~~SYIA~~

* 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 structure of the system (class diagram, static)
→ Dynamic models – describe dynamic structure and the behaviors. (sequence diagram)

(5) Specify interfaces

* 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.

* Testing → Unit testing
→ Intergration testing → Bigbang, Topdown, Bottom up
→ System testing
→ Acceptance testing → Alpha, Beta.

*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)

* Implementation → Build
→ Buy → COTS.
→ OpenSource → Free, Commercial

* Maintainence → Perfective (adding new functionality)
→ Adaptive (new operative systems, new hardware)
→ Corrective (correct newly 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)

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.

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.