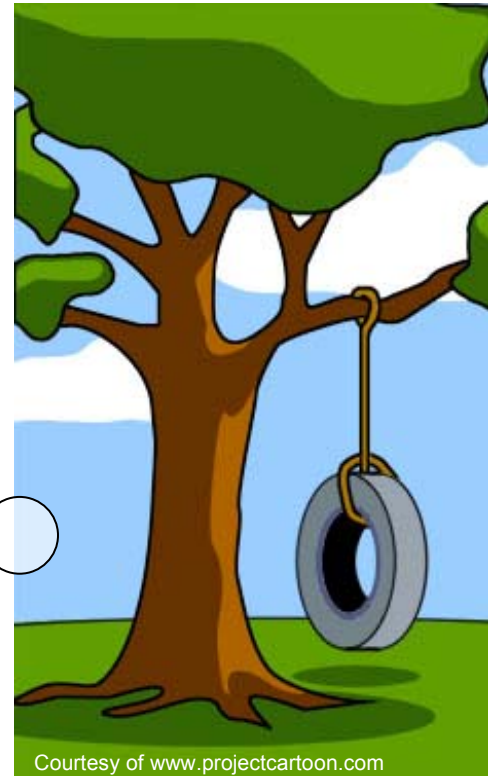


Gathering Effective Project Requirements

The Tree Swing Project

...a “typical” project lifecycle...



...and the project...

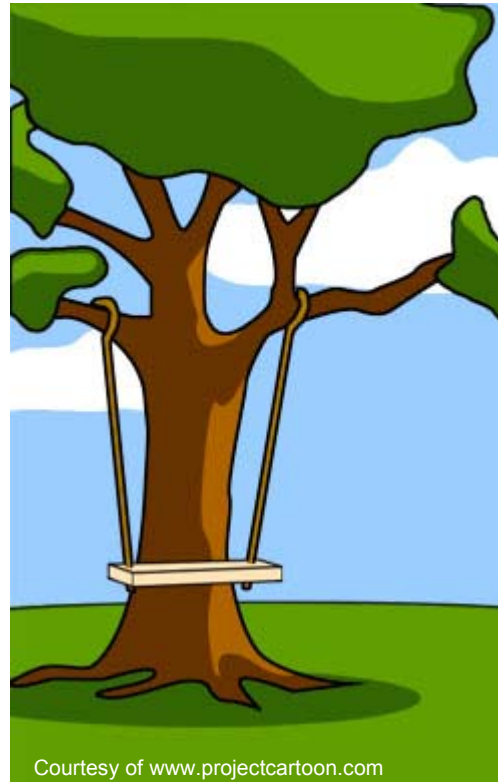


The Customer...

The project begins...



How the Customer described the project



How the Project Leadership understood the description



How the Business Analyst/Designer understood the project

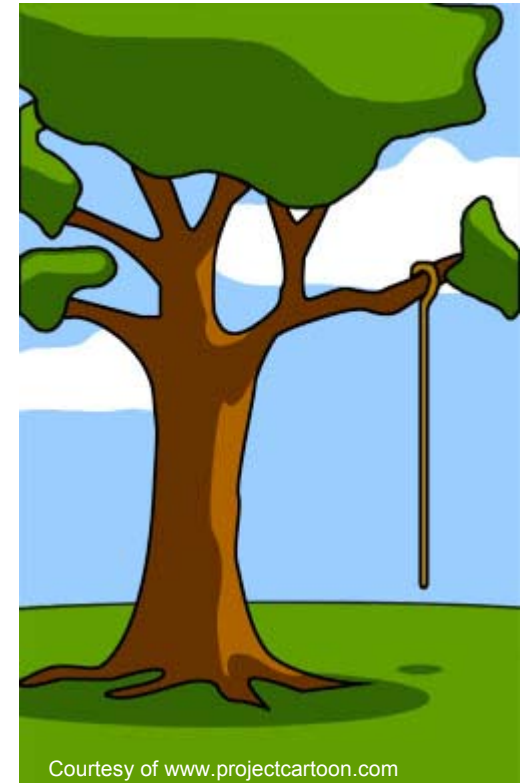
...and the project continues...



