



Software.

IN CONCERT.

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Experience from adoption of use case based approach in requirement management in a major e -Governance project.

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Rational. software



SDLC Activities

- Business Modeling
- **Requirement Management**
- Analysis and design
- Implementation
- Testing
- Deployment
- Change and configuration Management
- Project Management
- Environment

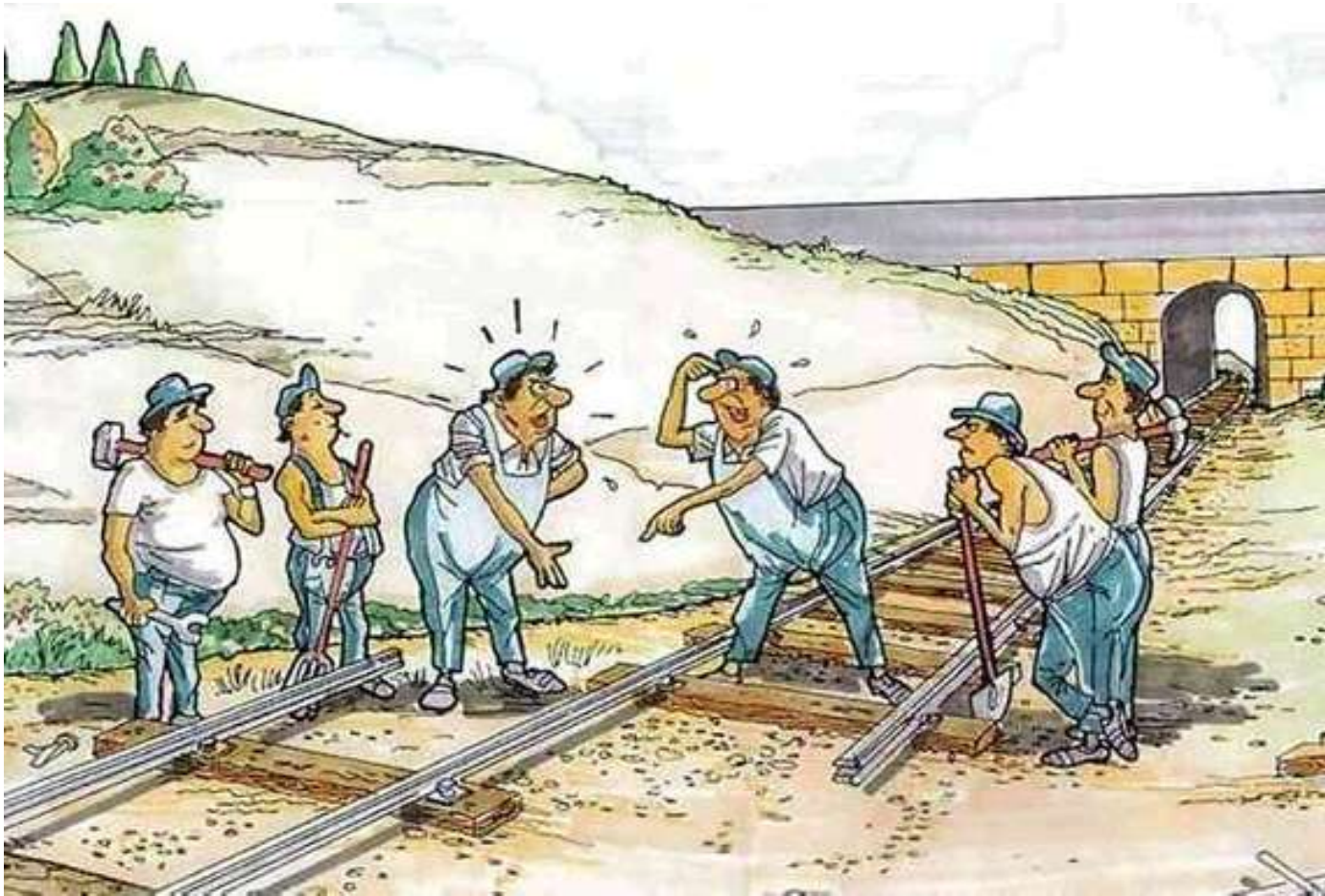
Requirement Management

- Eliciting
 - Stakeholder identification, Collect requirements through Brainstorming, discussions, reviews etc.
- Organizing
 - Based on Origin, Type, perspective etc..
- Documenting
 - Change complex sentence into simple sentence, Use case approach etc...
- Managing Change of requirements
 - Discuss the change in 'CCB',
 - Do the impact analysis with Traceability matrix and traceability tree

Requirements

- The Current scenario
 - Huge volume requirements
 - Insufficient structured documentation
- Elicitation challenges
 - Identification of all stakeholders
 - Lack of clarity
- Documents VS Documentation
 - To be compiled from multiple sources
- Explicit VS Implicit
 - Ambiguous in nature
- Traceability
 - No mechanism to trace the dependency

Where do we stand now?



