**Tasks:**

1)Prepare more detailed description (ideally diagram) for the components interaction. Data flows and sequences (UML or any language of your choosing) will be highly appreciated.

2)Come up with a list of API endpoints with input/output contracts. Ideally to have a resource diagram as well.

3)Prepare sample json requests/responses for 1-2 endpoints of your choosing

4)Define user groups and access matrix (endpoints available for each user group)

5)Define detailed functional requirements for one of the features of your choosing

6)Define non-functional requirements for the applications

7)Prepare high-level ERD diagram for the DB proposed\*

**Solution:**

1)Component diagram (Files «Component diagram» in SIMP and jpg format, they are attached to this letter)

2)

GET /rooms/{room\_ID}-information about room with unique id: ID

GET /schedules/{schedule\_ID}-information about schedule

GET /rooms-list of all rooms

Resource diagram (Files «resources diagram» in SIMP and jpg format, they are attached to this letter)

3) GET request for room

GET /rooms/{room\_25}

{

  ‘meta’: {

  },

  ‘data’:

{

    ‘id’: ‘25’,

    ‘status’: ‘free’,

    ‘arrival\_date’: ‘28.11.2020’

‘leaving\_date’: ‘5.12.2020’

‘audio/video’: ‘yes’

‘capacity’: ‘2’

  }

}

4)Groups of users:

-Administrator

-User

|  |  |  |
| --- | --- | --- |
| Access | + | - |
| Viewing information about rooms | Administrator;User |  |
| Updating information about rooms | Administrator | User |
| Viewing informationabout booking | Administrator;User |  |
| Updating information about booking | Administrator; User |  |
| Viewing information about user | Administrator; User |  |
| Updating information about user | Administrator; User |  |

5) Functional requirements for the function of booking:

-OAuth mechanism must be used for authorization

- The system must provide the user with a suitable means of viewing information about the reservation itself (number, time, etc.)

-The system should provide the user with information about conflicts when booking

-The system should provide the user with the opportunity to update information about their reservation (book a room, etc.)

-Interaction with REST API

-Reservation data must be stored in SQL DB

- All necessary data for clients should be provided in the form of json entities

6)Non-functional requirments:

-The system must be available for users at any time

- The system must be available to the user through a mobile application or a special screen

-The user interface must be accessible and provide all the necessary information for a comfortable room reservation

-The system must be reliable: store the data of all users and information about their reservations

7)Files «ERM DB» in SIMP and jpg format, the are attached to this letter