

Project Scheduling & Strategy Tracking :

Date Deadline:

काम कर्तव्य Date

Schedule:

time chart

time chart अमुखी काम २०१२ तिथि प्रक्रिया

~~Schedule manager~~ काम follow करने Developer २०१२

Senior



Late काम
Deadline ने Deliver करने का काम किया :-

1) Unrealistic Deadline

2) Customer requirement change २०११ (main problem)

3) Resource कम आए (Hardware, SW, human)

4) यह काम बड़ा था और कम समय में किया जाना चाहिए experience

Developer कम आए

5) technical and human difficulties

6) Miscommunication [with communication]

problem के personal के बीच communication

gap आए project के उपयोगी करने के लिए एक team work करना चाहिए वर्तमान team work का विकास करना

complaints related

7) Risk Analysis Management के विषय

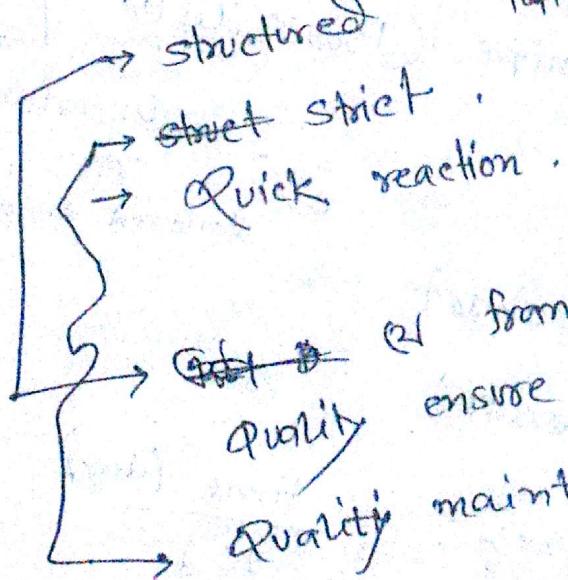
১৭ প্রজেক্ট সময় task network দিয়ে time chart করা হত

২৫।

7th cycle → B Day

7.3.1

Degree of Rigos:



→ casual → All processes framework নিয়ে সবস্থির পথ
minimum task আছে , কিন্তু basic

→ strict strict .
Quick reaction .

→ ~~strict~~ (1) framework apply করা না হল
quality ensure QC !

quality maintain করা , strictly না করা হল

Q.R! Process নিয়ে কাজ করা কিন্তু certain পথ

quality to ensure করার , কিন্তু কাজ

পথ এইটো কিন্তু কাজ হয় ।

A.7.6

Task Network:

S/W Scheduling

Network Diagram

Critical Path Method (deterministic)

→ CPM - ~~critical~~

→ PERT → (Program Evaluation & Review Technique - (Probabilistic))

Uncertainty calculate

Z_{α/2}, Z_{β/2}

standard deviation σ_{CPM} σ_{PERT}

Bar diagram

① → Gantt chart

CPM:

task

A

B

C

D

→ predecessors
Dependency

Time (day)

10 d.

20 d.

15 d.

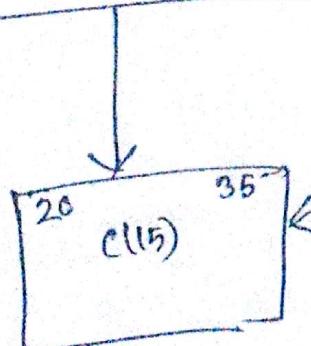
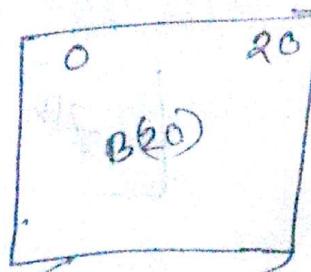
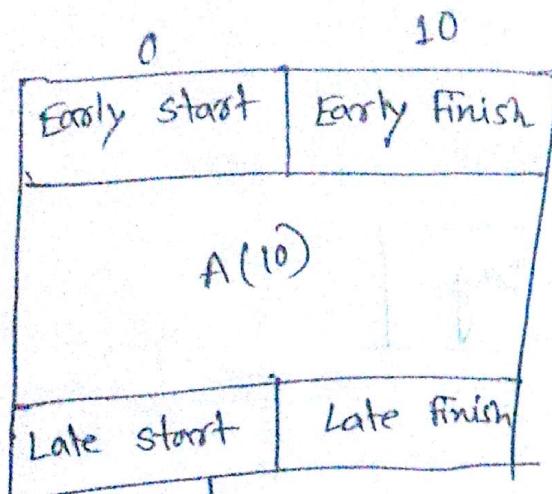
A, B (x) 10 20 20

