



# **SNS COLLEGE OF ENGINEERING**

**Kurumbapalayam(Po), Coimbatore - 641 107**

**Accredited by NAAC-UGC with 'A' Grade**

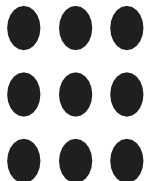
**Approved by AICTE, Recognized by UGC & Affiliated to Anna University,  
Chennai**

**Department of Information Technology**

## **Object Oriented Software Engineering**

**Incremental Process Models**

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## Incremental Process Models

- The incremental model combines elements of linear and parallel process flows.
- The incremental model delivers series of releases to the customer. These releases are called increments.
- More and more functionality is associated with each increment.





# Incremental Process Models



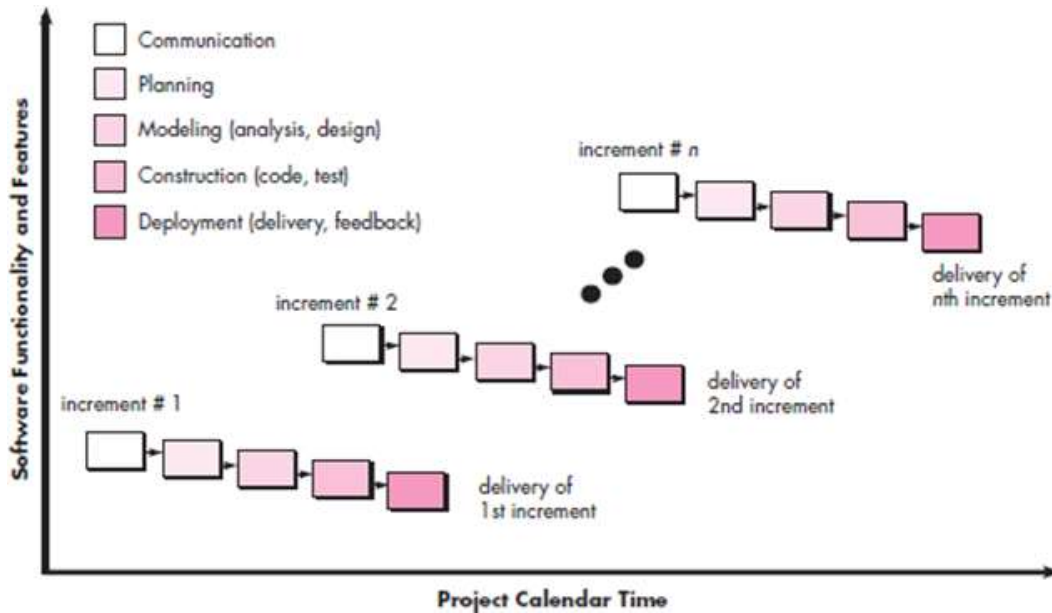
- The incremental model combines elements of linear and parallel process flows.
- The incremental model applies linear sequences in a staggered fashion as calendar time progresses.
- Each linear sequence produces deliverable “increments” of the software in a manner that is similar to the increments produced by an evolutionary process flow.





# When we can choose incremental:

- 1) When initial software requirements are reasonably well defined
- 2) When the overall scope of the development effort precludes a purely linear process.
- 3) When limited set of software functionality needed quickly





- The incremental model applies linear sequences in a staggered fashion as calendar time progresses
- **For example, word-processing** software developed using the incremental paradigm might deliver basic file management, editing, and document production functions in the first increment; more sophisticated editing and document production capabilities in the second increment;
- Spelling and grammar checking in the third increment; and advanced page layout capability in the fourth increment.





- It should be noted that the process flow for any increment can incorporate the prototyping paradigm.
- The **first increment** is often a **core product**. That is, basic requirements are addressed but many supplementary features remain undelivered.
- The core product is used by the customer. As a result of use, a plan is developed for the next increment.





- The plan addresses the modification of the core product to better meet the needs of the customer and the delivery of additional features and functionality.
- This process is repeated following the delivery of each increment, until the complete product is produced.
- Incremental development is particularly useful when staffing is unavailable for a complete implementation by the business deadline that has been established for the project.



- Early increments can be implemented with fewer people.
- If the core product is well received, then additional staff (if required) can be added to implement the next increment.
- In addition, increments can be planned to manage technical risks.







## Advantages:

- 1) Generates working software quickly and early during the software life cycle.
- 2) This model is more flexible – less costly to change scope and requirements.
- 3) It is easier to test and debug during a smaller iteration.
- 4) In this model customer can respond to each built.
- 5) Lowers initial delivery cost.
- 6) Easier to manage risk because risky pieces are identified and handled during it'd iteration.





## **Disadvantages:**

- 1) Needs good planning and design.
- 2) Needs a clear and complete definition of the whole system before it can be broken down and built incrementally.
- 3) Total cost is higher than waterfall.