How the Programmers coded the requirements (from the Analyst/Designer)



What the Beta Testers received

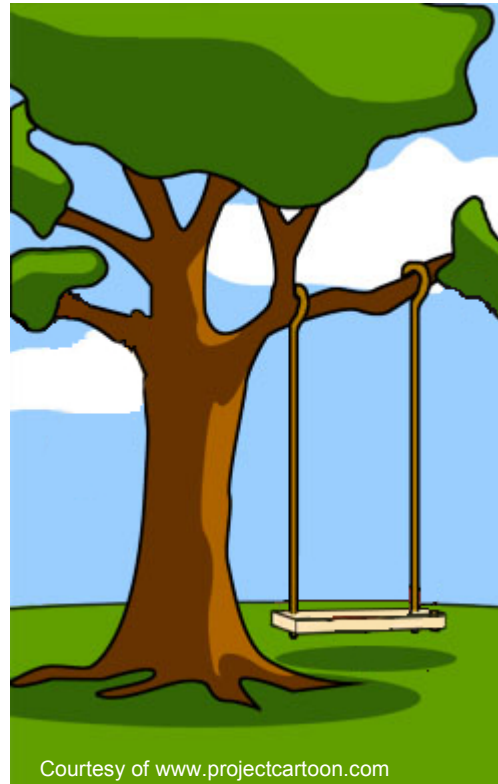


What Operations initially installed

...and continues...



