PHP Assignment

Congratulations on being shortlisted. We appreciate the interest and enthusiasm you have expressed. With this assignment we would like to get some insight into critical aspects of your knowledge and skill sets.

In this test we will check the following skills:

1. Strong Logic - understanding & implementation.

2. Basic RDBMS knowledge (check for correct approach, understanding & implementation).

3. Excellent written communication skills in English.

4. Ability to understand and explain things precisely & correctly.

5. Humility.

6. Eye for detail.

We consider the above points as a very important part of the overall profile. To that effect we hire over-achievers and 'A' players who can independently conceptualise and implement projects to achieve organisational objectives.

Time for completion:
3 days starting from tomorrow.

How to submit:
Email the assignment to jobs@dquip.com along with your full name & telephone number. Email id should be the same which you used while applying with us. Just call us and inform, once you have emailed.

Extra time:
Incase you need an extra time for a valid reason just call us on:
920 9096 844 / 920 9096 855 / 932 4414 355 / 932 4414 356
or email us on: jobs@dquip.com with the request.

Task To Perform:

Functional Requirements:

You have to plan and implement a dynamic user hierarchy system which can link a selected user to 'n' number of managers and 'n' number of team members. There is no limit to the value of 'n'.

Any existing user in the system can be assigned as a manager or a team member to the current user selected.

The user hierarchy management requires a flexible structure to store a list of "People reporting to User" and a list of "User reports to People".

For every user one can select a list of users (existing in system) for both fields: "People reporting to User" & "User reports to People".

Non-Functional Requirements:
The user hierarchy is going to be used to show the user his own data as well as of all the people below him (all levels).

Example -
Users B,C report to A. Users D,E,F report to B. Users G,H report to F. Users I,J report to C. So user A will see data of all users (i .e. B,C,D,E,F,G,H,I,J) below him and his own data. User B will see data of all below him (i .e. D,E,F,G,H) below him.

Hence, there will be frequent queries to fetch list of all users of all levels below a particular user. So DB structure and algorithm should be optimised considering above scenario.

Tasks to be implemented:

1. Create database structure to store / manage the hierarchy. Consider a simple table "bas_user" which stores user_id & user_name. You will have to create tables for mapping the user's hierarchy.

You can use other options also apart from MySQL to store hierarchy if required.

2. Build an algorithm for following tasks based on given user id:

a) Add / Edit / Delete a new user reporting to current user.

b) Add / Edit / Delete a new user to whom current user will report.

c) Fetch all users reporting to current user (all levels).

d) Fetch all users who the current user reports to (all levels).

You need to submit algorithms for above 4 scenarios in separate file in textual format.

3. Implement above algorithms & database in PHP & MySQL.

UI Info :

Create a "List Users" page which will list all the existing users in system.
Add an option to set "Reporting Rights" for each user which will open a popup on click.

There should be autocomplete textfields to set "People reporting to user" (immediate users below) and set "User reports to people" (immediate users above). You can use any autocomplete plugin of your choice.

Implementation has to be in Core PHP, HTML5, CSS, Javascript.

Allowed frameworks / libraries : Symfony PHP, Bootstrap, Font Awesome, JQuery.

Usage of above mentioned frameworks / libraries is optional.

For using any frameworks / libraries not mentioned above, you should first request permission from us for the same.

Things to be submitted:

1. Export of database structure created by you in SQL format.

2. Text file containing 4 algorithms from Task (2).

3. Zip file of project folder accompanying a document explaining significance of each file.

4. A document explaining what strategy / idea you used for implementing user hierarchy and how it meet given requirements.

Key points on which we shall evaluate :

1. Clear Understanding of the problem statement.

2. Ability to gauge all scenarios of given problem.

3. Speed of implementation of above task i.e. time required to complete the same.

4. Excellent understanding & implementation of UI / UX.

5. Code optimization in terms of algorithm & running time.

6. Database optimization in terms of structure & querying.

7. Ability to explain & communicate ideas to others via documents / mail / phone.

Wish You Luck!