



Software Engineering

هندسة البرمجيات

جامعة بغداد

كلية التربية للعلوم الصرفة/ابن

الهيثم

قسم علوم الحاسبات

المرحلة الثالثة

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Incremental Model

Topics covered



- ✧ What is Incremental Model?
- ✧ Incremental process Model
- ✧ Phases of incremental Model (for each increment, component or in iteration)
- ✧ A multiple components incremental model
- ✧ Strengths of Incremental Model
- ✧ Weaknesses of Incremental Model

What is Incremental Model?



- ✧ The incremental model may be viewed as modification of waterfall model. In early days, each component followed a waterfall process model, passing through each step iteratively. In the incremental model the components were developed in an overlapping fashion.
- ✧ As software projects increased in size, it was recognized that it is much easier, and sometimes necessary, to develop the software if the large projects are subdivided into smaller components, which may thus be developed incrementally and iteratively.

What is Incremental Model?



- ✧ The incremental approach, attention is first focused on the essential features. Additional functionality of the software is produced and delivered to the customer in small increments.
- ✧ The components all had to be integrated and then tested as a whole final software.

Incremental process model

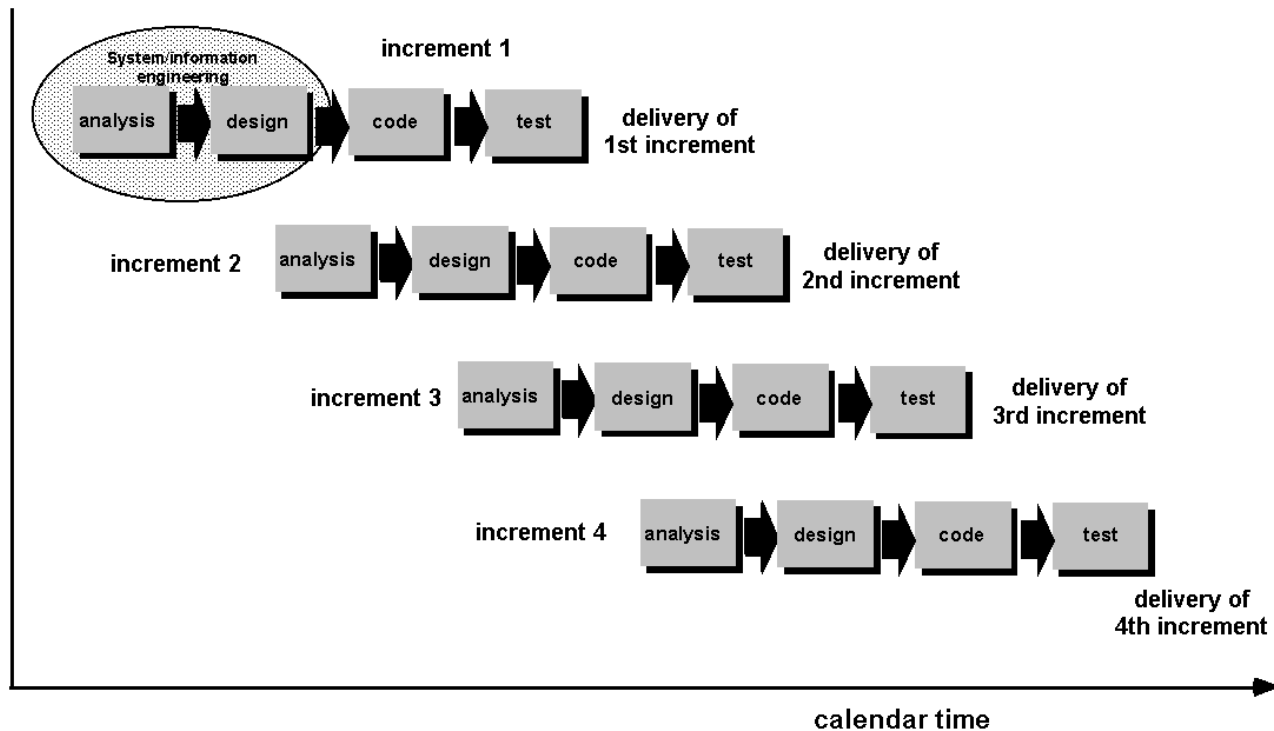


Figure 7: Incremental process model

Phases of incremental Model (for each increment, component or iteration)