How patches were applied to the project

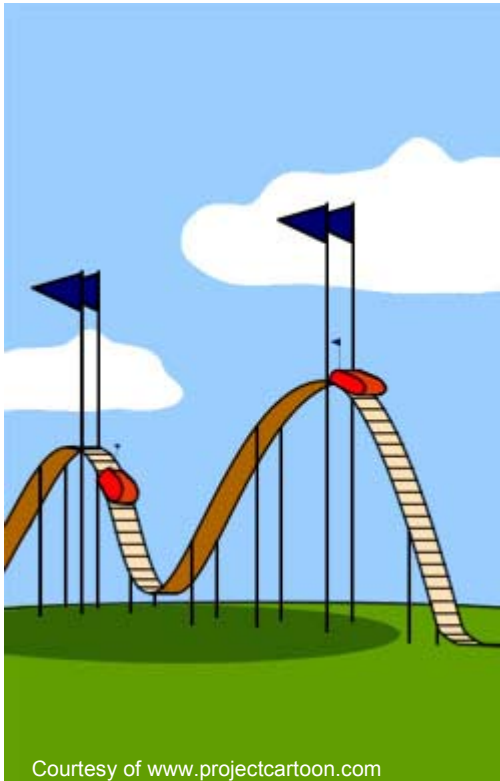


What Operations FINALLY Delivered

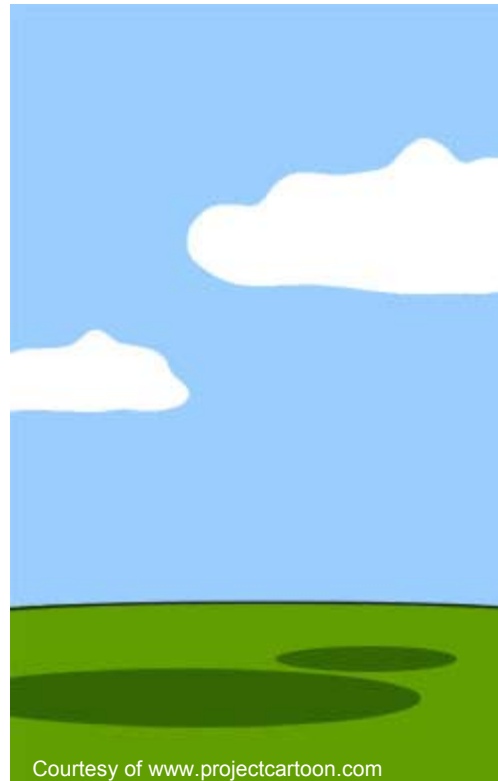


When it was Delivered

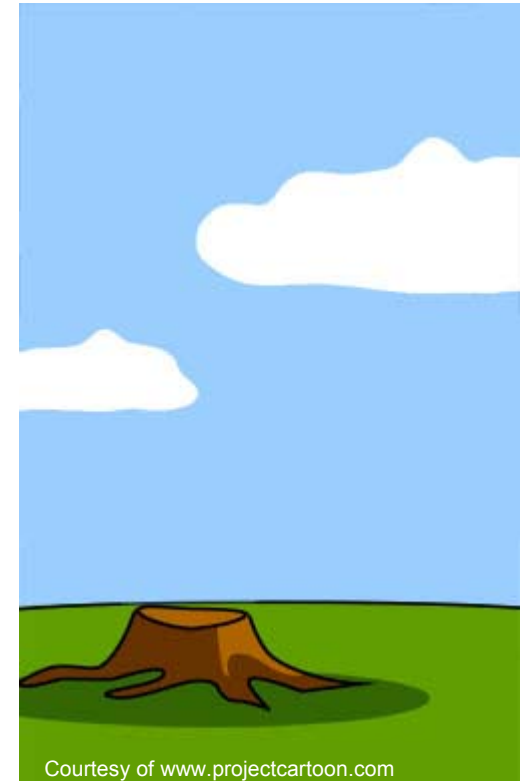
...and finally concludes...



What the Customer was charged for



How the Technical Staff documented the project

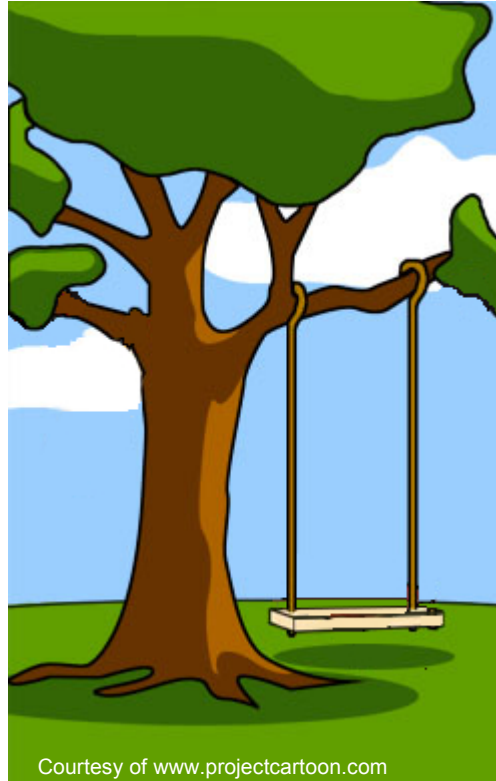


...and how the project was supported...

...and remember...




This is what was originally requested (desired)



This is what was finally received

- ❏ The end product was close but not exact...
- ❏ It was late because of all the rework...
- ❏ It cost a lot more than originally planned...
- ❏ ...and it all started with poorly defined project requirements...

Gathering Effective Project Requirements

 *Collecting Effective, Accurate, and Well-Formed requirements is paramount to the success of the project*

 *...but what is an effective, accurate and well-formed requirement?*

- Statement of Functionality (capability)

- Can be Verified (validated)

- Must Satisfy a Customer Objective

- Qualified by Measurable Conditions

- Bound by Realizable Constraints

Gathering Effective Project Requirements

What Type of Requirements should be defined?

- Input (e.g., receive EDI data)
- Output (e.g., export a particular format)
- Reliability, Maintainability & Availability (e.g., MTBF, MTTF, MTTR, uptime)
- Performance (e.g., response time, throughput, data size capability)
- Accessibility/Ease of Use (e.g., operational navigation paths, internal help)
- Environmental & Safety Conditions (e.g., heat, dust, magnetic radiation)
- Ergonomic; Security; Training; Documentation; *etc, etc, etc...*

Gathering Effective Project Requirements

 *How do we collect these well-formed Requirements?*

 *One method is our EdwPS Requirements Gathering Workshop*

➤ Based on:

- ▶ The IBM Joint Application Design (JAD) process
- ▶ The EdwPS BMPP Schedule Planning Process

➤ Structured Top-Down Approach to Develop the Requirements

➤ Main Ingredients:

- ▶ Dedicated Project Space
- ▶ Large Sheet of Paper/Whiteboards
- ▶ Multiple Sized and Colored Post-It® Notes
- ▶ Team Work and **LOTS OF COMMUNICATION**

Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop

➤ Inputs:

