# Modern Systems Analysis and Design

**Seventh Edition**

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## Chapter 7 Appendix C

## Represent System Logic With Sequence Diagrams.

# Learning Objectives

- ✓ Understand how to represent system logic with sequence diagrams.


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# Dynamic Modeling: Sequence Diagrams

- **Sequence diagram:** depicts the interactions among objects during a certain period of time
  - May be presented either in a generic form or in an instance form.
  - **Generic form** shows all possible sequences of interactions – sequences corresponding to all the scenarios of a use case.
  - **Instance form** shows the sequence for only one scenario.


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# Dynamic Modeling: Sequence Diagrams (Cont.)

- Elements of a sequence diagram
  - **Objects**: represented by boxes at top of diagram
  - **Lifeline**: the time during which an object exists
  - **Messages:** means by which objects communicate with each other


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# Dynamic Modeling: Sequence Diagrams (Cont.)

- **Activation**: the time period during which an object performs an operation
- **Synchronous message**: a type of message in which the caller has to wait for the receiving object to finish executing the called operation before it can resume execution itself


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# Dynamic Modeling: Sequence Diagrams (Cont.)

- **Simple message**: a message that transfers control from the sender to the recipient without describing the details of the communication
- **Asynchronous message**: a message in which the sender does not have to wait for the recipient to handle the message


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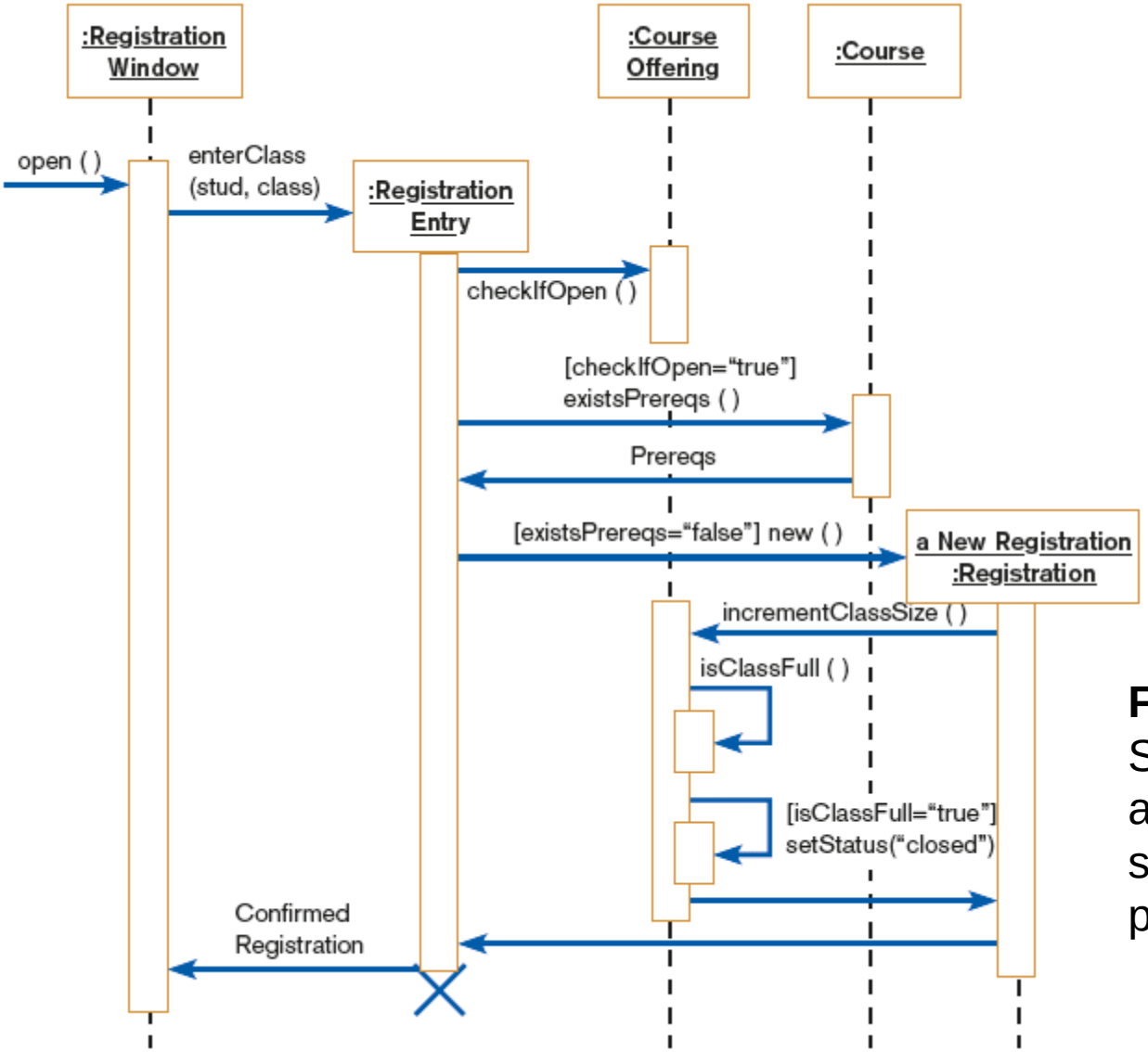


