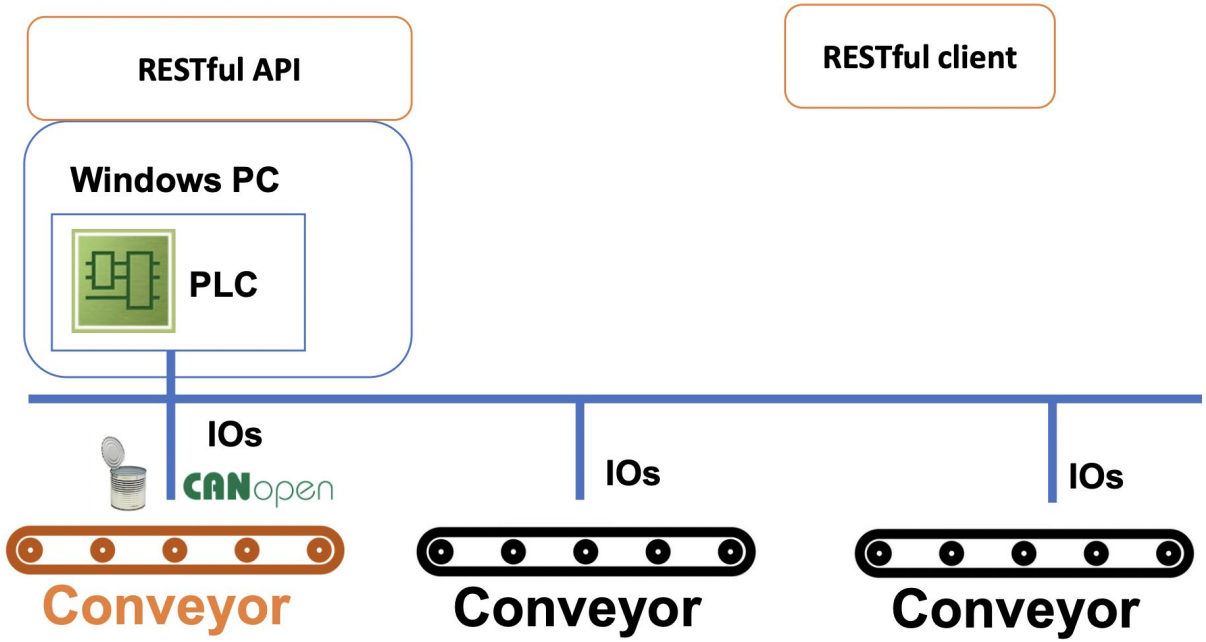
Assignment 1

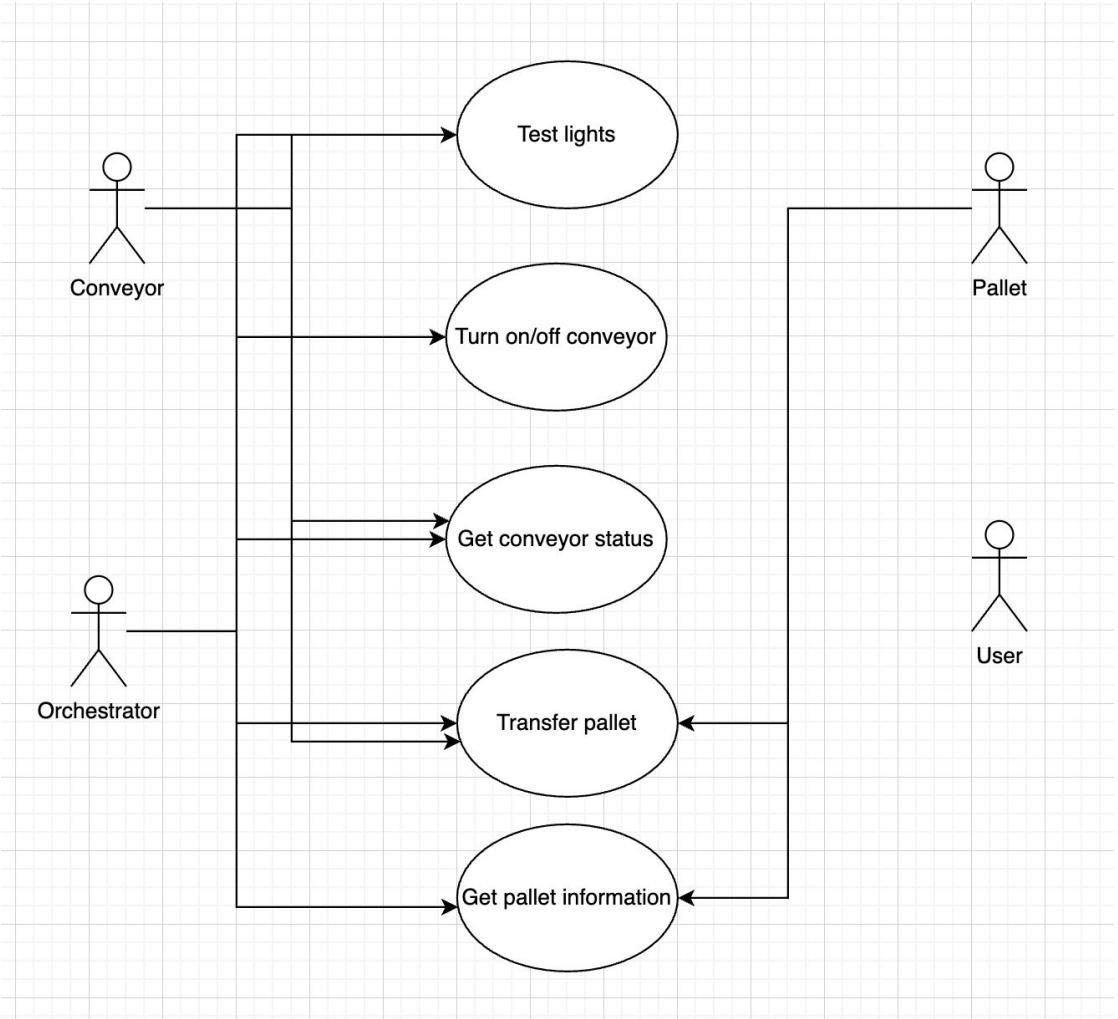
Conveyors system

Problem

