## **Legend:**

## **1.Must have:** Functional requirements that are critical to the current delivery timebox for a successful project.

## **2.Should have:** Functional requirements that are important but not as time-critical as the must-have requirements. Therefore, they can be delivered in the future delivery timebox.

## **3.Could have:** Functional requirements that are desirable but not necessary. Usually, these requirements improve user or customer experience.

## **4.Won’t have:** Requirements that are perceived as the least-critical by stakeholders. This category includes requirements that are dropped and considered for inclusion in a future version of the project.

## 

## 

## Functional Requirements:

*For corona-proof room scheduling, the requirements regarding functionality are described under the “Functional Requirements”. Within these, four categories will be identified using the MoSCoW model to prioritize requirements:*

### Must Haves:

* Users should be able to get their own personal schedule.
* Students must be authenticated via their netId and a password. (which won’t be connected to TU Delft’s serves)
* Every student should have an activity on campus at least once every two weeks.
* The schedule should include 45 min breaks in between each lecture
* The rooms should not exceed the specified capacity:
  + More than 200 seats: max 30% capacity
  + Less than 200 seats: max 20% capacity
* The above stated capacity rules and interval time should be updatable by faculty members.
* Teachers can report sick with corona.
  + When a teacher does this the lecture shall be moved online and be physically cancelled.
  + Students shall be notified.

### Should Haves:

* Teachers can view how many students are attending each lecture
* Students should be able to cancel their attendance.
  + Should update the numbers attending the lecture

### Could Haves:

* When a teacher reports sick at least 48h before the lecture, the room that lecture would be in could be redistributed to another lecture.
* When a student is registered sick the spot should be filled up with another student (if canceled at least 24h before hand).
* A lecturer is notified when Corona-related rules have changed.
* When a student has corona all students who attended class with him in the past need to be alerted
* Rules shall have a date from which they will take in effect.

### Would/Won’t Haves:

* Additional functionalities including any service other than room reservation
* Single sign-on

## Non-Functional Requirements:

*Besides the provided functionality and services, design constraints need to be included in the requirements specification. These requirements do not indicate the operations that should be carried out by the application, but rather indicate the constraints and limitations that apply to the system or the development process.*

* The project should be built in a modular fashion in order to adapt to new Corona rules.
* The project’s modules should be implemented as independent APIs.
* The project should be built in a way that is scalable in order to meet high-demand usage of 1300 users (these are students and university staff) without taking up more than 16GB of ram and 200GB of disk space.
* The project needs to be built using Java 11.
* The project needs to make use of Spring Boot.
* The project needs to manage its dependencies using Gradle.
* The project needs to have a module that manages database interactions.
* The project needs to run its own database(s).
* \* (Ayush is this needed ?) The routes of the microservices should have a load balancer(routes that are accessed more frequently should be assigned more processing power to increase capacity (concurrent users) and reliability)

### *Security specifics:*

* The project should have an authentication system (username and password) where the username is called ‘netID’ and the password should be decided by the user via an API call.
* The project should store passwords in encrypted (Hashed) form.
* In the users database, the netID will be the unique ID identifying each user.

## 

## User Stories:

1. As a student, I want access to the schedule of lectures I have registered to attend so that I can see where I need to be throughout the week.
2. As a student I want to be able to attend at least one lecture every two weeks so that I have an adequate learning experience.
3. As a student I want to be able to cancel a registration for a lecture in the event I don’t plan on attending so that the head count is updated and other students can attend.
4. As a teacher I want access to the schedule of lectures I have to teach so that I can see where I need to be throughout the week.
5. As a teacher I want to be able to report that I have coronavirus so that the lectures I am scheduled to teach can be canceled.
6. As a teacher I want to be able to see how many students are attending each lecture I am teaching, so that i can see how close to full capacity each lecture is.
7. As a faculty member I want to be able to update the restrictions on lecture hall capacity in the event that the government gives new guidelines.
8. As a faculty member I want to be able to add Courses, so that the courses will be placed into the schedule of the students.