

06.05.18

Project Developers

↓
Client

Ref Book → System Analysis And Design

- V Rajaraman

* Information for Management.

Operational, tactical, strategic, Statutory.

—x—

"Sessional"

07.05.18

Roles of Software Engineering:

→ Project manager

→ Team leader

→ Senior developer

→ Junior developer

Based on working procedure:

→ Project Manager

→ Developers (back end)

C#, Java, Database

→ Front end developers

→ Testing / Quality Assurance Team (QA)

Team

Design pattern → Java

Code project

Project Proposal

Project Title

Objective

Features

Team Member with roles, name, ID

1. PM

2. TL

3. Software Manager

4. Developer

* next lab print

hasan07cse@gmail.com → Pdf

Sub: Software Project Proposal

Mail body:

Team member's name

|| ID

813081

— X —

* Management Hierarchy & information needs: 09.05.18

Organogram → hierarchy.

* Functional Areas

* Quality of Information

* Business Data Processing

OLTP (On-line Transaction Processing)

OLAP (On-line Analytical Process)

Batch processing

OLTP vs Batch.

* Decision Support System.

* Big Data: (VVV)

→ Vast

→ Variety (Video, audio, image, file → unstructured)

→ Velocity

13.05.18

* System Analysis And Design Life cycle:

Operation → day to day record

tactical → monthly record

Strategic → overall yearly record

Statutory → Govt. rules & regulation

detecting

* Steps involved in Analysis and Design:

1. Requirements Determinations

2. " Specifications

3. Feasibility Analysis

4. Final specification

5. Hardware study

6. System design

7. " Implementation

8. " Evaluation

9. " Modification

— X —

" Sessional "

14.05.18

* Definition of Software Process:

- A framework for the activities, actions, and tasks that are required to build high-quality software.
- Software Process (SP) defines the approach that is taken as software is engineered.

* A Generic Process Model:

Software process

Process framework

Umbrella activities

framework activity #1

framework activity #n.

API → Application Program Interface.

Findresult (DIN, 1101, 11, 2010) {
 }
}

Stake holders

* Process Flow:

① ② ③ ④ ⑤

Communication → Planning → Modeling → Construction → Deployment

- a). linear process flow
- b). iterative " "
- c). Evolutionary " "
- d). Parallel " "

* The waterfall Model:

Next Day:

Print:
Requirement Gathering

1. Requirement List (Description)

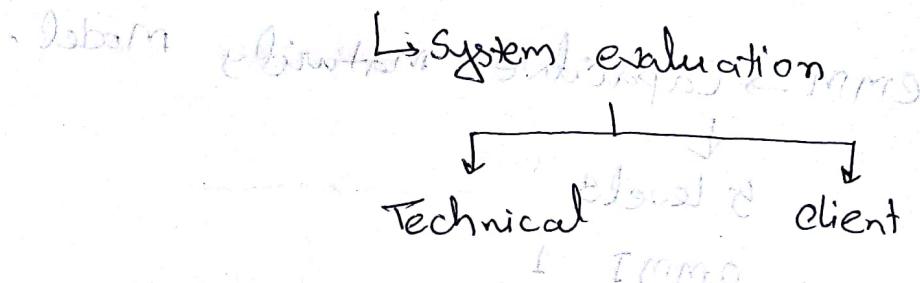
2. Feasibility Analysis ↗

Not feasible (1-2 points)

16.05.18.

System Life Cycle Diagram

Babyseeding ~~Babysitting~~ period.



Role of Systems Analyst:

Attributes of a systems analyst:

Knowledge of organization,

Jargon

Knowledge of computers and software

Good Interpersonal Relations.

Ability to communicate.

Analytical mind

Breadth of knowledge.

Tools used by Systems Analyst:

Database Normalizing

Denormalization

20.05.18

Tools used by systems Analyst:

ISO → International Standard organization.

cmm → Capacitive maturity Model.



5 levels

cmmI 1

cmmI 5

Assignment

Assignment:

ISO } → next class
cmmI }

Title → Assignment on ISO and cmmI.

Feasibility Analysis:

- Technical Feasibility
- Operational "
- Economic "

CBA → Cost Benefit Analysis

SRS → System Requirement Specification.

