CSE 470 – Incremental and Iterative Model

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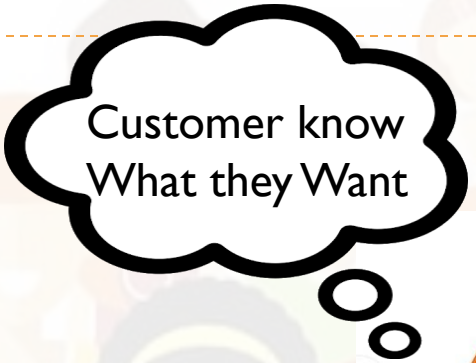
Sequential Process Model

Team Lead



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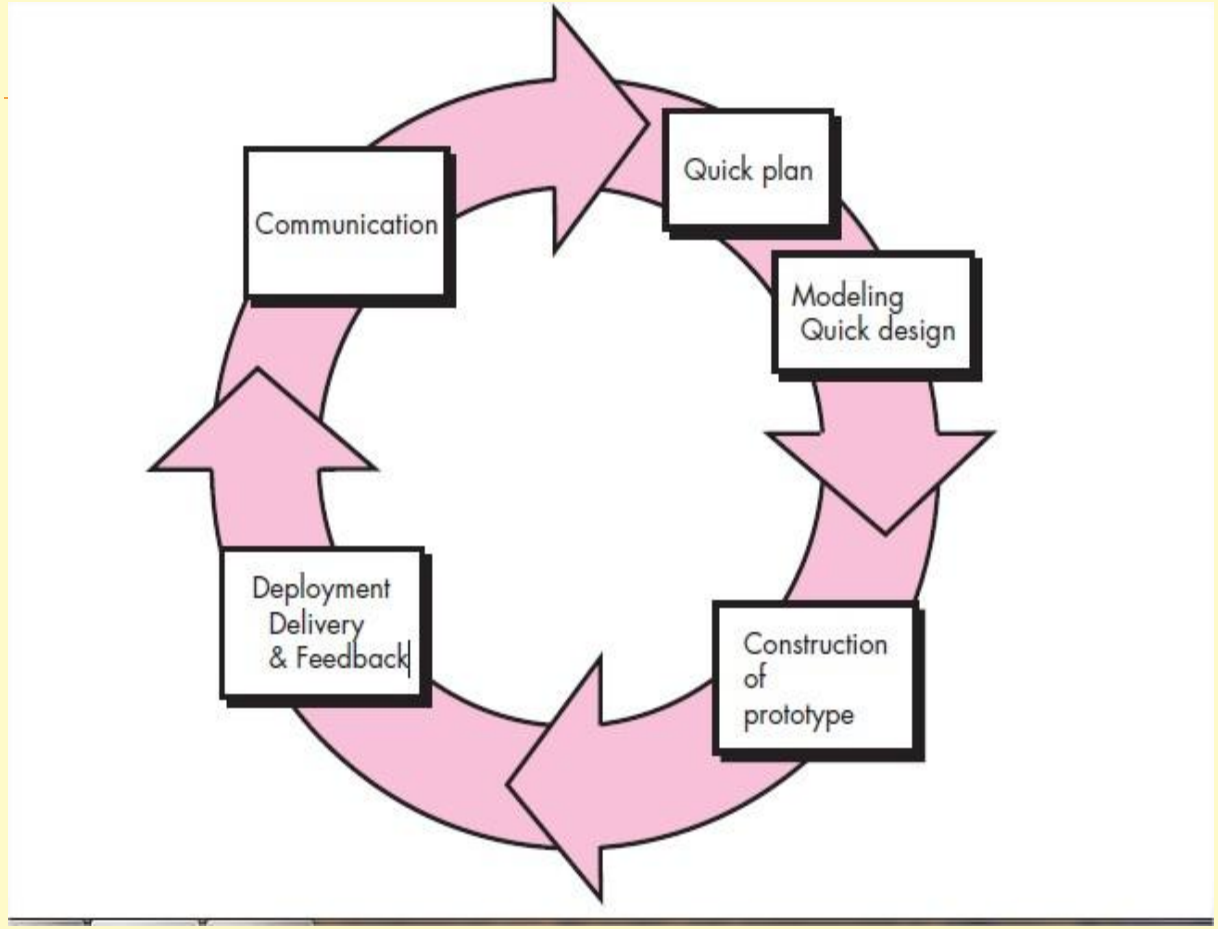
Evolutionary Process Models



