



Sharif University of Technology
Department of Computer Engineering

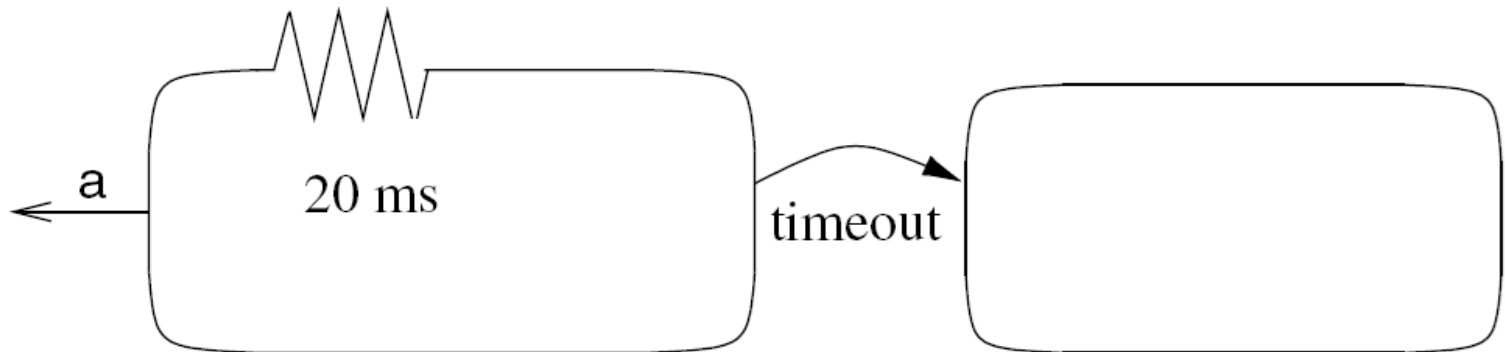
Embedded System Design

StateCharts (Cont.) (7)

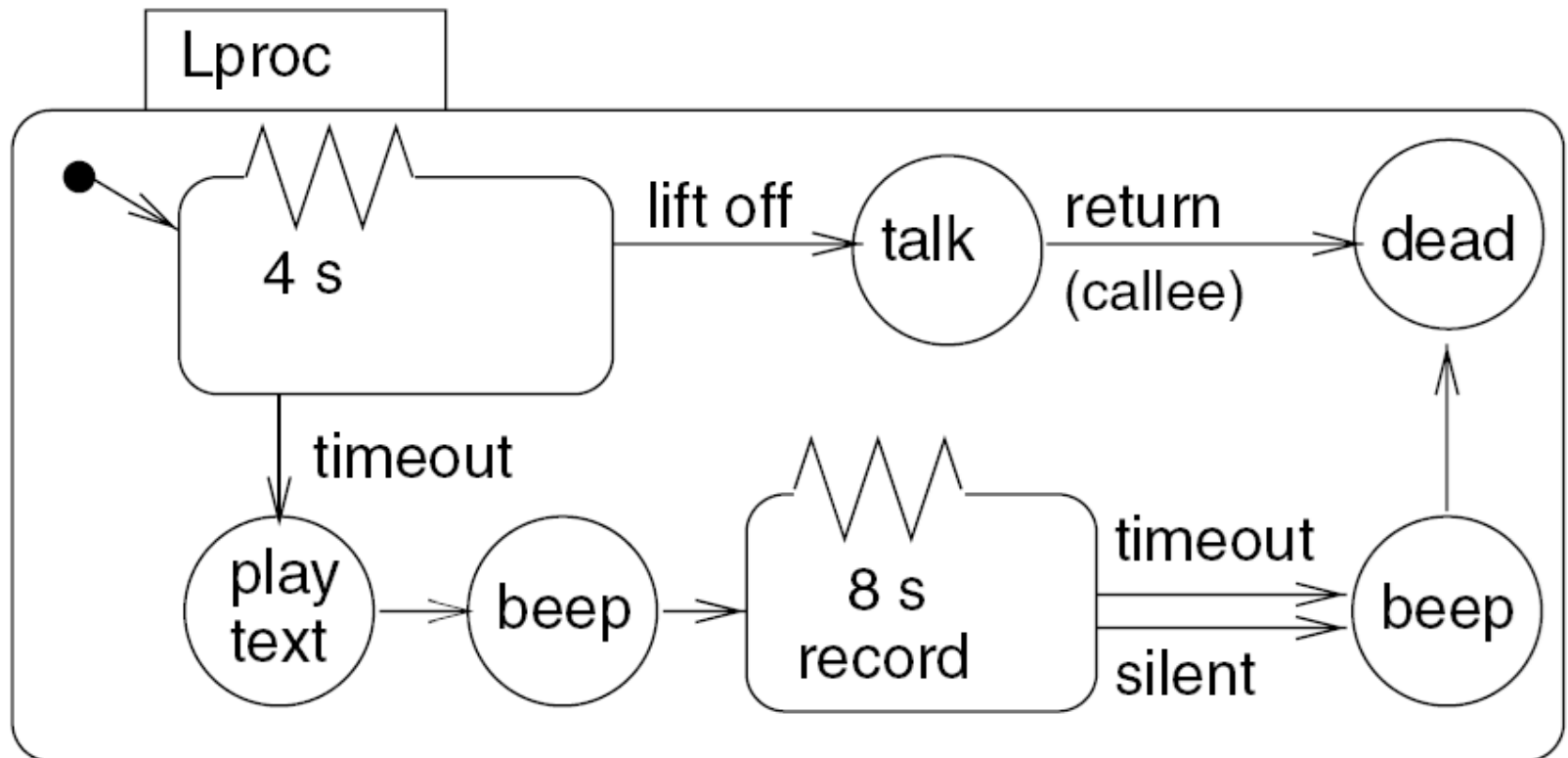
A. Ejlali

Timers

- **Timing**
- **Real-time systems**



Example



Edge Labels

- **Event [condition] / Reaction**
 - A proper reaction may depend on both the **system state** and the **event** that has happened.
- **Examples:**
 - On-key/on:=1
 - Off-key [Battery = Charged] / on:=0

Execution of StateCharts

- **Execution = Simulation**
- **Atomic Execution**
 - **Shadow and Main Variables**
 - **Simulation of Concurrency**
 - **Design (Specification) Fault Avoidance for Concurrent Systems**

Assignment

- **Incubator Temperature Control**
 - Find a model for space heating:
 - You can use existing models (usually given in the form of a transfer function)
 - Provide the Statechart code for your temperature control system
 - Simulate the whole system (Simulink Stateflow) and report the results