

# Systems Engineering in Context

What does it mean to me?

Presented to: UNLV Mechanical Engineering Students

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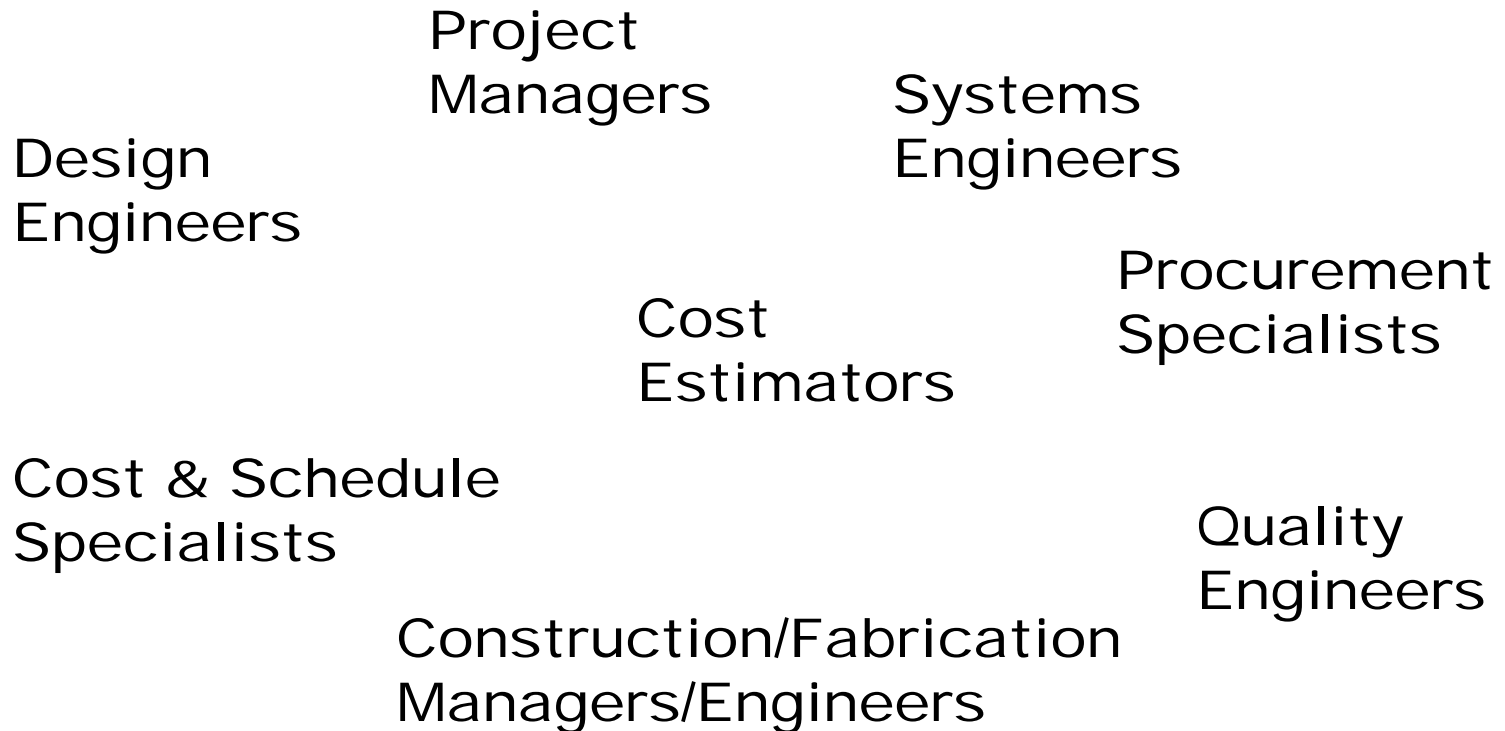
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# You Are Part of Project Team

## Integrated Project Team



# Project Team Transforms Needs Into Products



# Needs as Requirements

- Customer Needs = System Requirements
- Design Engineers translate system requirements into design solutions
- Systems Engineering ensures Design Engineers working to the **right** system requirements

