Mini-Project 1:
State machine network language and editor

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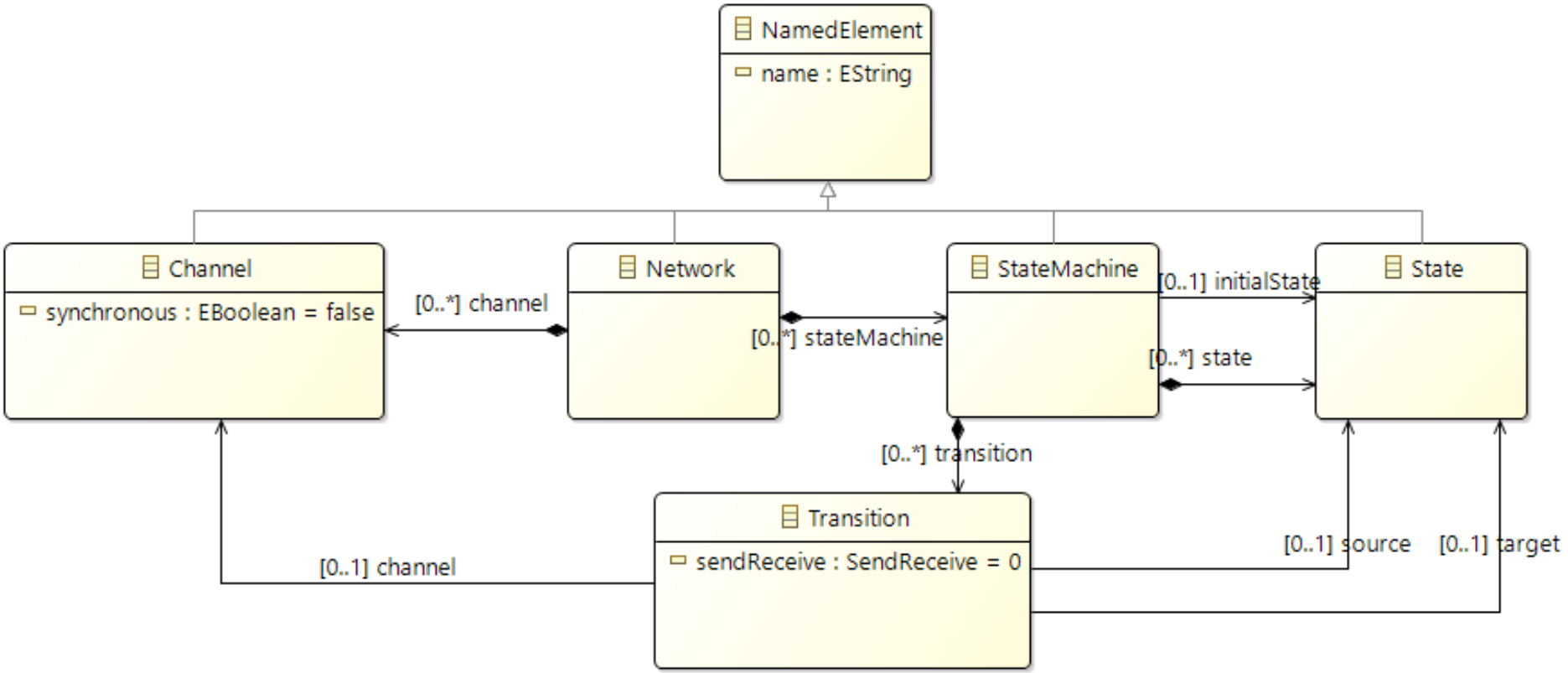
Tasks

- Provide a metamodel for state machine networks supporting channels
- Implementation of a textual editor
- Implementation of a graphical editor

Approach

- Eclipse Modelling Tools / Ecore
- Xtext integration for eclipse
- Sirius

The metamodel



XText

- Textual syntax derived from ecore model automatically
- generation of an eclipse plugin providing an editor with
  - syntax highlighting
  - auto completion
  - parsing at runtime

