Skill Development Lab
CS-606
SDLC/SCRUM

Prepared by
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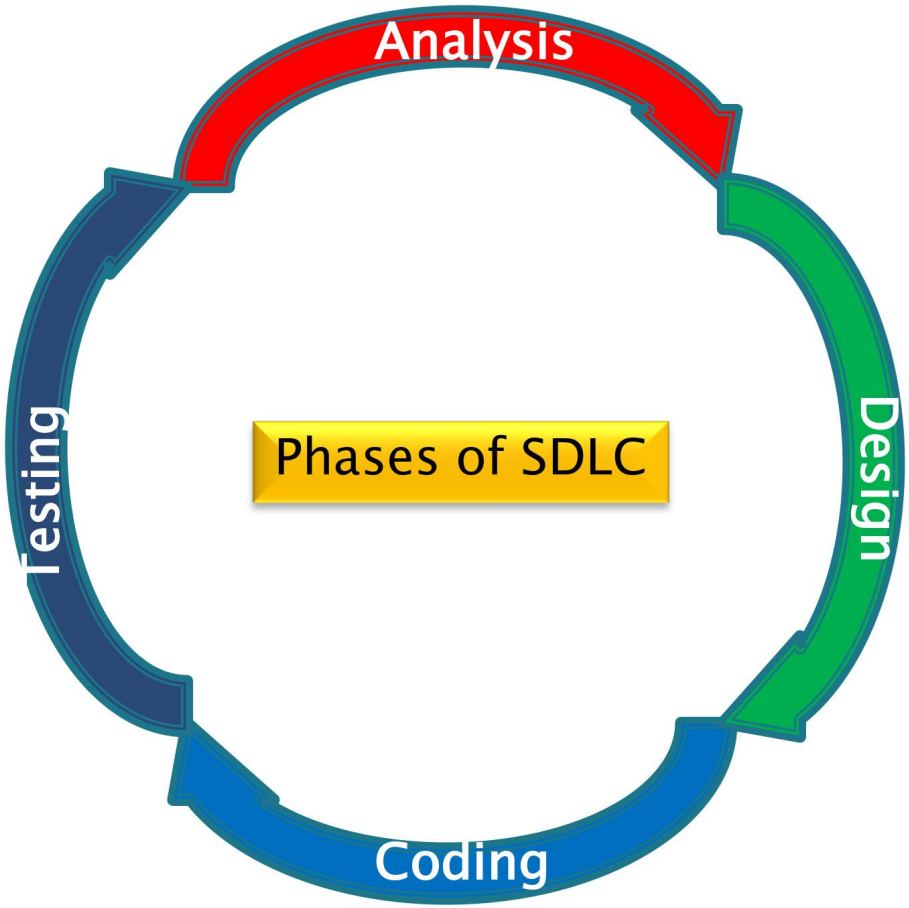
SDLC

Software Development Life Cycle



Classical Waterfall Model

- The classical waterfall model is intuitively the most obvious way to develop software.
- Though the classical waterfall model is elegant and intuitively obvious, it is not a practical model in the sense that it cannot be used in actual software development projects.
- Thus, this model can be considered to be a *theoretical way of developing software*.
- But all other life cycle models are essentially derived from the classical waterfall model.
- So, in order to be able to appreciate other life cycle models it is necessary to learn the classical waterfall model.

