Requirements identification

- Goal
  - Learn to identify requirements
- Tools to find Requirements
  - Interview Techniques
  - Monitoring Techniques
  - Creativity Techniques
  - Feedback Techniques

Requirements process

- Requirement phases
  - Identify (this lecture)
  - Document
  - Verify & Validate
  - Manage

Adressed by Game paper prototype
X
X
O
O

Group Task

- Students are divided into two groups
  - Experts
  - Novices
- In face-to-face talks, the novice asks the expert about the domain
  - Goals:
    - the novice should be able the clone the expert's knowledge to become an expert by themselve
    - The HOW is documented using short bullet points (max 2 A4 pages)

Oral Interview technique

- Roles
  - analyst
  - domain expert (stakeholder)
- The analyst asks questions about the system
- The domain expert explains and describes
- When to use the interview technique
  - Knowledge extractable in explicit form
  - Works even with poor motivation of domain experts
  - Few number of stakeholders (opp: questionnaire)
  - System analyst is not yet familiar with the domain

Group Task Questionnaire

- Create a questionnaire to ask 10 people about how they think the future will look like in 100 years
- You may use http://www.polljunkie.com/
- Use 5 questions
  - multiplie choice
  - Yes/No
  - Rating of likelihood
  - Copy the two links (results and poll)
- Move rightwards three times and answer the questions

Interview technique Questionnaire

- Roles
  - Stakeholder
  - The poll, created by the analyst
- When to use
  - If there are too many stakeholders
  - After a first personal interview with a few stakeholders to create the questions
  - To assure that identified requirements are supported by most stakeholders

Document Analysis

- Roles
  - analyst
  - Domain related documents
- The analyst extracts information from the docs
- When to use the document analysis
  - When System processes create documents (in,out)
  - in advance of interviews for preparation
  - in depth analysis after interviews
  - as docs are available & accessible even if stakeholders don't have time

Group Task

- With the two documents (see webpage)
  - Interview score sheet
  - Performance score sheet
- Use the docs to become familiar with the domain
  - Write down (1 A4 page) which behavior or equipment earns the most points

Creativity techniques

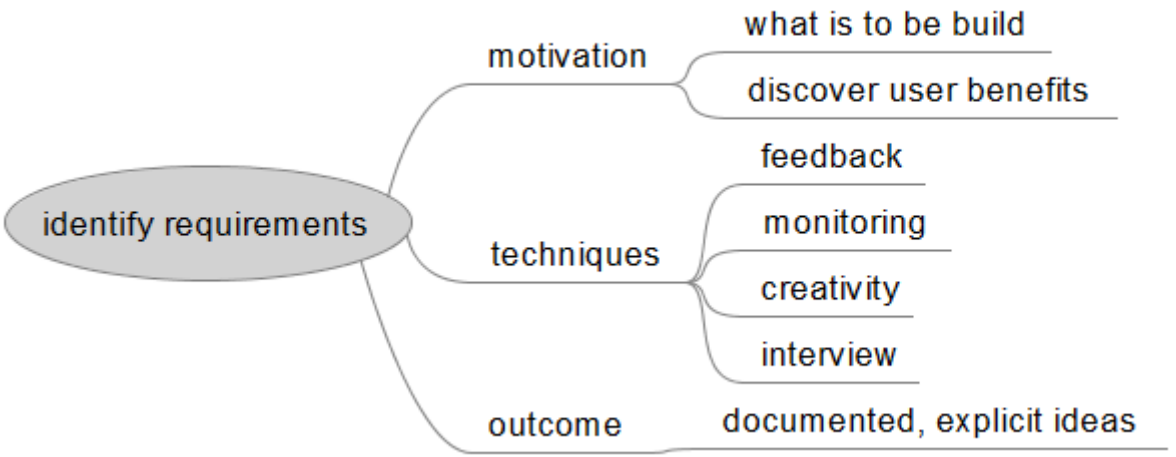
- Roles
  - Group of stakeholders
  - An analyst as moderator
- The analyst motivates the group to recombine ideas and view the topic from different angles
- When to use
  - The group is familiar with each other, everybody is respected
  - Looking for new products and ideas
- Please note: all ideas are welcomed and may be transformed by others

Individual Task Brain Writing

- Roles
  - Stakeholder with sheet of paper and pen
  - Analyst as game referee
- Fold the paper after you have read the last text line to hide it
- Write down your first impression that combines / transforms / extends
  - the last person's text line & referee's note
- When to use
  - People of different rank have to work together
  - If nobody wants to document the new ideas

