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dependable evolvable pervasive software engineering group

Exercise Session – Instant Messenger

Federica Filippini

Politecnico di Milano

federica.filippini@polimi.it

POLITECNICO DI MILANO

Goal

- Design and implement a **class** for an **instant messaging** service.
- The class owns a data structure to store both messages (`std::string`) and their sending times (integral type).
- The class should offer **three methods**:
  - a procedure to **send messages**, which takes the sending time and text as arguments
  - a function to **receive the latest content**, which takes a timestamp as argument and returns a collection of all the messages more recent than that moment
  - a function that **returns all the messages whose content includes a given word** provided as argument

Assumptions and Requests

- Consider as **most common use case** clients that remain online quite often…
- …with **frequent sends and receives, but rare searches based on message content**
- State the **complexity** of the implemented methods and motivate your design choices, particularly regarding data structures