1. Can change requirements as you want.
2. Can go back to previous phases, such as after coding, we can go back to communication phase for requirement collection again.

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Incremental Process Model

A software process model where the software will be delivered in increments

1. Customer wants to use the software from the very beginning of the project
2. Customer is quite well-known about the requirements
3. The software is divided into fixed number of increments to be delivered to customers

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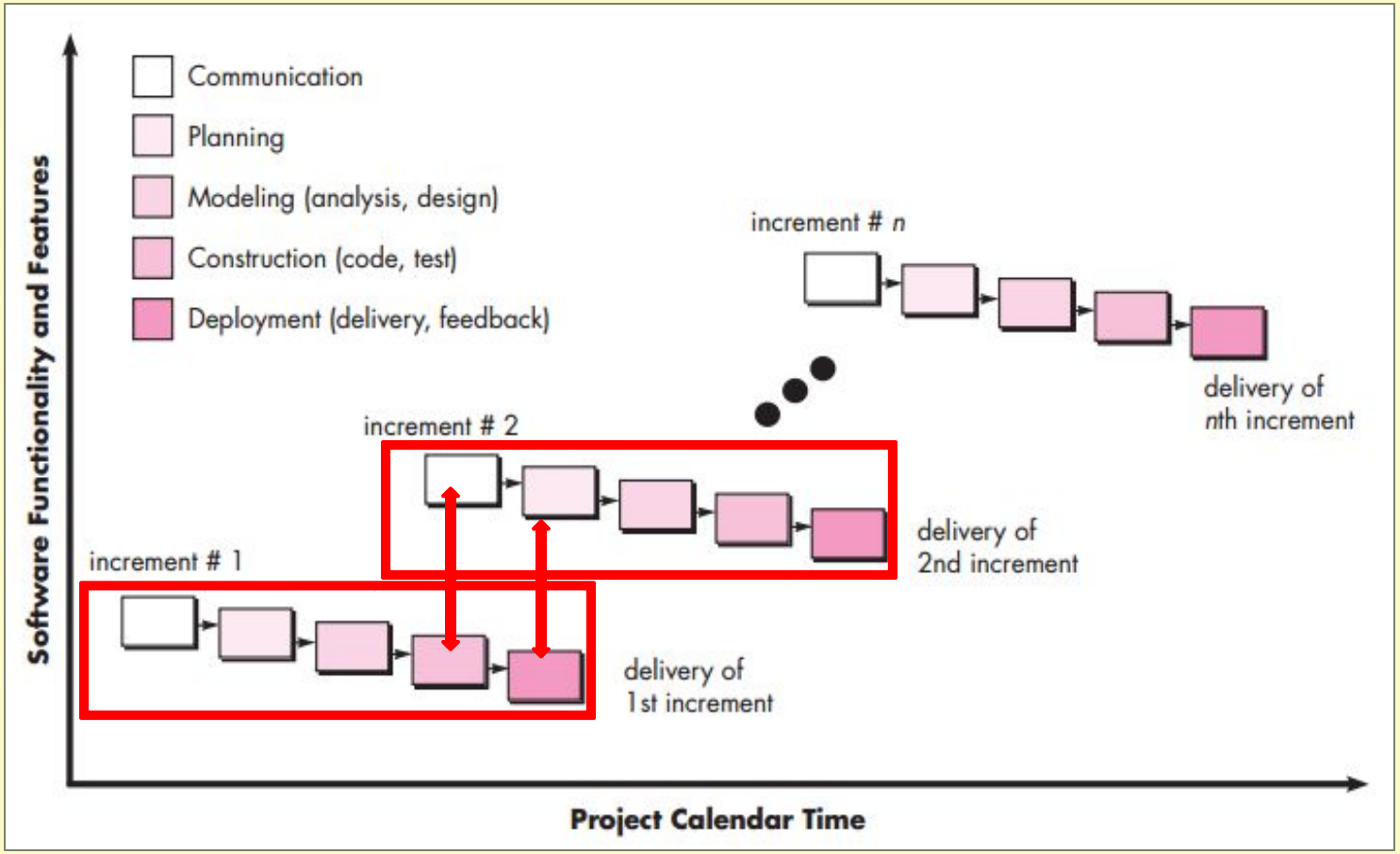
Incremental Process Model



