

Object Oriented Analysis & Design

Engr. Abdul-Rahman Mahmood

DPM, MCP, QMR(ISO9001:2000)

 armahmood786@yahoo.com


 alphapeeler.sf.net/pubkeys/pkey.htm

 pk.linkedin.com/in/armahmood

 www.twitter.com/alphapeeler

 www.facebook.com/alphapeeler

 abdulmahmood-sss  alphasecure

 armahmood786@hotmail.com

 <http://alphapeeler.sf.net/me>

 alphasecure@gmail.com

 <http://alphapeeler.sourceforge.net>

 <http://alphapeeler.tumblr.com>

 armahmood786@jabber.org

 alphapeeler@aim.com

 mahmood_cubix  48660186


 alphapeeler@icloud.com

 <http://alphapeeler.sf.net/acms/>

State-chart diagrams

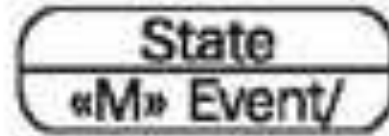
Part-2

State-chart diagrams

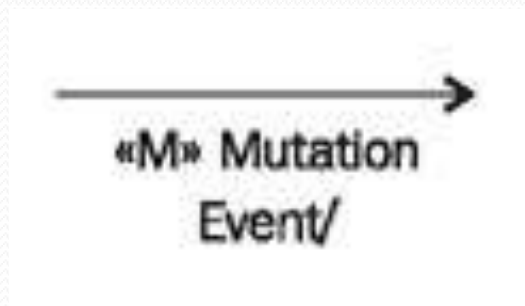
- **State:** The state of an object is always determined by its attributes and associations. States in statechart diagrams represent a *set* of those value combinations, in which an object *behaves the same* in response to events.
- Therefore, not every modification of an attribute leads to a new state.
- **Transition:** A transition represents the change from one state to another. 
-

State-chart diagrams

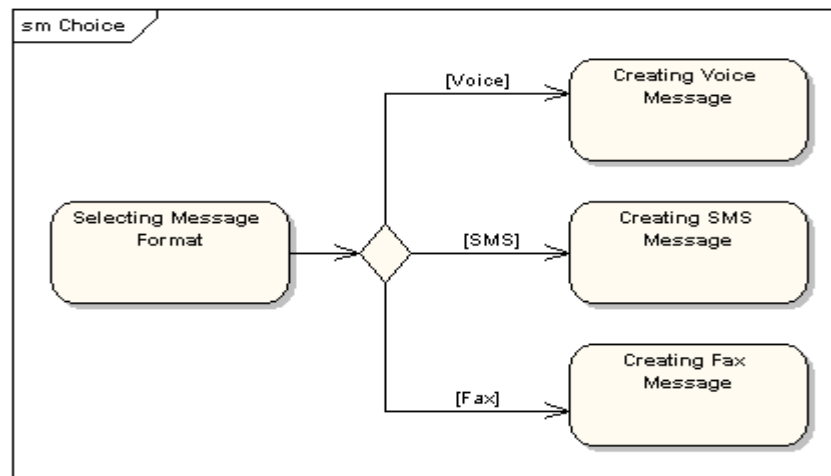
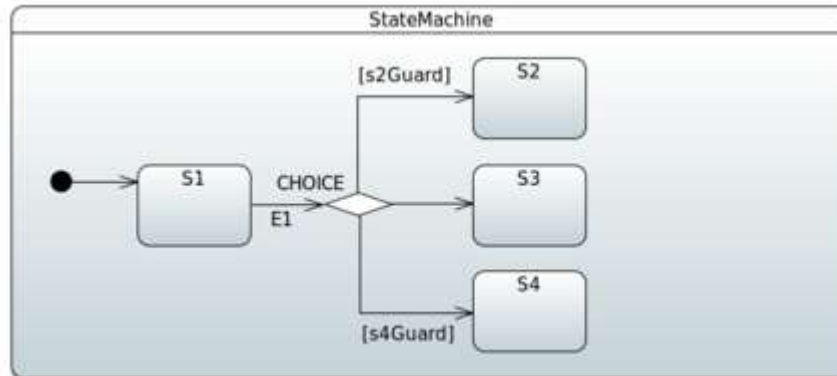
- **Internal Transition:** transition from one state to itself. Object handles event without changing its state.