Steps in Feasibility Analysis:

Guidelines for searching goals:

"Sessional"

21.05.18

Information Gathering:

① Proposal

② Requirement Determination and feasibility analysis.

③ Information gathering / collection. (next day report).

Stakeholder

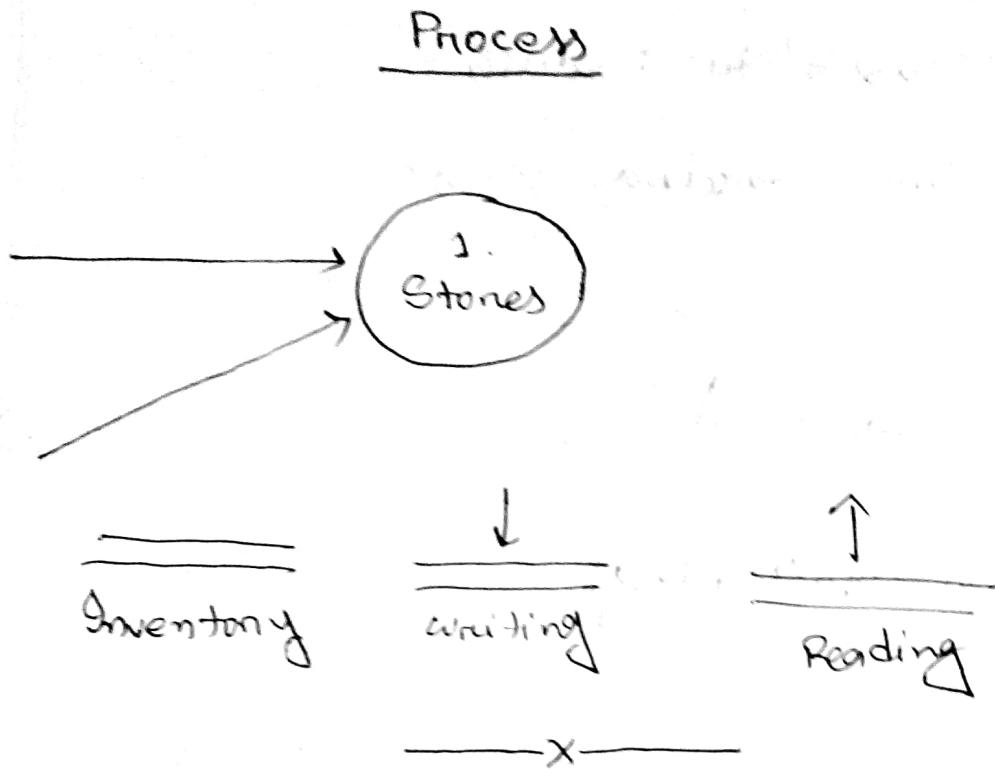
→ user, developer, those whose features we use, client.

* Information gathering strategies:

list of collected informations. → for each requirement.

Information Sources

Document Flow Diagram (DFD) : (next day report)



23.05.18

Resume → Summary

CV → Elaboration

Academic CV

Professional CV

Case-Study - hostel information system:

Hostel management system is a computerized system which helps in managing the day-to-day operations of a hostel.

It provides a central database for storing information about students,宿生, staff,宿教, and other resources.

The system allows for efficient management of student records,宿生記録, financial transactions,宿金取引, and other administrative tasks.

It also facilitates communication between the administration and the students,宿生と管理者の間のコミュニケーション.

Overall, the system aims to provide a centralized and efficient way of managing hostels.

It is widely used in educational institutions across the world.

Some of the key features of a hostel management system include:

1. Student Management: Stores information about students, including personal details, academic records,宿学成績, and financial information.

2. Financial Management: Handles financial transactions such as room rent,宿料, utility bills,宿料金, and other expenses.

3. Staff Management: Manages the records of staff members, including their salaries,宿料, and other benefits.

4. Room Allocation: Helps in assigning rooms to students based on various criteria, such as availability and preferences.

5. Reporting: Generates various reports, such as monthly financial reports,宿月報, and student performance reports.

6. Communication: Provides a platform for communication between the administration and the students.

7. Security: Ensures the security of student data and maintains privacy.

8. Integration: Integrates with other systems, such as student information systems,宿生情報システム, and payment gateways.

9. Scalability: Allows for easy expansion and customization to meet the needs of different hostels.

10. User-friendly Interface: Provides an easy-to-use interface for both students and administrators.

Overall, a hostel management system plays a crucial role in streamlining the operations of hostels and providing a better experience for students.

