WS Project [30 points]

This activity intends to stimulate the students to develop a prototype called MyClimate using Web Services technologies. This system should allow users to remote managing information related with climate installation **homes, sensors and users** within a web services system. E.g. apartment, flat, attic, etc.

Basic Functions [12 points]

- Register a new Home: name/address/description.
- Modify Home: name/address/description.
- Delete Home.
- Search Homes using the key or using textual description (address/description) full search.
- List Homes information. By Id or listing all Homes in the system.
- Register a new Sensor: ID/Room.
- List all Sensors in a Home.

Advanced Functions [18 points]

- Delete a Sensor.
- Search Home's information using textual content (address/description) partial search.
- Manage user's access to Homes: sign up, sign in (name and pass). Every Home should have an owner.
- List users Homes.
- User can modify/delete just its own Home.
- List sensor information and analytics results by means of sensorID.
- Store and retrieve all of your data in a database in your web services server.

You are free to implement new features that you consider convenient as long as you maintain the main features and architecture.

Instructions

Working in pairs or individually and develop the project. There will be a penalization in case of late delivery (after Christmas).

Deliveries:

- Prepare a **presentation** in English language in order to show the project and its execution. The document should include the following contents:
  1. Describe the classes implemented and the corresponding UML diagram.
  2. Include the endpoints with their operations, resulting codes and representations as in the movie database.
  3. Include a screenshot of each case execution. Describe and explain the outcomes.
  4. The final source code and deliverable should be upload to the virtual campus. It is important to produce clean and encapsulated code.
  5. You should justify your solution. Remember to include the hours dedicated to this project.

- Execute the main use cases at the end of the presentation in order to show the result of your project.

Execution

WS DEMO

1- Create three different Homes, the first and the second with similar description (e.g., Michael Knight apartment, Michael Bolton flat)
2- Modify 3rd's description
3- Search a Home by its description (full)
4- Delete the second one
5- List all Homes
6- Create two sensors in the first Home
7- List first Home Sensors
8- Create two different users
9- Upload a different Home to each previous user
10- Delete the second Home uploaded
11- Search Home by its description (partial)
12- Show its user
13- Show its temperatures
14- Check some ID from an existent user
15- Check some other nonexistent ID

References

The movie database. https://developers.themoviedb.org/3/getting-started/introduction