**A changing world is modeled using a variable for each aspect of the world at each point in time**

* **Transition model** - describes the probability distribution of the variables at time *t* given the state of the world at past times
* **Sensor model** - describes the probability of each percept at time *t* given the current state of the world
* **Discrete time models** - the world is viewed as a series of snapshots called **time slices**
  + Typically, delta between time slices are assumed equal
  + Delta can be controlled by the sensor or it can be dictated by the typical rates of change of the relevant variables