It is a valuable tool for educational institutions looking to manage their hostels more efficiently.

With the increasing demand for hostels, the use of such systems is likely to grow in the future.

Overall, the development of a hostel management system is a significant step towards modernizing the way hostels are managed.

"Special class"

26.05.18

Ref. Book → Software Engineering - A practitioner's Approach - 6th Edition

- Roger S. Pressman.

Software : → Instructions

Data Structure

Documents / Documentation

MS - DOS → OS (640 KB)

↳ 1988



2018

PC → IBM



Now → Clone

GUI → Bill Gates

Windows → 1995

98

2000

XP

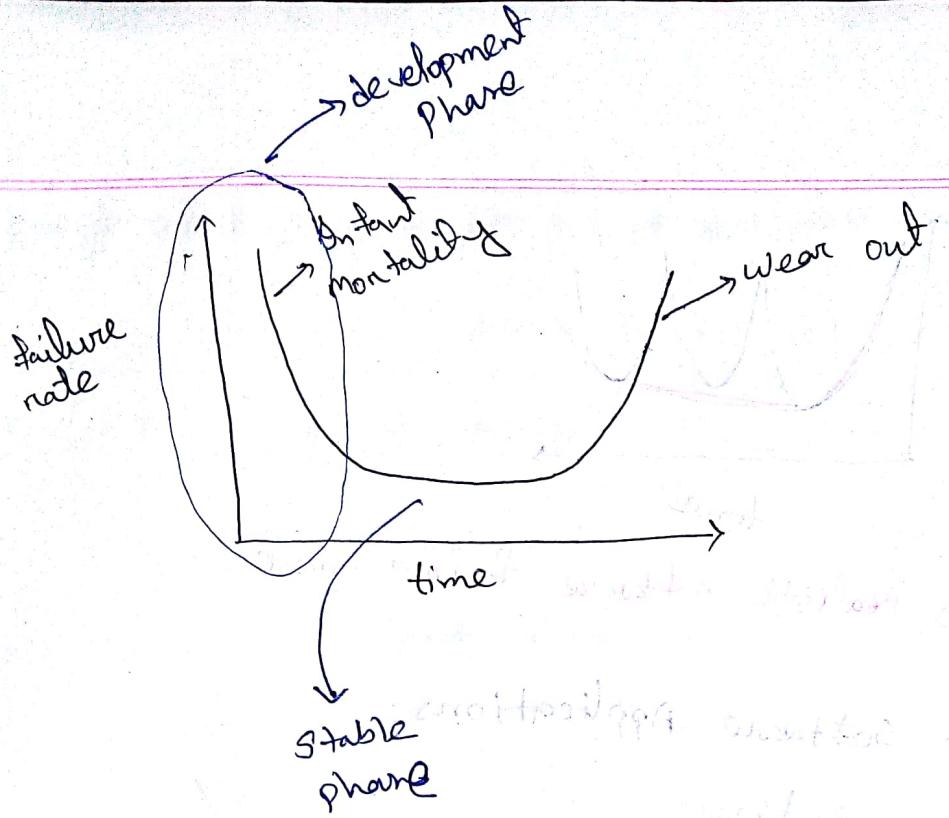


fig: failure curve for hardware.

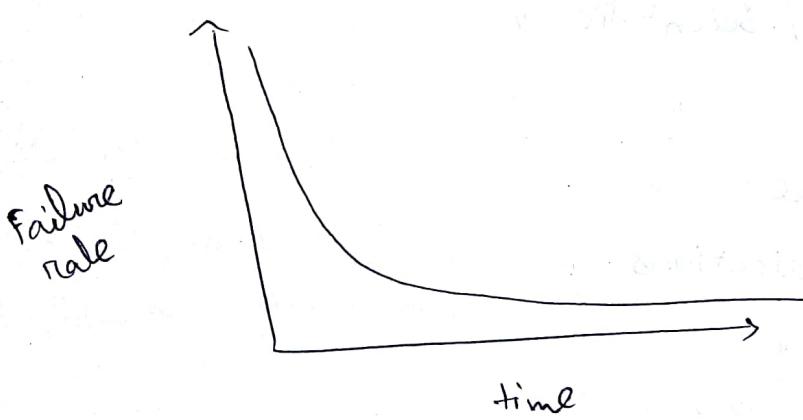


fig: failure curve for software.

