

***COMPUTER SCIENCE DEPARTMENT***

***SOFTWARE ENGINEERING ASSIGNMENT***

**NAME:Tsegazeab mengistu**

**ID:RCD/2140/2014**

**1,** **A prototype method or methodology**

**. Definition:**  is a process of creating an early, simplified version of a software product to test and evaluate its functionality, design, and usability.

**.Best time to use:** The prototype method is useful when project requirements are not well-defined or are likely to change. By creating a prototype early in the development process, developers can better understand user needs and preferences, allowing for adjustments and refinements to be made before investing in full development.

**. Advantage:**

**1,** Improved communication(help ensure that everyone has a common understanding of the project requirements and goals.)

**2,** Cost-effective(help save time and resources by identifying and addressing issues early on, before investing in full-scale development)

**. Disadvantage:**Maintenance and version control: Keeping track of different versions and iterations of the prototype can become challenging, especially as changes and feedback are incorporated.

**2, Iterative model**

**. Definition:**is a software development methodology where the development process is divided into smaller iterations or cycles.

Each iteration involves all necessary phases of the software development life cycle, such as planning, requirements analysis, design, implementation, and testing.

**. Best time to use:**

**1,** For projects with high levels of uncertainty

**2,** Research and development projects

**3,** Complex projects

**. Advantage:**

**1 ,** for flexibility in the development process

**2 ,**Rapid feedback(This helps ensure that the find product meets requirements and expectations)

**3,**Early defect detection( This helps improve the overall quality of the software product)

**. Disadvantage:**

1. Higher costs
2. Documentation challenges: it can be challenging to maintain comprehensive and up-to-date documentation.