Non-functional requirements:

- Use Java 11
- Use Spring boot and gradle
- Use microservices
- API instead of GUI
- All features should be tested
- Use Spring Security
- Safely store the user passwords

Requirements:

Must

User subscription:

- Users must be able to register and log in to the system with their ID and password
- Every member must register with their address to join an HOA
- When a user registers, the system must check if the address corresponds to the HOA's area
- Users must be able to create an HOA
- Users must be able to become a member of an HOA
- Users must be able to leave an HOA

Board Elections:

- Elections for the board must be held yearly in every HOA
- Members must be able to apply for board
- Members must be able to vote for board members in elections

Notice board:

- There is a public notice board that contains activities
- Members can create activities on the notice board

HOA rules

- In order for a proposal to pass more than half of the votes should be in favor
- Only the board members can propose and vote changes to the rules

Should:

Board election:

- Members should not be able to vote for themselves

- Members should be able to change already casted votes
- Abstained votes should not be counted
- Board members should only be able to keep the role for a maximum of 10 years.
- An applicant should have been part of the HOA for at least 3 years to be eligible.
- An applicant should not be allowed to be in 2 boards at once.
- Full history of all elections (proposal voting and board elections) should be visible to all members
    - It should be transparent i.e. how many votes for each option should be displayed

Notice board:

- Members should be able to fill in their interest in the activities
- Activities in the past should no longer be visible

HOA rules:

- Members should be able to report other members for violating the rules
    - The member should be able to mention the violated rule on the report
- All members of the HOA should be able to receive a notification of the changes that passed

Could:

- During election time, the board could be prevented from approving new rule changes
- The history of an HOA could contain past activities
- The history of an HOA could contain when a member joined/left
- The system could automatically start an election after a year from the last one
- When a board member leaves the HOA, there could be the option to elect a new board member