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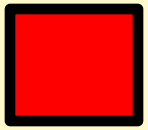
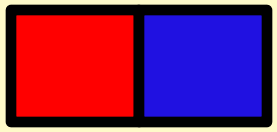
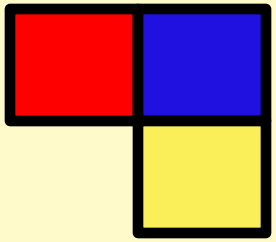


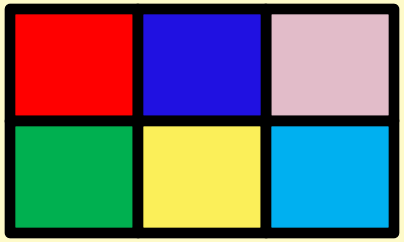
Increment 1

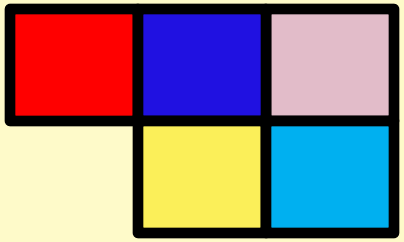


Increment 2

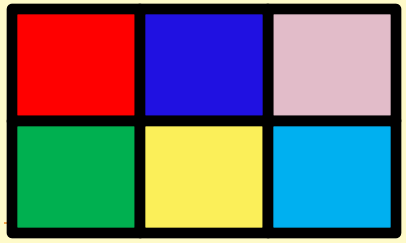


Increment 3





Increment 4



Increment

1. For example, in first increment Login module is delivered. In second increment, another new module such as Navigation module is also added. In third, one more added.
2. That is, this model "adds onto" new section as increments.

