openPASS

Progress Initial Commit

– vertraulich –

Modules

Framework modules freed of Xface

- collision detection
- agent
- world
- spawn point

New basic modules

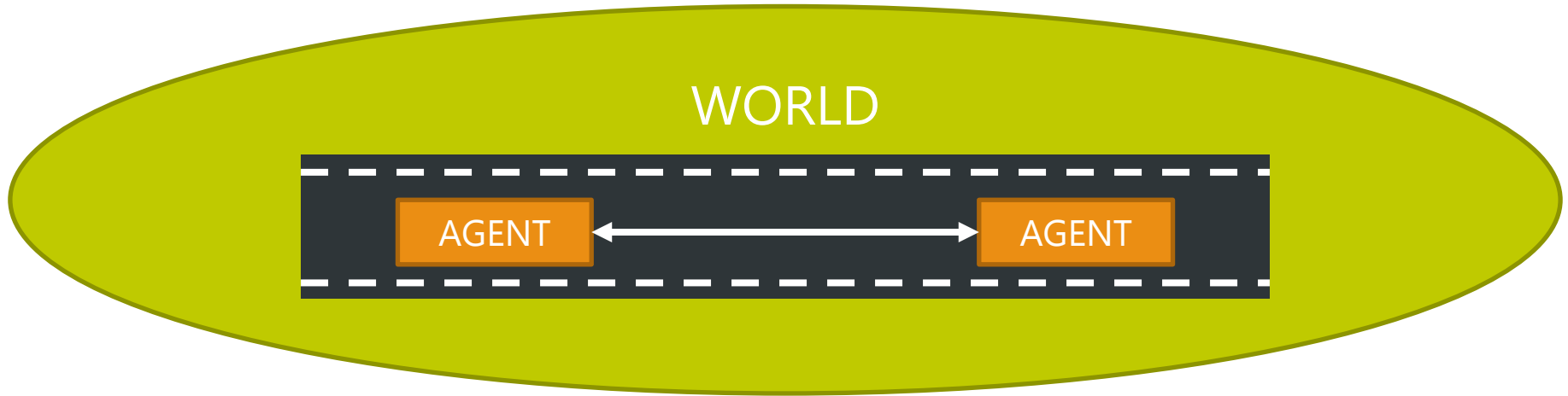- brake light (action)
- cruise control (algorithm)
- longitudinal dynamics (dynamics)
- distance sensor (sensor)
- observation (observation)

Situation design

Scenery

- one straight line
- no further specifications
- agents are spawned along the line at stochastically varied distances

Scenario

- agents have initial and desired velocities (stochastic values)
- agents are able to execute one-dimensional movement
- agents try to achieve their desired velocities
- agents try to keep sufficient distance to their front neighbor
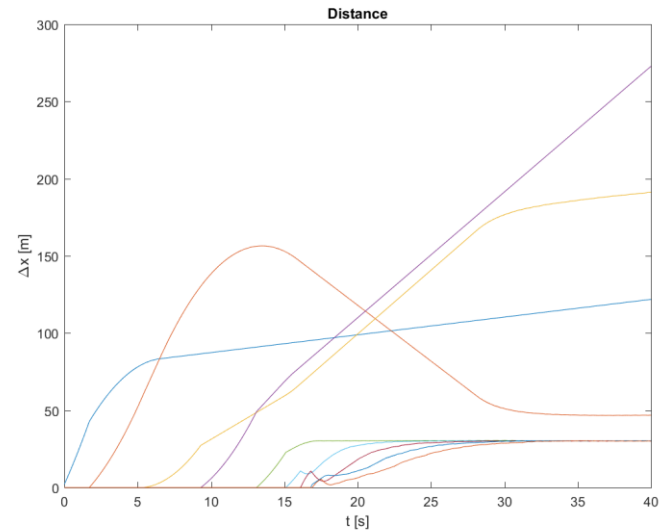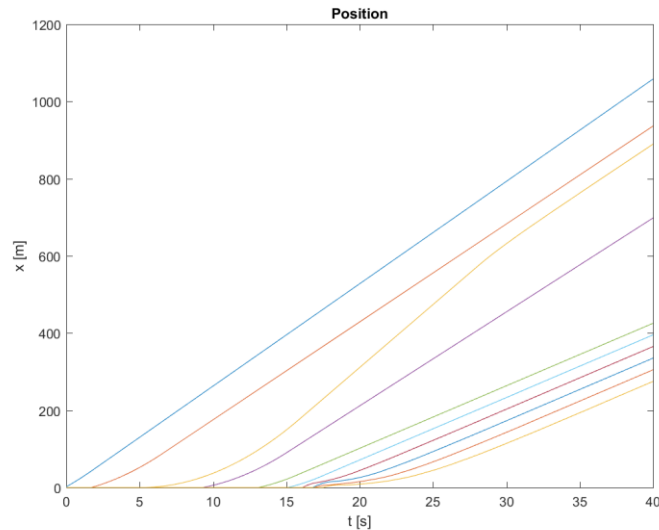
World (0/1) and Agents

