

## Rational Unified Process

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- RUP is a software (development | design) process that is:
  - Use case-driven
  - Architecture-centric
  - Iterative and incremental

Week 9  
Lecture Slide 1

## Use Case Driven

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- *Use cases* are the primary artifact for establishing the behavior of the system, verifying and validating the system's architecture, testing, and communicating with stakeholders.
- Start with use cases.
- Talk to users to find out what the system is supposed to do.

Week 9  
Lecture Slide 2

## Architecture-centric

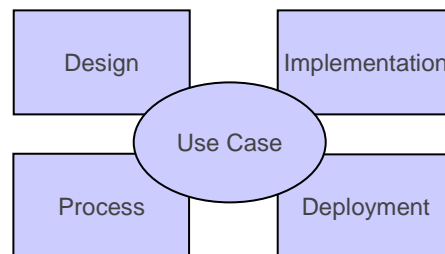
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- *Architecture-centric* means that a system's architecture is used as the primary artifact for conceptualizing, constructing, managing, and evolving the system under development.
- Create a big picture of the system first.
- Then add details.

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Lecture Slide 3

## 4+1 Architectural Views

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- Use case– interactions with the system
- Design view– components that constitute the system
- Process view– aspects that involve timing and flow of control
- Implementation view– things assembled and realized to form the system
- Deployment view– geographic distribution of SW and HW

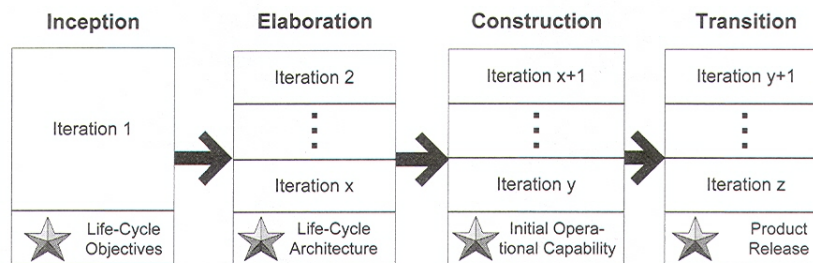
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## Iterative and Incremental

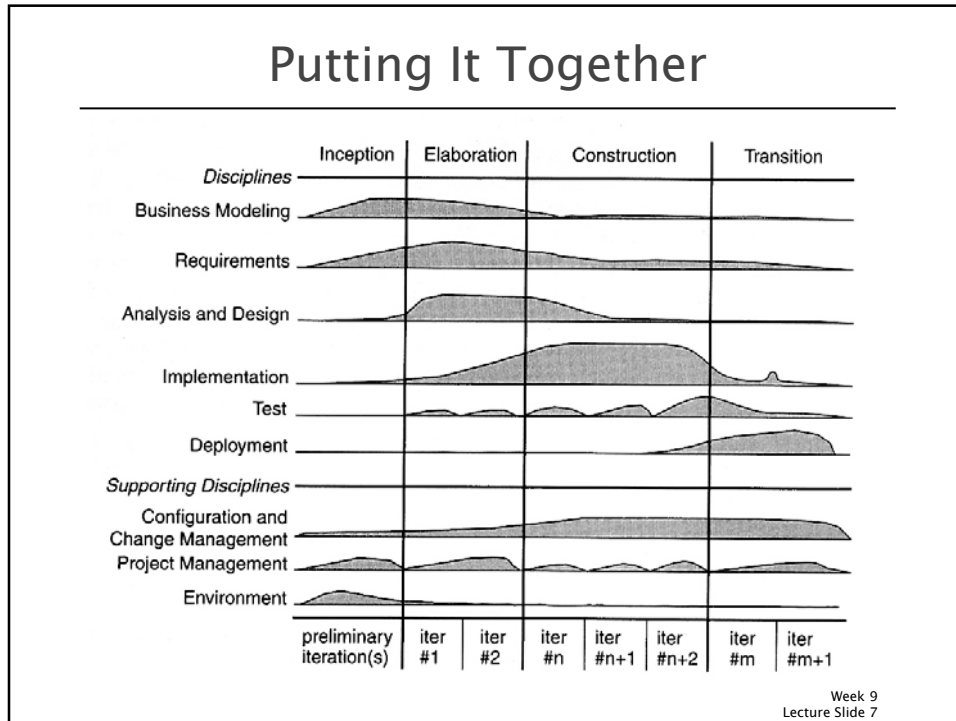
- An *iterative process* is one that involves managing a stream of executable releases. An *incremental process* is one that involves the continuous integration of the system's architecture to produce the releases. Together, the result is a *risk-driven process*.
- Lots of small improvements.
- Build on previous work.
- Focus on the reducing the most significant risks.

Week 9  
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## Four Phases



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## Example: Video Store

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Check out a video

1. Clerk scans customer card
2. Clerk scans videos
3. Monitor displays price and rental period

Check in a video

1. Clerk scans video
2. System calculates late fees

Register new customer

1. Clerk enters customer data
2. Clerk swipes credit card
3. System prints customer card

Week 9  
Lecture Slide 8

## What conceptual classes do we have?

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- Video
- Customer
- CustomerCard
- Clerk
- Price
- RentalPeriod
- Fee
- CreditCard
  
- Others?