

SMDE Second assignment

1 Executive summary

A brief and concise description of what is going to be analyzed, the problem and the solution proposed.

2 System description, introduction

This section only contains the description of the system to be modeled (not the problem, not the data), other elements must be described on the subsequent sections of the document.

3 Problem description

Describe the problem you want to solve using simulation. Be as clear and concise as possible. Be aware, the problem you discover through modeling can be different to the proposed problem by the client of the stakeholders. In brief, the problem is the problem that you detect through the model use.

3.1 Structural and Simplifying Hypotheses

Complete the problem description with the hypotheses. Usually they are going to be presented with an identifier.

SH_01 My simplification hypotheses 01

SH_02 My simplification hypotheses 02

EH_01 My structural hypotheses 01

...

4 Model specification

The model entities, operations and processes that defines the behavior of the model. We can use DEVS, Petri Nets or SDL here. Since we are not going to use those formal languages, define a flow diagram to simplify the definition of the model. If using GPSS you can use the GPSS icons of the language.

5 Codification

Codify the model using C++ (or other general language) if you are a group of two, or a simulation tool like Arena or GPSS if you are an individual. If you plant to use any other tool, please consult us.

5.1 Data.

Describe the connection mechanism of the data used along the model.

6 Definition of the experimental framework

Explain the DOE to be used. Detail the process to execute the replications.

1. Define a DOE to explore with what parametrization of the factors the answer obtains the best value (define what means best, i.e. maximize or minimize the value).
2. Detect and analyze the interactions.

7 Model validation

Propose some methods to perform a validation of your model.

8 Results /Conclusions

Be as concise as possible, describe the main conclusions of the analysis done.