Agent components

- distance sensor (sensor) -> obtains relative positions
- cruise control (algorithm) -> acceleration wish
- brake light (action) -> sets brake light on/off
- longitudinal dynamics (dynamics) -> conducts the Euler step

Components communication

Result example

Position

Distance

Time-To-Collision
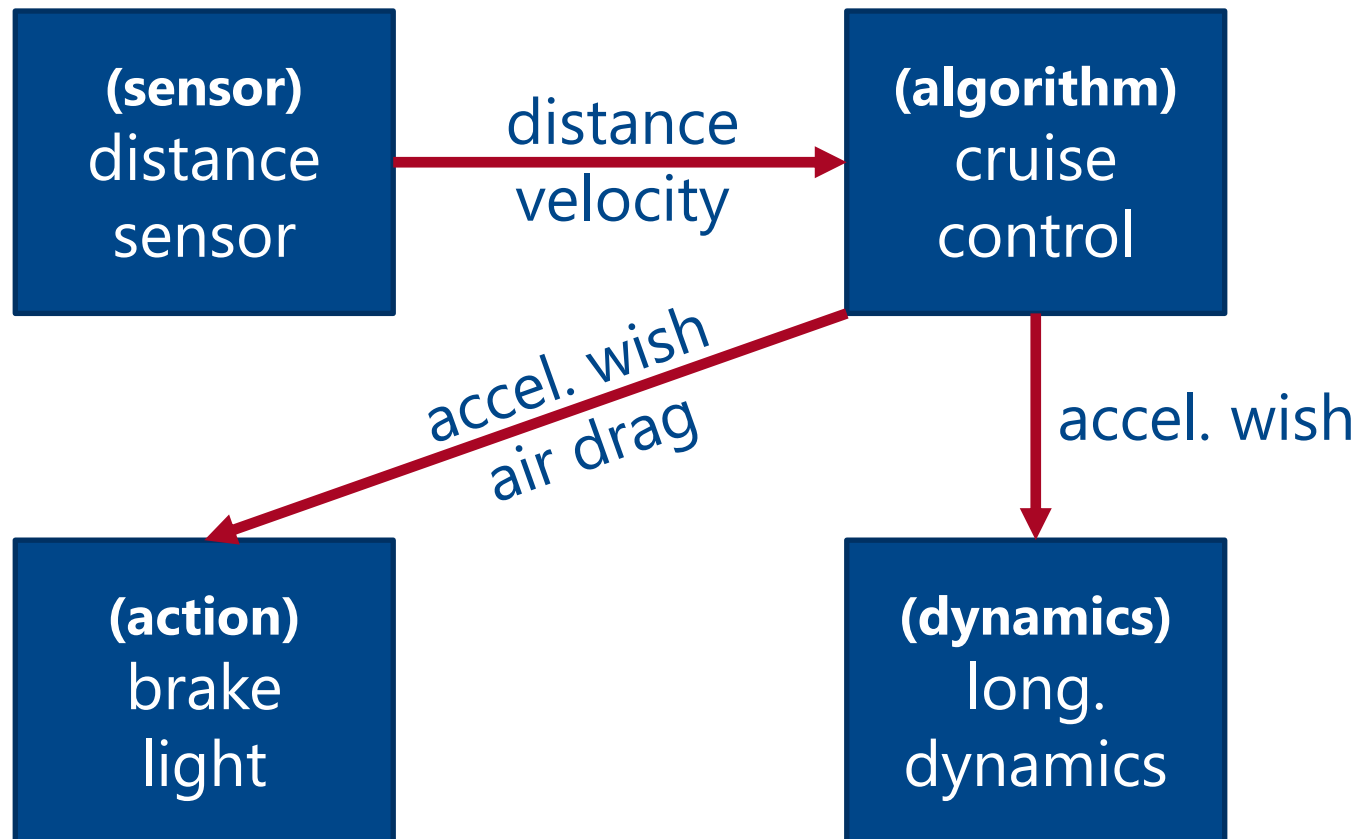
Summary

- framework independent of world representation
- basic modules with primitive functionalities
- interchangeable world
  -> compatibility of proprietary modules/components (in progress)