

Group project

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Project overview

Aim:

- Apply the methods you learned to solve a real-world problem
- Each group works on a different example

Objectives:

- **Simulation:** develop a discrete events simulation and appropriately evaluate the performance in two different scenarios.
- **Optimization:** define and solve an optimization problem to obtain the optimal solution for the system.

Full application of an example

Simulation:

- Develop a discrete events simulation
- Identify the appropriate statistical indexes
- Correctly use simulation techniques to generate results
- Correctly analyze the simulation results
- Consider the efficiency and precision of simulation

Optimization:

- Identify the decision variables
- Define an objective function
- Design an optimization algorithm to solve the problem
- Achieve a meaningful result and good interpretation

Focus

Keep in mind:

- **BE CREATIVE:** you can make any additional assumptions that you think appropriate
- **Think deeply** about the assigned problem (extreme cases, worst case, probability of events, ...)
- **Analyze appropriately**, e.g., not only average, give MSE of your estimates.
- **Solve efficiency** to find a better solution.

1 Overview

2 Group organization

Group and project

Group	Project	Title
Group 1	Project 1	Train service
Group 2	Project 2	Restaurant design
Group 3	Project 3	Drone delivery service
Group 4	Project 4	Jeans store management
Group 5	Project 5	Online movie streaming
Group 6	Project 6	Airline yield management

Groups 1-3

Group	Name
Group 1	Segrelles Munárriz Lara Gimena Ecker Andrés Gehrke Alexander
Group 2	Genc Murat Park Jangwon Beojone Caio Vitor Montesinos Ferrer Martí
Group 3	De La Rochefoucauld Louis Marie Francois Bernard Ataç Selin Mallya Nithin

Groups 4-6

Group	Name
Group 4	Lüthi Adrien Bernard André Cattry Alexandre Dominique M. Mariani Olivia
Group 5	Amorim Leandro De Castro Amoedo Rafael Granacher Julia Li Xiang
Group 6	Bolón Brun Natalie de Guyon-Crozier Guillaume Wasilewski Stephen William

Presentation of the project

- **May 28**, 2019, at GR C0 01.
- Make sure that the first presentation will start 13:15 on time.
- 25 minutes presentation and 10 minutes Q&A.
- You should include both simulation and optimization parts

Group	Time	Review
Group 1	13:15-13:50	Group 6
Group 2	13:50-14:25	Group 1
Group 3	14:25-15:00	Group 2
15 minutes break		
Group 4	15:15-15:50	Group 3
Group 5	15:50-16:25	Group 4
Group 6	16:25-17:00	Group 5

Project submission

- Submit **by e-mail** to `yuki.oyama@epfl.ch`
 - ① **PDF file** for the presentation
 - ② **Codes** for the project (MATLAB/Python/...)
- Deadline: **Noon on Tuesday, May 28.**
- Subject: "OptSim19 project: Group X"
- File: make one zip file "GroupX.zip".