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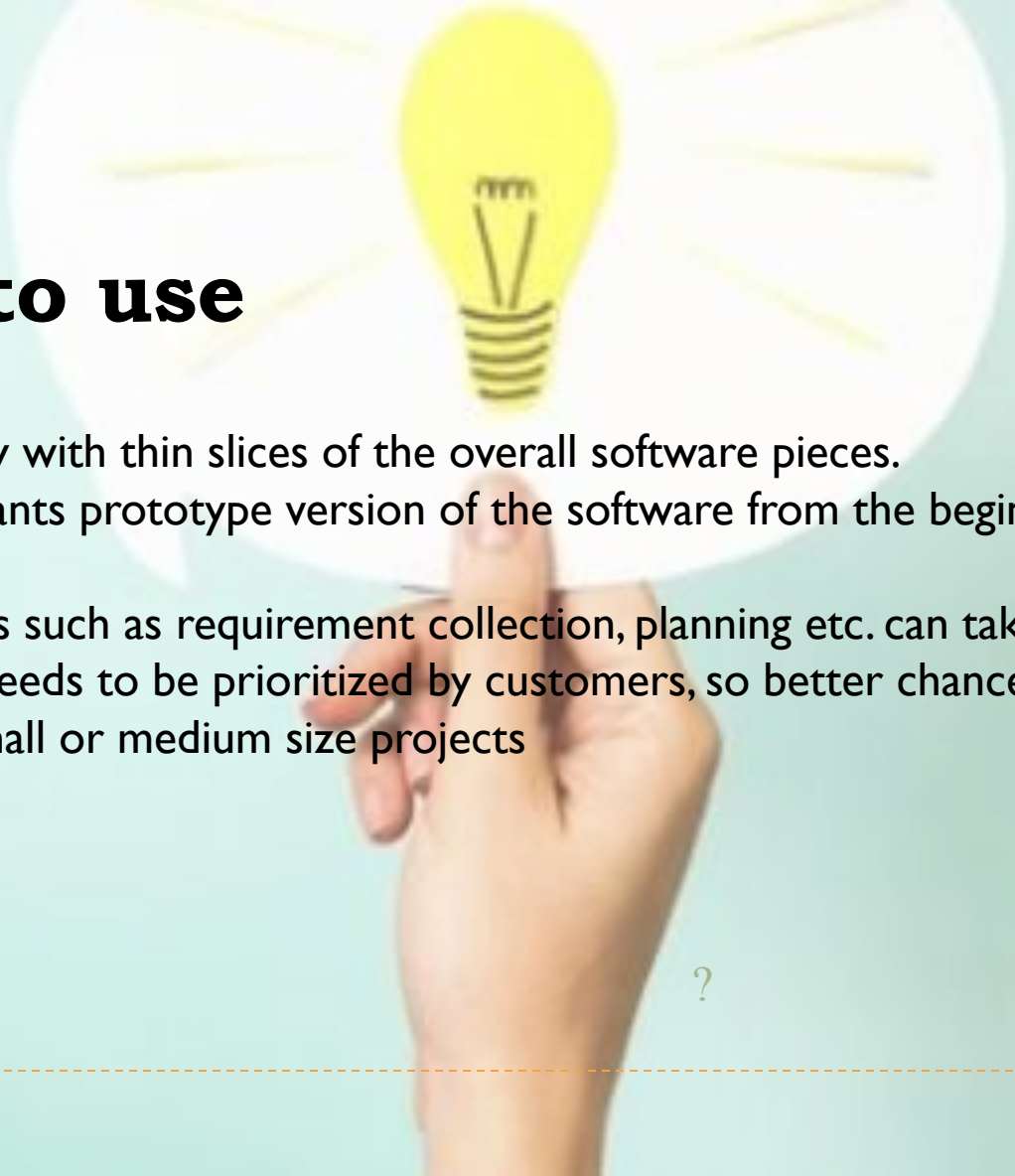
When to use



1. You are ready with thin slices of the overall software pieces.
2. Customer wants prototype version of the software from the beginning of the project
3. Parallel stages such as requirement collection, planning etc. can take place.
4. Increments needs to be prioritized by customers, so better chance of success
5. Better for small or medium size projects

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Iterative Process Model

A software process model where the software will be delivered in iterations

1. Customer is not sure about the requirements
2. Even development team may not be sure about which technology, algorithms may be used.
3. There is no fixed limit of iterations, that is time is set aside.

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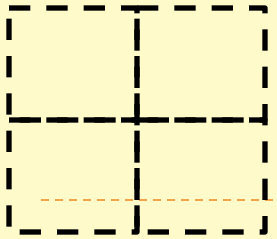
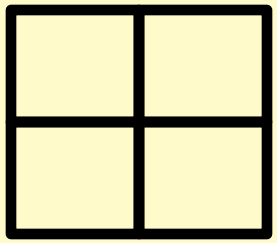
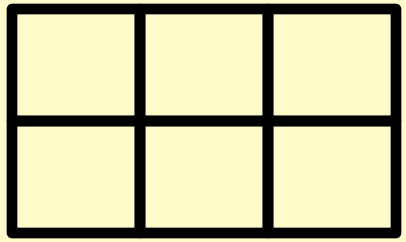


Iteration 1

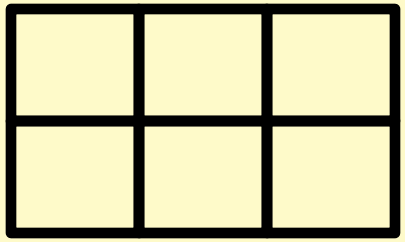
1. For example, in first iteration Login module is delivered. In second iteration, Login module is updated again. In third iteration, Navigation module is added .And in fourth iteration some refinement is done.
2. That is, this model "changes or reworks" on same section in iterations until customer accepts it.