Example

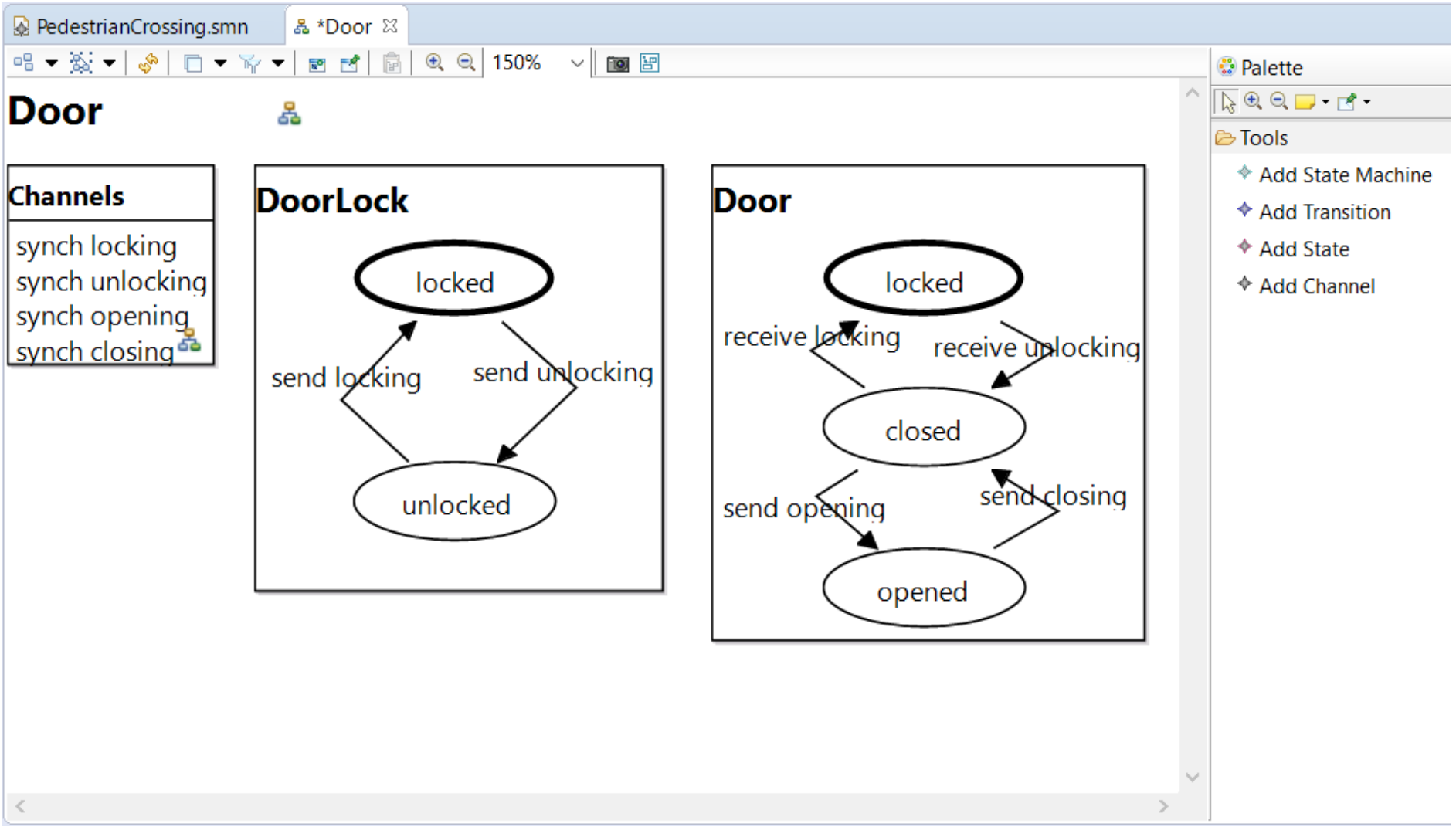
```
Network Cafe{
    stateMachine {
        StateMachine Guest {
            initialState waiting
            state {
                State waiting,
                State drinking_coffee
            }
            transition {
                Transition {
                    sendReceive send
                    source waiting
                    target waiting
                    channel orderCoffee
                },
                Transition { ... },
                Transition { ... }
            }
        },
        StateMachine Waiter { ... }
    }
    channel {
        Channel orderCoffee,
        Channel deliverCoffee,
        Channel payCoffee
    }
}
```

Screenshots (Door)

