

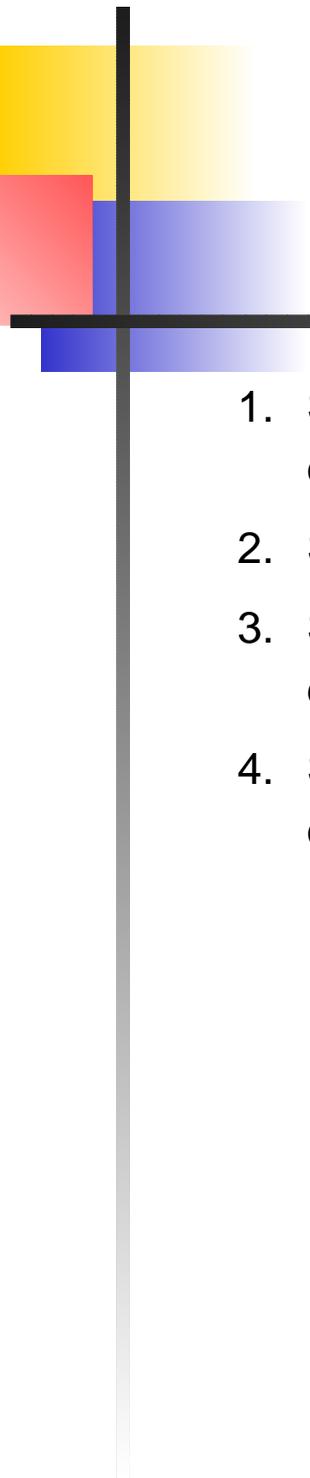
# StateChart Diagrams

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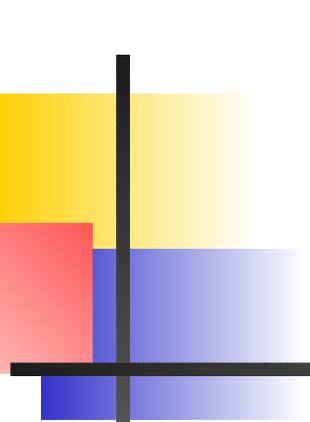
Hamilton, Ontario, Canada



# Overview

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1. Statechart diagram is one of the five UML diagrams used to model dynamic nature of a system.
2. Statechart diagram describes the flow of control from one state to another state.
3. Statechart diagrams are useful to model reactive objects. Reactive objects can be defined as an object that responds to external or internal events.
4. So the most important purpose of Statechart diagram is to model life time of an object from creation to termination.



# Components

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1. State
2. Event
3. Action

# State & Action

State is a condition or situation of an object during its life time. It is represented by a rectangle with rounded corners. It has two parts. Top half contains the name of the state and rest half contains its sequential actions. Initial and final states are represented by an arrow coming from a solid circle and an arrow going to a filled circle nested inside another circle.

# State & Action

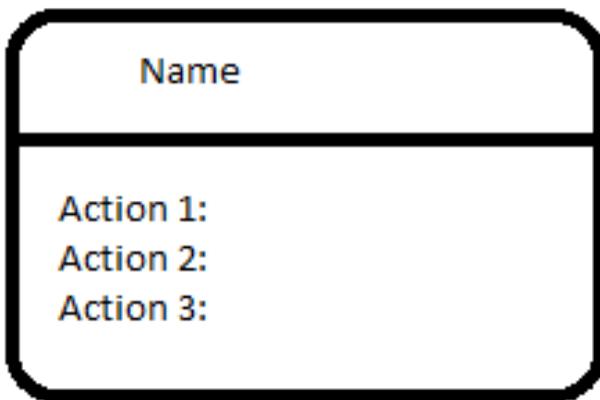
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**Action** is an executable atomic computation that results in a change in state of the model.

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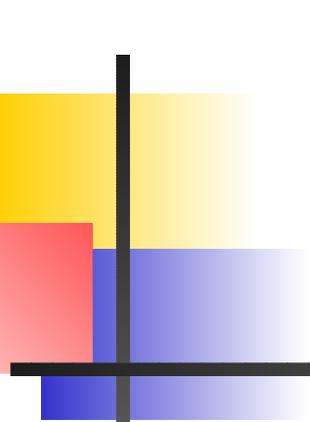
# Event

An event is an occurrence of a stimulus that can trigger a state transition. A transition is a relationship between two states indicating that an object in the first state will perform certain actions and enter the second state when a specified event occurs and specified condition are satisfied. Transitions are represented by solid line with arrow head and it is labeled with the event that triggered it and the condition it satisfied.

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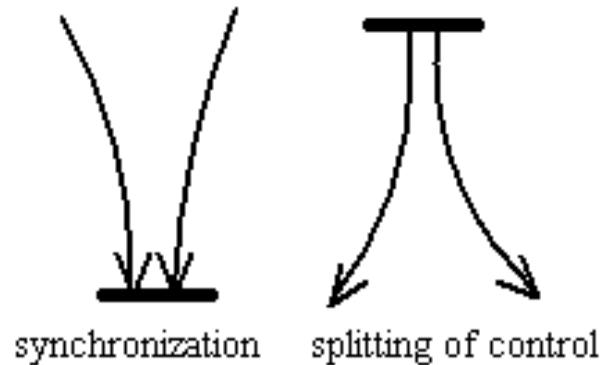
# Synchronization & Splitting

