Interview Assignment – Perl Developer

Why

The purpose of this assignment is a small overview of the applicant's knowledge and thinking, it is not intended as a full display of technical expertise. The assignment is considered a small simplified sample of the type of work we do at the sysDev department in GfK.

How

The assignment is sent to applicant during the interview process, it is expected that the time spent on the assignment should less than 8 hours, however it is not a requirement. Please treat this assignment as confidential as we intend to use it again in the future.
We prefer that you create a GIT respository on Bitbucket with a readme file that explains how to run the code and any assumptions made, and share it with the email addresses:

- Bhupendra.Joshi@gfk.com
- Fernando.Vianna@gfk.com
- Ahmad.Hajou@gfk.com
- Sujai.Nair@gfk.com

For any questions related to this assignment, please send an email to the people listed above.

Please refer to the email sent and the HR representative for next steps after sharing the result.

Good luck :)

What

Non-technical Requirements

The IT department maintains translations for different panels in a database table called dqtranslations. Before every migration, testing is performed on the test server.

While testing the user usually tweak the displayed text by changing it directly in the database in the table.

By the end of the testing they want a script that will compare the values in the production database with the test database and produce a report of the changes and missing translations.

Your task is to create that script.

Assumptions

- The script should accept command line arguments for the connection to both databases
- The database used is mysql
- The output of the script should be a JSON file to the standard output
- The output of the script is supposed to help the user re-evaluate his changes and choose to apply those changes to production (applying the changes to production is beyond the scope of this script)

Technical Requirements

Below is the script to create the DB table:

```sql
1.  CREATE TABLE `dqtranslations` (
2.    `name` varchar(255) NOT NULL,
3.    `language` varchar(20) NOT NULL DEFAULT '',
4.    `value` text NOT NULL,
5.    PRIMARY KEY (`name`,`language`)
6.  ) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

The script output should indicate the similar values, the changed and missing values for each language and key. The order of columns may be different between environments.

Programming language

Perl is our preferred language

Example Input/Output

Test Database table dqtranslations:

name	language	value
API_ButtonNo	cy	Naddo
API_ButtonNo	en	No
API_ButtonYes	cy	Do
API_ButtonYes	en	Yes
API_DontShowAgain	cy	Peidiwch â dangos hyn eto.
API_MSRequired	cy	Dewiswch o leiaf un ateb
API_MSRequired	en	Please select at least one answer

Production Database table dqtranslations:

name	language	value
API_ButtonNo	cy	Naddo
API_ButtonNo	en	No
API_ButtonYes	cy	Doooo
API_ButtonYes	en	Yessss
API_DontShowAgain	en	don't show this again

Output:

```
1.  {
2.      same: [
3.          {
4.              name: "API_ButtonNo",
5.              language: "cy",
6.              value: "Naddo"
7.          },
8.          {
9.              name: "API_ButtonNo",
10.             language: "en",
11.             value: "No"
12.         }
13.     ],
14.     different: [
15.         {
16.             name: "API_ButtonYes",
17.             language: "cy",
18.             valueInTest: "Do",
19.             valueInProduction: "Doooo"
20.         },
21.         {
22.             name: "API_ButtonYes",
23.             language: "en",
24.             valueInTest: "Yes",
25.             valueInProduction: "Yessss"
26.         }],
27.     missing: [
28.         {
29.             name: "API_DontShowAgain",
30.             language: "cy",
31.             valueInTest: "Peidiwch â dangos hyn eto.",
32.             valueInProduction: ""
33.         },
34.         {
35.             name: "API_DontShowAgain",
36.             language: "en",
37.             valueInTest: "",
38.             valueInProduction: " don't show this again "
39.         },
40.         {
41.             name: "API_MSRequired",
42.             language: "cy",
43.             valueInTest: "Dewiswch o leiaf un ateb",
44.             valueInProduction: ""
45.         },
46.         {
47.             name: "API_MSRequired",
48.             language: "en",
49.             valueInTest: "Please select at least one answer",
50.             valueInProduction: ""
51.         },
52.     ]
53. }
```