Further Creativity techniques

- Brainstorming with mind maps
  - Organize complexity (hide, show levels)
  - Restructure & combine ideas on the fly
  - Annotate more details / colors using software tools



Feedback Techniques (Prototype)

- Roles
  - Stakeholder (user, designer, developer)
  - An analyst as moderator
- When to use
  - Several stakeholder (up to 5 people) from different disciplines and with different skill level
  - After interviews to make the details visible for everybody and document the details
- Side effect
  - team learns to work together, everybody involved
  - A common language is developed

Requirement types

Adressed by Game paper Prototype

- Functional
  - User level — X
  - Techniqual level — O
- Non-functional
  - GUI — X
  - Quality, bandwidth and speed of service — O
  - Requirements by law — O
  - Organisational conditions of realization — O

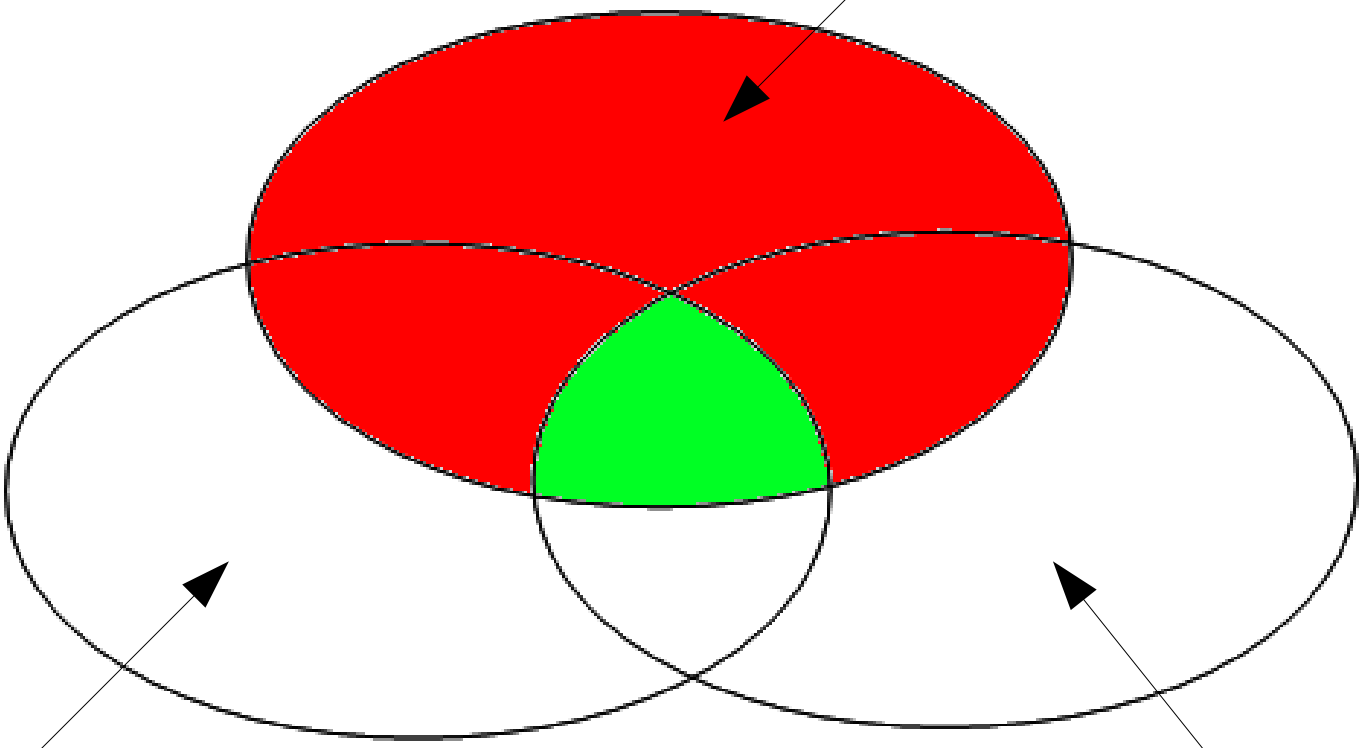
Analysis of present & future systems

- Current State Analysis (Ist-Analyse)
  - Requirements that are already provided by
    - Manual processes
    - Automatic systems
  - Those are minimal requirements of the new system
- To-Be Analysis (Soll-Analyse)
  - Manual processed are now processed automatically
  - Describe either new functionality or
  - Current functionality that is delivered
    - faster, more reliable, in higher quality, at lower costs