Use Cases

- Business Use cases
 - Business perspective
- System use cases
 - System (Application) perspective.

Business Use cases

- A Business Use Case describes a business process from an external, value-added point of view.
- Business Use Cases are business processes.
- Business Use Cases are useful for anybody who wants to know what value the business provides and how it interacts with its environment
- business designers use Business Use Cases to describe business processes and to understand the effect of any proposed changes (for example, a merger or a first CRM implementation) on the way the business works.

(System) Use cases

- Potential users use the use-case model to better understand the system.
- The software architect uses the use-case model to identify architecturally significant functionality.
- People outside the project but within the organization, executives, and steering committees, use the use-case model to get an insight into what has been done.
- Testers use the use-case model to plan testing activities.

Information Kerala Mission

- Organization
- Sevana Project
- Problems at Sevana
- Challenges at Sevana

Organization

- Formed in June, 1999
- Primarily funded by Planning Commission, Govt. of India
- Information Kerala Mission – The flagship e-governance project of Govt. of Kerala
- In order to strengthen the self-governance through ICT
- India's largest and most comprehensive e-governance project
- National e-governance champion award 2006 for P.V. Unnikrishnan by Data Quest, for Govt. of India

Sevana pension project

- Automates the pensioner's validation and distribution
 - Agriculture labour pension
 - Unemployment wages
 - National old age pension
 - Unmarried women above age 50
 - Destitute widow pension
 - Pension for mentally challenged
 - Pension for physically challenged

Challenges at Sevana

- Identifying the eligible beneficiary
- Provide the benefits to the eligible persons at right time
- Ever changing rules and eligibility credentials
- Implementation centers are 1060 Local Self Governance Authority centers (999 Panchayaths, 56 Municipalities, 5 Corporations) to address 25000 beneficiaries.

Software Engineering Solution

- Focus on Requirement Management
 - ▶ Implementation of various elicitation techniques like brainstorming, questionnaire etc..
- Segregation of requirements
 - ▶ Identification and classification of business & system requirements, further into functional and non functional.
- Establishing Business use cases and system use cases traceability
 - ▶ Implementation bi-directional traceability (CMMI Requirement)
 - ▶ Make sure the coverage and help you to do the impact analysis
- Focus on non functional requirement handling
 - ▶ Identification based on F'URPS+'
 - ▶ Non functional requirements captured in the supplementary documents

Implementation

- Inception
- Elaboration
- Construction
- Transition

Inception

- Setting the project scope
- Process planning and Tailoring w.r.t IKM and 'Sevana'
- Risk identification and planning mitigation strategy
- Artifacts tailoring
- Quick Start on Requirement Management process to the team
- Import all the existing requirement documents into RequisitePro
- Stake holders concurrence

Elaboration

- Workshop on use cases and requirement management
- Identification of business use cases
 - ▶ Identification of Business actors and business use cases
 - ▶ Identification of major business functionalities
- Elicitation of System use cases
 - ▶ Identify and define the scope of the project.
 - ▶ Explain and interpret the business use cases into technical perspective.
- Risk mitigation strategy
 - ▶ Identified risk as early as possible
 - ▶ Planned mitigation strategies

Construction

- Detailing of system use cases
- Setting the attributes for the requirements like Priority, Status, Origin, Risk, Importance, etc.
- Non functional requirements identification and documentation
- Linkage from Business use cases to system use cases
- Identification and creation of test cases
- Linkage from system use cases to test cases

Transition

- Knowledge transfer to the team
- RequisitePro linkage with all the requirements documented in different requirement documents
- Hand holding to the requirement Management team members

Role of IKM

- Experienced and dedicated team in development
- Open to new process and methodology
- Enthusiastic team work

Role of Astra Infotech

- Solution architecting
- Knowledge Transfer through implementation
- Tool implementation and mentoring
- Continuous review mechanism
- Best practices implementation
- Software engineering evangelization

Tangible benefits to IKM

- Structured documentation
- Early clarity on requirement
- Shorter acceptance cycle
- Highly traceable business use cases and system use cases
- Impact analysis effectiveness



Demo



Questions



Thank You

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