

Advanced Programming in Java

Chatsystem Project

Arthur Bit-Monnot

INSA 4IR

The Chatsystem project

You are hired by a company to develop an internal communication tool:

- direct chat between employees
- within the company's network
- no central component

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Your task: provide a **Minimum Viable Product (MVP)** that demonstrate:

- the key features of the product
- your ability to provide maintainable and high quality code

Organization

- groups of 2 students
 - from same TP group!
- working together to provide:
 - conception document (UML)
 - feature-full implementation (Java)
- Independent solutions
 - no interoperability between groups
 - distinct protocols

Expected features

Decentralized ChatSystem

- Contact discovery
- Message exchange
- Chat history management
- Graphical User Interface (GUI)

> Specification document

Expected features → Technical needs

Decentralized ChatSystem

- Contact discovery
 - UDP Message / Broadcast
- Message exchange
 - TCP sessions
- Chat history management
 - local database (JDBC, SQLite)
- Graphical User Interface (GUI)
 - GUI library (Swing)
- Software lifecycle
 - git, maven, unit testing, CI, dependencies management, ...

Project Phase 1

- Provide a library for **Contact Discovery**

Involves:

- 1 Conception of the module (3 TD UML)
 - use case diagrams
 - sequence diagrams
 - class diagrams
- 2 Implementation of the module (4 TP Prog)

=> Code Milestone (November 17th)

Project Phase 2

- Building on your “Contact discovery” struggles

Present solutions to your problems in contact discovery:

- build configuration
- tests
- logging
- design patterns
- thread safety
- ...

Format:

- Code Repository + Pre-recorded live coding (2CM, autonomous)
- Feedback / Evaluation formative (1 TD)
- Real evaluation (1h, December 13th)
 - Quiz on course content (QCM)
 - Short programming exercises

Project Phase 3

- Full application
 - contacts, messaging, history, GUI

Involves:

- 1 Complete Conception (4 TD UML)
- 2 Implementation (6 TP Prog)

=> Final Report + Code (end of january)

Evaluation

- > Evaluation Criteria
- > Release Checklist

Questions?