Classical Waterfall Model

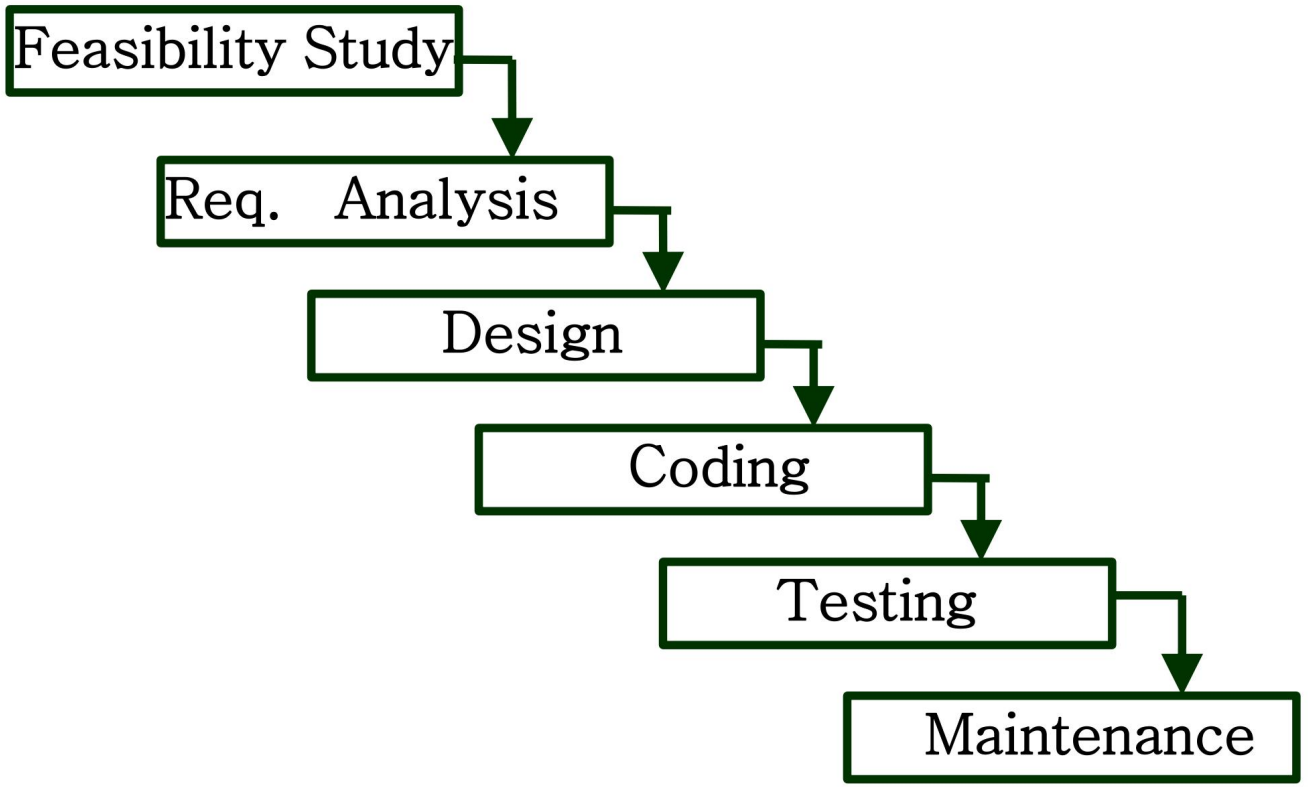


Fig: Classical Waterfall Model

Classical Waterfall Model

- **Feasibility study** – The main aim of feasibility study is to determine whether it would be financially and technically feasible to develop the product.
- **Requirements analysis and specification**: – The aim of the requirements analysis and specification phase is to understand the exact requirements of the customer and to document them properly. This phase consists of two distinct activities, namely
  - Requirements gathering and analysis
  - Requirements specification
- **Design**: – The goal of the design phase is to transform the requirements specified in the SRS document into a structure that is suitable for implementation in some programming language.

Classical Waterfall Model

- **Coding**: – The purpose of the coding phase (sometimes called the implementation phase) of software development is to translate the software design into source code. Each component of the design is implemented as a program module.

- **Testing**: – During this phase, each module is unit tested to determine the correct working of all the individual modules. It involves testing each module in isolation as this is the most efficient way to debug the errors identified at this stage. The goal of testing is to ensure that the developed system conforms to its requirements laid out in the SRS document.

