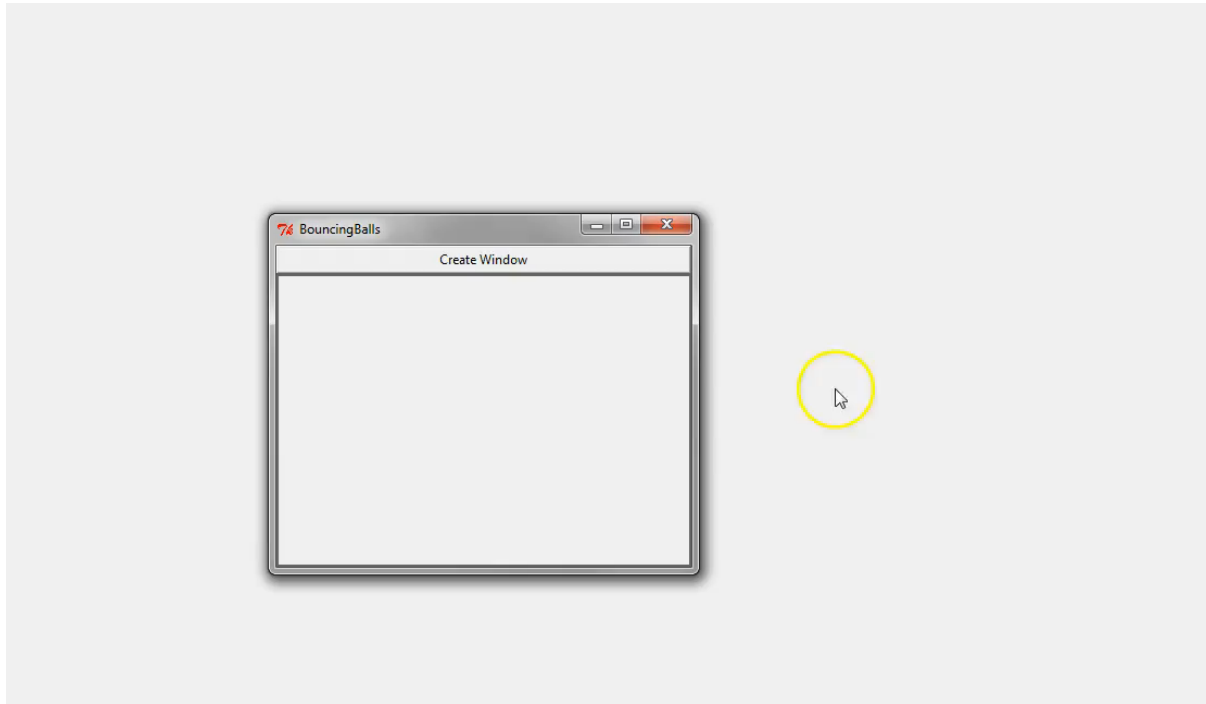# Modelling Dynamic Structure Reactive Systems

Simon Van Mierlo
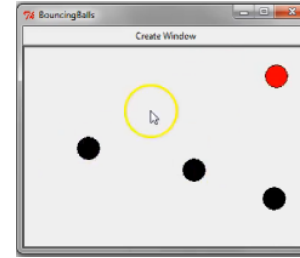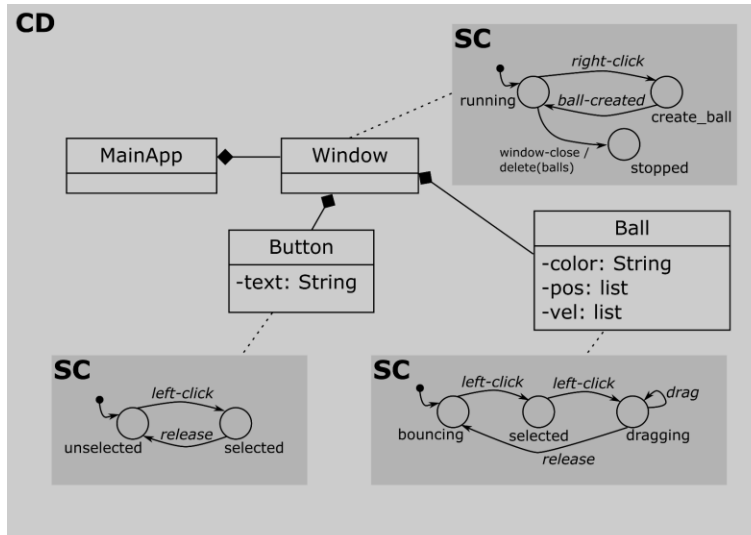
Why?