(Idealized failure curve
for software)

* In theory, software does not wear out. But

1. Hardware upgrades
2. Software upgrades.

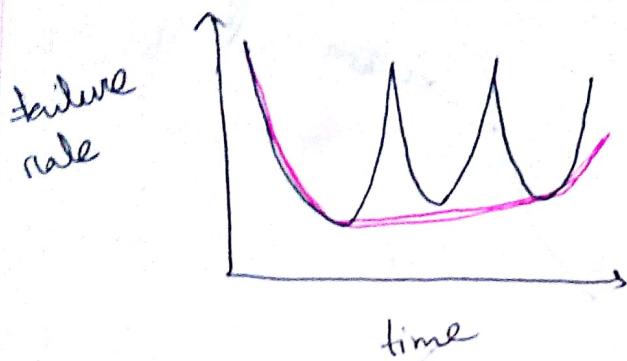


fig: Realistic software failure curve

* Types of Software Applications:

1. System software
2. Application
3. Engineering / Scientific "
4. Embedded "
5. Product-line "
6. Web-applications "
7. AI "

* Ubiquitous Computing:

* Outsourcing:

* Open-source

* The new economy

* Outsourcing: → next class

Legacy Software: (older programs)

The software must be adapted

must be enhanced

" " extended

" " re-architected

" " [from notes]

Software Myths (managerial myths)

(practitioner's myths)

* Software Products:

Generic Products

Customized products

Software Costs:

Cost-effective software development.

↳ reliable

↳ trust worthy

↳ easy user interface

Project Management Concepts:

* Spectrum of Management Concepts:

people → grow, motivate, deploy, retain.

The product

" process

" project

PM-CMM

* Players:

Senior managers

Project

"

Practitioners

Customers

End users

* Technical leadership models: (Jerry Weinberg)

Motivation

Organization

Idea and Innovation,

problem Solving

Managerial identity

Achievement

Influence and team building

Problem solving

project

Seven factors impacting SW team:

Difficulty

Expected size

The time

The degree

- " required quality & reliability of the system
- " rigidity
- " degree of communication

The Software Team:

Marilyn Mantzi Model:

Decentralized (DD)

Controlled Decentralized (CD) [Conflicting terms]

Controlled Centralized (CC)

Project
managing

characteristics

CD Structure: Chief Programmers team
(earliest structure).

* Senior Engineer

Specialists

Support Staff

Software Librarian

* Organizational paradigm of SW teams:

Closed paradigm

Random "

Open "

Synchronous "

Co-achieverness → one team

Coupling → Different team

* Project Coordination Techniques:

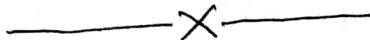
Formal, impersonal approaches

Formal, interpersonal procedures.

Informal, interpersonal procedures

Electronic communication

Interpersonal network.



27.05.18

Measure, Metrics ?

Measurement principles:

Measurement Process:

formulation

Collection

Analysis

Interpretation

Feedback

Effective Metrics Attributes:

simple and computable

Empirically and intuitively persuasive

Consistent and objective

consistent

programming language

Collection and Analysis Principles:

* In the Process and Project Domains

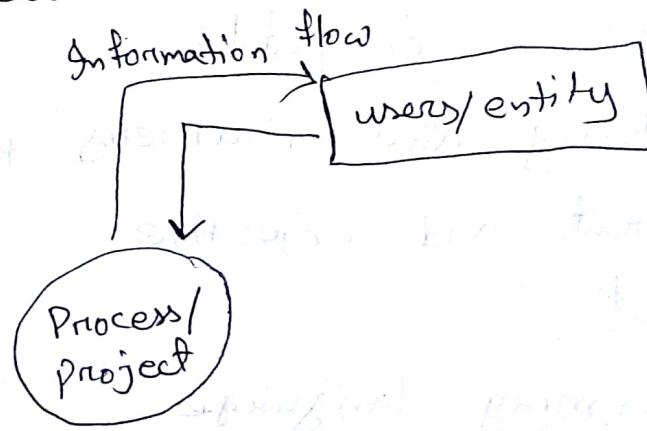
Process Indicators

Project Indicators

- * Process involves steps of a program execution.
- * Project involves scope, defined time, schedule, combination of process etc.
- * Software metrics → measurability.