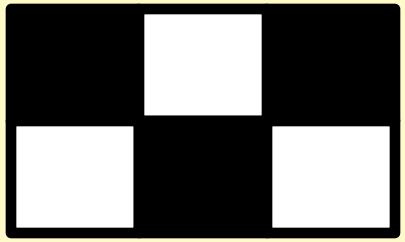


Iteration 2

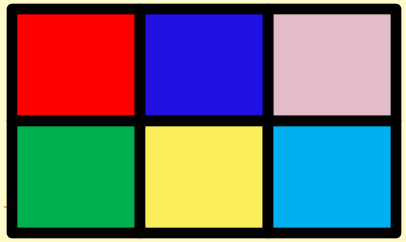


Iteration 3





Iteration 4



Iteration

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When to use

1. Requirements are not fixed
2. Technological tools or requirements are not identified yet.
3. Instead of fixed time, quality of the features is refined with time
4. Customer feedbacks with repetitive iterations increase the product quality
5. Better for long-term and complex projects

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Example Case

1. Being a project manager of a software company, you have got a project request for developing a corona virus awareness app. The customers initially want the app to show testing info, take appointments, visualize affected area data and many more. Currently, the software should support only Bangla language, however English language support can be added later if the app gets promising feedbacks.

In such a case, which would you apply – Waterfall, Incremental or Iterative?

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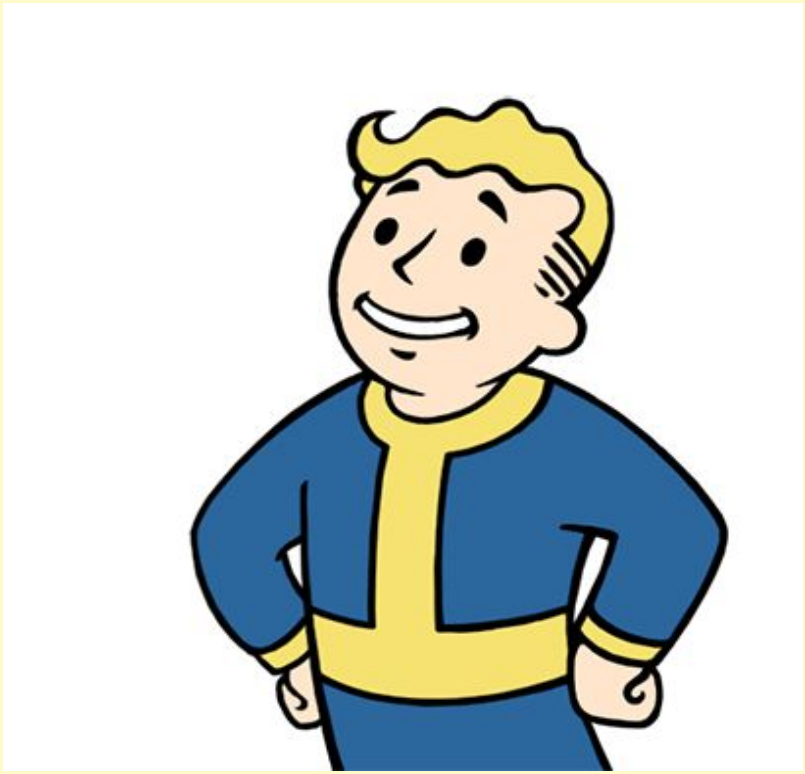

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