C (x) 10 20 20

Due

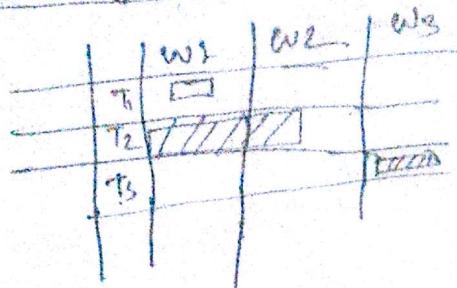
- Find task network and Draw
- find critical path and total time to finish.

A



ES & EF tasks seen ~~are~~ are (X) 14
X . X wants 2.0 hours (5).

Bar Diagram



7th cycle \rightarrow C Day

CPM

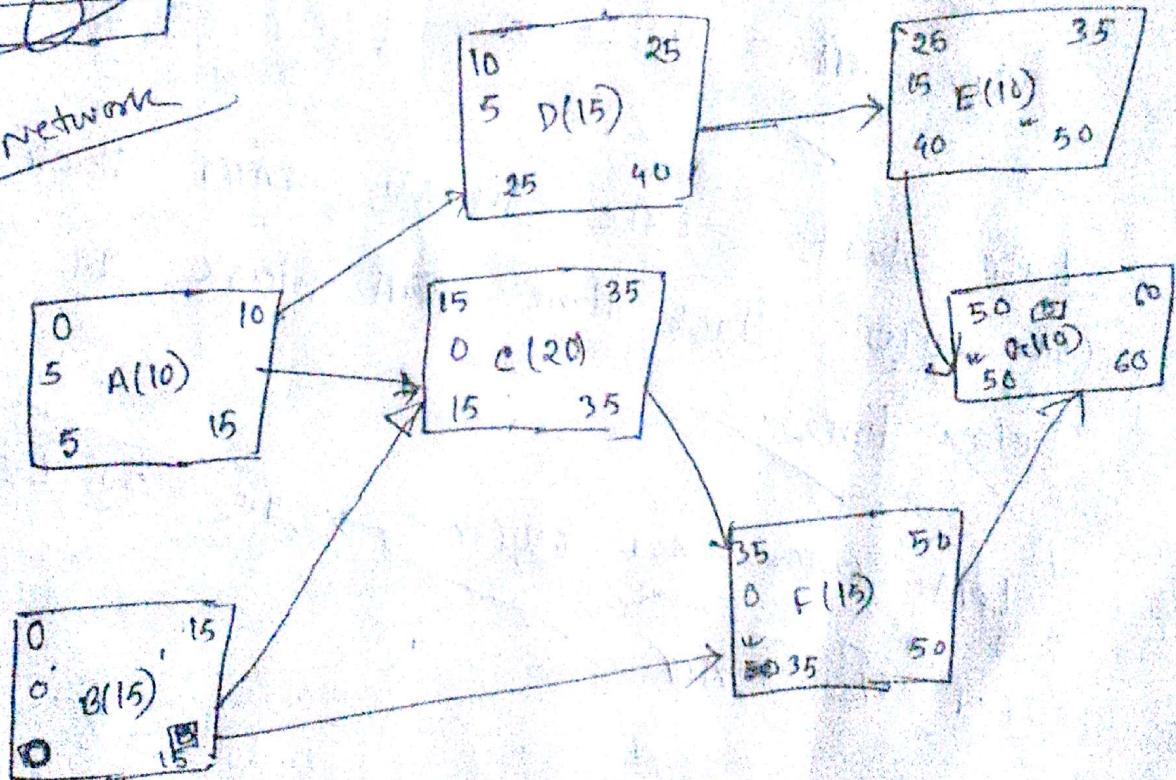
Task	Predessor Procedure	Time
A	—	— 10
B	—	— 15
C	A, B	— 20
D	A	— 15
E	D	— 10
F	B, C	— 15
G _c	E, F	— 10

