

* STEPS of Object Oriented Design.

(1) Understand system and interactions.

(2) Design System Architecture

(3) Identify main classes and Objects.

(4) Develop Design Models

- Structural models — describe ^{static} structure of the system
- Dynamic models — describe dynamic structure and the behaviors.

(5) Specify interfaces

Class diagram

static

Sequence diagram

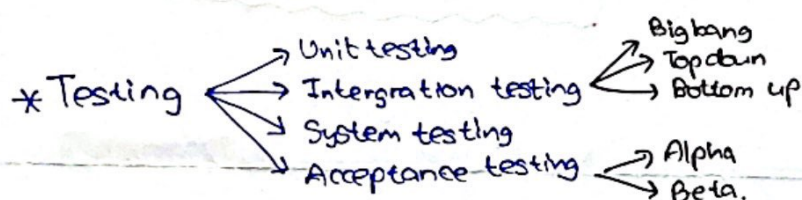
* Four aims of modeling.

(1) Visualize ← the system

(2) Specify ← the structure or behavior

(3) Construct ← using the model as a template

(4) documents. ← decision that made / user feedbacks.



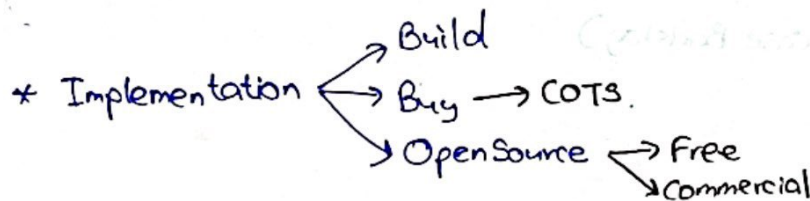
* Sandwich testing.

* Verification

are we building the product right?

* validation

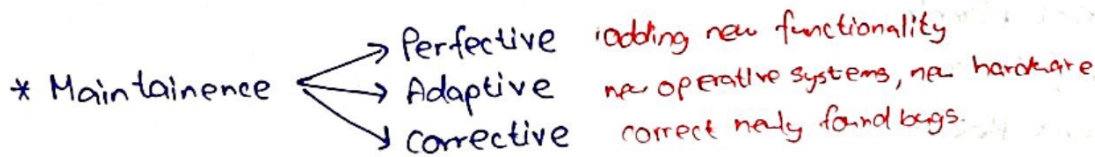
are we building the right product?



V&V Techniques

↳ Software Inspection (static verification)

↳ Software testing (dynamic verification)



adding new functionality

new operative systems, new hardware

correct early found bugs.

~ AGILE ~

4 key values

- (1) Individuals and Interactions over processes and tools.
- (2) Working software over comprehensive documentation.
- (3) Customer Collaboration over contract negotiation.
- (4) Responding to change over following a plan.

Trends of AGILE

- * SCRUM
- * Extreme Programming (XP)
- * Test Driven Development (TDD)

SCRUM COMPONENTS

* SCRUM Roles

- ↳ Product owner
- ↳ Scrum Master
- ↳ Development Team
- ↳ users/stakeholders

* SCRUM Artefacts.

- ↳ Product Backlog
- ↳ Sprint Backlog (Release Backlog)
- ↳ Burn down chart.

* SCRUM Activities.

- (1) Sprint Planning
- (2) Daily Scrum
- (3) Sprint Review
- (4) Sprint Retrospective
- (5) Product Backlog Refinement.

* SCRUM Tools

- ↳ Target process
- ↳ Trello.

Issues of traditional development models

- * high cost,
- * changes are not acceptable,
- * Errors are detected on the latter part of SDLC,
- * Less or no iterations.
- * Lack of transparency.