# Importance of Requirements

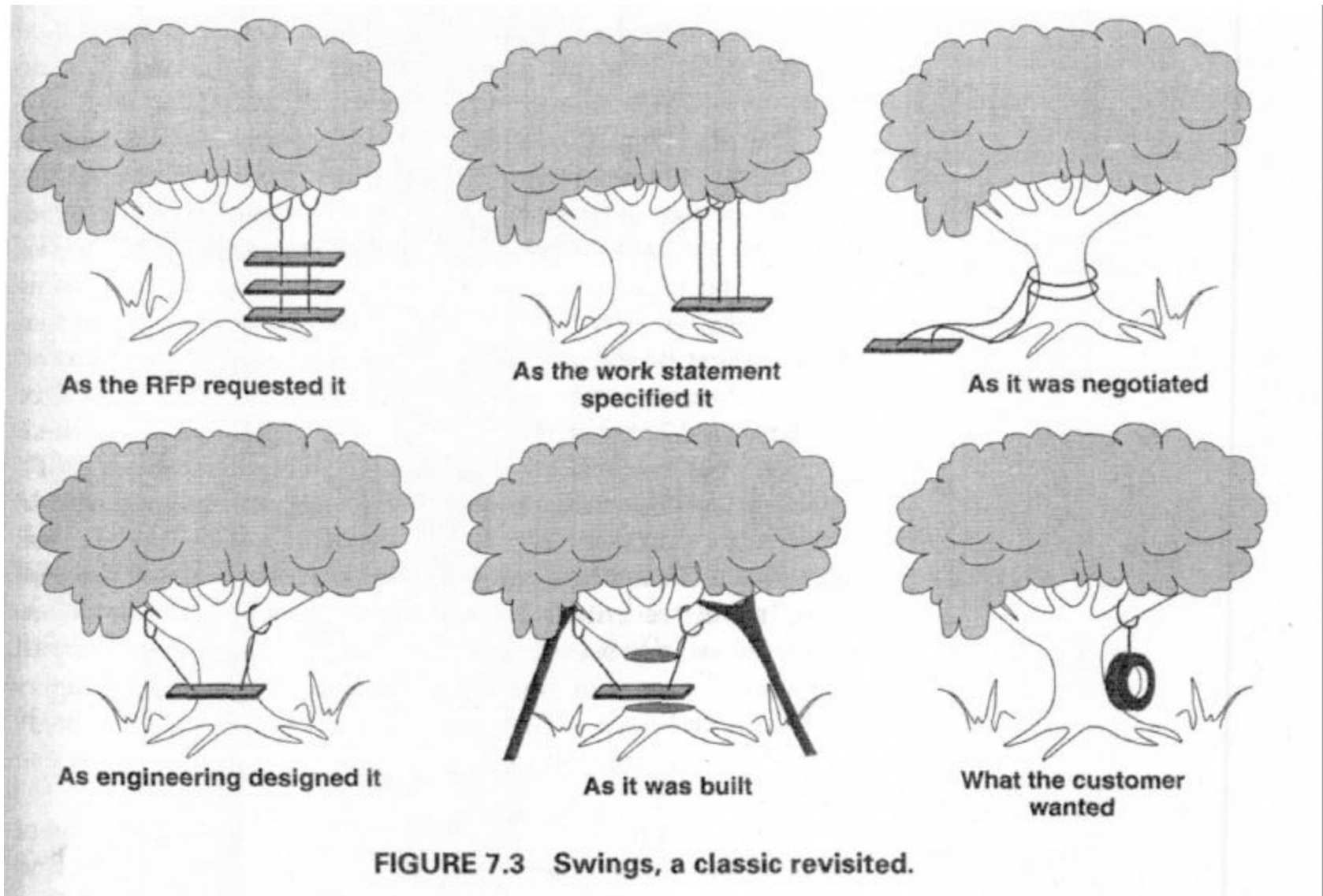


FIGURE 7.3 Swings, a classic revisited.