Q. Find task network and critical path, slack time.

Predecessor: 1st & 2nd task dependency



Network



Path: $A \rightarrow Gc$ min, 21 min path $B \rightarrow Gc$

$$\text{Path: } A \rightarrow D \rightarrow E \rightarrow Gc = 10 + 15 + 10 + 10 = 45$$

$$A - C - F - Gc = 10 + 20 + 15 + 10 = 55$$

$$B - C - F - Gc = 15 + 20 + 15 + 10 = 60$$

$$B - F - Gc = 15 + 15 + 10 = 40$$

maximum time is critical time.

So, critical path $B-C-F-G = 60$ Ans!

Disadvantage:

Network fails easily if any

Possible

task and cost (min CPM & cost)
task cost

Late start Late finish min slack time
task and slack time of task is?

Delay time:

last E.F. \rightarrow E.S. \rightarrow E.F. \rightarrow E.S. (B)
E.F. by min

L.S. — min

$LS - ES = \text{slack time}$

each task \Leftrightarrow slack time $(\text{ES} + \text{EF}) - \text{CT}$

slack time = Late start - Early start

critical Node \Leftrightarrow slack time
 makes up parts critical path of a task
 $2000 \rightarrow 2000 \rightarrow 2000 \rightarrow 2000$ slack time $2000 \rightarrow$

PERT:

$10 \pm \text{standard deviation}$

\downarrow
range $\text{ES} \text{ to } \text{EF}$

uncertainty → show range

maximum & minimum time

Q. Critical Path \Leftrightarrow standard deviation

\Leftrightarrow PERT

→ Network diagram draw
 → standard deviation

varia math critia \rightarrow critical path $(\text{ES} + \text{EF}) - \text{CT}$
 critical path \Leftrightarrow from nodes as standard deviation

PERT

a = optimistic time estimate

b = pessimistic time estimate

m = most likely time estimate

t_e = expected time

S_i = standard deviation

$$t_e = \frac{a + 4m + b}{6}, S_i = \frac{b_i - a_i}{6}$$

$$\overline{S_{cp}} = \sqrt{s_1^2 + s_2^2 + \dots + s_n^2} =$$

\downarrow
critical path $(S_1 \rightarrow S_2 \rightarrow \dots)$

$$A \left\{ \begin{array}{l} m = 10 \\ a = 9 \\ b = 12 \end{array} \right. \quad t_e, S_i$$

$$t_{eA} = \frac{9 + 4 \times 10 + 12}{6} = 10.16 = 10.2$$

$$S_A = \frac{12 - 9}{6} = 0.5$$

$$(10.2 \pm 0.5)$$

$$= (9.7 \sim 10.7) \rightarrow \text{Uncertainty}$$

Critical path (9.7 - 10.7) \rightarrow Uncertainty

9.7 - 10.7 \rightarrow 0.5
 210 min
 209 min
 208 min

210 min
 209 min
 208 min

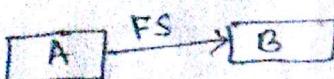
Q. Gantt chart / Bar chart

Gantt chart		
Activity	Predecessors	Time
A	-	10
B	-	15
C	A, B	20
D	A	15
E	D	10
F	B, C	15
G	E, F	10

