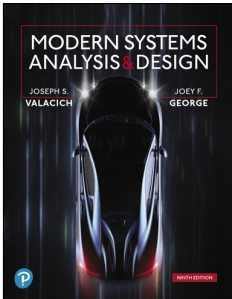


## Modern Systems Analysis and Design

Ninth Edition



### Chapter 3 Appendix

Object-Oriented Analysis  
and Design

Pearson

Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

1

---

---

---

---

---

---

---

---

## Learning Objectives

**3A.1** Describe the unique characteristics of an OOSAD project

Pearson

Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

2

---

---

---

---

---

---

---

---

## Introduction

- Unique Characteristics of an OOSAD project include:
  - Using a more iterative design approach, such as prototyping or object-oriented analysis and design
  - During the OOSAD process, the system evolves incrementally over the life of the project
    - A portion of the final system is constructed during each iteration phase

Pearson

Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

3

---

---

---

---

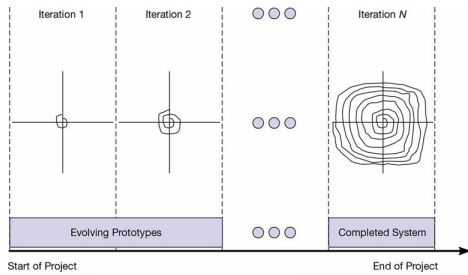
---

---

---

---

**Figure 3-31: During the OOSAD Process, the System Evolves Incrementally Over the Life of the Project**



Pearson

Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

4

### Define the System as a Set of Components (1 of 3)

#### 3A.1 Describe the unique characteristics of an OOSAD project

- The project manager must subdivide the overall system into a set of components (each referred to as a "vertical slice")
- Earlier components will require more iterations
- Consider the following:
  - Complete hard problems first
    - Allows the difficult problems to be examined first before substantial resource allocations are made
    - Initial iteration should focus on system architecture (database or networking infrastructure)

Pearson

Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

5

### Define the System as a Set of Components (2 of 3)

#### 3A.1 Describe the unique characteristics of an OOSAD project

- Use iterations to manage the project
  - All systems life-cycle activities performed during each iteration
  - Results from each iteration are the inputs to the next iteration
- Don't plan too much up front
  - More learned during each iteration
  - Project manager able to make better predictions and plans
  - Project manager should make detailed plans only for the next iteration, not the entire project

Pearson

Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

6

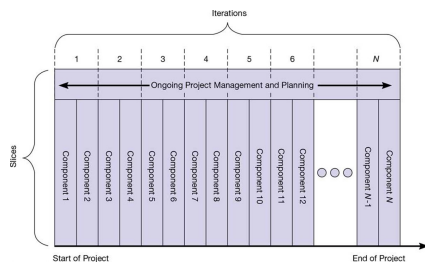
## Define the System as a Set of Components (3 of 3)

### 3A.1 Describe the unique characteristics of an OOSAD project

- How many and how long are iterations?
  - Each should be the same length
  - Don't pack too many components into one iteration
  - OOSAD projects typically have 6 to 9 iterations
- Project activity focus changes over the life of the project
  - As the project evolves, system functionality evolves

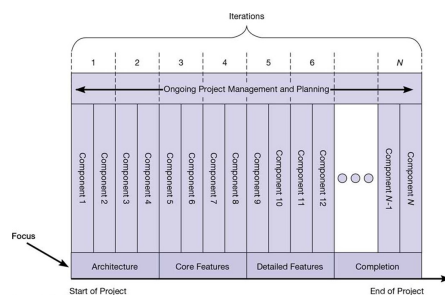
7

**Figure 3-32: Object-Oriented Development Projects are Developed Using Ongoing Management and Evolving System Functionality**



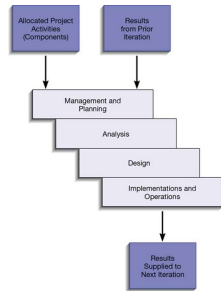
8

**Figure 3-33: The Focus and Ordering of System Components Change Over the Life of the Project**



9

**Figure 3-34: The Workflow of an Iteration**



(Source: Based on Royce, 1998; George et al., 2007)



Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

10

---

---

---

---

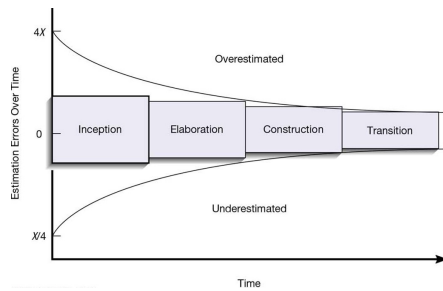
---

---

---

---

**Figure 3-35: Planning Estimation Improves Over Time**



(Source: Based on Royce, 1998; George et al., 2007)



Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

11

---

---

---

---

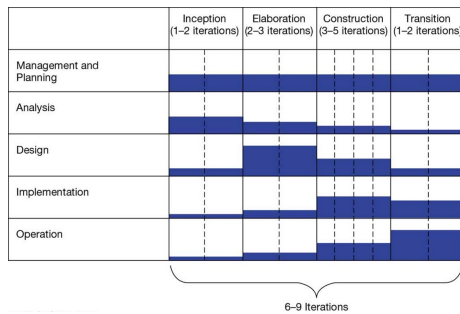
---

---

---

---

**Figure 3-36: An OOSAD Project Typically Has Six to Nine Iterations**



Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

12

---

---

---

---

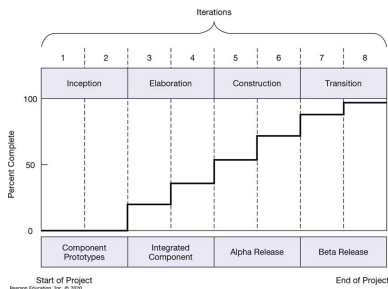
---

---

---

---

**Figure 3-37: As the Project Evolves, System Functionality Evolves**



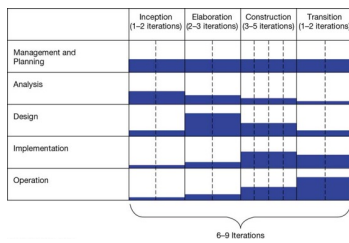
(Source: Based on Royce, 1998; George et al., 2007)



Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

13

**Figure 3-38: The Level and Focus of Activity Across the Systems Development Process Change from the Start to the End of the Project**



Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

14

## Summary


- Describe the unique characteristics of an OOSAD project




Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

15

# Copyright



This work is protected by United States copyright laws and is provided solely for the use of instructors in teaching their courses and assessing student learning. Dissemination or sale of any part of this work (including on the World Wide Web) will destroy the integrity of the work and is not permitted. The work and materials from it should never be made available to students except by instructors using the accompanying text in their classes. All recipients of this work are expected to abide by these restrictions and to honor the intended pedagogical purposes and the needs of other instructors who rely on these materials.



Copyright © 2020, 2017, 2014 Pearson Education, Inc. All Rights Reserved

---

---

---

---

---

---

---