SEN9110 Simulation Package: Assignment 3

Assignment to be carried out in your simulation package

Extend the simulation model of the Ferry with some more detailed logic for different objects:

- cars that arrive late will still be allowed on board if there is room
- selection of the priority of the cars that can enter the ferry is shifted to other categories of customers as well if the waiting time for those customers becomes too long.
  - find a way that is considered to be 'fair', still giving priority to business users, but not having the tourists wait too long
- assume that the cars are 4m long and that the waiting space after the booths and before the booths is limited in terms of length
  - calculate how much lane lengths are needed for booth 1, 2 and 3 after the booth to accommodate the waiting cars for 80% of the cases (so in 20% of the cases, cars might have to wait in front of a booth, not being able to pay yet).
- make the server for payment booth carry out a small process
  - in 5% of the cases, the cashier at the booth has to walk elsewhere to validate the credit card (walking takes 15 seconds) and check with a supervisor (between 30 and 45 seconds) whether credit card matches the id / passport and is okay; it takes then again 15 seconds to walk back and resume the payment process.

Some of you might not have a version of the package that would allow you to save a model with more advanced enhancements – in that case just check in the manual and examples whether and how such features would have to be implemented and reflect on this in your slides.

Deadline and requirements

Hand in a small slide pack (5-10 slides) describing how you built the additional logic, and what features are supported in the package. Describe what was easy and what was difficult, compared to simulation package(s) that you know. Reflect on the object-oriented features of the package. Hand in the model as well (if possible).

The slides and model have to be uploaded Friday 2 October latest at 17:00 to "Simulation tool Assignment 3" in Brightspace.