Problems in requirement discovery

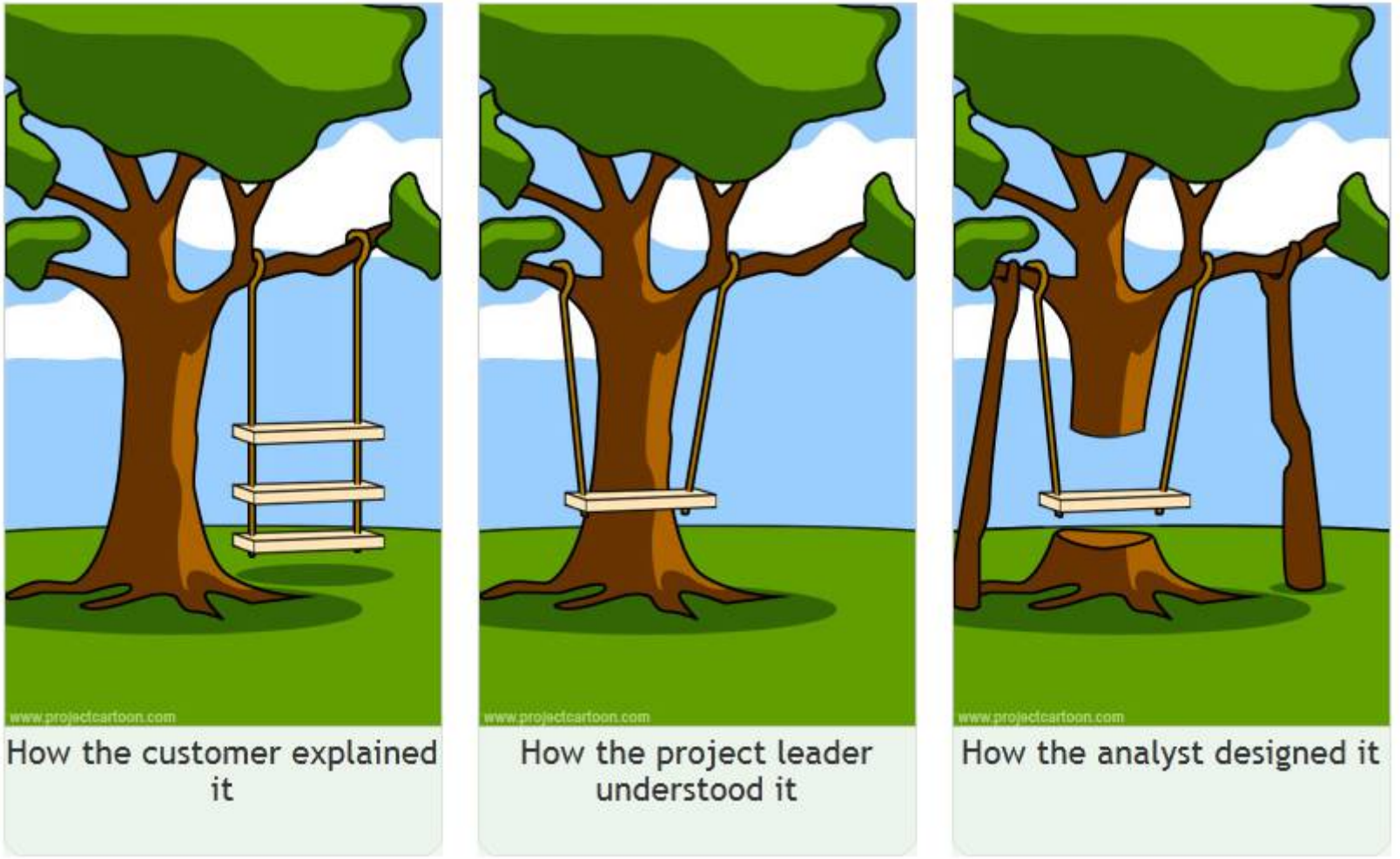
- Obstacles
  - Within obstacle: user cannot express her / his own knowledge fully to others
  - Among obstacle: many stakeholders with different requirement that are mutually contrarely
  - Between obstacle: domain expert and analyst / developer do not speak the same language

Information sets



Rechkemmer, 1999.

