Simplest Shooter Event Graph

# SimplestShooter

## Parameters

* m = # missiles
* ships = container of ships (targets)
* tR = response time for firing missiles
* tM = missile travel time to target

## State Variables

* M = remaining missiles (m)
* S = container of remaining ships (ships)
* U = uniform(0,S.length) random variate (for selecting target)

## Event Graph

## Description

* The target is chosen at random from the remaining alive ships
* Shooter keeps shooting until all targets destroyed or it runs out of missiles
* Shooter waits for impact before beginning next launch sequence
* BDA is perfect (i.e., shooter knows immediately whether target is destroyer)

# Ship

## State Variable

* alive = true if ship is alive, false if destroyed (alive)

## Event Graph



## Description

* There can be multiple Ship instances
* Destroyed event sets alive to false only if the argument (s) is that instance of Ship

# Adjudicator

## Parameters

* p = Prob(impact destroys ship)
* U = Uniform(0,1) random variable

## Event Graph



## Description

* Impact event is heard from Shooter instance
* Shooter hears Destroyed event from Adjudicator

# Listener Diagram



## Description

* In general, there can be multiple Ship instances, each of which are on the SimplestShooter container