First steps – 01/06/2022

UE SAR INFO SI-SSG FISE A1 S2

1. Requirements for 1st step

1.1 Overview

Manually ask for the advancement of time.

Plot the following as they **evolve with time**:

- Budget / Funds
- Status of every machine
- Health / Sickness of every employee
- Contents of inventory per type of item
- Total profit from start of simulation (Without initial funds)
- Total profit from start of simulation (Without initial funds) **per hour worked *per employee***

Plot the following as a **snapshot** (at the current moment):

- Budget / Funds
- Number of employees healthy / total number of employees

1.2 Initialize simulation

Perform a `POST` request to `/control/poll/create_from_example/{sim_id}` where `{sim_id}` is one of `"sim1", "sim2", "sim3"`.

IMPORTANT: The following plots need to work with ALL of "sim1", "sim2",and "sim3".

1.3 Advance time

Manually ask for the advancement of time of the simulator: to move ahead in time by simulating one hour make a `POST` request to `/control/poll/run_one_step`.

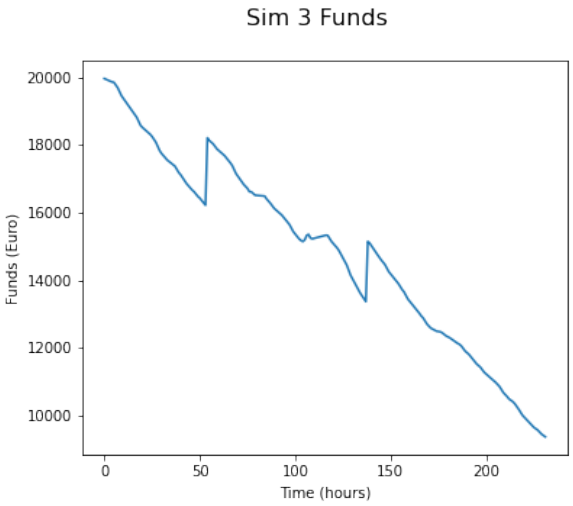
1.4 Create two types of plots

1.4.1 Plots that evolve with time

Use the example provided that does real-time updating of the plots creating an "animation". You will plot the following values, as they change as time passes, hour by hour.

Evolution with time plots of the following values:

- Budget / Funds
  - See `GET /enterprise/poll/inventory` → `"funds_in_eur"`. Example:

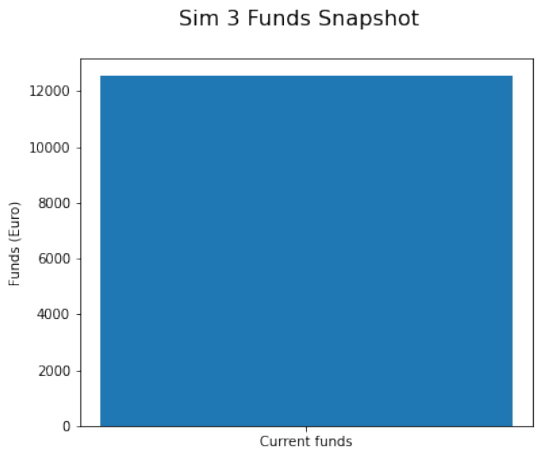


- Status of every machine
  - See `GET /enterprise/poll/machine` → `"nominal_output_rate_items_per_hour"`
- Health / Sickness of every employee
  - See `GET /enterprise/poll/employee` → `"remaining_sickness_in_hours_worked"`, if it is >0 (positive) then the employee is sick, otherwise they are working.
- Contents of inventory per type of item
  - See `GET /enterprise/poll/inventory` → `"item_quantities"` and inside that the `"item"`→ `"name"` and `"quantity"` fields
- Total profit from start of simulation (Without initial funds)
  - Use the Budget / Funds from before but subtracting the initial funds available at the start of the simulation
- Total profit from start of simulation (Without initial funds) per hour worked per employee
  - More complicated - Combine:
    - The previous *"Total profit from start of simulation"*
    - The previous *"Health / Sickness of every employee"* (working vs sick)
    - The total profit per hour worked per employee = *"Total profit from start of simulation"* / Total hours worked by each employee from the start of the simulation.
    - Results: One curve in the plot per employee

1.4.2 Time snapshot plots

Plots that only show the current state of values of the simulation.

- Budget / Funds
  - See `GET /enterprise/poll/inventory` → `"funds_in_eur"`. Example:



- Number of employees healthy / total number of employees
  - See `GET /enterprise/poll/employee` → `"remaining_sickness_in_hours_worked"`, if it is >0 (positive) then the employee is sick, otherwise they are working.
  - Calculate the number of healthy (and therefore working) employees as a percentage of the total number of employees.