Behaviour:
- Timed
- Reactive
- Dynamic-Structure
- Independent
- Adaptive
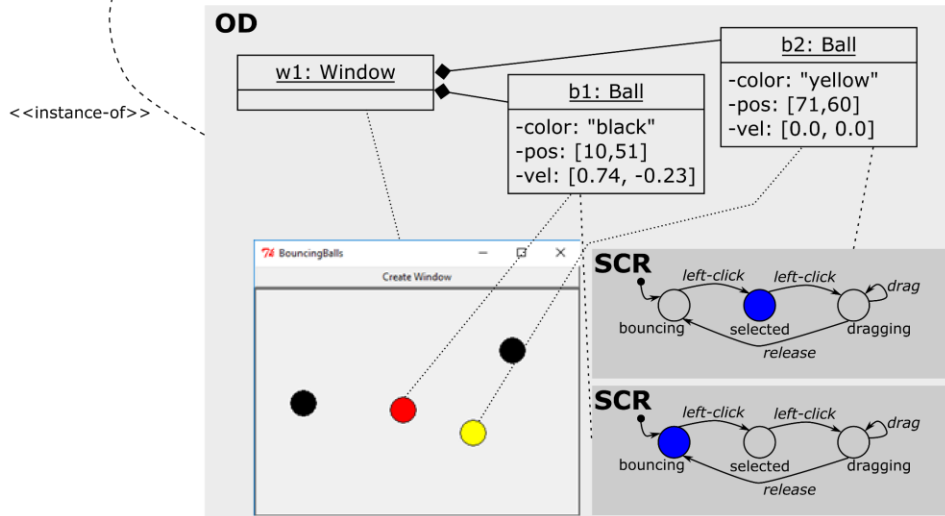
What?

Statecharts +
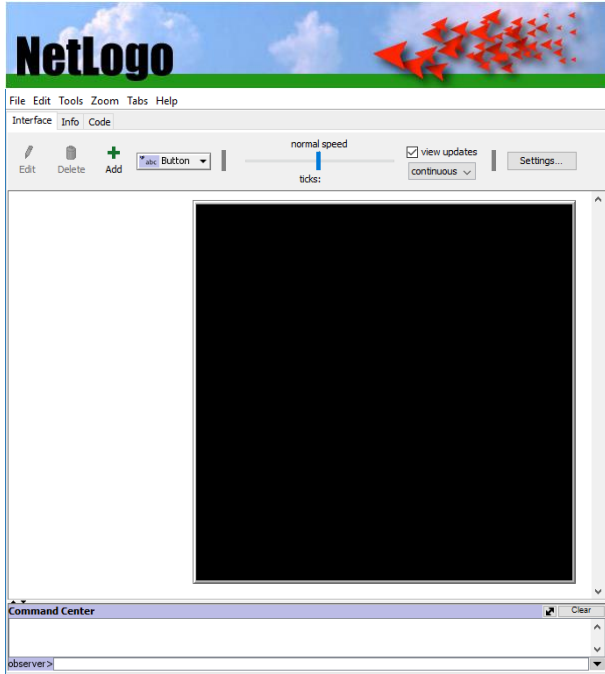Class Diagrams
= **SCCD**

Independent Agents:
- Desires
- Beliefs
- Intentions

Loose Couplings

Distributed Control

How?

Generalize Syntax + Semantics

MAS Lan.

Behaviour:
- Timed
- Reactive
- Dynamic-Structure
- Independent
- Adaptive

SCCD

R
E
F
I
N
E

- Exceptions
- Dynamic Loading
- Interfaces
- Subtyping
- Object Referencing

SCCD++

Denotational Semantics

Roadmap

- Low-Hanging Fruit:
  - "Fix" SCCD (-> SCXML)
  - Object Behaviour Pattern
  - Testing/Verification of SCCD
- Master Thesis:
  - Figure out MAS/BAM, syntax + semantics
  - Formalize, map onto SCCD
- Later:
  - Deployment
  - Adaptive