CM-2603 Data Science Group Project

Software Development Methodologies

Week 06 | Prasan Yapa | Sriyan Fernando

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Learning Outcomes

- Covers LO1 and LO2 for Module

- On completion of this lecture, students are expected to be able to:

  - differentiate the software development methodologies
  - apply a suitable software development methodology to meet a designated set of requirements using appropriate language and tools.

CONTENT

- What is Software Development methodology?
- What is the purpose of a software development methodology?
- What are the different categories of software development methodologies?
- Difference between agile and waterfall development
- Prototype Model

What is Software Development methodology?

- It is a process of how to build software. It is usually more than just a process.

- You can think of them like a recipe for cooking. A cooking recipe usually gives you a list of ingredients with their weights/volumes, an instruction list of some sort, and eventually you will serve it up for people to eat. Since the recipe is written down, other people can follow it.

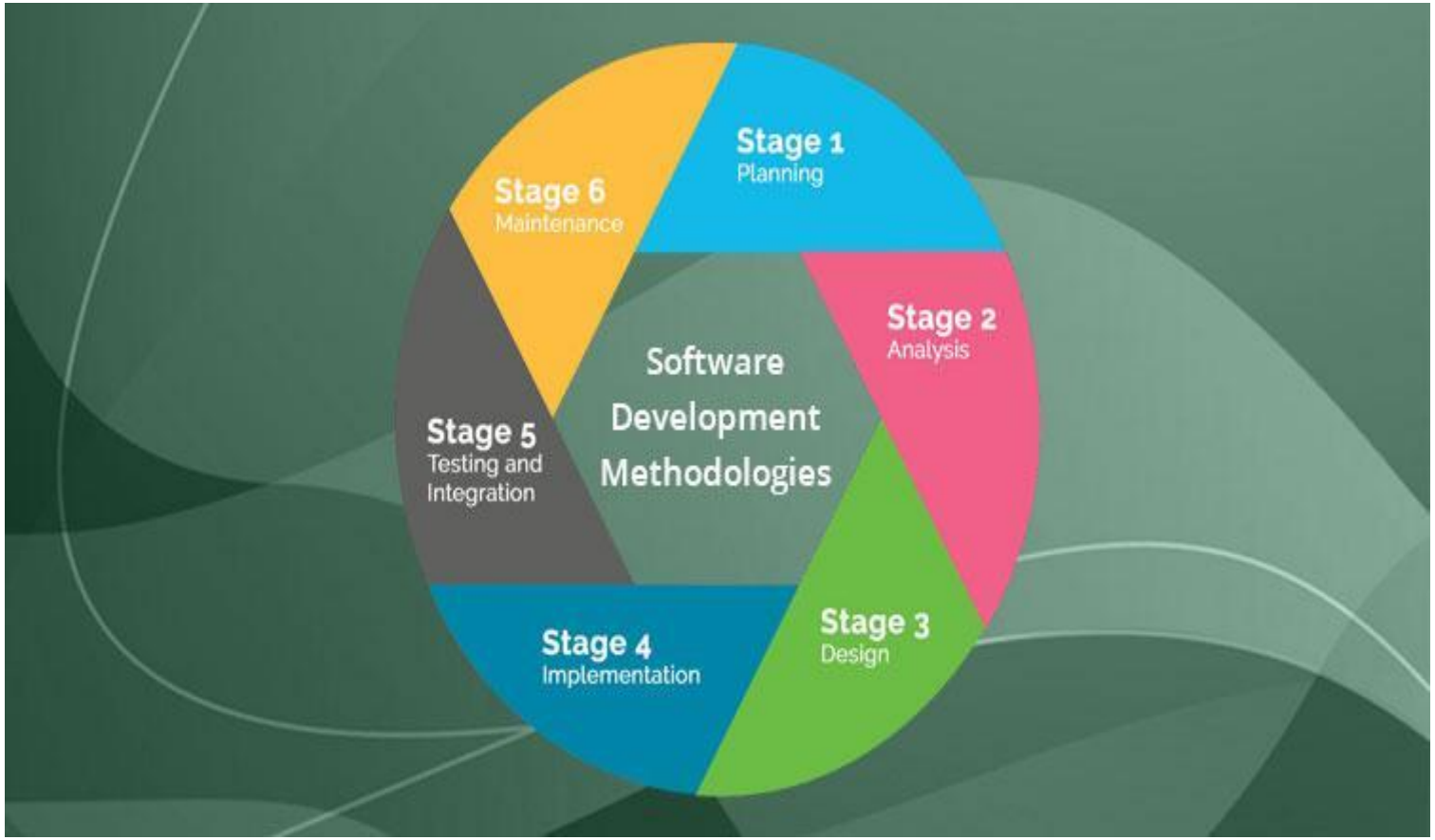
What is the purpose of a software development methodology?