→ time

Dependency types

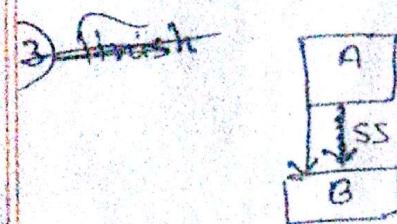
- finish to start



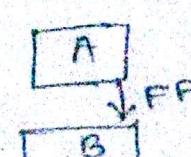
- start to start



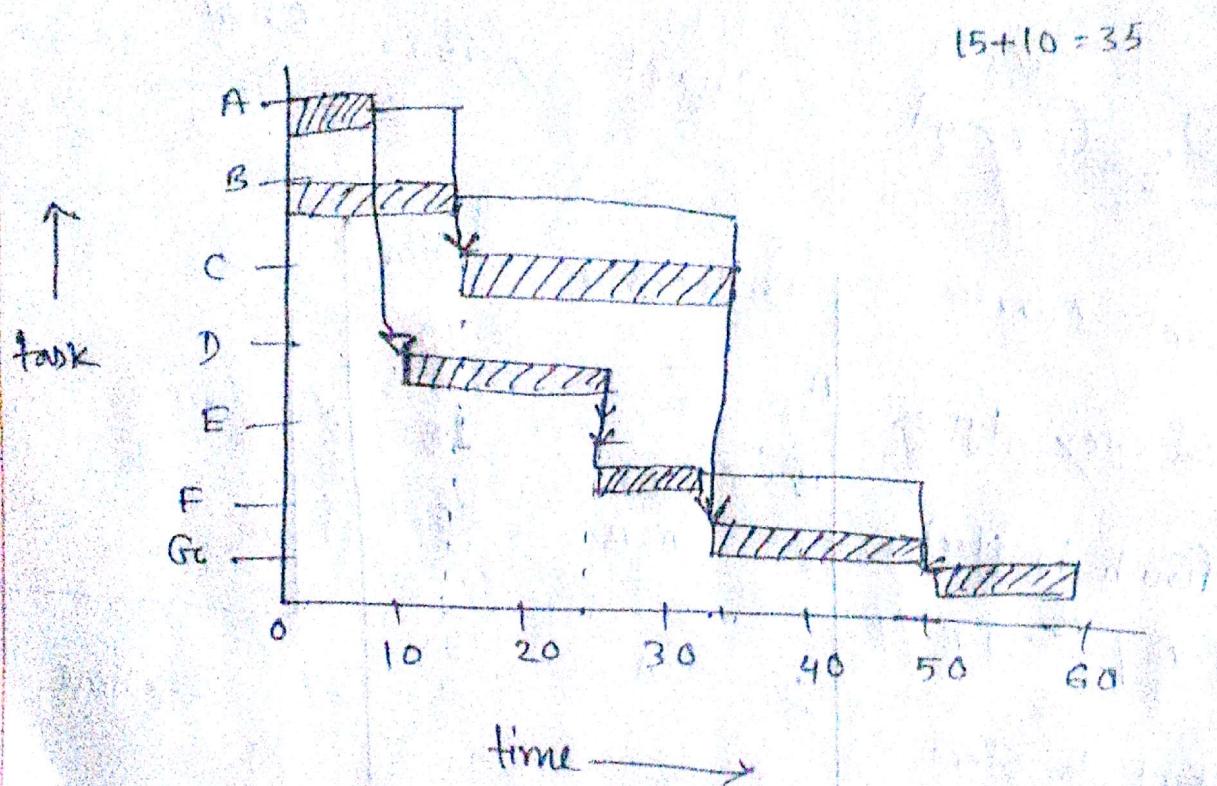
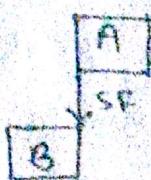
- finish



- finish to finish



4. Start to finish.



7th cycle → E DAY

05/08/17

Chapter: 08

(Page: 195)

* S/W Quality Assurance:

S/W का product, यह quality ग्राहक judge करता है। Performance द्वारा measure करते हैं। Quality assure & requirements full file कर सकते हैं।

प्रोजेक्ट की series of work करते हैं तो quality assure करना चाहिए।

That's why quality assurance is necessary.

Q. S/W Quality Assurance का लाभ क्या है?

Characteristics & Attribute:

1) Quality of design

2) Quality of conformance, conformance.

(1) → यह design करते, उत्पादन करते हैं तो product

(2) quality की लाइन, evaluation system आवश्यक है।

(3) type का quality Design करते हैं तो product

की लाइन।

(2) → प्राप्त Manufacturer को ने ensure कृति रखा है design का काम के quality दर से level fixed करने की वजह से अपने लिए

Equation:

User satisfaction = complete product +
..... (see book)

Budget, schedule, requirement analysis के full file को

Quality Control:

Inspections, Reviews, test
प्रैक्टिस के series of work को उपर लिए हैं quality control करते हैं.