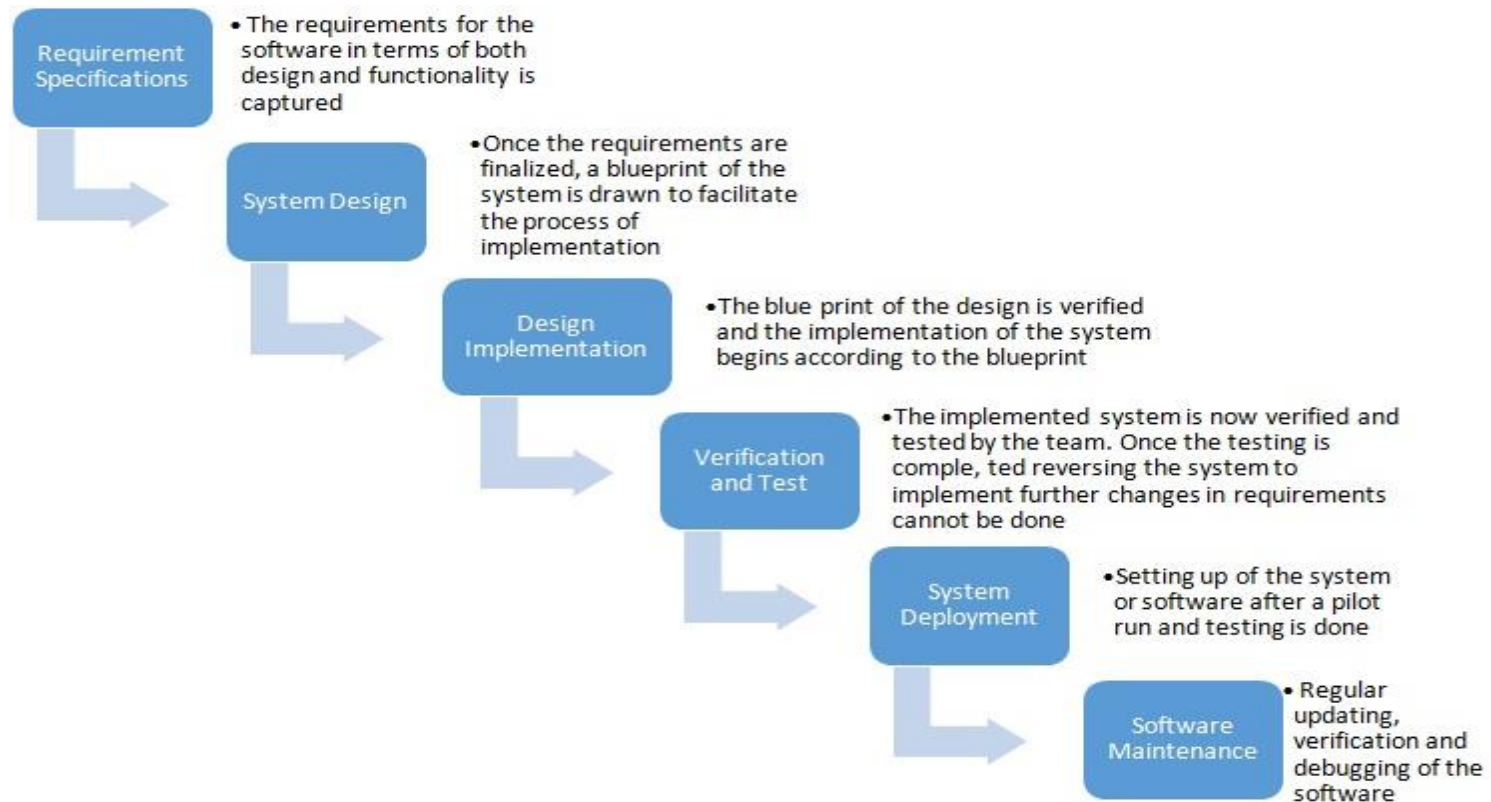


Figure 8: Phases of incremental model (for each increment or component in iteration)