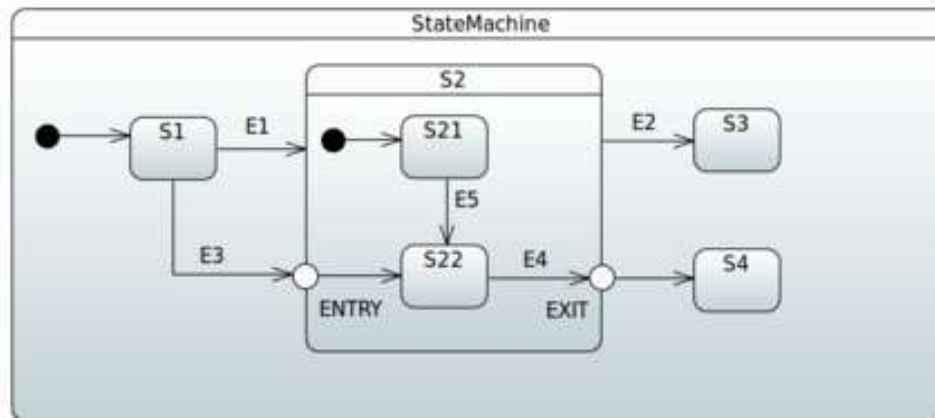
- **Mutation Event:** The initiator of a transition from one state to another, or for an internal transition, where the state remains the same.



