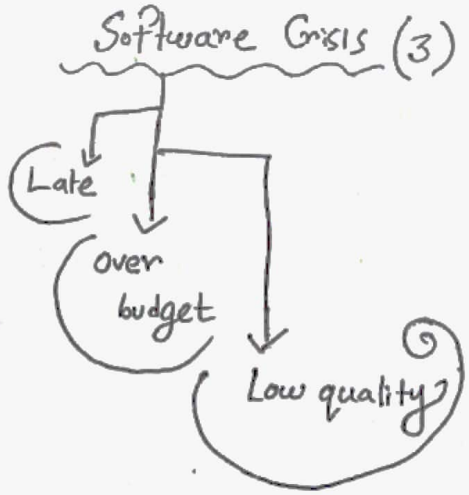
CSE 327, SESSION-1

Syllabus || Lectures 1 through 6

Note-1

Lecture 1

- Why systems fail?
  - Either abandoned / Expensive adaptive maintanance.
  - performance shortcomings
  - Errors (patches @ extra cost)
  - Becomes unmaintanable.



Characteristics of software

- logical / intangible
- developed
- deteriorates over time
- Custom built

Difference

CS
- involves variety of ways to produce Software (good, or bad ...)

SE
- involves only those techniques that make sound economic sense

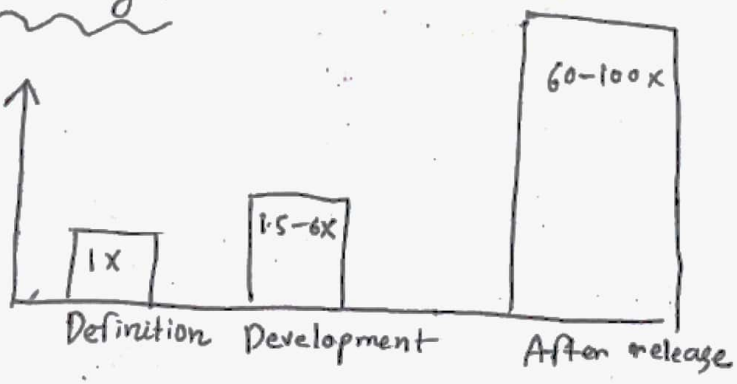
*** Software development life cycle (7)

1. → Requirement Analysis
2. → Designing
3. → Development
4. → Testing
5. → Implementation - Integration
6. → Operation/maintanance
7. → Documentation

Maintanance

- Corrective (20%)
- Enhancement (80%)
  - Perfective (60%) — to improve usability
  - Adaptive (20%) — to keep up-to-date
  - Preventive (20%) — to avoid future error

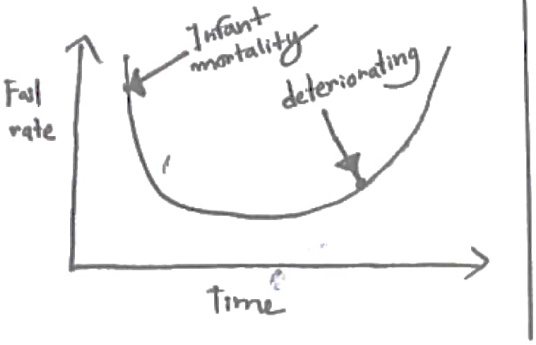
Cost of Change



Software Engineering: is a discipline aiming to the production of fault free software, delivered on time and within budget that satisfy user's needs.

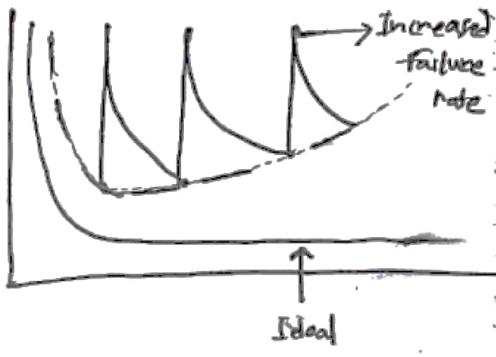
Models:

Product Bathtub model



Software idealized curve

Actual failure curve



60-70% of faults are specification and design faults.

Data of kelly, sherif & hops,

1.9 faults per page of spec
0.9 faults per page of Design
0.3 faults per page of Code.