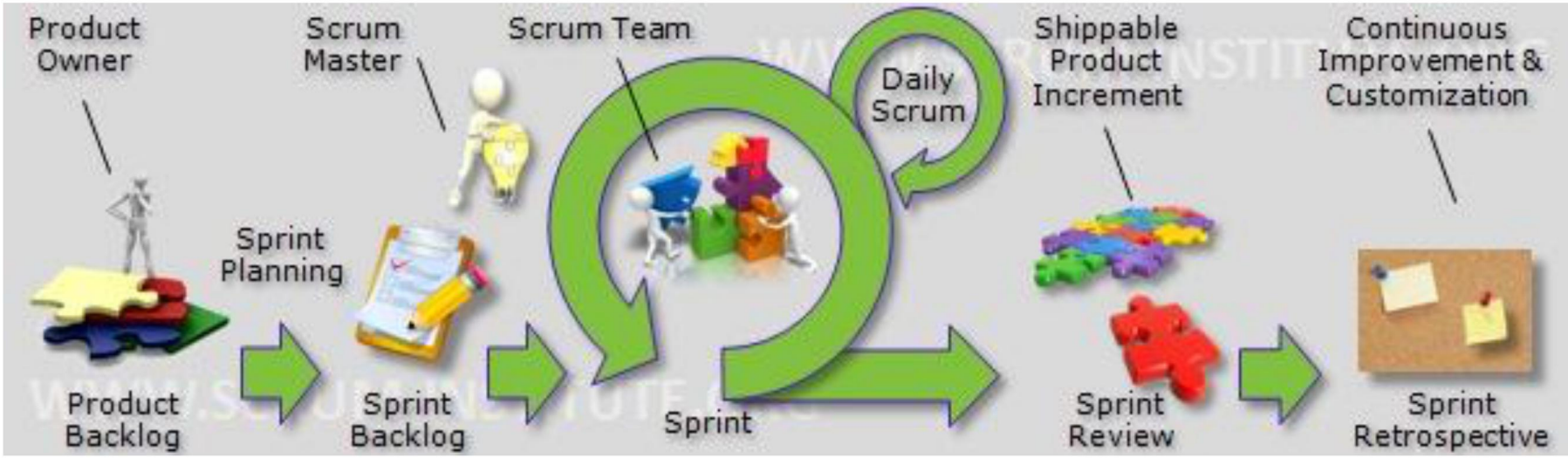
Classical Waterfall Model

- **Maintenance**: –Maintenance of a typical software product requires much more than the effort necessary to develop the product itself.

SCRUM

Scrum is an iterative software engineering process to develop and deliver software.

- The Scrum Framework is a lightweight process. It focuses on increasing the productivity of teams while reducing wastes and redundant activities.

