INFO8002 Large-scale database systems
Exercise session I

Instructions

For the main question, 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.**

Question 1.

Assume you are tasked with the design of the architecture for an instant messaging service (networking protocol). Service reliability is important, we want to make sure that everyone *connected* receives a message once it has been sent by some party. Furthermore, a user should be *alerted* in some way when a message is received by all participating users, and when a party joins or leaves.

Question 2.

Assume the same setting as in *Question 1*. However, in this case having perfect failure detection mechanisms are impossible due to the lossy links, and the high cost of transmission (e.g., transmission power requirements or low battery capacity). How do you make sure you reach as many participants as possible?