Quality assurance:

कृति को ensure करने के लिए process के लिए क्या है? इसका ना Documentation करना है।
Inspections, review and test की ज़रूरत है। Documentation करते हैं।

Next Day: Cost of Quality.

8th cycle → 8 day

08/08/17

ACTIVE

Done

Pending

9th cycle → 8 day

16/08/17

8.1.4

Cost of Quality:

⇒ Prevention costs

- Quality Planning
- formal Technical Previews
- test equipment
- training

Appraisal costs : (After start work)

→ Post mortem implementation
2002 (part)

- 1) in process and interprocess inspection
- 2) equipment calibration and maintenance
- 3) testing

Internal:

⇒ Failure cost

- ~~return~~ Rework
- ~~repair~~ Repair
- failure mode analysis

External failure cost:

- 1) Complaint resolution
- 2) Product return and replacement
- 3) Help line support
- 4) Warranty work

8.3.2

SQA activities:

(PSC 201)

- 1) Prepare an SQA plan for a project.

Quality Assurance ~~cost~~ QAT Item ~~cost~~

MAP(5)

→ Evaluation to be performed

→ → →

(See book)

→ Inspection

→ Review

→ Audit

→ Ensure ~~cost~~ → quality M ~~cost~~ ~~cost~~

difficult

~~Quality control cost ~~cost~~~~

Chapter : 09

S/w Configuration Management:

Q: क्या है एवं क्या?

Business के कारण किसी change को identify करें।

1. firstly Identify change

2. Control change

3. Ensure proper implementation of change

4. Report changes to concern people.

प्रति: Report changes to concerned people.
 [customer to end user को भी बता दें।
 अगला change का लिए।]

Q. कौन किसे किसे change का लिए।

⇒ 1. नया business

2. customer का requirement change

3. Budget & schedule का change लिए।

प्र० 3 Change management control का लिए।

The s/w configuration Process:

प्र० 2 process का किस task लिए।

1. Identification

2. Version Control

3. Change control

4. Configuration ~~activity~~ editing

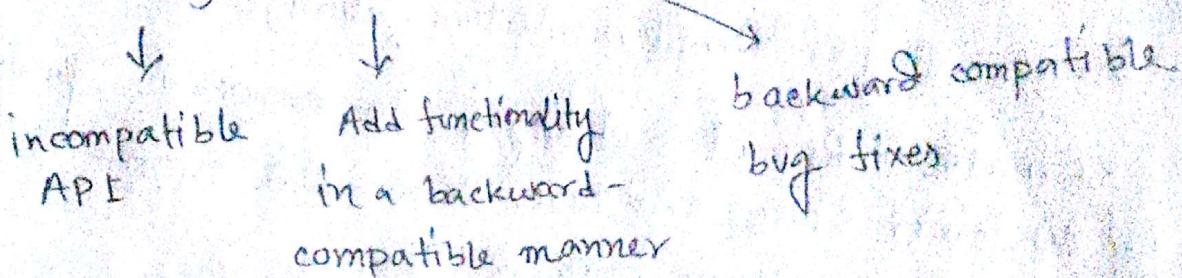
5. Reporting

Identification: design section 6 identify ~~and~~ ~~etc~~ ~~etc~~
 design section 6 identify ~~etc~~ ~~etc~~ ~~etc~~

~~(W7) Version Control:~~

~~Major~~

Major, Minor, PATCH



SUPPOSE version 1.0.0 / 2.0.0 ~~Right?~~

1.0.0 ~~the~~ change ~~etc~~ after version ~~of~~ change

what ~~etc~~ :

→ ~~the~~ ~~etc~~ API change ~~etc~~ Major

→ ~~the~~ ~~etc~~ functionality ~~etc~~ ~~etc~~ ~~etc~~ ~~etc~~

Change ~~etc~~ :

→ Backward ~~etc~~ customer use ~~etc~~ ~~etc~~

→ problem ~~etc~~ face ~~etc~~ bug/defect

→ fix ~~etc~~ ~~etc~~

→ bug fixing ~~etc~~ (or version release or patch out)