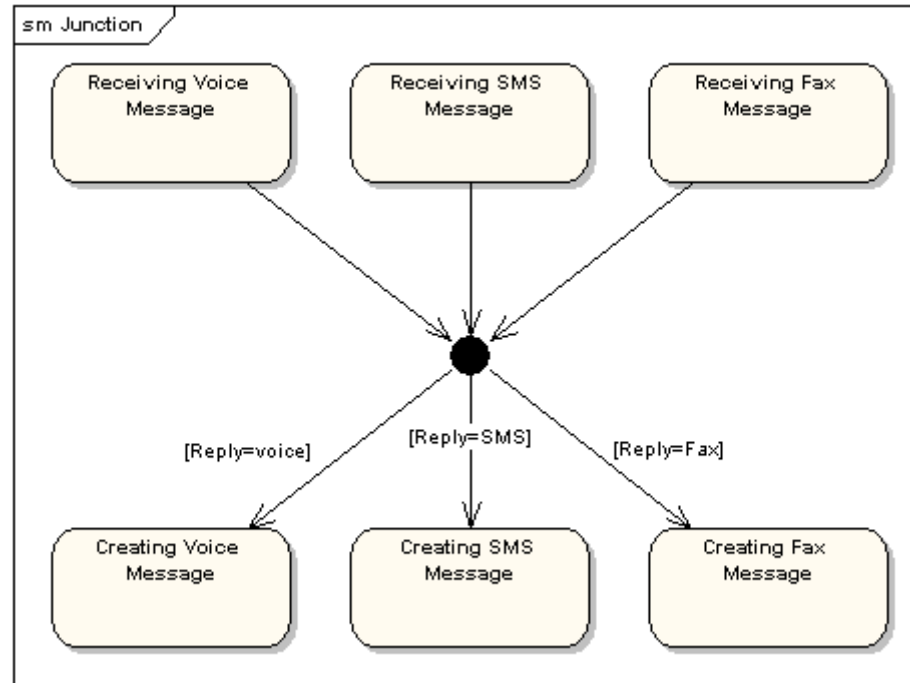
Choice Pseudo-State Examples



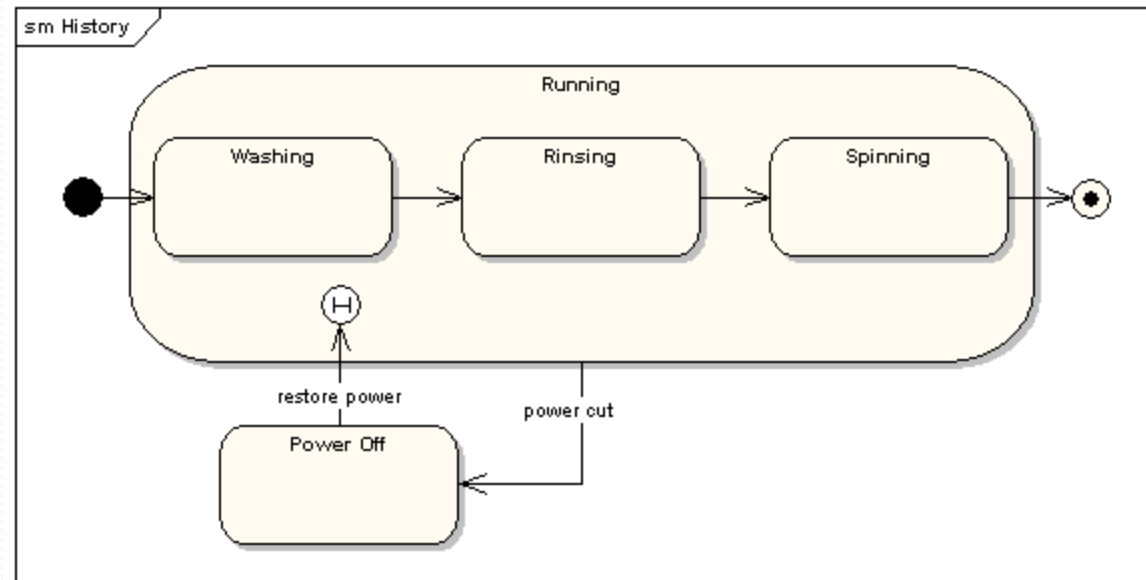
Define Entry/Exit



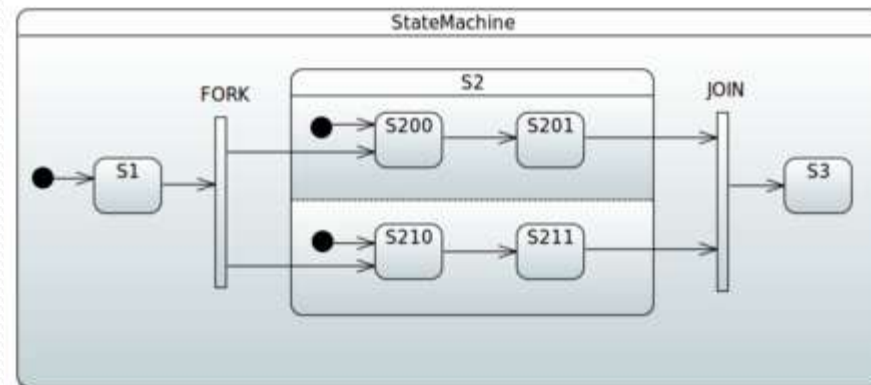
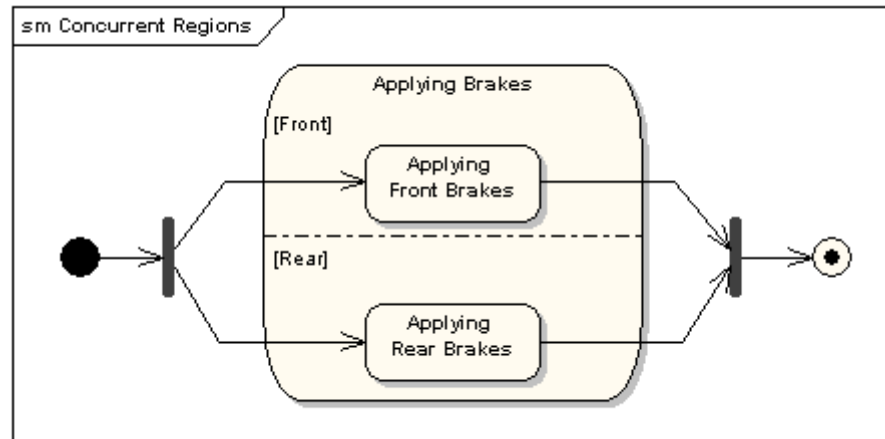
Junction Pseudo-State