**FIGURE 7-38**
Sequence diagram for a class registration scenario without prerequisites


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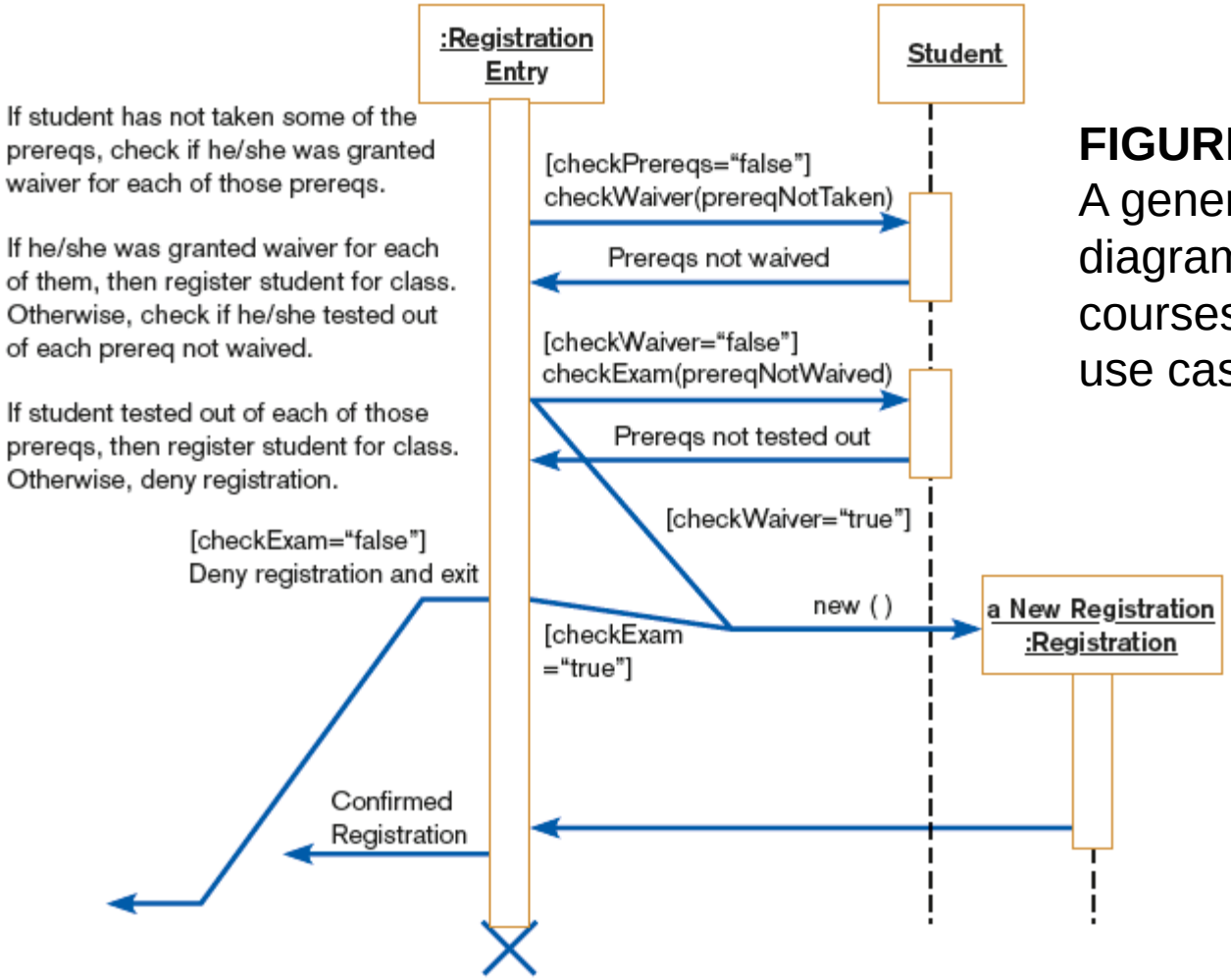


