Project Guidelines

Sunday, April 25, 2021

Project is due on ~~Sunday, December 11, 2020~~, 11:59 pm.

Submit one compressed file consisting of a single folder named according to your project team number. *Example:* "Project 02.zip" – the team numbers will be assigned after the term break (i.e. after project proposal submission). Team sizes can differ from 1 to 4.

Take as reference the Project Team Number Folder.zip.

The compressed folder should not contain video files: use links to video files on a public media site, please.

The top-level folder should contain an index file (html) and a revised proposal spreadsheet (xlsx showing how you allocated your collective time (20 hours per student) to the grading categories. The allocated times must obey the minimums and maximums (the cell will show red if it violates a rule). You may change your allocations from what you submitted as a proposal to reflect how the workload really played out.

The index file (html) should link to index files in each of the subfolders. You may delete subfolders if you spent no time on that grading category but do not add any subfolders because I have no way of giving you credit for the work. Please use the html index files to guide me through your project. I will only look at files which are linked through the index files.

Populate each sub-folder with evidence of the work you did. I will review the evidence you provide, compare it to the time allocated and make a grading judgment as described in the Grading Guidelines spreadsheet attached. Every project is different so, apart from a title page, there is no standard submission. I will not read computer code. I prefer diagrammatic descriptions of your logic.

Team Number Simulation Modeling and Analysis Project 2019

Link	Description (suggested content - not required)
Title Page	Project title, date, course name, course number, names as listed in e-Dimension and photos of each team member (required)
Abstract and Motivation	Textual description of project
Background Reading	Bibliography; summary of literature
Project Management	Functional diagram of project steps with input/output documentation; Project schedule; Task assignment; Due date performance
Data Collection and Manipulation	Summary of collected data; parameters extracted for simulation use
Simulation Design	Influence diagrams, stock and flow diagrams, state machine diagrams, event graphs, data structure diagram, Capella model
Model Documentation and Programming	Powerpoint guided tour of model (similar to lecture examples) using screenshots and annotations - It should include the model equations (e.g. formulas for state changes); decision Rules (FCFS vs MostNeeded)); Programming Code.
User Interface Visualization and Animation	User's manual or Powerpoint tutorial; screenshots; link to YouTube video; How to install the software or replicate the results?
Output Analysis	What questions can you answer using the simulation? What measures of system performance can you estimate using your simulation? What sensitivity analysis? - Tabular summary of runs; statistical significance of differences; Discussion of whether results are surprising or expected; lessons learned; conclusions

See below suggested content that you can include in each grading folder. These are just guidelines, feel free to take it or leave it:

Title Page: Use the *Sample Title Page.pptx* as reference (included in the Title Page folder of the "Project Template Folder").

Abstract and Motivation: Word/PDF/PPT file describing the motivation of your work.

Background Reading (not required): Word/PDF/PPT file describing the existing literature on the topic

Project Management: Diagram (PDF/PPT/png/jpg) showing the main steps of your project and timeline.

Data Collection and Manipulation (not required): Word/PDF/PPT file describing the data you have collected or used. You can present summary tables and graphics to make it easier visualize the data.

Simulation Design: Word/PDF/PPT file describing the simulation rules and assumptions. Draw an Event Graph if you used a Discrete-Event Simulation. Draw a State Diagram if you used an Agent-Based Model.

Model Documentation and Programming: Powerpoint guided tour of model (similar to lecture examples). Explain your modeling code step by step.

User Interface Visualization and Animation: Here is where you should place your model file (javascript code and html, jaamsim file, simio file etc.). I should be able to run the model in my laptop. You can add a PowerPoint file explaining how to run the model. You must have a link to a public media site with a video of your simulation running.

Output Analysis: Word/PDF/PPT file describing which type of analysis you can do with your model. You can present some tables and graphics with sensitivity analysis you have performed