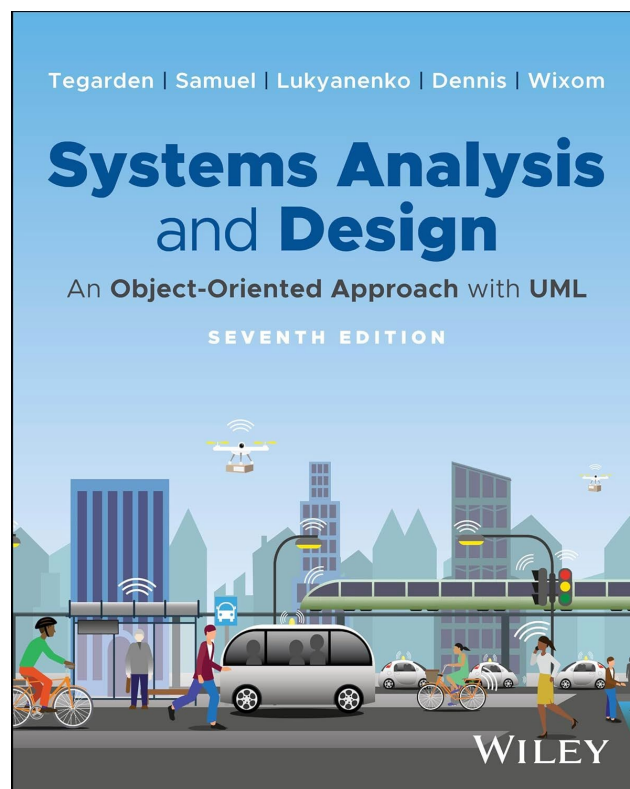


UML Activity Diagrams

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Abstract: UML Activity Diagrams are dynamic blueprints of how tasks, actors, and other objects (e.g., data) weave together to achieve goals. Whether you are developing an app, streamlining business operations, or simply making sense of chaos, mastering Activity Diagrams is your first step toward building effective and responsible systems. UML Activity Diagrams turn abstract plans and ideas into crystal-clear visual maps, exposing hidden bottlenecks, decision points, and opportunities for improvement.

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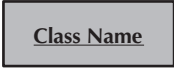
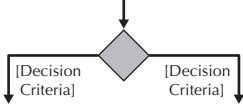
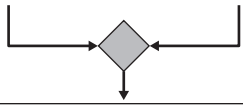
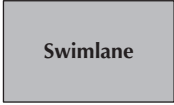
An action: ■ is a simple, nondecomposable piece of behavior. ■ is labeled by its name.	
An activity: ■ is used to represent a set of actions. ■ is labeled by its name.	
An object node: ■ is used to represent an object that is connected to a set of object flows. ■ is labeled by its class name.	
A control flow: ■ shows the sequence of execution.	
An object flow: ■ shows the flow of an object from one activity (or action) to another activity (or action).	
An initial node: ■ portrays the beginning of a set of actions or activities.	
A final-activity node: ■ is used to stop all control flows and object flows in an activity (or action).	
A final-flow node: ■ is used to stop a specific control flow or object flow.	
A decision node: ■ is used to represent a test condition to ensure that the control flow or object flow only goes down one path. ■ is labeled with the decision criteria to continue down the specific path.	
A merge node: ■ is used to bring back together different decision paths that were created using a decision node.	
A fork node: ■ is used to split behavior into a set of parallel or concurrent flows of activities (or actions)	
A join node: ■ is used to bring back together a set of parallel or concurrent flows of activities (or actions)	
A swimlane: ■ is used to break up an activity diagram into rows and columns to assign the individual activities (or actions) to the individuals or objects that are responsible for executing the activity (or action) ■ is labeled with the name of the individual or object responsible	

FIGURE 3-6 Syntax for an Activity Diagram

Create Appointment activities appear twice in the diagram: once for an “old” patient scenario and once for a “new” patient scenario. This is preferred to better portray the decision structure of this use case. When this use case is actually implemented, these activities could simply be realized as a function once or as an extended use case that would be called for the different separate scenarios.