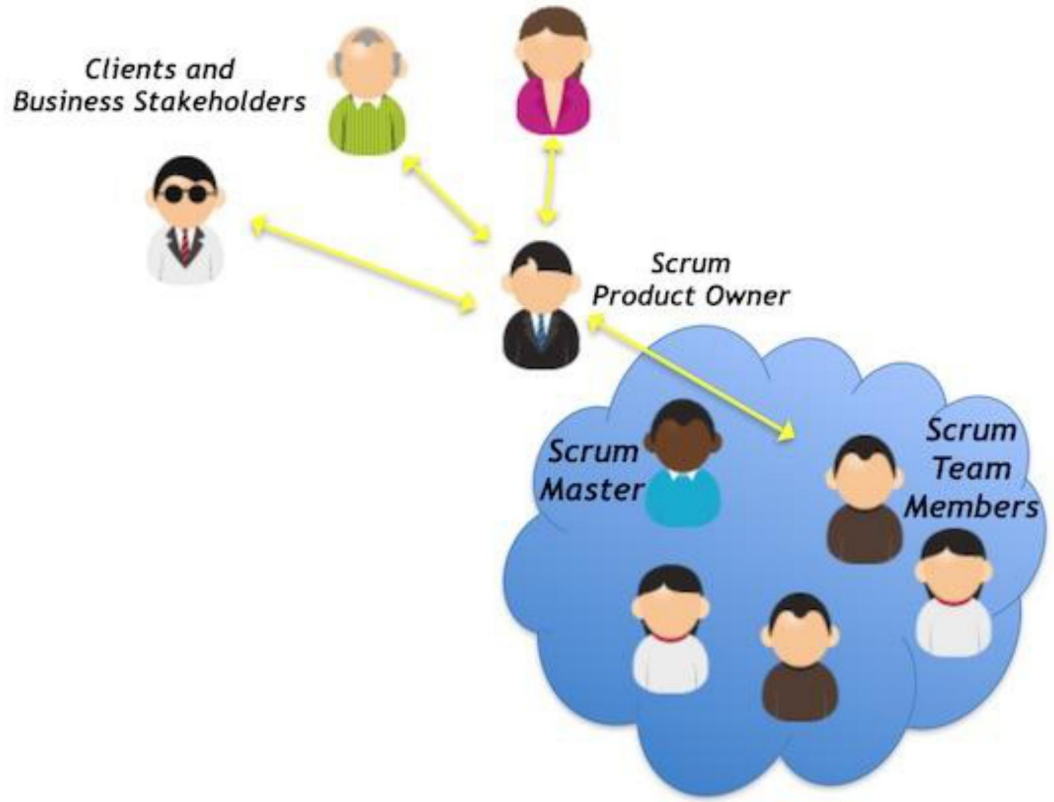


SCRUM

- **The main components of Scrum framework are:**
- **Three Scrum Roles:** The Scrum Product Owner, the Scrum Team, and the Scrum Master.
- **Five Scrum Events (Scrum Rituals) or Ceremonies:** Scrum Grooming (Backlog Refinement) Meeting, Sprint Planning Meeting, Daily Scrum Meeting, Sprint Review Meeting, and Sprint Retrospective Meeting.
- **Product Backlog (Scrum Backlog) or Scrum Product Backlog:** An artifact that is used to manage and prioritize all of the known requirements of a Scrum project.
- **Sprints:** Cycles of work activities to develop shippable software product or service increments.
- **Sprint Backlog:** An artifact to keep track of requirements committed by the Scrum teams for a given Sprint.

SCRUM

- **The Scrum Framework recognizes three roles:**
- The Product Owner,
- The Scrum Team Member,
- The Scrum Master.



SCRUM

The Scrum Product Owner is a central role within the Scrum Framework. That role unifies product and project management tasks, and it's also firmly integrated with software development and delivery.

Essential tasks of a Scrum Product owner are:

- To manage and clarify project requirements,
- To guide releases and to ensure return on investment (ROI),
- To closely work with the Scrum Team and enable it to deliver the correct work on time,
- To manage stakeholders and their expectations,
- To manage the Scrum Product Backlog.

SCRUM

The Scrum Master supports the Scrum Team to execute the Scrum Framework successfully and contributes them to improve their productivity and performance continuously.

Essential tasks of a Scrum Master owner are:

- To establish the Scrum Framework in his or her business and IT ecosystem,
- To act as a change agent and support the adaptation of existing processes to maximize productivity of the Scrum Team.
- To coach the Scrum Team to understand and live the values of the Scrum Framework,
- To ensure efficient and close collaboration between the Scrum Product Owner and the Scrum Team,
- To lead progress of work by serving,
- To guard the Scrum Team from external interference and interruptions.

SCRUM

The Scrum Team Members implement the software. They jointly decide the number of requirements that they can undoubtedly deliver during a particular product increment called **"Sprint"**.

Characteristics of scrum teams are:

Empowered and Autonomous

Cross-functional

Self-organized and small

Full-time participants

Thank you...
Vipin Verma