28.05.18

"Sessional"
Title: Information gathering ~~approach~~.
Identify Sources strategies and DFD.



30.05.18.

Hostel Information System: and after T.D

* Alternative solutions:

A: Improve manual system

B: Use PC based periodic update system

C: An on-line system with server and several clients.

② CBA → Cost Benefit Analysis

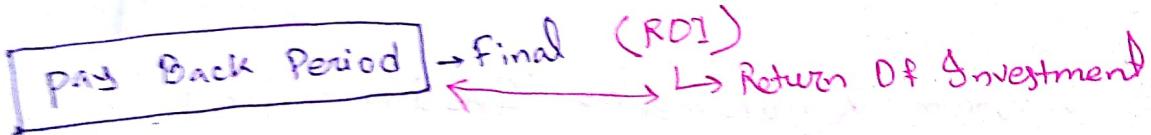
Direct Cost

Indirect Cost

Benefit %

Tangible.

Intangible.



* Present Value Method

$$\text{Present value} = \frac{x}{(1+r)^n}$$

n = no. of month

r = % per month interest

03.C

CT syllabus → Feasibility Analysis

lecture - 3

Chapter - 4:

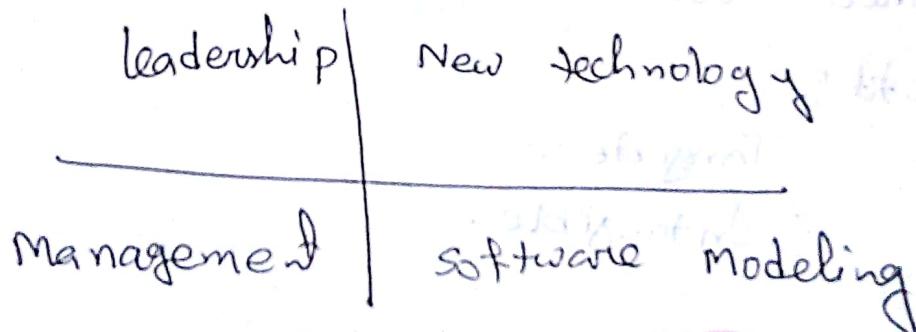
Information Gathering

Business Interviews are very important.

↳ Planning an interview.

↳ Interviewing technique.

↳ Use of Questionnaires



System Requirements Specification

↳ Ideal characteristics of SRS

04.06.18.

"Sessional"

The RAD Model:

* Process Flow:

Communication

planning

Modeling

Construction

Deployment

⇒ The waterfall Model:

⇒ The incremental Model:

⇒ The RAD Model:

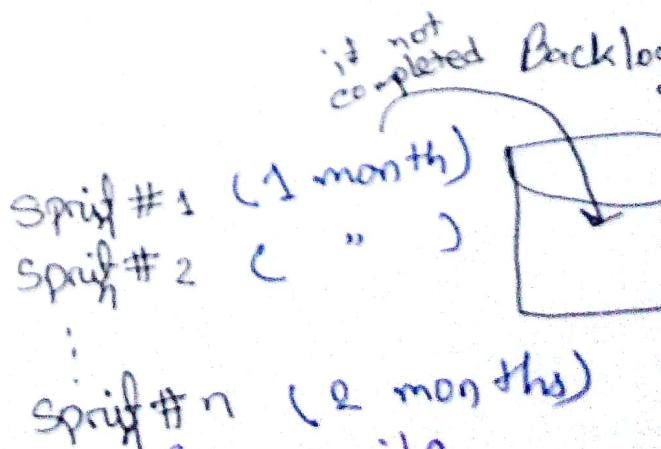
↳ Rapid Application Development.

⇒ Evolutionary models Prototyping

⇒ The concurrent Model

SCRUM SCRUM:

Agile



Next lab → Model choose & describe.