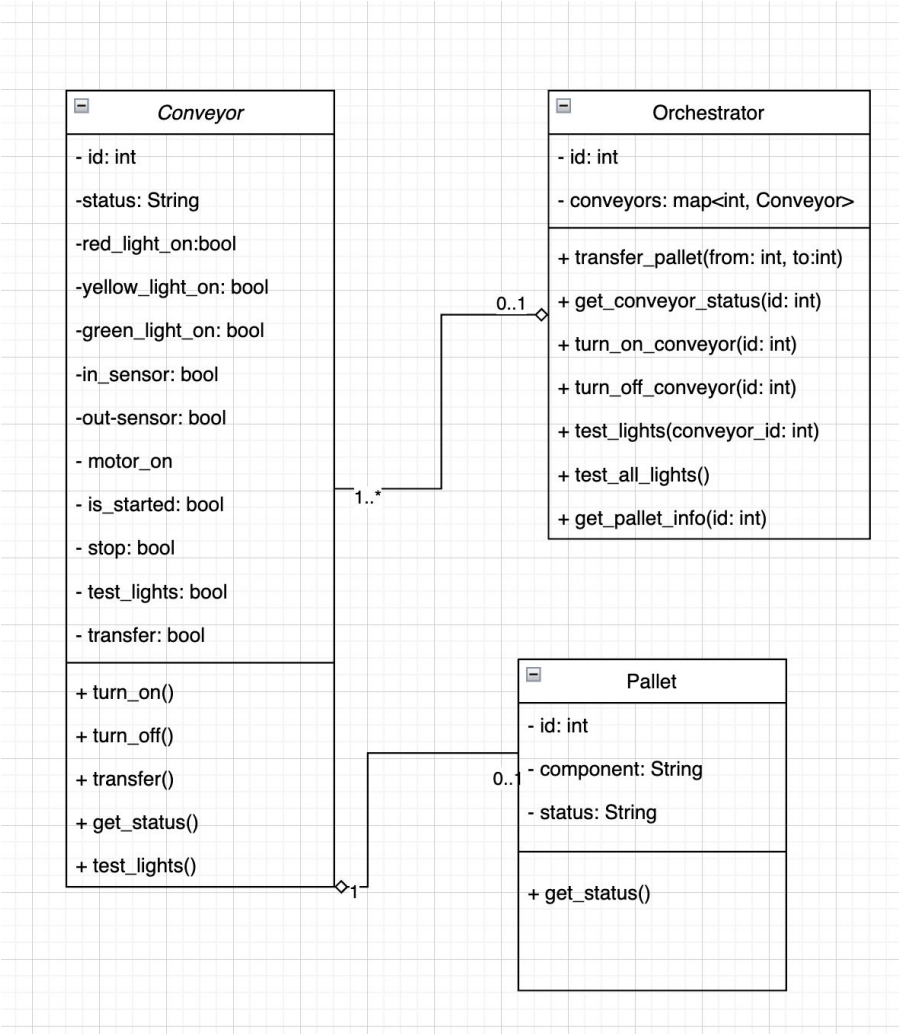
- Conveyor has motor, sensors and lights
- Pallet is transferred between conveyors



