

4JVA - Enterprise Programming Project

Document content

Subject
Delivery

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1 CONTEXT

SUPINFO wants to create its Supfriends application to locate friends or children more easily.

It's easy to lose a member of a group on an outing to an amusement park or outdoor party.

We have created a smartphone application that returns to our server the GPS coordinates of a user.

**This project must be done by groups, each containing 3 or 4 students maximum.
Working in a bigger group will be sanctioned by penalties points.**

2 SPECIFICATIONS

The first version of the website will be composed of several functionalities listed below:

- As anonymous:
 - View a short description of this service and statistics in the index page
 - Register as a new user, authenticate himself
- As a registered user:
 - Create a group
 - Search user to add in a friends group
 - View and edit his profile
 - Use web services to update position and locate a group
 - View position of each member of a group
 - Log out

You have to use EJB 3.1 and JSF implementing and use JPA implementing good practices (DAO, Factories, Criteria and MetaModel API...).

2.1 DATA STRUCTURE

Before starting the project, draw an UML class diagram representing the JPA Entities you will need with their relationships.

This diagram will be useful for you and for the team that will develop the next version of the platform.

The class diagram must be returned in **jpeg, png or pdf** format (otherwise your Teacher will hate you!).

2.2 INDEX PAGE

For anonymous the index page must show a short description of this service and statistics of use (number of users, number of connected users). You are free to add others statistics. A navigation area must be displayed on the top of all pages (login, register).

For authenticated users, the navigation area displays a logout link, a link to his profile, to create a group, to search the position of a group.

This page list all groups of the authenticated user in a table. A button to leave group is display at each line.

2.3 REGISTER AND AUTHENTICATE

When registering, users have to give some details about them, like username first name, last name, email address, a phone number and password.

Of course, you'll have to check user input.

When the user registers him, it must log him in too.

The user can authenticate by a dedicated log in page with username and password.

2.4 CREATE A GROUP

An authenticated user can create a group.

The user can name the new group and add members from an user search.

A user can leave a group from the index page.

To search a user, use his phone number.

If a user matches the phone number display a button to request confirmation to add to the group.

A group has at least one id and a name.

2.5 DISPLAY POSITION OF A GROUP

An authenticated user can view on a Google map the position of each member of a group.

Clicking the icon of a member of the Google Map will display its GPS coordinates.

This page will have a select order to list the user groups.

Select a group to display the Google Map with members positions.

2.6 VIEW AND EDIT HIS PROFILE

Users can view a profile page to change their details (except username).

2.7 WEB SERVICE

This application provides a web service (REST).

All parameters can send by GET or POST method.

To use this api the user must send his username and password for each request.

- To list groups.

This function is called by "action" parameter with "listGroups" as value.

GET `http://XXX/?username=XX&password=XX&action=listGroups`

Example of return:

```
{
  "groups": [
    {"id":1, "name": "myGroup"},
    {"id":2, "name": "myGroup2"},
    {"id":3, "name": "myGroup3"}
  ]
}
```

- To retrieve the position of each member of a group.

This function is called by "action" parameter with "getPosition" as value and a second parameter "group" with and id as value.

GET [http://XXX/? username=XX&password=XX&action=getPosition&group=ID](http://XXX/?username=XX&password=XX&action=getPosition&group=ID)

Example of return:

```
{
  "group": {"id":1, "name": "myGroup"},
  "positions": [
    {"userId":15, "lastName": "COLINET", "firstName":"Steve", "latitude":48.290762, "longitude":4.070
  },
    {"userId":18,"lastName":"BERTHIER","firstName":"Renaud","latitude":48.290755, "longitude":4.071
  }
  ]
}
```

- To update the user position.

This function is called by "action" parameter with "update" as value and the second parameter "latitude" with the latitude as value and the lastest parameter is the "longitude" with the longitude as value.

GET [http://XXX/? username=XX&password=XX&action=update&latitude=lat&longitude=long](http://XXX/?username=XX&password=XX&action=update&latitude=lat&longitude=long)

Example of return:

```
{
  "success": true
  "message": "update ok"
}
```

This Api returns JSON only.

1.1 LOG OUT

This functionality must log the user out.

3 INSTRUCTIONS

- Plagiarism is forbidden.
- Make accessible his code on a public sharing platform (as GitHub) before the end of the evaluation is forbidden.

Don't abiding by these rules will result in suspension of your assessment and will be considered cheating.

4 NOTATION

Functionalities	Points
Data Structure	2
Index (groups list, statistics, service description, navigation area)	3
Security (register, auth, log in/out, filters)	3
Search a user by phone number	2
Can leave a group	3
Can add a user in a group	3
Can create a group	3
Display each member position on a map	5
View and edit profile	2
Web service to retrieve group members positions	4
Web service to update position	2.5
Web service to list groups	2.5
If EJB is not use	-15
Design	2
Code Quality & Conventions	3
TOTAL	40/40

5 RETURN

Return your graded exercise as a ZIP archive named as follows:

4JVA_SupFriends_Campus_IdBooster.zip.

For example: 4JVA_SupFriends_Troyes_10000.zip

Not following this convention will result in point loss.

You will send the archive **to your Teacher SUPINFO email address and a copy to 4JVA@supinfo.com** to secure your project. Send it **before the end of the evaluation**. After that delay, your graded exercise **will not be corrected and the mark 0 will be assigned to you**.