- ▶ All project scope documentation that is available
 - ◆ Project Charter and Scope Statement
 - ◆ Contractual Data (statement of work [SOW], notes, requirements, etc.)
 - ◆ Submitted Proposal Data (all volumes – technical, management, cost, schedule, etc.)
 - ◆ Negotiation Notes and Reports
 - ◆ Requirements/Design Documentation

➤ Outputs :

- ▶ Scope or System Level: Context Diagrams, Use Cases, Business Case, External Interface Requirements, Glossary
- ▶ System Design: Detailed Scenarios, Interface Requirements, System Level Standards
- ▶ Detailed Design: Detailed Scenarios, Design Specifications and Standards

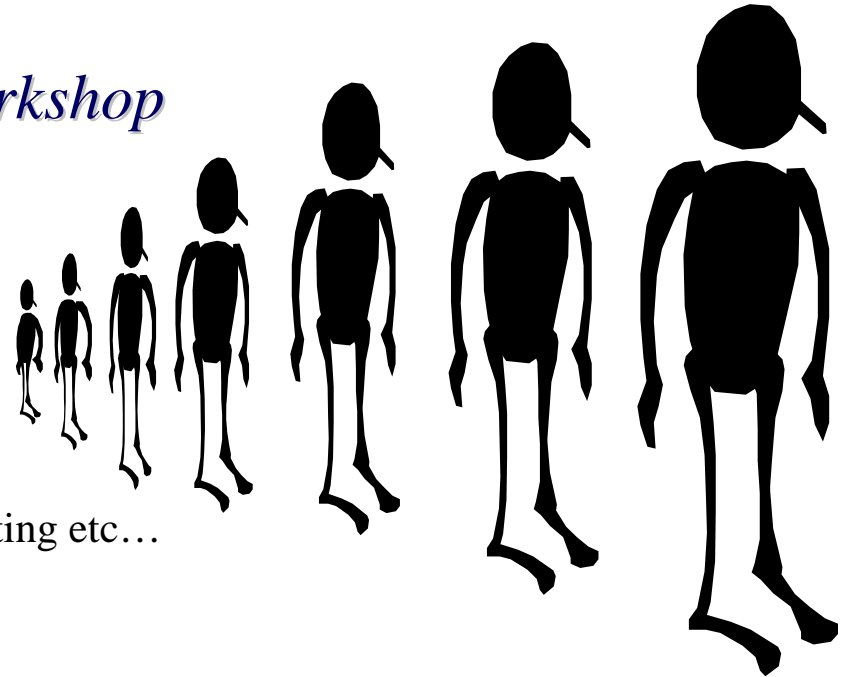
Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop

➤ Team Resources (Cast of Thousands):

- ▶ Facilitator(s)
- ▶ Team Leaders
- ▶ Customer and Users
- ▶ Project Team Functional Area Experts
 - ◆ Engineering, Design, Management, Marketing etc...
- ▶ Other Project Team Members (optional)
- ▶ Project Sponsor (optional)
- ▶ Senior Management (optional)



Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop – Setup (cont)

- Purpose: For the requirements workshop to be successful, it is important to remove the stakeholders (engineers, users, planners etc.) from their daily work areas so they can focus on the user needs and resulting product requirements. This separation also reinforces team building.
- Activities:
 - ◆ Obtain Conference Space
 - ◆ Gather and Organize all Project Scope Documentation
- Outputs:
 - ◆ Prepared Work Area(s) and Conference Schedule
- Project Resources:
 - ◆ Facilitator and/or Project/Program Manager
 - ◆ Administrative Support



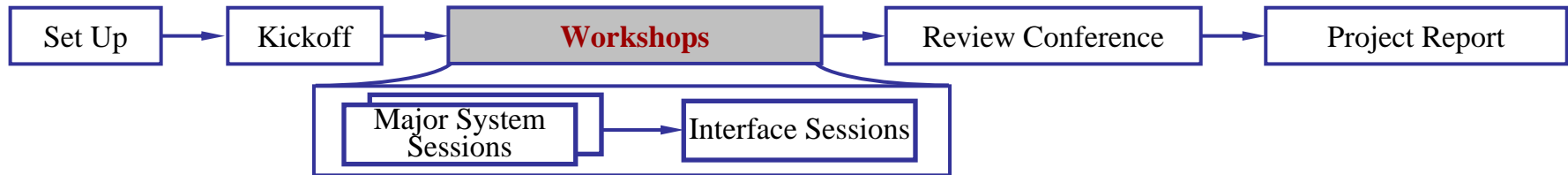
Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop – Kickoff

