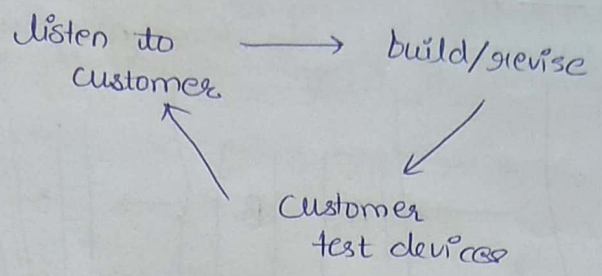
Prototyping Models

class-4
9/1/2018

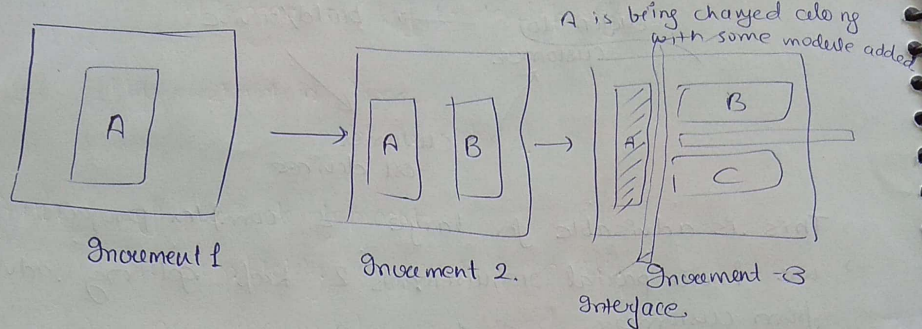


→ This is advisable for large & complex projects.
→ we know partial requirements & keep getting advice from customers.
→ time consuming, costly.
→ may be too much variations in requirements of customers
→ has liberty to interact with developer, customer can change his views at every iteration.
→ documentation will be difficult,
→ who decides how long this process goes on?
→ Generally, the system analyst decides the number of iterations,
3-4 times prototyping is done
→ if developer gets ~~the~~ +ve feedback in nascent iterations, he's likely to make minor fixes / and ship it.
→ sometimes customer may be in a hurry (and ask for little fixes only)

compromise of software quality.

~~1st~~ iteration ~~here~~ is there, feedback there, but -ve is you want it to be done quickly ∴ comprising the quality of software quickly.

Incremental model.



linear seq model
+
Prototyping,

Say word processing .doc

* Basic wood processing functions (A)
* In next increment, you put in some advanced features (B) say font.
* In 3rd increment, improving first module & segragating or making partitions in complete set of requirements & developing the fragments incrementally.
* developing interface takes cost & time
→ testing interface independental & in combination

Advantages	Disadv.
→ easy	→ documentation
→ customer feedback, improvement of modules (users and inform. about bugs)	→ all requirements need to be available in advance
→ we need smaller teams (less biased, less cost).	→ It can't start with partial data

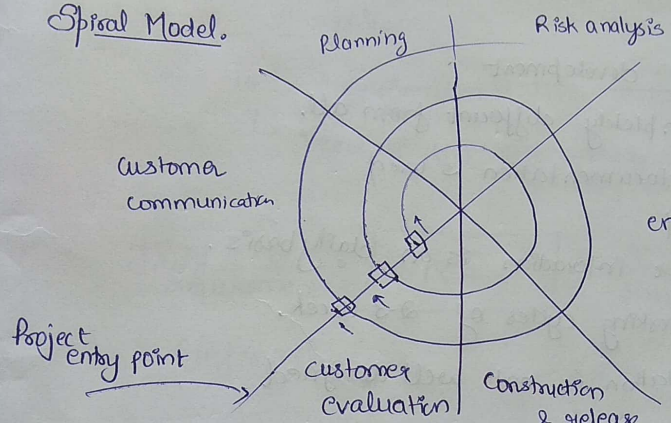
Diff. b/w error and bug.

When we code, we get problems called error

When software running, & discovering bugs.

bug identification, is a big business.

Spiral Model.



→ evolutionary
→ iterative
→ controlled
→ systematic
→ ~~lower~~ linear sequential mode

Risk Analysis.

Risk → feature or factor that poses threat to the successful completion of software.

change in software, cost/time, govt policies, requirements.

Spiral → used in large projects.

Software of library → No risk analysis.

* unpredictability of requirements.

* may be in future, technology becomes better

spiral has all features → evolutin
iterat
1.
(

Rapid Action Development Model

we implement or try to develop software in 60-90 days.

Major constraint is time.

(Not in detail).

AGILE software development

- ↳ is completely different from all.
- ↳ lean (or minimal) documentation is used
- ↳ Customer interaction is on daily basis.
- ↳ small working cycles of 2-3 week.
- ↳ Documentation is not well designed

Techniques

- SCRUM
- XP
- FDD

} No detail

Only viable/advisable for small scale software,

for bigger software, we need to use some sequencing.

Q: Domain – Banking → (Incremental) Not suitable

Library, (Waterfall)

Which model we used?

There is no one ~~two~~ answer.

Always justify your answer.

Q) Find two problem domain where ~~app~~ implementation of spiral model will be appropriate.? and why?

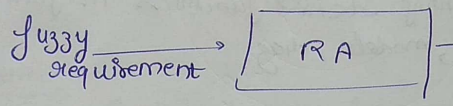
Defence, Aeronautics.

class-5
16/1/2018

Requirements Analysis.

What is requirement?

↳ Need of the customers./stakeholders,
→ any third party,



(informal)

SRS / RSD

↙ Software Requirement specification

↘ Requirements specification Document.

Output of RA

1) results in specification of software, operational characteristics such as functional, data and behaviour, indicate software interface with other system elements and establish constraint that software must meet.

2) RA also provides software designer with a representation of information function and behaviour, that can be translated to data, architecture, interface and component level designs.