifying the product
- Use of Standards
- Equivalent, compliant with intent ...means what
- Contractual stance
- Lack of communication





# Pitfalls

- Language (google translator)
- Ambiguity
- Contradictions
- But not limited to
- Agendas/hidden agendas
- Changing your Mind
- Cost– no cost



## TTC Take Aways

- Know your End game 20-30 years out
- Know what you need - **Conops**
- Ensure there is only one team
- Good all-round communication
- Right staff/competencies critical to success



# TTC Take Aways

- Recognize CBTC is not new it is extremely reliable
- Rarely is there a new challenge that another operator hasn't faced
- Peer reviews
- Look at what has/hasn't worked elsewhere



# TTC Take Aways

- We like to think we are unique (people, operations, functions, environment).....but
- Our end goal is the same, we want to carry lots more people safely and reliably
- When One party fails everybody loses



# TTC Take Aways

Vision + Objectives = PROJECT REQUIREMENTS

= Deliverables

= Outcomes

= Benefits



**The End**

Any Questions

