



ItemisCreate: Elevator implementation

Curri Mattia



Harel State Charts

A **Harel Statechart** is an extension of the traditional finite state machine model.

It introduces several features to make the state-machine model more scalable and efficient.

Key Features:

- **Hierarchy:** States can be nested within other states, creating a hierarchy of states. This allows for a more modular and organized representation of complex systems.
- **Concurrency:** A statechart can model multiple states that can operate in parallel..
- **Transitions with Conditions and Actions:** Transitions between states are triggered by events or conditions, and each transition can also have associated actions that are executed when the transition occurs.
- **History States:** The concept of a **history state** allows the system to remember the last active state in a composite state.



Exercise: Elevator

The purpose of this exercise is to model an elevator using statecharts.

In our case, the elevator operates in a building with five floors, numbered from 0 to 4.

When a floor is selected within 1 second, the doors close and the lift begins to move towards the desired destination. It takes 1 second to move from one floor to the next.

Once at the destination the doors will open again.

Demonstration

