

Chapter - 4

④ Interviewing.

Interviews reveal information about:

- Interviewee opinions
- Interviewee feelings.
- Goals
- Key HCT concerns.

④ Interview preparation.

④ Question type

1. Open-ended
2. Closed

④ Open-ended Questions.

④ Advantages of open-ended Questions.

④ Disadvantages of open-ended Questions.

④ Closed Interview Questions.

④ Benefits of closed Interview questions.

④ Disadvantages of " "

④ Attributes of Open-Ended and closed Questions

(Figure 4.5)

boundaries

open

boundaries



closed

B Bipolar questions:
yes or no.

B Probes

Q Arranging Questions:

- Pyramid
- Funnel
- Diamond

Q **Pyramid Structure**

(why useful point 3)

Q **Figure 4.7.**

Q **Funnel Structure**

(why useful point 3)

Q **Figure 4.8**

Q **Diamond Structure**

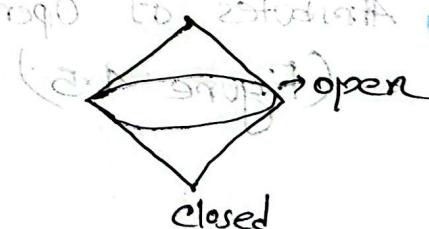
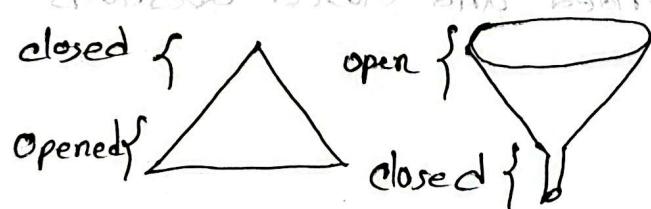
(why useful point 3)

Q **Figure 4.9**

Question

(1) **Closed-end and Open-end Question advantage and disadvantage.**

(2) **Pyramid, funnel and diamond arranging of question and when it is useful.**



LAB - Mid

1. Report - 10' (Follow up task as given)
 2. Quiz (10') and off topic (multiple choice questions)
 3. Viva - 5
 4. One question from own project - 5.
- task-1 → ERD + Use case.
- task-5 → DFD (level-2)

Technical Score - 0 -

QNT 20 statements

■ Closing the Interview

■ Interview Report

■ Stories

3 types workplace:

1. Organizational
2. Isolated
3. Enduring

■ Purposes for Telling a story. (Question)

4 types purposes :

1. Experiential stories
2. Explanatory "
3. Validating "
4. Prescriptive "

④ Joint Application Design (JAD)

Q: Why or what type question (2 mark)

④ Conditions that support the use of JAD

④ Who is involved

④ Where to Hold JAD Meetings

- offsite

- Attendance.

④ Benefits of JAD

④ Drawbacks of Using JAD

Question: What is JAD, conditions, who involved, Benefits and Drawbacks.

④ Questionnaires

- Attitudes

- Beliefs

- Behaviour

- Characteristics

④ Planning for the use of Questionnaires

④ Question types

In Figure 4.12

Questionnaire Language

Measurement Scales

2 forms:

- Nominal
- Interval

Nominal Scales.

→ useful to classify things.

Interval Scales.

→ used when the intervals are equal.

→ there is no absolute zero.

Validity and Reliability

Problems with scales

Leniency

→ caused by easy raters

Central Tendency

→ occurs when respondents rate everything as average.

Halo Effect

Designing the Questionnaire.

④ Order of Questions

• S.P. script

④ Administering Questionnaires

• paper, computerized

gm ④ Figure 4.13

• verbal, formality

④ Methods of Administering the Questionnaire

• Interview

④ Electronically Submitting Questionnaire

• e-mail, Internet

Summary:

• Interviewing

• e-mail, Internet

• Stories

• paper, computerized

• JAD

• paper, computerized

• Questionnaires

• paper, computerized

2. Techniques of eliciting information

• open ended

• closed ended

• unstructured with principles

Chapter - 10

Object oriented Systems Analysis and Design using UML

④ Object - Oriented Analysis and Design.

→ Objects, classes are reusable.

- Reusability.

- Maintaining systems.

④ Object oriented Concepts.

→ Objects

→ Classes

→ Inheritance

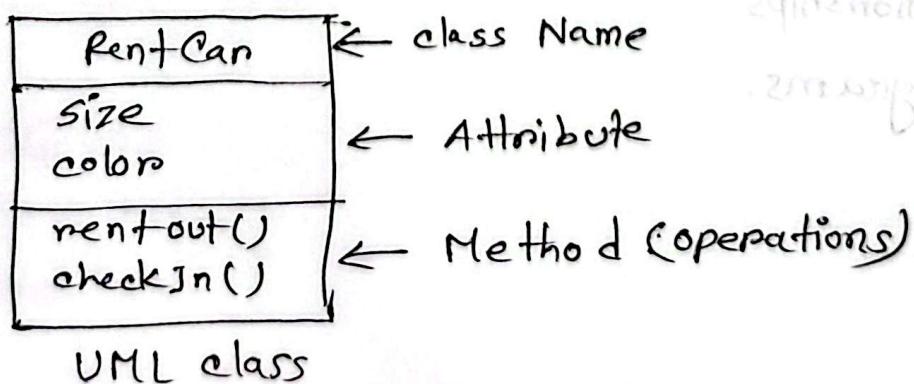
④ Objects

• Person, places or things that are relevant to the system being analyzed.

④ Classes

- Set of objects

④ Figure 10.1.



④ Inheritance.