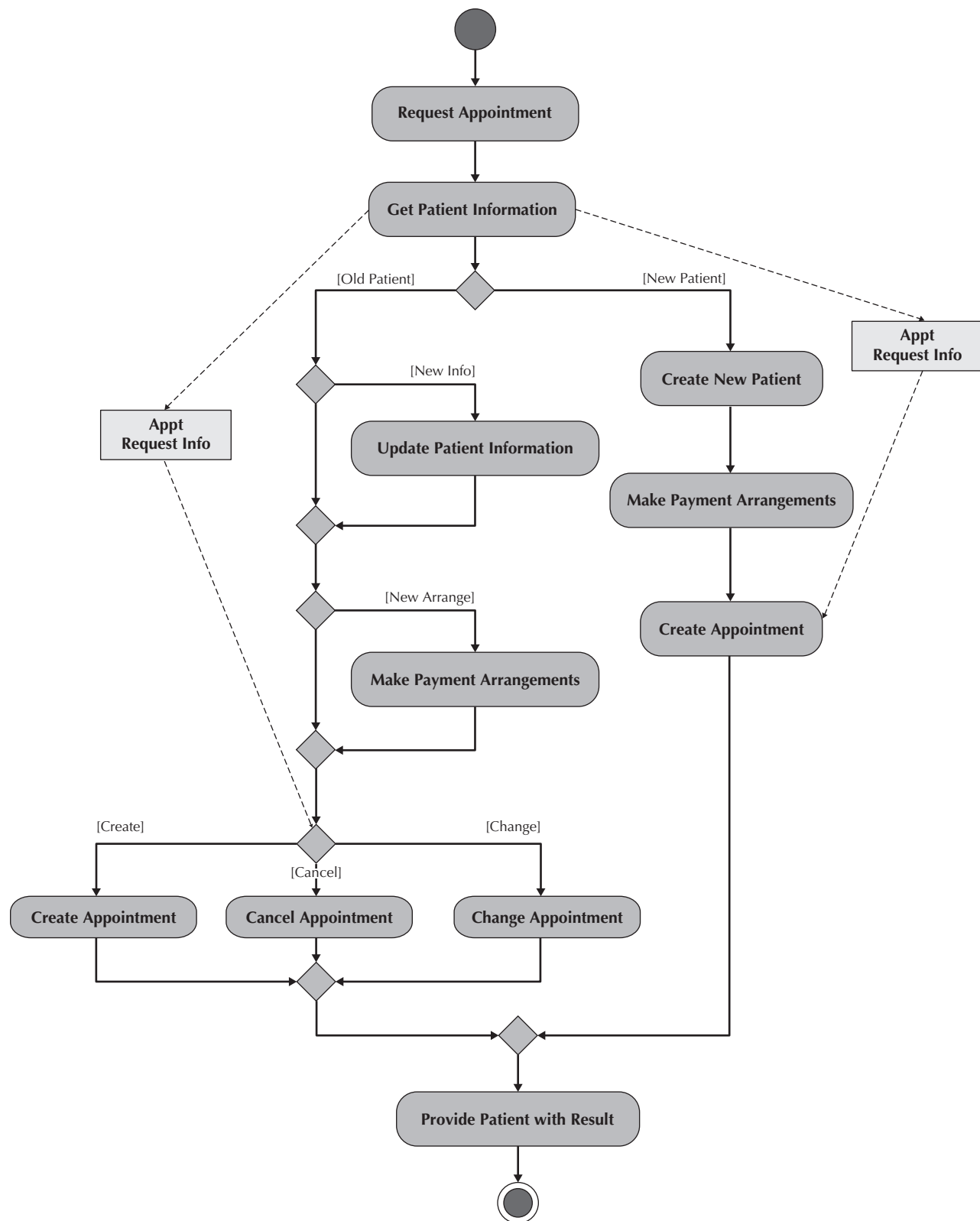


FIGURE 3-7 Activity Diagram for the Manage Appointments Use Case

Learn more in:

Tegarden D., Samuel, B.M., Lukyanenko R., Dennis A., Wixom B., 2025.
Systems Analysis and Design: An Object-Oriented Approach with UML
7th Edition, Wiley

<https://www.amazon.com/Systems-Analysis-Design-EEPUB-Access/dp/1394331762>

