Kequirement Engineering (ch-9)

Execution I with consider

4 Main Steps of RE

- 1. Requirement Elicitation understanding the problem
- 2. Requirement Specification describing the Problem
- 3. Requirement Validational Verification agreeing upon nature of problem 4. Requirement Negotiation - agreeing upon boundaries of problem

Requirement Elicitation.

- Conceptual ModelingProblem in elicitation stage is unclear, not well defined of Juzzy.
 The process to elicit the contours of constituents of the Juzzy problem is Conceptual Modeling.

(UOD) Universe of discosure - The part of reality is which we are interested in (that is modelled during REng phase)

> Explicit Conceptual Model - model constructed during REng phase is an Explicit Conceptual Model of VoD

· People involved in VoD have an implicit conceptual model of that VOD. Contains background knowledge shared by people in the VOD)

Tunning Implicit CM to Explicit - mothers? Two problems -- Analysis problem: it arises due to the fact that > Part of Implicit CM is not verbalized and and and > Implicit CM evolves ours time > User & Analyst speak talk a different longuage. > Implicit cm cannot be completely codified - Negotiation problem: arises because voini a > people in Vol may countract He analysis process > Implied (m of people in Vol may differ) > lopposing intensts of people involved. Human As Information Sources 1. Different Background 2. Short kerm vs long kerm memory 3. Human Prejudices 4. Limited capability for national thinking. Requirement Engineering Proadigms - Existing methods are Taylorian in nature. - these may work in technical envisionment. - However, UODs contain people whose models can be invadional, incomplete, inconsistent & contradictory.

Paradigm - The set of assumptions Analysts have about the nature of subject of study. - Analysis problem. it is not the less that Episkmological Assumptions - the way in which analy acko acquire knowledge. Ontological Assumptions - Analyst view of social & kehnical world. 2 Dimensions (word Involvedge) Objedivist -- subjectivist Annalyst applies models of Understand how the methods derived from natural individual creates, modific Sciences to arrive at one of dinterprets the world only truth (wit the world) Order 2. Conflict & Emphasizes on Order, Stresses on Change, Stability, integration confict & disjunlegration & consensus Existence enabledment state for an or tick

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10 10	4 Paradign / Approaches of R Eng.	
logico	to the alimentation principle and all	
1.	Functional (Objective + Order)	
	Andlyst is the expert who empirically seeks the	
	freus.	
2.	Social-relativism (subjective + Order)	
sh k	Analysit is a change agent. RE is a guided learning	
	process guided by the analyst.	
	V. June Blond wathering	
3.	Radical - Structuralism (Objective + conflict)	
	Struggle b/w classes - analyst chooses for either	
	party.	
	A Spenier View Strategy View	
	Neohumanism (Subjective + conflict)	
	Analyst is social therapist brings parties together	
• ()	S-Druste (i)	
14.4	Elicitation Techniques	
3 F. FI	on the grant of frequency before - 1990 ".	
	Interview - Open ended & Structured	
	Brain Stonning Come algorithm	
	Delphi technique - Iterative technique. Information	
	exchanged in written form until	
	Consensus reached was 1200 S	
	swaller more	

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	And the second s		
4	Task Analysis - A technique to obtain a hierarchy		
	Task Analysis - A kennique to obtain a hierarchy of tasks and subtasts to be carried on by people working in the domain.		
	by people working in the domain.		
8.0	· Task is performed to ac	hieur a gow.	
		Community all sales	
5.	Scenario - based Analysis -	Provides uses oriented vie	
(4/3/E/A)	cours. Blue general lever	perspective on design & dewlop	
	· Analyst study instances of	of teisk.	
	· Uses 'Think Aloud' method.		
	· Often called use - care	- analysis' -	
e lije	· Most often use method		
		Laborated to	
	0195 0100		
	Scenario View	Standard View	
	Scenario View · Concrete descriptions	Standard View	
AA	· Concrete descriptions	Standard View Abstract Description	
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software architecture and analysis Software design 5. Implementation Verification & validation documentation and training. Evaluation Commission Approved Association of Team Building resonal sof account plates of 2. Identify though lovery Scenaros must be structured a managed. A Madembard He existing process 6. Ethnography - In this method groups of people are Studied in their natural setlings. · Thinking aloued protocols one based on idea that ! vsers have well defined goals I subgoals. - These goals are traverse in a top-down - manner. 7. Form Analysis - Contains info about the domain being modeled. I day begans to " Info about data objects of the domain, their properties, interrelations. Specific de l'un mappin de l'il es I end use have then swe ret. 8. Natural Language Description - provides background info to be used with other elicitation technique. · Starting point object oriented analysis technique.