⑤ Figure 10.2

⑥ CRC cards and Object think

- CRC

→ class (C)

→ responsibilities (R)

→ Collaborators (C)

⑦ Figure 10.3

Q: class name থেকে → class এর responsibility, collaborators, object think, property লিখতে

⑧ Interacting during a CRC Session

- Identify all the classes you can

- Create scenarios

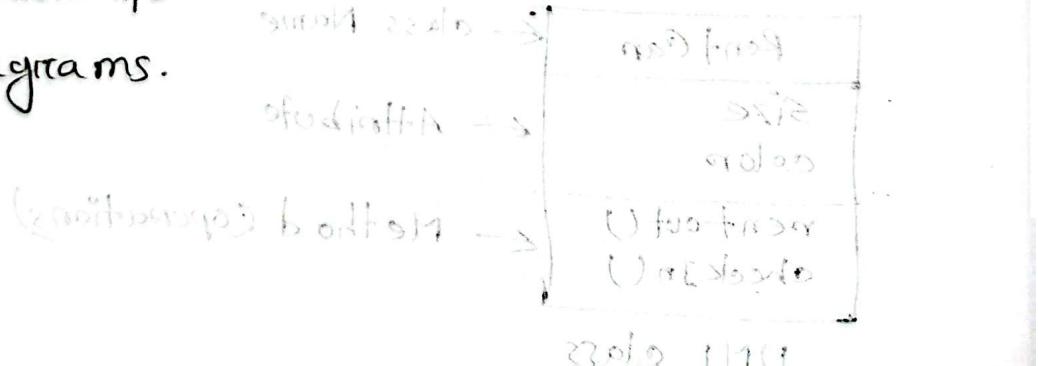
- Identify and refine responsibilities

⑨ UML concepts and Diagrams.

- Things

- Relationships

- Diagrams.



④ Things

- Structural things
 - classes, interfaces, use cases
- Behaviour things
 - Describe how things work
 - Group things.
 - Annotational things

④ Relationship:

- structural
 - Tie things together
- Behavioral

④ Structural Relationship

- Dependencies
- Aggregations
- Associations
- Generalization

④ Behavioral Relationship

④ Diagrams

- structural
- Behavior

D) Structural Diagram

- class Diagrams
- object "
- component "
- Deployment "

E) Behavioral Diagram

- use case diagrams
- Sequence "
- Collaboration "
- Statechart "
- Activity "

F) Figure 10.4

(Whole UML and its representation)

G) Commonly Used UML Diagrams

- use case diagram
- Use case scenario
- Activity Diagram
- Sequence Diagram
- class Diagram
- statechart Diagram

gm  Figure 10.5
(all diagram in one)

 Use case Modeling.

- Describes what the system does, without describing how the system does it.

- Use case describes

- Actor

- Event

- use case

 Figure 10.6

 Figure 10.7

use case scenario Derived into 3 steps .

Jm  Figure 10.5 (call diagram in one)

 Use case Modeling.

- Describes what the system does, without describing how the system does it.

- Use case describes

- Actor
- Event
- use case

 Figure 10.6

 Figure 10.7

use case scenario divided into 3 steps.

Date: 20-10-2025

Jm  Activity Diagrams

 Figure 10.8

 Creating Activity Diagram

 Swimlanes

- Help to divide up the tasks in a team

J. Jm  Figure 10.9

Three swimlanes:

- Client web page
- Web servers
- Mainframe

- Activity Diagrams and Test Plans.
- v. fm Activity Diagrams Not Created for all use cases.
- Sequence Diagram
- fm Sequential Diagram Figure 10.10
- Figure 10.11

Lab

Date : 21-10-2025

08.10

- 1) Front End
- 2) Sequence Diagram & Activity Diagram

04.11

- 1) Backend & Database (half)
- 2) Class Diagram

11.11

- 1) Remaining Backend work
- 2) State chart & collaboration

18.11

- 1) Full project
- 2) Full document

25.11

- 1) Lab final.

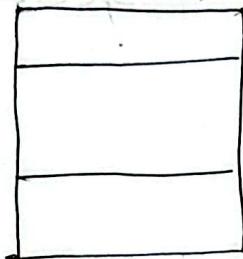
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④ Communication Diagram

Figure 10.12 | ~~concept~~ ~~knowledge~~ to understand

⑤ Class Diagrams

• ~~class~~ ~~interface~~ no ~~multiple inheritance~~



Name

Attribute ~~elements~~ ~~function~~

method ~~function~~

• classes

• Attributes

→ private

→ public

→ protected

• Methods

→ standard

→ custom

⑥ Figure 10.13

⑦ Method Overloading

• Including the same method several times in a class

• Parameters different

⑧ Types of classes

→ Entity

→ Interface

→ Abstract

→ Control

20% of Period

- ④ Entity class [ERD] representations
- ④ Interface of Boundary classes [Data interchange]
- ④ Abstract classes generalization or special think.

- ④ Control classes studied
- Reusable softwares

④ Presentation, Business and Persistence Layers 20%

- Presentation layer:
→ What the user sees
- Business layer:
→ containing the unique rules for this application
- Persistence layer:
→ Data access layer.

④ Defining Messages and Method

→ message:

using notation similar to that described for data dictionary.

→ Method:

logic defined

→ structured English

→ decision table

→ decision tree

- ④ Figure 10.15
- ④ Create Sequence Diagram
- ④ Creating a Test plan from a sequence Diagram
- ④ Relationships
 - ④ Figure 10.18
 - ④ Associations
 - ④ Whole / Part Relationships
 - One class represents the whole object, and other classes represent parts

- Categories
 - → Aggregation
 - collection
 - composition

- ④ Aggregation
- ④ Collection
- ④ Composition
- ④ Figure 10.19