- Purpose: The Kickoff provides the high level outline for the conference. The focus should not be on the product. Focus on the workshop, and its deliverables.
- Activities:
 - ◆ Report on high-level use cases, internal and external interfaces and intended use
 - ◆ Define the key players required for each major system element
- Outputs:
 - ◆ A clear understanding of what is required from the conference and when
 - ◆ Start of individual workshops to define and bring forward product requirements
- Project Resources:
 - ◆ Facilitators, Project Team Leaders and Functional Experts
 - ◆ Project Sponsor and Users

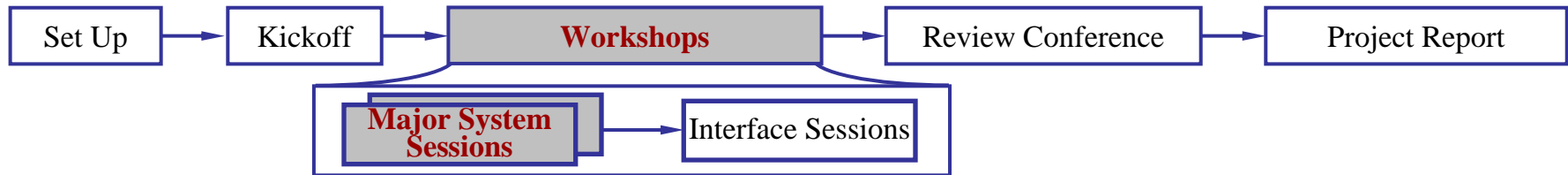
Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop – Workshop Sessions

- Purpose: The individual workshops are smaller teams working to define user needs, define use cases, and derived requirements. Once all of the workshops for each of the major system elements have been completed, a final workshop session is conducted to review the outputs of each workshop and to define the interdependencies between each of the major system elements.
- Project resources:
 - ◆ Facilitators
 - ◆ Project Team Leaders and Functional Area Experts
 - ◆ Project Sponsor and Users

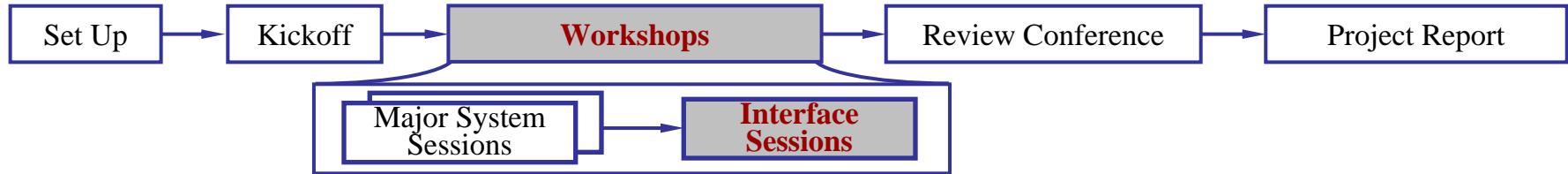
Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop – Major System Sessions

