## **INFO8002 Large-scale data systems**

Exercise session II

## Instructions

For the main questions, be ready to:

- Describe the architecture of your solution and its operations.
- Define all its components and their interactions.
- Motivate your design decisions.
- Make diagrams whenever necessary.
- State clearly your choices and assumptions

For feedback, feel free to e-mail <a href="mailto:joeri.hermans@doct.uliege.be">joeri.hermans@doct.uliege.be</a>

## Question 1.

You are responsible for a messaging system. It is your responsibility that a message sent by a user is eventually delivered to all users currently present in the messaging room. Assume a *total* or *atomic* ordering of the messages, i.e., all users should see the same set of messages in the same order. Discuss a *fault-tolerant* centralized or decentralized architecture.

## Question 2.

Does the FLP impossibility result state that it is impossible to *achieve* consensus? If so, why? If not, what behaviour can happen in practice and why?

Nice read: <a href="https://www.the-paper-trail.org/post/2009-02-03-consensus-protocols-paxos/">https://www.the-paper-trail.org/post/2009-02-03-consensus-protocols-paxos/</a>