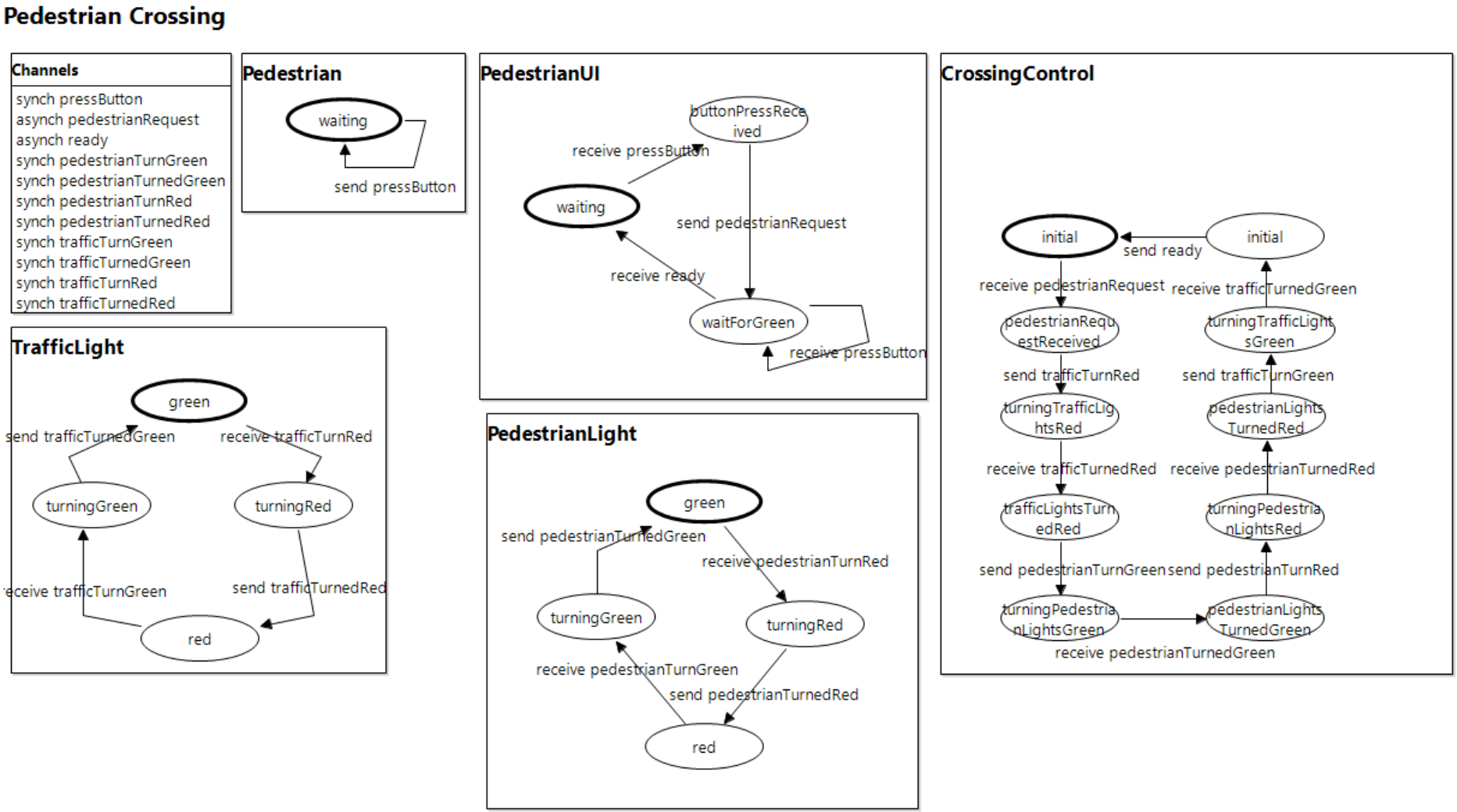
- graphical editor generated from a viewpoint specification file
- Modification are synchronized with the model file.

- editing whole networks with several channels and state machines
- Add & Delete channels, state machines, states and transitions
- Renaming by label editing (supports detection of keywords)
- selection of the initial state by double clicking

Example


PedestrianCrossing.smn
*Door
150%
Door
Channels
synch locking
synch unlocking
synch opening
synch closing
DoorLock
locked
send locking
send unlocking
unlocked
Door
locked
receive locking
receive unlocking
closed
send opening
send closing
opened
Palette
Tools
Add State Machine
Add Transition
Add State
Add Channel

Screenshots cont. (Pedestrian Crossing)



The End!

Any questions left?