How a software project usually goes



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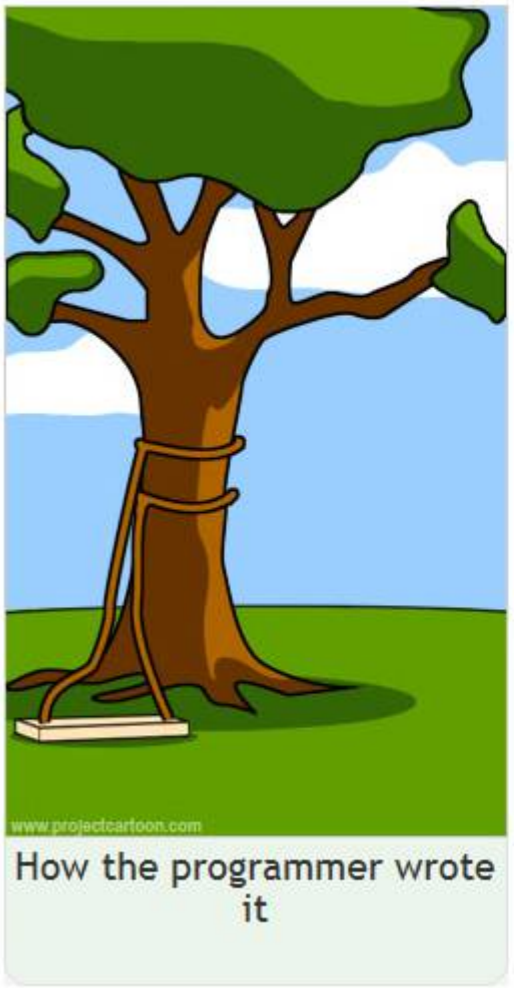
How a software project usually goes



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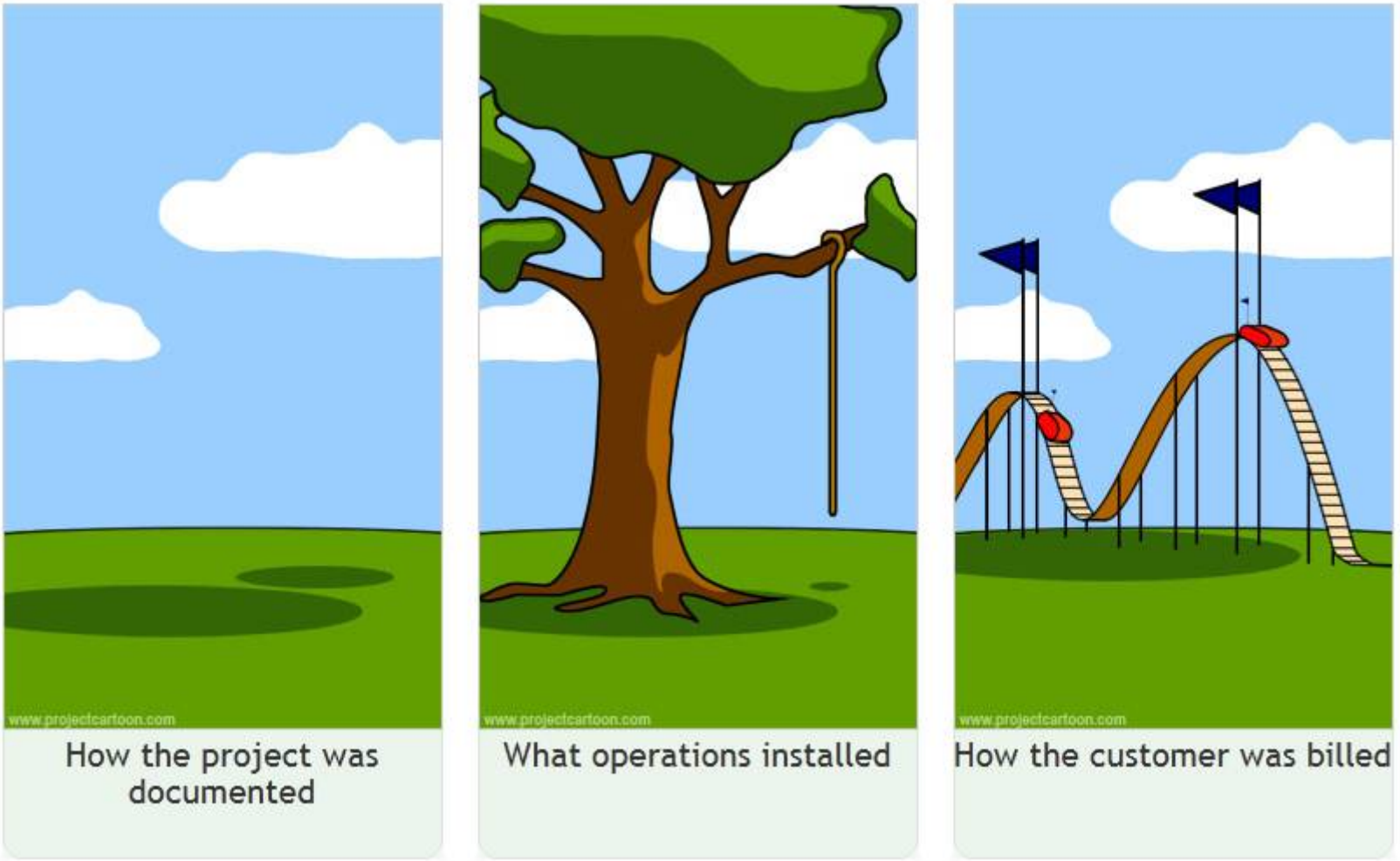