- A **Software Development Methodology** is a framework used to structure, plan, and control the **process** of **developing** an information system.

- Selecting the right **software** development **methodology** for your product organization depends largely on your team size, goals, and other factors.

what are the different categories of software development methodologies?

- Agile software Development Methodology
- Waterfall Model
- Prototyping Model, etc.


Stage 1
Planning
Stage 2
Analysis
Stage 3
Design
Stage 4
Implementation
Stage 5
Testing and
Integration
Stage 6
Maintenance
Software
Development
Methodologies

1. Agile software Development Methodology

- What is Agile ?

  It is the ability to create and respond to change. It is a way of dealing with an uncertain and turbulent environment.

- Agile methodologies aim to deliver the right product, with incremental and frequent delivery of small chunks of functionality, through small cross-functional self-organizing teams, enabling frequent customer feedback and course correction as needed.

Agile Model

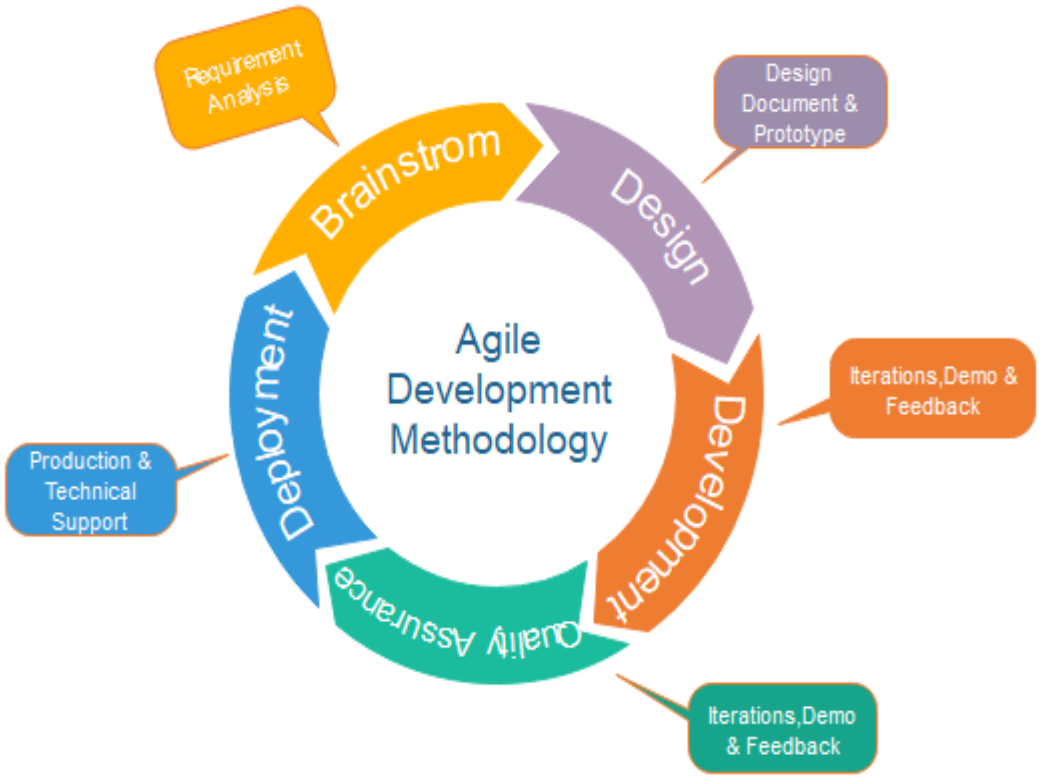
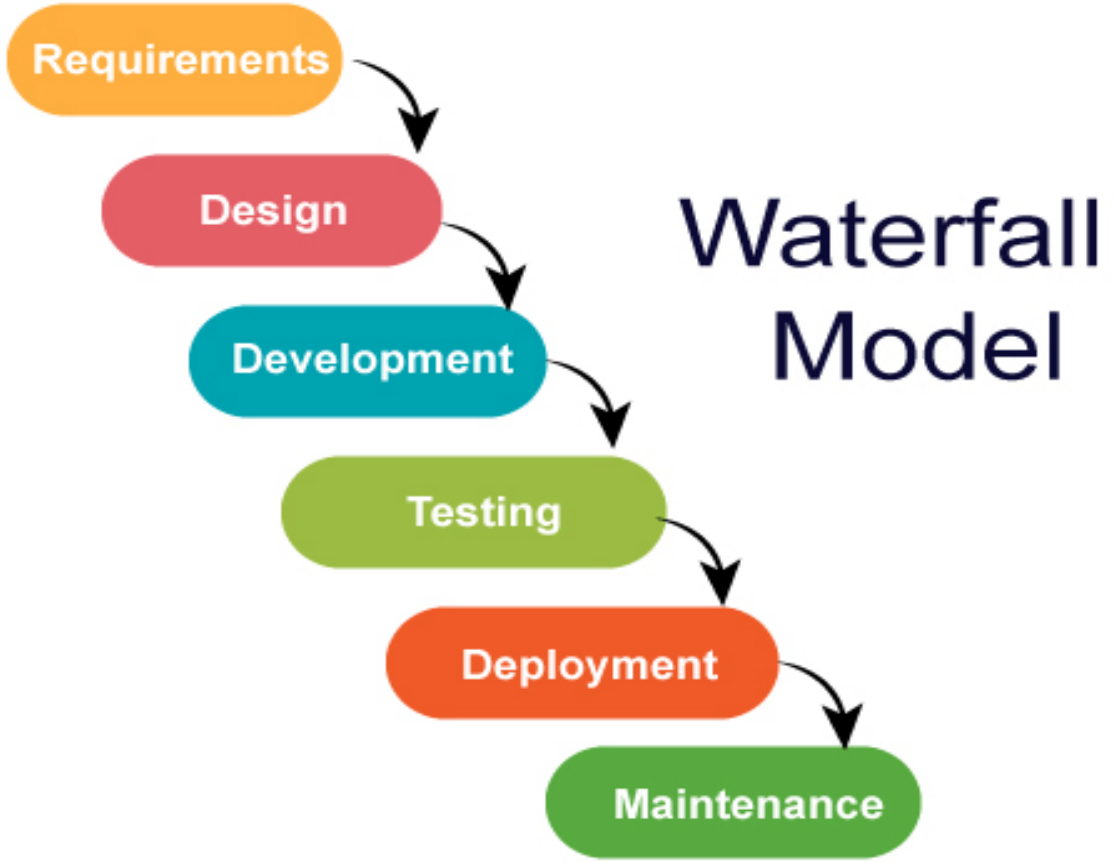
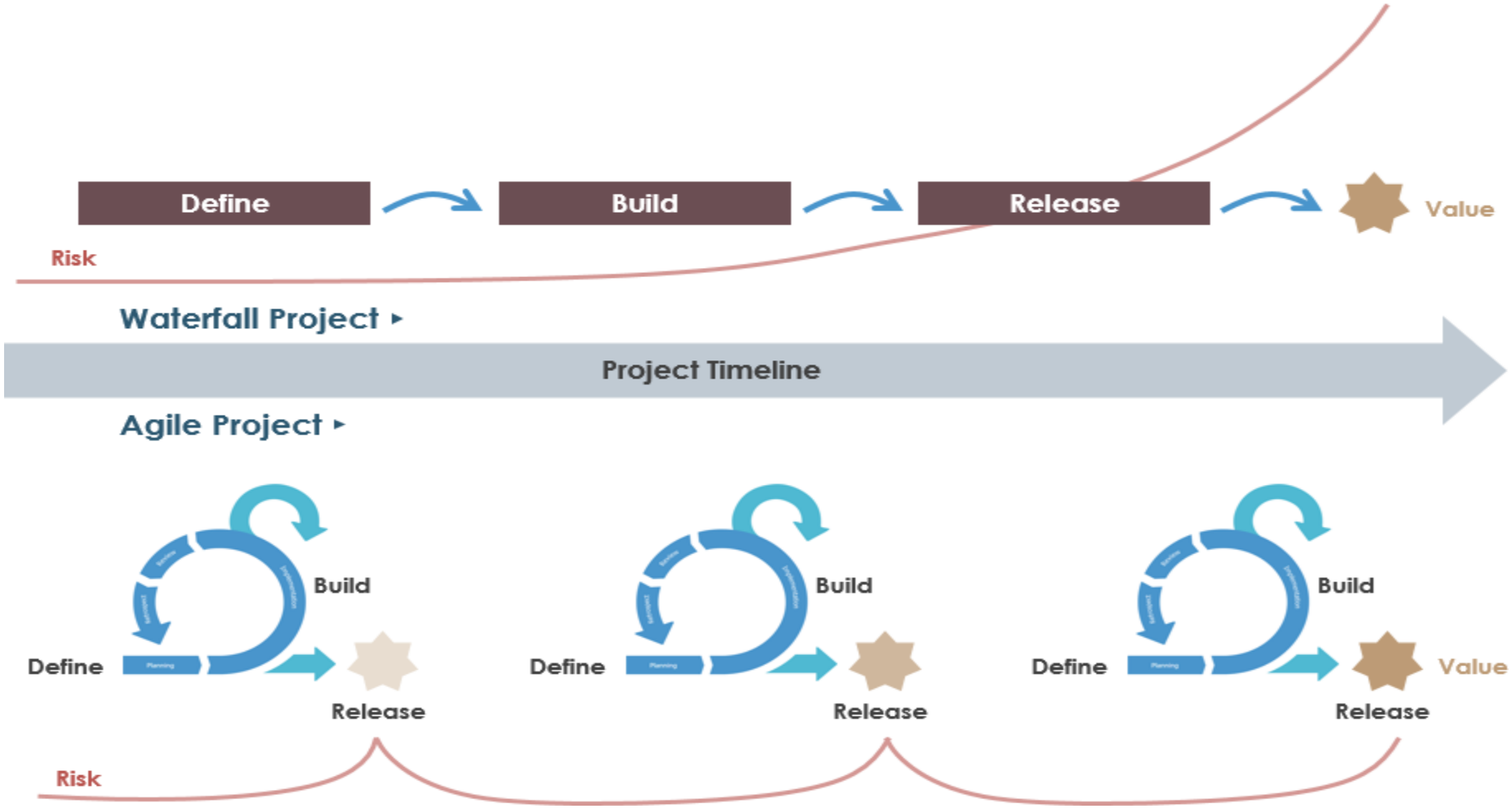