# Technical Project Cycle

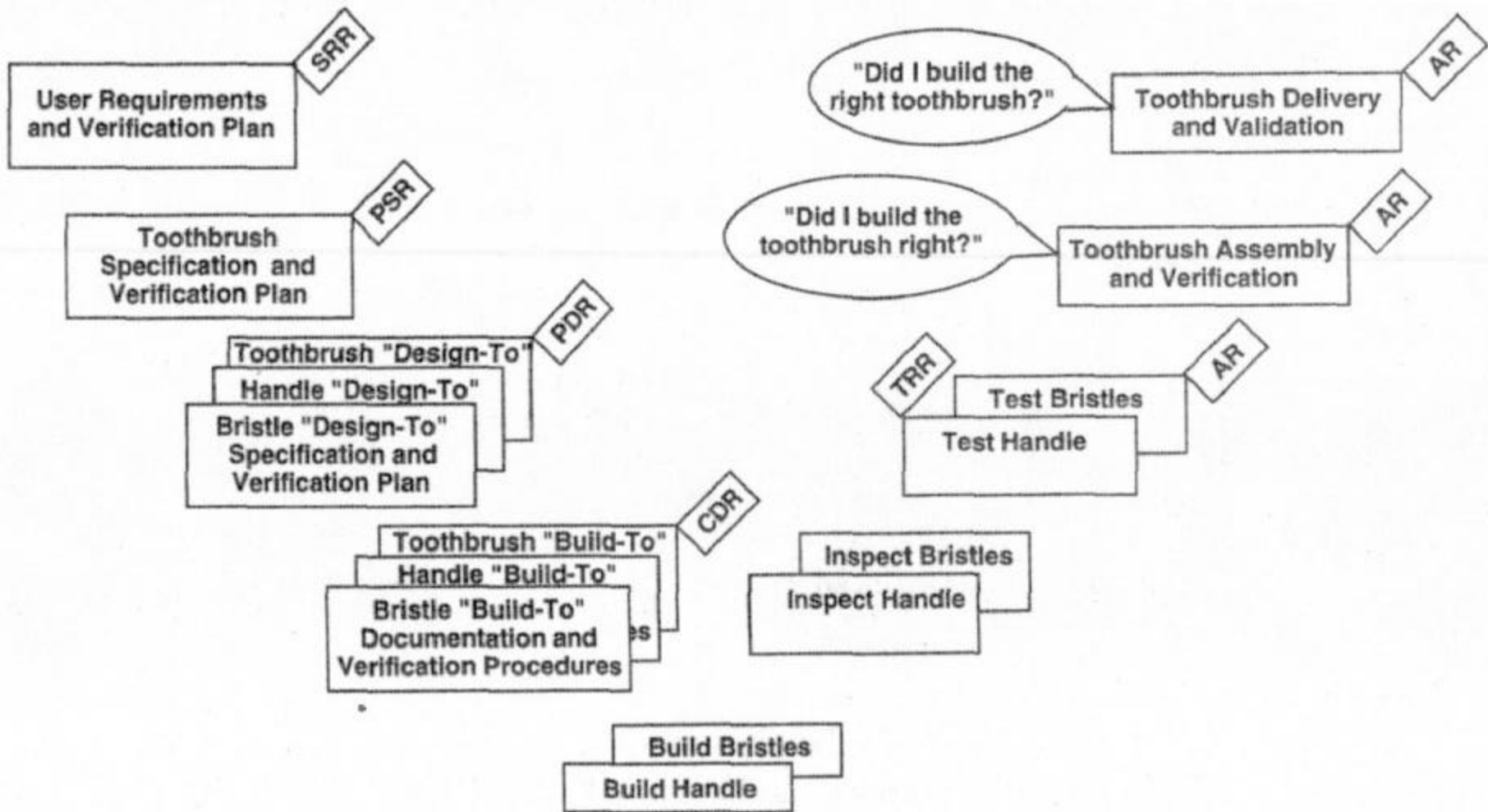


FIGURE 6.11 A technical project cycle tailored for developing a toothbrush.

# Systems Thinking

- Dr. Simon Ramo

Systems approach is, “...a reasoned and integrated, rather than a fragmentary, look at problems.”

*[The Systems Approach, 1998]*

- Define the Problem
- Know the Requirements
- Don't jump to point solutions - look at alternatives
- Test to ensure solution meets the requirements

# What Does SE Mean to You?

- Product that meets customer needs
- Integrated Project Team success
- Design Engineering success
- **Your success!**

Figures 7.3 and 6.11 courtesy Forsberg and Mooz, *Visualizing Project Management*, John Wiley & Sons, Inc.