Laboratory Report

Experiment No - 07

Batch -

Date of Experiment: __________ Date of Submission: __________

Title:

Develop Activity / State Transition diagram for the project

Evaluation:

1) Attendance [2] ----------------

2) Lab Performance [2] ----------------

3) Oral [1] ----------------

Overall Marks [5] ---------------

Subject In-Charge

Experiment No: -07

TITLE: Develop Activity / State Transition diagram for the project

PREREQUISITE:

1. Concepts of Object Oriented Programming & Methodology.

2. Knowledge of developing applications with front end & back end connectivity

HARDWARE CONFIGURATION / KIT:

Sr. No	Minimum Hardware Configuration	
1	Processor	800MHz Intel Pentium III or above versions
2	RAM	512 MB
3	HDD	1.5 GB of free disk space

SOFTWARE CONFIGURATION:

Sr. No	Minimum Software Configuration	
1	Operating System	Microsoft Windows Vista/7 or above versions
2	Editor	
3	Software	

THEORY: -

- **Activity diagrams**

  In UML, an activity diagram provides a view of the behavior of a system by describing the sequence of actions in a process. Activity diagrams are similar to flowcharts because they show the flow between the actions in an activity; however, activity diagrams can also show parallel or concurrent flows and alternate flows. In activity diagrams, you use activity nodes and activity edges to model the flow of control and data between actions.

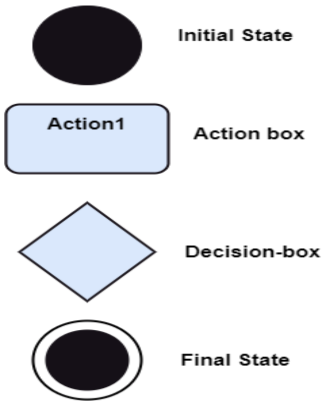
- **Activity diagrams are helpful in the following phases of a project:**

  Before starting a project, you can create activity diagrams to model the most important workflows. During the requirements phase, you can create activity diagrams to illustrate the flow of events that the use cases describe. During the analysis and design phases, you can use activity diagrams to help define the behavior of operations. As the following figure illustrates, an activity diagram belongs to an activity in the model. Before drawing an activity diagram, we should identify the following elements −

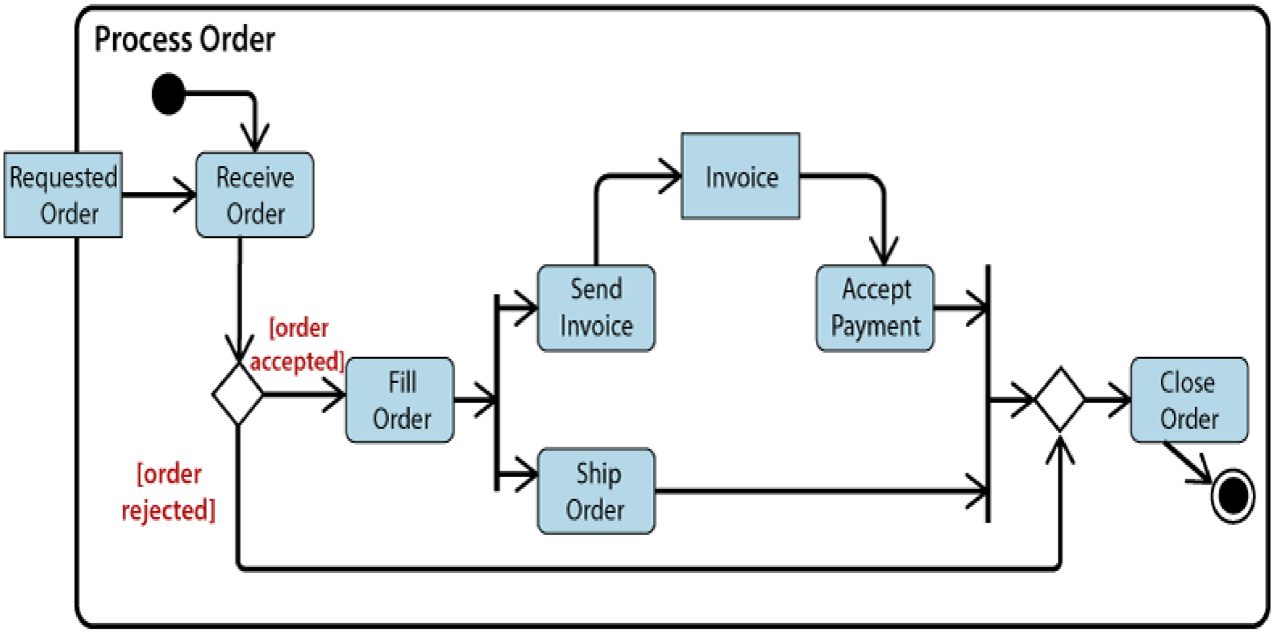
1. Activities 2.Association 3.Conditions 4.Constraints

Notation of an Activity diagram

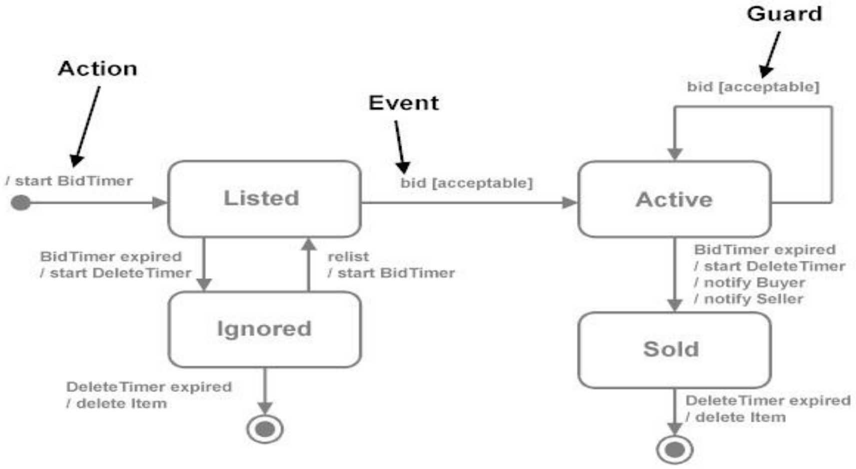
Activity diagram constitutes following notations:



Example of an Activity Diagram



- **State Transition diagram**



State-transition diagrams describe all of the states that an object can have, the events under which an object changes state (transitions), the conditions that must be fulfilled before the transition will occur (guards), and the activities undertaken during the life of an object (actions). State-transition diagrams are very useful for describing the behavior of individual objects over the full set of use cases that affect those objects. State-transition diagrams are not useful for describing the collaboration between objects that cause the transitions.

The UML notation for state-transition diagrams is shown below:

Notation

State-A condition during the life of an object in which it satisfies some condition, performs some action, or waits for some event.

Event-An occurrence that may trigger a state transition. Event types include an explicit signal from outside the system, an invocation from inside the system, the passage of a designated period of time, or a designated condition becoming true.

Guard-A boolean expression which, if true, enables an event to cause a transition.

Transition-The change of state within an object.

Action-One or more actions taken by an object in response to a state change.