Fig. Agile Model

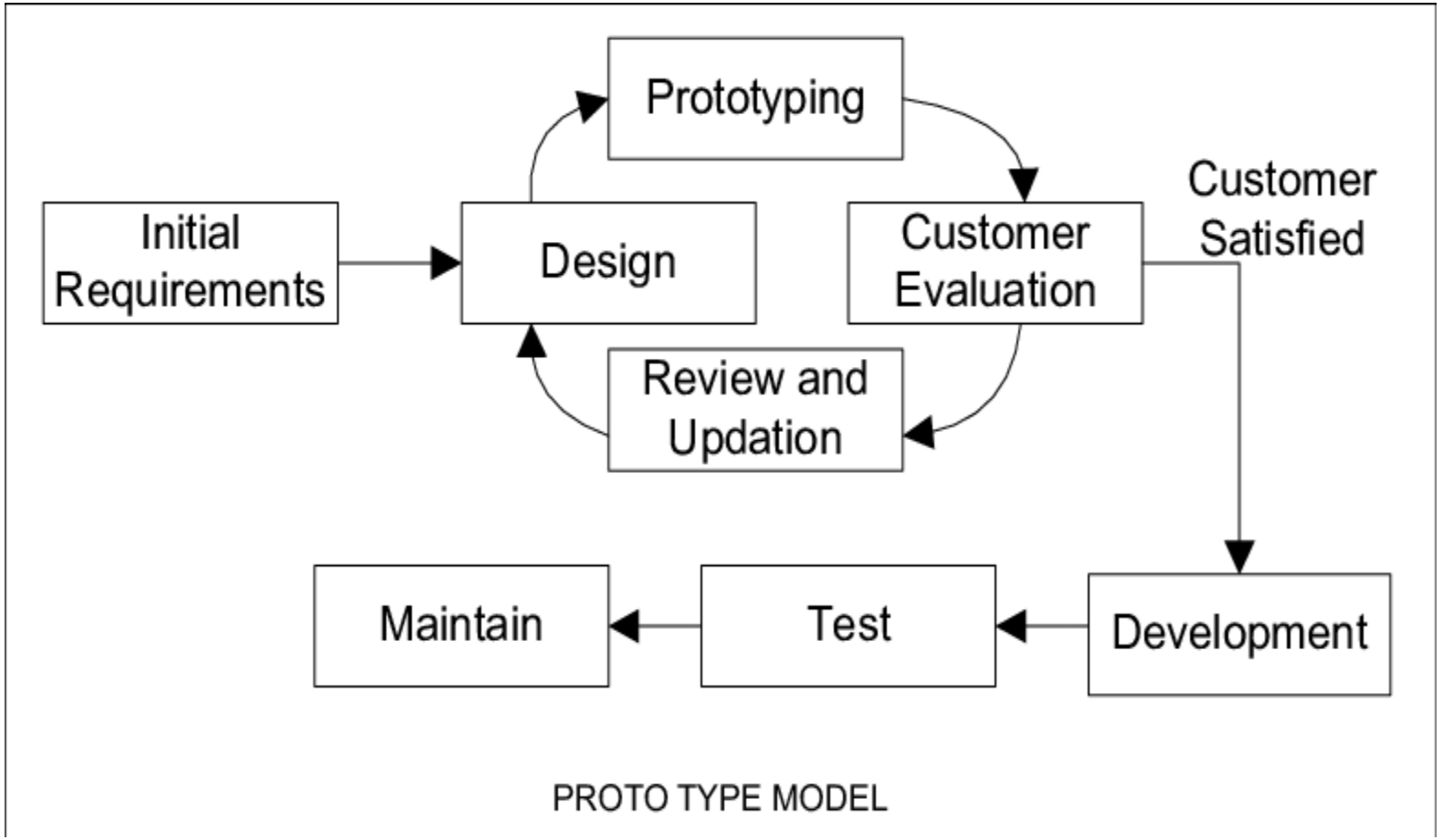
2. Waterfall Model



Agile VS Waterfall



3. Prototyping Model



Reading

- https://www.digite.com/agile/agile-methodology/
- https://www.guru99.com/software-engineering-prototyping-model.html