- 9. Derivation from an existing system Rather than look at one particular scene, we may also study a run of system in some application domain. This meta requirement analysis process is called domain analysis.
- 10. Business Process Redesign (BPR) Ordering
 1. Identify process for Innovation
 - 2. Identify change lovers
 - 3. Deulop process visions
 - 4. Understand the existing process
- Design and prototype the new process.
- Prototypingrad and devotore Land surface

Structuring a set of Requirements.

- decomposed into lower regs.
- 2. Link requirement to specific stake holders management L'end user have their own set.

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Prioritizing Requipment Com score	
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	81
Should Have - 2 Highland wind he	
Could Have - Il Lime allows	
Won't Have - Not Today	
ad blants	
Kano model - used for Prioritizing province	
User preference categorised into Sproporties	ner
Attractive - more satisfied it, not less satisfied it-	
Must-be - dissatisfied when -, at most neithed.	
One dimensional - satisfaction proportional to number	
Indifferent - don't care	
Reverse - opposite to of what and analyst thous	ghy
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9. Visualice water	
COTS - Commercial Of The Shelf	
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(1)	
Select component	
Rank component don't	
* It dional	
	Reverse - opposite to of what ant analyst thouse Questionable - preferences not clear COTS - Commercial Cff The Shelf Customer have to choose from what is aucidable. COTS selection is an Iterative process (Skeps) - Ordering Define Requirement Select component Rank component Select most approprieate component

Simple ranking: weight * score (WSM > Weighted Scoring method) Must Have - Top priority Requirement Document - Specification could Hove - I time allocos The document states that Requirement specification showd be para redel - usa for paralitations energi 2- unambigious de la surapite de la company 3. complete and for international some and smilly consistent conto maxima bajulando i se se la 1 3. Instability binoilingong authorities - inconsideration 21) . Verifiable and hot through . modifiable to the total to de Maringon comed ? 8. traceable and ton consider - of months is Vsable Joseph Harle Shall Hi dosonnon - 210 Category of Detailed Requirement surgice is no Throlling prous (Skps) - Ording Mode User class Objects hank compound Response transgros sissingroup to the true Functional

Requirement Management Requirements Creep- A phenomenon in which requirements will be changed and new requirement will be put forward after the requirement phase has ended abborton Requirement Management Involves 3 Activities enistrial marking 1. Requirement Identification 2. Requirement Change management 3. Requirement Trace ability the system source which are experted by the Requirement Traceability -Where is requirement implemented? Do we need this requirement to some 100 Are all requirements lisked to soln element What is the impact of this requirement. Which requirement does this Test Case cours? do we need the disign implement.

Design Space Analysis - explicitly model all possible combinations of requirements and Solutions.

Also known as QOC (Questions, Options of Criteria)

7 Sins of Requirement Specification
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_ 2. Silence bono Josephonis ad Illia istorios
3. Over-specification un so luce son
- 4. Contradictions belong and sound
5 Ambiguily
6. Forward references
7. Wishful Thinking.
1. Prajunimin Irunhficulion
Functional Requirements
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Requirement Validation

Inspection of the requirement W.r.+

- correctness
- completiness
- consistency
- Accuracy
- Readabilety
- Testability

Aids -

- Structured Worth Walkt brough
- Prototypes
- develop a test plan
- tool support for formal specification.