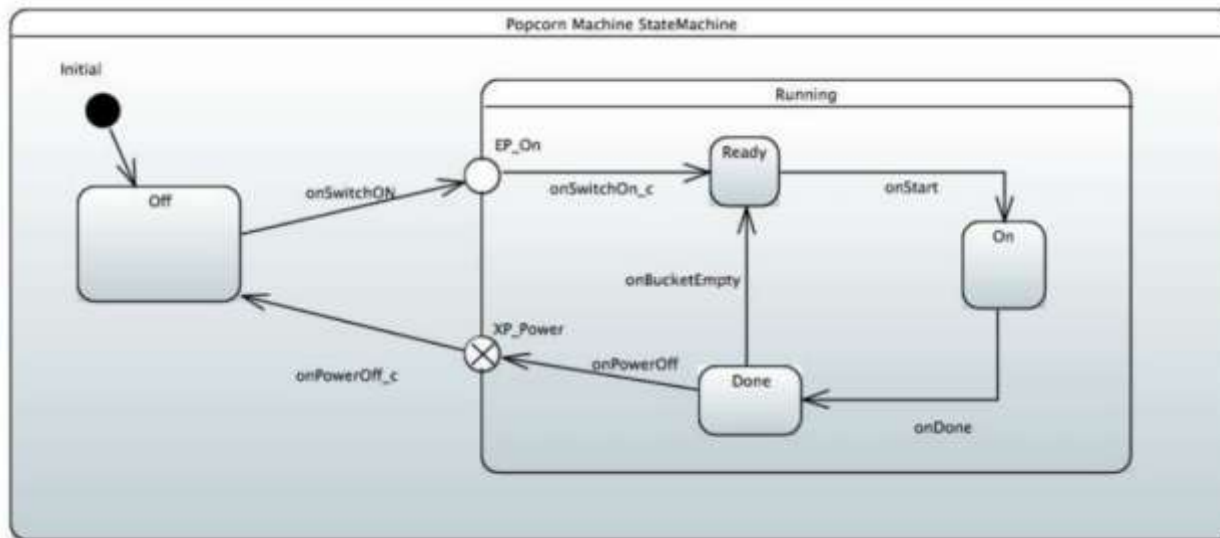
History States



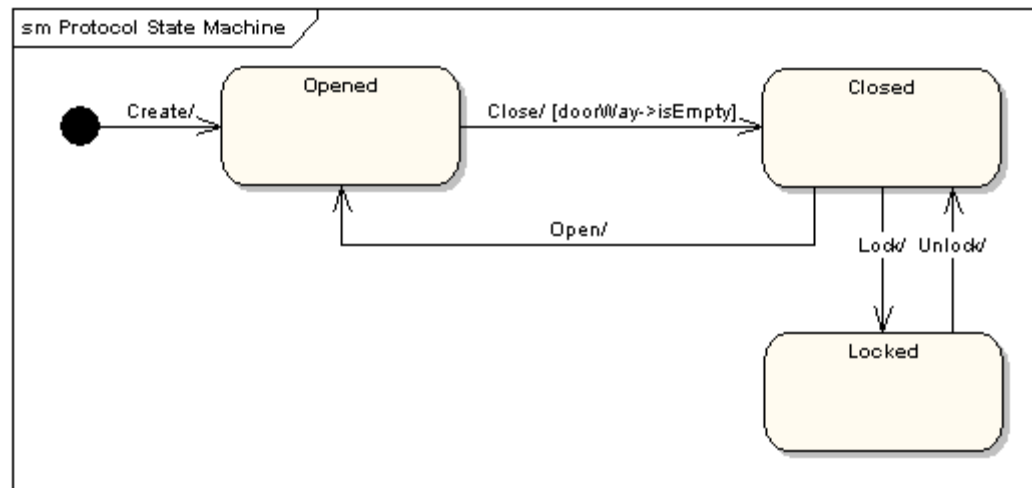
Concurrent Regions



Example - POPCORN State Machine

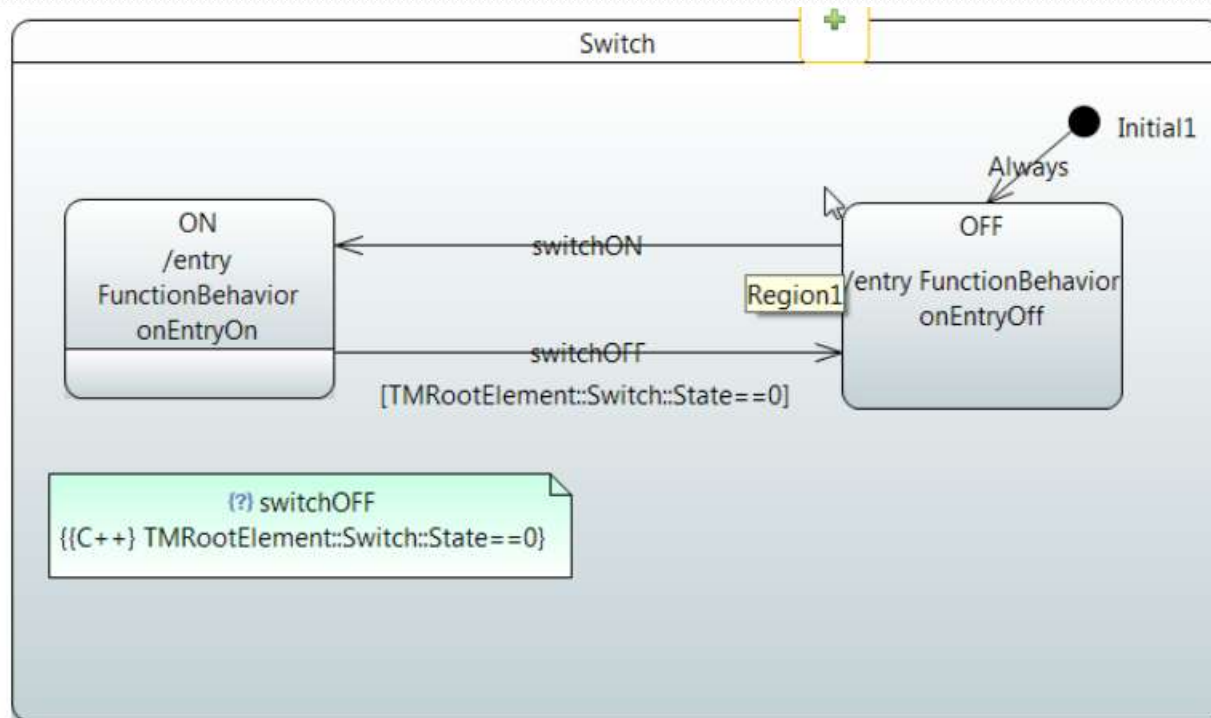


Example of a door states



In above example, the following state machine diagram shows the states that a door goes through during its lifetime.

Example - Switch Class



Example - Switch Class

```
class Switch {  
public:  
  
    Switch() :  
                State(0) {  
    }  
  
    int State;  
  
    void Operation1();  
  
    // opaque behavior without specification (typically from state machine)  
  
    void  
    onEntryOn();  
  
    // opaque behavior without specification (typically from state machine)  
    void  
    onEntryOff();  
  
};
```