→ patch out

Example:

v1. 1.0.0 (first version)

v2. 1.1.0 (minor change)

v3. 1.2.0 (minor change)

v4. 2. 2. 0 (Major change)

v5. 2. 2. 1 (Patch change)

ক্রমিক সংস্করণ নথি কোনো ক্ষেত্রে পুরো নথি হবে।

১. প্রযোজনীয় ফিল্ড আলাদা করিয়ে একটি বিশেষ গুরুত্ব দিতে।

২. Version Control করিয়ে রাখা।

→ Pre-released version

→ Meta Data

version customer করে রেজিস্টার / end user দ্বাৰা
প্রক্রিয়াজ কৰিব।

ব্যবহার কৰিব। কোম্পানি করে রেজিস্টার কৰিব।

ব্যবহার কৰিব। কোম্পানি করে রেজিস্টার কৰিব।

ব্যবহার কৰিব। company wise

v1 এর pre-released version \rightarrow ~~1.0.0~~

1.0.0 - 0.0.

1.0.0 - 3.1

alpha/numeric value
প্রারম্ভ অন্তর্ভুক্ত।

Meta Data

SMC meta data 3106 07/05

v2 vers

1.3.0 + .001

(+ rev. of cast numeric value)

pre-released v3 meta data 3106 07/05

mt. (-) 100 (+) 915

1.0.0 - & + .001

configuration auditing:

(key change)

ক্ষেত্র নথি অবস্থা ক্ষেত্র পরিবর্তন করার

রচনা করা

Reporting:

for change history, ৩১০৭/০৫/০৫,

নথি করা & documentation পঠি

ক্ষেত্র পরিবর্তন করা এবং developer এবং end user

পর্যবেক্ষণ করা।

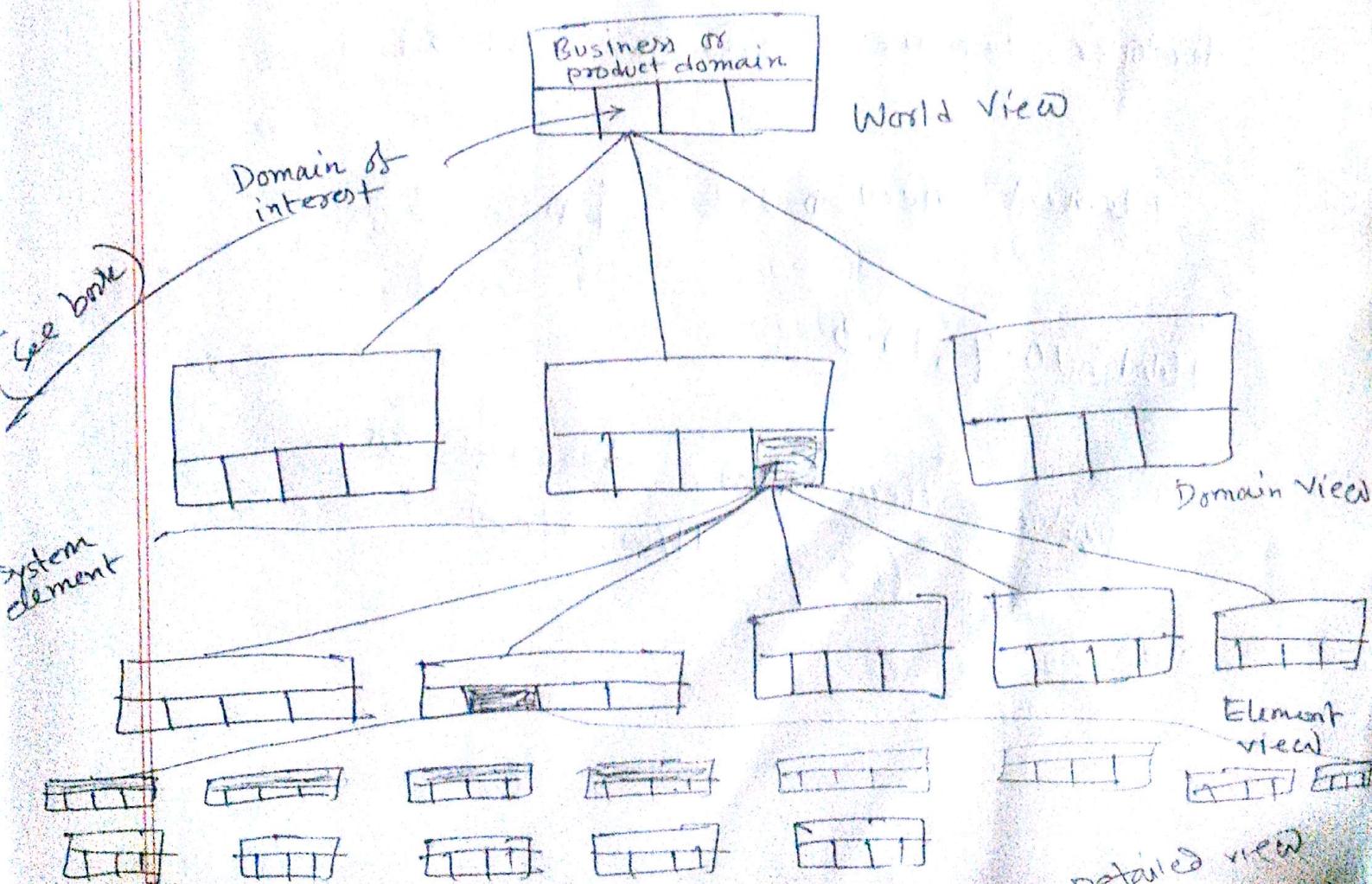
Chapter: 10

System Engineering

10.1 Computer-Based Systems

- 1. S/W 4. Database
- 2. H/W 5. Documentation
- 3. People 6. Procedures

The System Engineering Hierarchy:

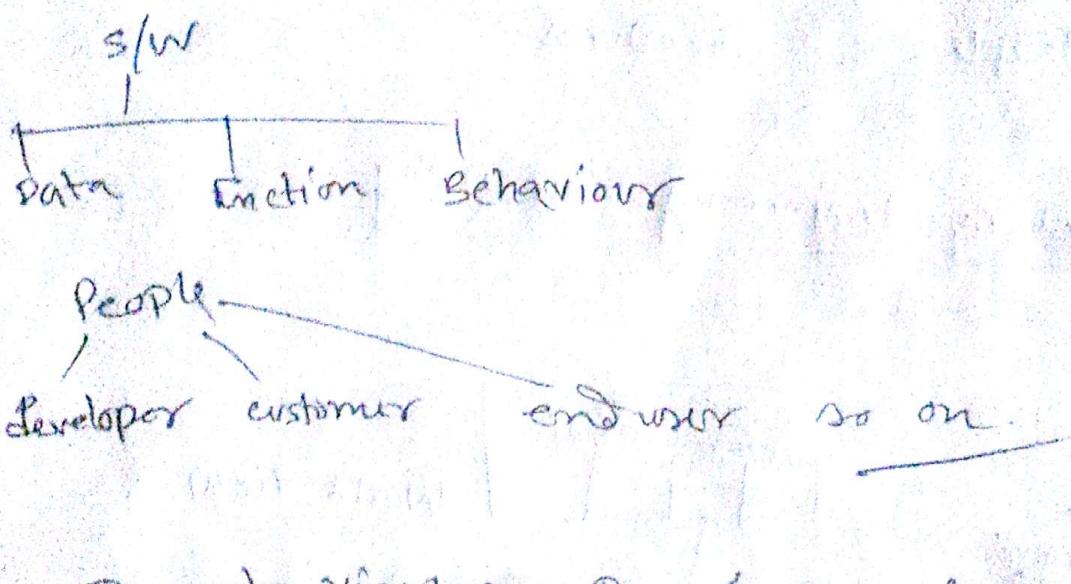


Object Engineering - An Overview

10.9

$$W = \{ D_1, D_2, \dots \}$$

s/w at ~~the~~ ~~for~~ ~~from~~ ~~etc.~~ ^{is} ~~an~~ ^{an} element view of all



Element view ~~as~~, $E = \{ D \dots \}$

H.W: 10.4, 10.3

product view ~~relate~~: describe ~~as~~ ^{as}
 Q.C. (No or) H.W. s/w