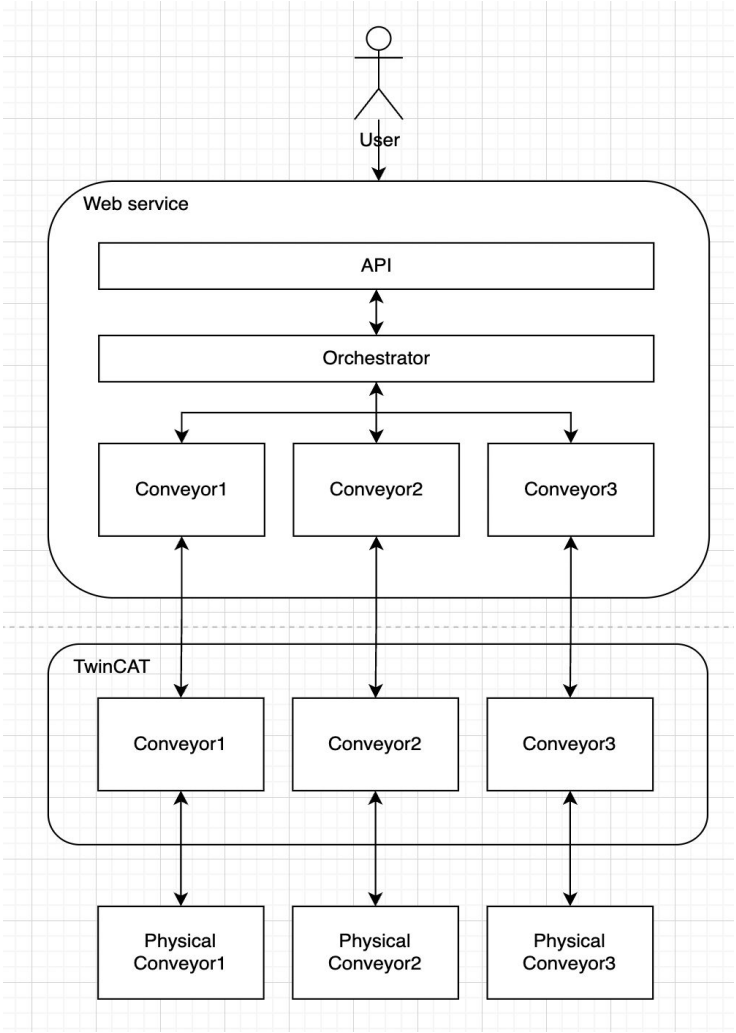
Use cases


Test lights
Conveyor
Pallet
Turn on/off conveyor
Get conveyor status
User
Orchestrator
Transfer pallet
Get pallet information

