Cloud Computing - coursework report

Anthony Sébert - 1705851

Statement of compliance

Subscriptions, Requests, and Locations

see Implementation

Web Services

`null`

The User Interface

The project provide a landing page with a login form to log in or register, created in pure HTML/CSS.

Implementation

`User` class

Class representing a user as an object, with the following attributes and methods.

attributes

- longitude (double) : The longitude of the user
- latitude (double) : The latitude of the user
- id (String) : The unique user id
- incoming_requests (List) : List all requests that have not yet been accepted/rejected by the user
- subscriptions (List) : List all users that have accepted the user request
- subscribers (List) : List all users whose requests have been accepted by the user
- outgoing_requests (List) : List all request from the user that have not yet been accepted/rejected by other users

methods

- User() : Need this default constructor for AWS SDK. Create a User object
- User(String _id) : Create a User object
- longitude() (double) : Get a user's longitude
- latitude() (double) : Get a user's latitude
- id() (String) : Get a user's id
- incoming_requests() : Returns a user's incoming requests
- subscriptions() (List) : Returns a user's subscriptions
- subscribers() (List) : Returns a user's subscribers
- outgoing_requests() (List) : Returns a user's outgoing_requests
- set_longitude(double) : Set a user's longitude attribute

- set_latitude(double) : Set a user's latitude attribute
- add_incoming_request(String) (boolean) : Add a user id to the incoming requests list
- add_outgoing_request(String) (boolean) : Add a user id to the outgoing requests list
- Remove a user id from the incoming requests list
- @return true if the operation is a success, false otherwise boolean reject_incoming_request(String id) { return incoming_requests.remove(id); }
- Remove a user id from the outgoing requests list
- @return true if the operation is a success, false otherwise boolean outgoing_request_rejected(String id) { return outgoing_requests.remove(id); }
- Move a user id from the incoming requests list to the subscribers list
- @return true if the operation is a success, false otherwise boolean accept_incoming_request(String)
- Move a user id from the outgoing requests list to the subscriptions list boolean outgoing_request_accepted(String)

API specification

Register

This service is responsible for the registration of new users. It is called by a **POST** request at */api/register*. The parameter `user_id`, extracted from the HTML form, corresponds to the user to create. The service returns:

- **409** if the user is already present in the database
- **200** if the operation have been performed successfully
- **500** in case of a server error (very likely during the communicatino with the database) On success, the service returns a JSON object containing a message that describes the result of the operation.

Login

This service is responsible for the login of existing users. It is called by a **POST** request at */api/login*. The parameter `user_id`, extracted from the HTML form, corresponds to the user to retrieve. The service returns:

- **200** if the operation have been performed successfully
- **404** if the user cannot be found On success, the service returns a JSON object containing a message that describes the result of the operation.

Logout

This service is responsible for logout an user. It is called by a **GET** request at */api/logout*. No parameter is required. The service returns **200** since the operation cannot fail On success, the service returns a JSON object containing a message that describes the result of the operation.

User

This service is responsible for the creation of users and the retrieval of user information. A **POST** request at */api/user* can be performed to create an user. The parameter `user_id`, extracted from the HTML form, corresponds to the user to create. The service returns:

- **201** if the operation have been performed successfully

- **400** if a problem occured On success, the service returns a JSON object containing a message that describes the result of the operation.

{id}

This service is responsible for retrieve user information. It is called by a **GET** request at */api/user/{id}*. The parameter `user_id`, extracted from the HTML form, corresponds to the user which information is requested.