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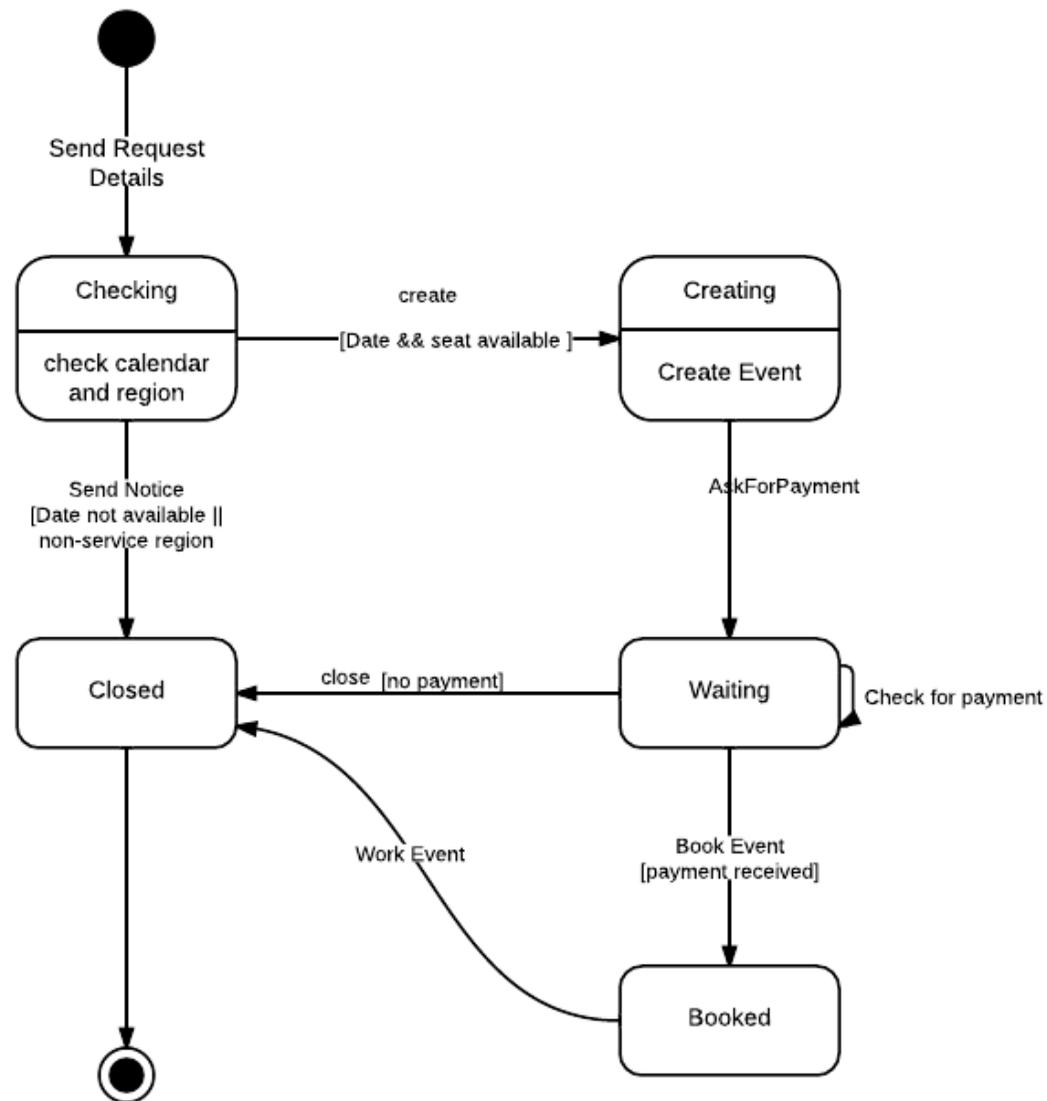
In order to stimulate a state, if we need more than one event and condition we can use the synchronization. It is just more than one arrow coming to a thick solid line. Similarly we can split controls and events.

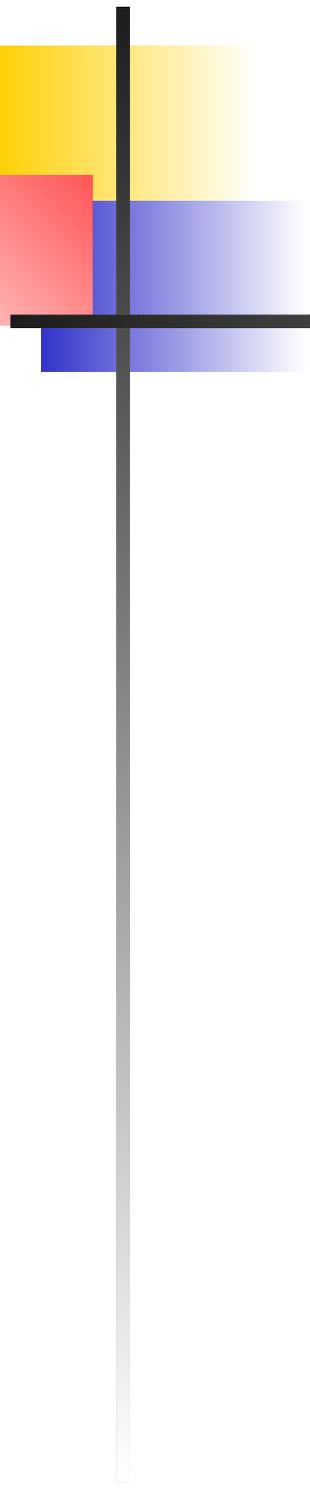
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# Booking System





# Questions??