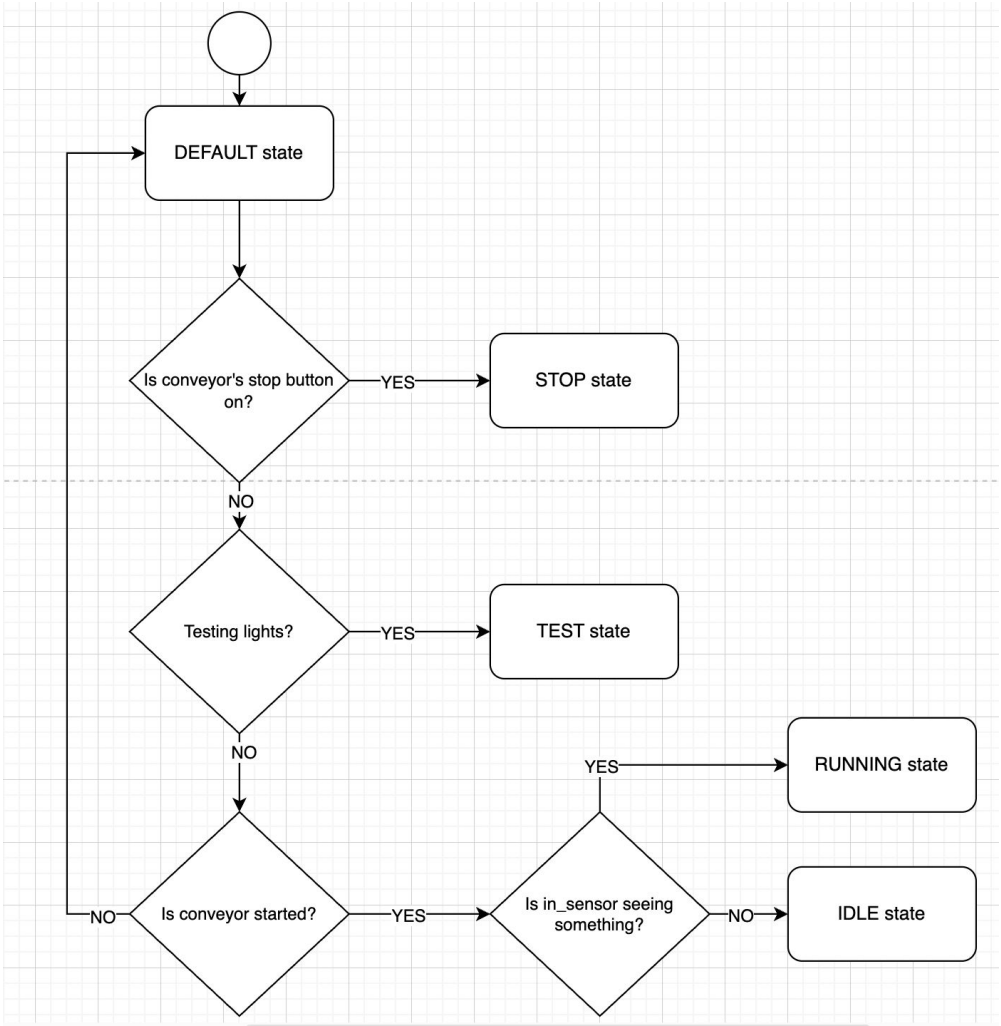
Class diagram



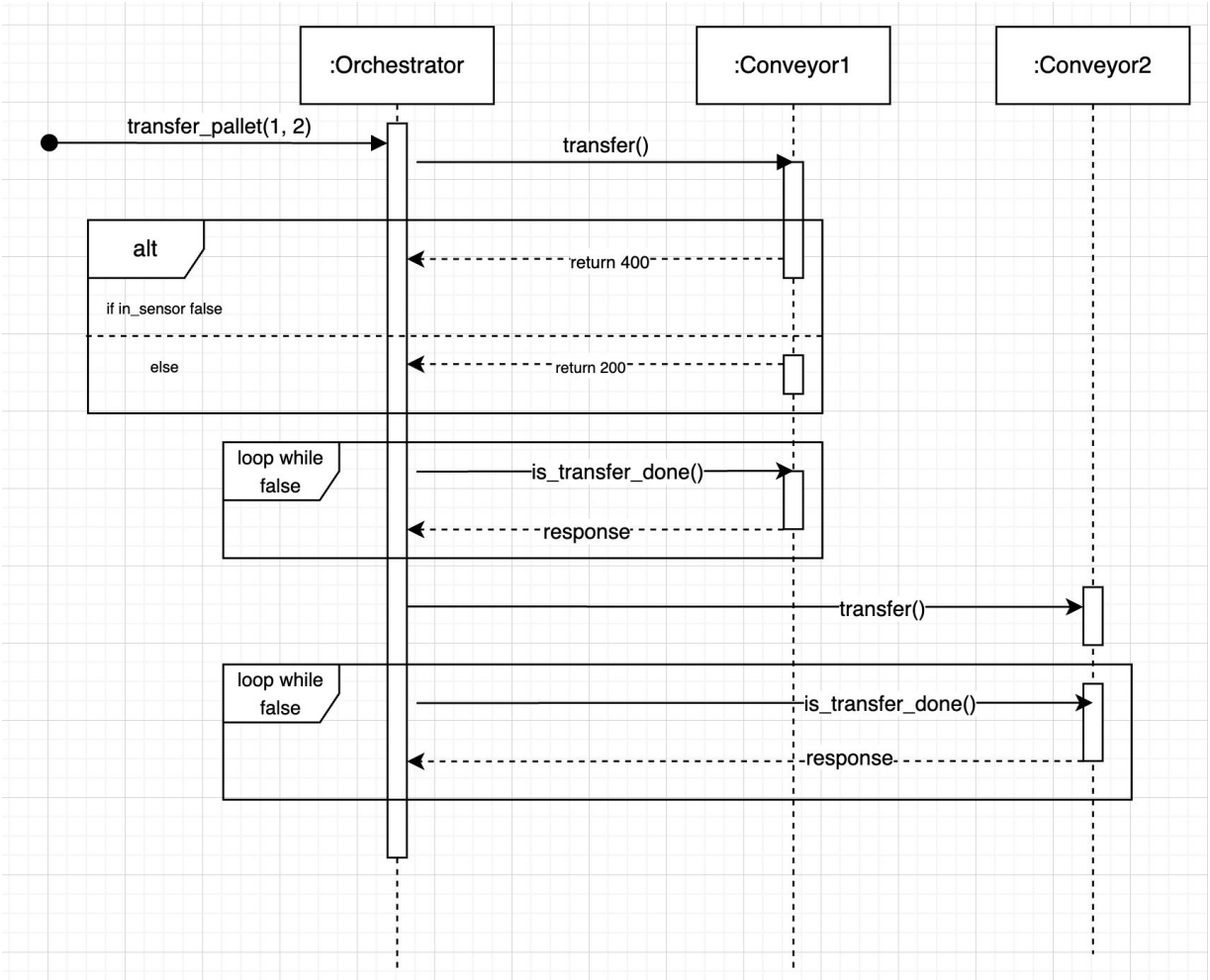
System architecture



Conveyor state machine



Sequence diagram



REST API - Conveyors

GET:

- /conveyors/{id}
  - Get the status of a conveyor with given id

POST

- /conveyors/{id}/start
  - Turn on a conveyor with given id
- /conveyors/{id}/stop
  - Turn off a conveyor with given id
- /conveyors/{id}/testLights
  - Executes test of lights on conveyor with given id
- /conveyors/{id}/transfer
  - Executes transfer mechanism on conveyor with given id

REST API - orchestrators

POST

- /orchestrators/{id}/testAllLights
  - Executes test of lights on all conveyors through orchestrator
- /orchestrators/{id}/collectiveTransfer
  - Executes transfer mechanism from conveyor <*a*> to conveyor <*b*> given in body
  - Example request body:

```
{
    "from": 1,
    "to": 2
}
```