**FIGURE 7-39**
A generic sequence diagram for the prereq courses not completed use case


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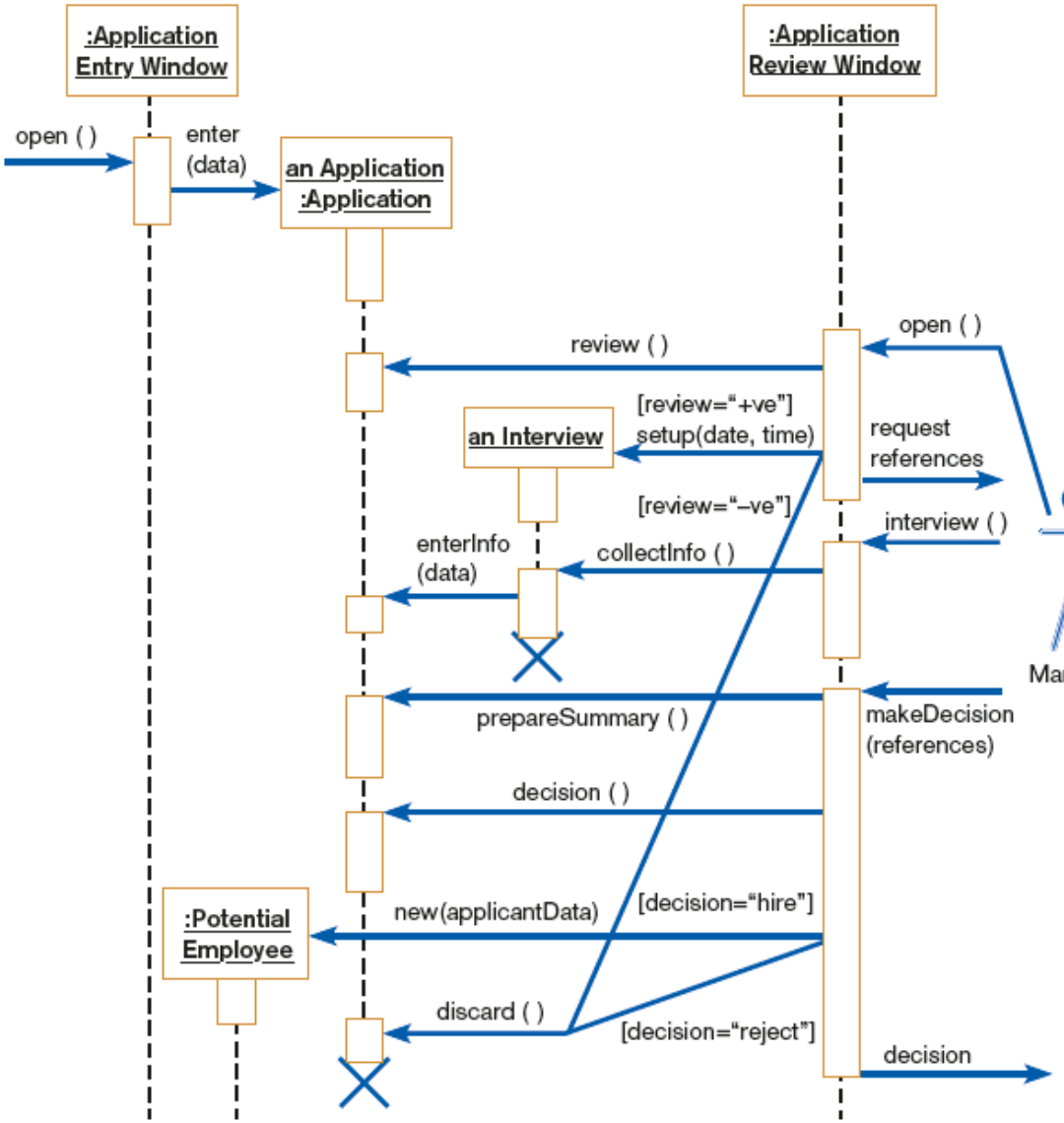


**FIGURE 7-40**
Sequence diagram for Hoosier Burger's Hire employee use case


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# Summary

- In this appendix you learned:
- ✓ How to represent system logic with sequence diagrams.


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