A multiple components incremental model

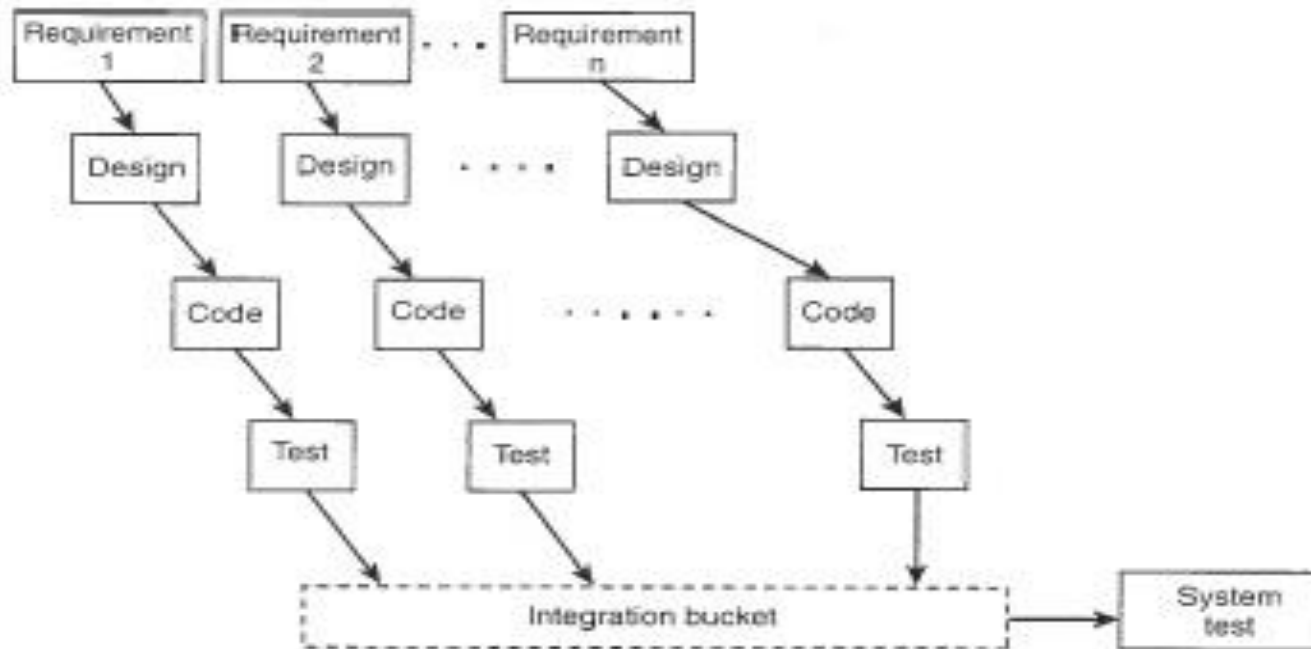


Figure 7: A multiple components Incremental model

Strengths of Incremental Model



- ✧ Working software is generated quickly and early during the software life cycle.
- ✧ It is more flexible than the other methods, and changing scope and requires is less costly with this model than with others..
- ✧ It is easier to test during a smaller iteration.
- ✧ It is easier to manage (each iteration is easily to manage).

Weaknesses of Incremental Model



- ✧ It is not easy to manage (whole software).
- ✧ The team must be able to estimate well to plan iterations.
- ✧ It is difficult to determine cost and time estimates early in the process.
- ✧ It requires experienced team members.



Thanks