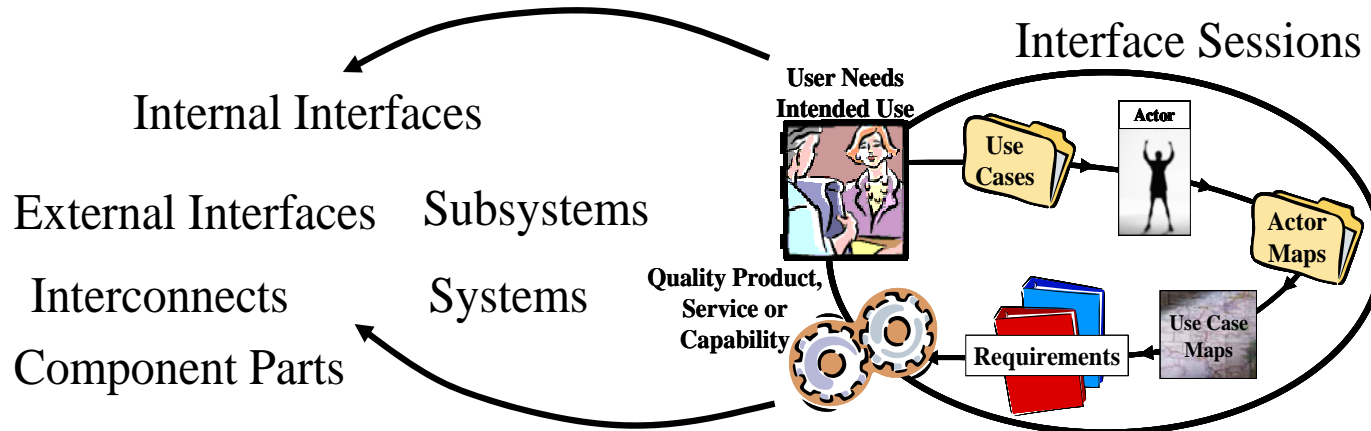
- Purpose: Each workshop Major System Session will look at a specific element of the system or element of the management/business process or aspects of producing the product.
 - ▶ Both internal and external interfaces should be considered but the emphasis is on internal requirements based on user needs and use cases
 - ▶ System elements should be further decomposed to a level necessary to develop user and product requirements for the element under study
 - ▶ Customer (or “Customer Proxy) involvement is Critical
 - ▶ Process is iterative and interactive
 - ▶ May take multiple days and can be done, in-part, virtually
- Face-to-face meetings are best to accomplish communications and interactions between stakeholders (engineering, users, managers, supporters, etc.)

Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop – Interface Sessions

- Purpose: The purpose of the workshop Interface Sessions is to further define the details and the interdependencies that exist between each of the system elements (internal) and outside elements (external). It is here where many derived needs and requirements are discovered.



Gathering Effective Project Requirements



EdwPS Requirements Gathering Workshop – Review Conference

- Purpose: The purpose of this step is to report status to conference participants. This is the opportunity for all key players to review both stated and derived requirements, and to verify that all needs have been accounted for and that gaps are documented.
- The conference review will serve as the basis for the formal report that is produced during the next phase.

Gathering Effective Project Requirements



Edwards Industries Workshop Methodology – Review Conference

➤ Outputs:

- ◆ Enhanced Requirements Breakdown Structure (Requirements Database)
- ◆ Detailed Use Cases, Scenarios, Concept of Operation and Requirements Database
- ◆ Enhanced Detailed Interface Diagrams
- ◆ Business Case, Project Process Management and Strategic Alignment (If Chartered)

➤ Project Resources:

- ◆ Facilitators
- ◆ Project Team Leaders and Functional Experts
- ◆ Project Sponsor and Users
- ◆ Senior Management (Desired)

Gathering Effective Project Requirements



Edwards Industries Workshop Methodology – Project Report

- Purpose: Provide complete documentation on the activities and conclusions of the Review Conference
- Activities:
 - ◆ Review assumptions
 - ◆ Review user needs and major supporting documentation
- Outputs:
 - ◆ Documented user, system or product and component Requirements
 - ◆ Requirements Database and Structured Report that provides tractability of all requirements back to user needs
 - ◆ Assure that there is a comprehensive requirements definition and tracking process used throughout the project (Not explicitly part of the process but its requirement is inferred)

Gathering Effective Project Requirements

In Summary

- Collecting **Effective, Accurate, and Well-Formed** requirements is paramount to the success of the project
 - ▶ If you don't give the team detailed requirements, they will make them up...
- Make sure you adequately identify the “Types” of requirements necessary to define the system or application.
- Use a structure top-down approach to gather, collect, document and disseminate the system requirements
- Promote frequent **TEAM COMMUNICATION** meetings to ensure everyone is on “the same page”.

Gathering Effective Project Requirements

 **AND ALWAYS...*Keep your focus on the “What the Customer Wants”***



Thank you for your time!

For more information on how we can provide your organization with comprehensive full-life cycle project management support services, training and enterprise-level solutions, please contact:

EDWARDS PROJECT SOLUTIONS

7250 Parkway Drive • Suite 200 • Hanover, MD 21076-1388

Office: (800) 556-2506 • (443) 561-0180

Fax: (443) 561-0199

Email: Info@EdwPS.com



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