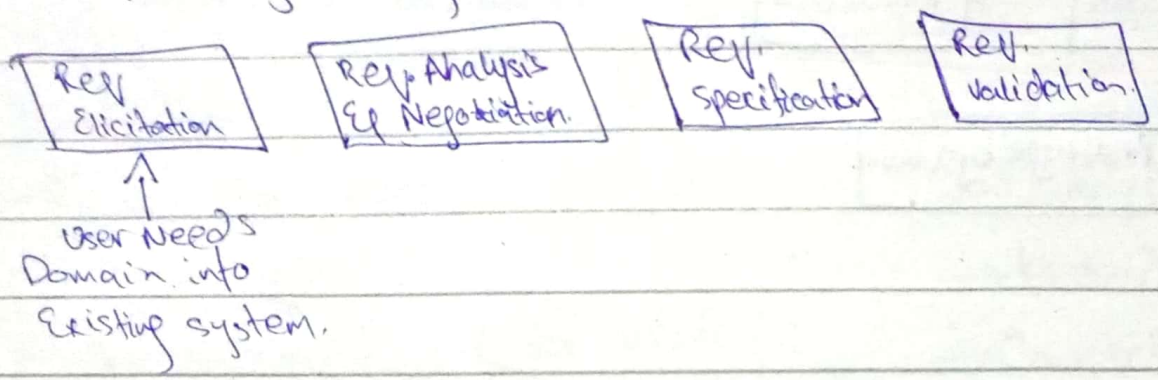
Requirement Management :-

Req. Engineering Process :-



Today's lctr :-

- The process of managing changes to the Req. for a System :-
- Reasons for changes in Req. • How to Manage them :-

Req. Management & Traceability.

→ Can't Manage effectively without req. traceability.

- Req. is a traceable if you can discover who suggested the Req, why the Req exists, what req. are related to it & how it relates to other info such as designs, implementation. & user documentation :.

Change - A constant.

→ There is nothing permanent except change.

- Heraclitus (500 B.C)

.No matter where you are in change:-

Changing Reqs...

Stakeholders → want to change Req.

Why all this Modification:-

Source of changes

- Business New
- Budgetary constraints
- Growth & down of business:-

Add & delete Req. easily:-

→ As time passes, all constituencies know more

- About what they need
- How to get it done & still make money.
- which approach would be best.

→ Statement of the fact: most changes are justified:-

Managing Changing Requirements:::

- following quality assurance mechanisms can limit the damage done by changing Req.
- state of the art configuration control tools.
- Requirement Reviews.
- formal change management procedure.

Formal Req. | Informal Req.

- Formal Email, document | Phone call, Msg, whatsapp

attach.

- Configuration control tools:-
track the changes (Github).
Version Control.

Main Concerns in Requirements Management:-

- Manage changes to agreed Requirements:-
- Manging the relationships b/w Req.
- Manage the dependencies b/w the Req. document & other document produced in the System Eng. process.

CASE Tools for Req. Management

- Collection, storage, maintainance of large amount of information
- No. of case tools ~~to~~ designed to support Req. ~~Mainta~~ Management.

Stable & Volatile Req.

- Volatile (changeable) / Stable (core business Req.)
  - Particular Req.
  - Particular person.

Req. changing factors. 1.

- Conflict, inconsistences, errors Req.
- Evolving customer/end user knowledge of system.
- Technical, Schedule & cost problems:-

Req changing factor 2:-

- Changing customer Priority
- Environmental Changes
  - ↳ Country situation.
- Organizational changes
  - ↳ If one person leaves then its Req is also change.

Types of Volatile Requirements.

- Mutable
  - ↓ Environmental changes Req.
- Emergent
  - ↓ Req's refined Bcz at start Reqs are not defined (During design time)
- Consequential
  - ↓ assumption Base
  - we do interview we assumple that stakeholder gives us interview.
- Compatibility.
  - ↓ depend on other Reqs & process.

Req. Identification.

ASSIGN IDS to Req.

- Dynamically renumbering
  - ↓ Select one number then the other numbering assign automatically. like word.
- Database record identification
  - ↓ AUTOINCV → Excel.
  - when a Req. is indentified it is entered in a Req. database & database record identifere. is assigned. This database identifies
- Symbolic Identification.

FR-001, FR-017
FR-cart-001. → flags.

Storing Req.

→ Word Processor.

→ Special Storing Req (specially designed Req. Database)

word process

• Same place data entered • anyone can access :- (Advantages)
• easy to produce full Req. document / • Searching is time taken (Disadvantages).

• Not linked Req. • Not possible to have version controller. No automated Navigation from one to another Req.

Req - Database Choice factor - 1:-

• Statement of Req • No. of Req • Teamwork, team distribution & computer support • CASE tool use • Existing database usage:-

→ Experience of team defines which software we use on which we work (mongoDB)

Change Management stages:-

Problem
↳ Analysis
Specifications

Change analysis

Change Analysis Ep Costing Product:

- Dependent Req. checking
- Propose Req. change
- Rejected Req define separately.
- Cost info share with customer
- Accepted changes Ep then we move to implementation.

Req. Traceability:

Chp 6. Req. Eng. Ep Management
Chp 9: Req. Eng. A good Practice Guide.

→ Identify Req. • from multiple stakeholders Ep documents • If we want to design the Req. But we don't know about them then we search it in from document. (How).

Tracing Req. (in Both ways)
- origin of a Req.

How it is implemented. → Continuous Process.

Backward = Source of Req.
forward = set of test cases.

Classifications of Req. Traceability
- Backward from
- Forward to
- Backward to
- forward from.

Pic

Generic Traceability Table.

	A01	A02	A03	...	A11
R01		✓	✓		
R02	✓				
R03		✓			✓
R0n	✓	✓			

Backward Traceability.

Attention

Source is a specific person or document write that person's or document name

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