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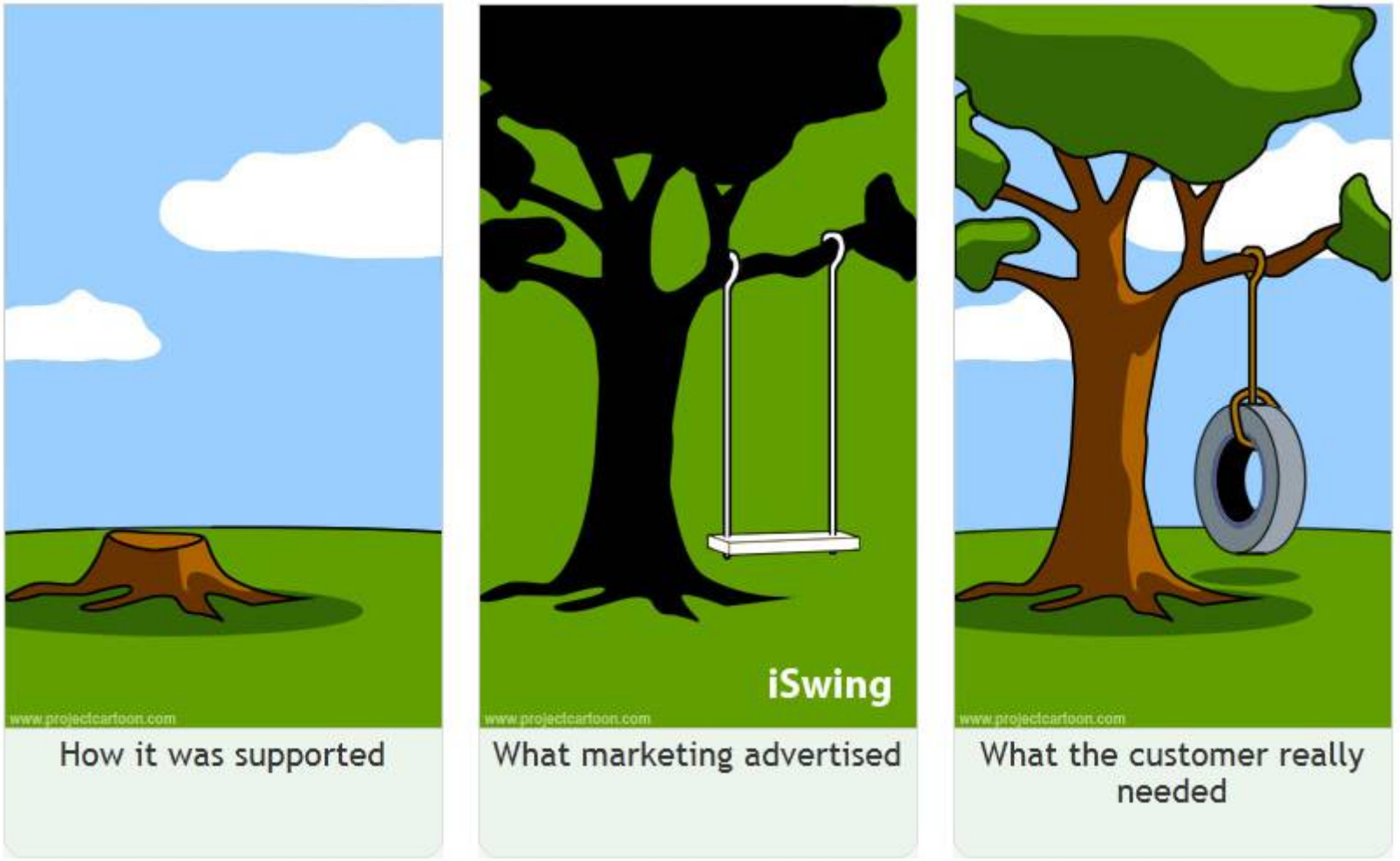

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Nothing to add...

http://www.youtube.com/watch?v=gUCpOYdG8hM