

Dialogue between Customer and Supplier

Requirements Engineering II

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Requirements Traceability

Requirements Abstraction Model

- Product Manager
- “Customer”
- Provides requirements to control development results
- Accept solution from supplier

ADORA and Design Decisions

- Architect or development team
- “Supplier”
- Propose designs to customer

Implementation Proposals (IP)

- Themes - grouping of related requirement and design decision
- Simplified version
 - Basic Structure
 - Negotiation Support
 - Planning/other attributes
- “Handshaking”

Implementation Proposals (Handshaking)

- Template for documenting the supplier's proposals
- Through negotiation, the customer and supplier engage in a process on understanding the requirements
- Traceability between requirements and design decisions



IP Attributes

- Basic Attributes
 - Establishes traceability between customer interests and supplier intentions
- Negotiation Attributes
 - Assumptions made based on the requirements provided that resulted to specific design decisions
 - Open issues that needs agreement
- Planning/other Attributes
 - Defines how the solutions created will be realized and its costs
 - Communication process, effort estimation, project planning, acceptance testing, and integration of requirements communication into other company-specific processes

“Handshaking” Process

- Taking a position
 - Positioning 1 (PO1)
 - Positioning 2 (PO2)
- Negotiating
 - Negotiation (NE)
- Confirming agreement
 - Confirmation (CO)

Positioning 1 (P01)

- Gathered requirements from stakeholders
- Product manager prepares requirements
- Define novel requirements and deltas toward already-known requirements

Hand-Off (H0)

- One-hour meeting of product manager and architect
 - Purpose of the product, business process, requirements walkthrough
- Low level of requirements understanding
- Limited time to absorb information

Positioning 2 (P02)

- Design solution using ADORA
- Document non-ADORA supported design decisions (based on assumptions)
- Design is based on requirements provided
- Four Implementation Proposals

Negotiation (NE)

- Review of IP between product manager and architect
- Artifacts were used to point to, criticize, and modify design decisions and requirements
- Clarification of non-understood requirements by the architect

Confirmation (CO)

- Revision of IP and documentation of agreed requirements and design changes
- Architect's increased confidence in requirements understanding

Strengths

- Improved requirements through understanding during negotiation
- Allowed detailed requirements engineering to be delegated to the development team
- Improved identification, analysis, and selection of variants
- Promoted win-win negotiations
- Helped achieve deep requirements understanding
- Increased the amount and quality of decision-making information
- Encouraged development organizations reduce their projects' duration

Limitations

- Development teams refused to create implementation proposals
- Development team was unable to create an acceptable implementation proposal
- Requirements were not understandable to practitioners
- Difficulty in receiving implementation proposal acceptance
- Used list of themes and requirements to document the scope of their development projects

..on Distributed Development

1. Identify and select key alternatives.
2. Negotiate with selected subteam leaders.
3. Handshake with product management.
4. Senior management to authorize agreements.

Analysis

- Requirements Hand-Off
 - Requirements understanding from product manager's position
- Requirements Analysis
 - Establish position of architect based on the requirements from product manager
- Requirements Negotiation
 - Align the position of product manager and architect in terms or requirements understanding

Future research directions

- Should generalize the knowledge by assessing the number of measurements.
- Should present the understanding of requirements communication by evaluating product manager's evolving requirements.

RE I Case Study

- SmartHome staff established their requirements for the modern home and discussed with requirements engineer
- Requirements Engineer tries to understand requirements by asking clarifications – specificities of the functions
- SmartHome staff and requirements engineer comes to an agreement as to how it is expected to function especially on requirements with automatic mode

Thank you

