**Management Advisory and Compliance Service/ Information Technology Section Practical Assessment for Information Systems Assistant**

**Instructions**

Please take look at the attached Excel sheet listing some projects undertaken by UN-Habitat and answer the following questions.

Time limit: **Five (5) Hours.**

Do not plagiarize.

**Kindly return the completed assessment by 15:00 hours on 28th January 2022**

**Important**: Share your source code, database dumps and **instructions on how to install your application** via a public **GitHub, GitLab or Bitbucket**

URL to assessment files: ……………………………………………………………………………………………………………

**Start of Assessment**

1. Normalize the data in the Excel and show relationships between the derived tables, if any. *Use of primary keys, foreign keys etc. is strongly encouraged.*

2. Create a web interface that can be used to manage these projects i.e., add, edit, and delete projects (CRUD functionalities). *For the sake of time, only the project's table needs to have an interface for CRUD operations. The other derived tables can be managed from the backend.*

   i. Use of front-end libraries and frameworks like Bootstrap, FontAwesome, VueJS, AngularJS, ReactJS, etc. is strongly encouraged but not necessary.
   ii. The backend should be done using PHP, Python, NodeJS or any other web programming language that you are comfortable with. Use of frameworks like PhalconPHP, Laravel, Django, ExpressJS is strongly encouraged, but not necessary.
   iii. The database can be MySQL, MariaDB, SQLite or any other Database system that you are comfortable with.

3. Create a page that lists these projects in a tabular format.
   i. The table should display 10 rows per page by default, but with the option of allowingthe user to choose the number of rows to display e.g. 5, 20, 50, all etc.

ii.        There should be a pager at the bottom of the page showing the current page number e.g. page 3 of 5 or something similar.

iii.      For each record, there should be a column for actions (view, edit, delete) which when clicked allows the user to view the record in detail, edit the record or delete the record.

4.   Create an API that exposes the above projects as JSON. The API endpoints can work as explained below:

    i.        Navigating to a URL like *api/projects/all* will return all projects as JSON

    ii.       Navigating to a URL like *api/projects/country/kenya* will return all projects from countryKenya as JSON

    iii.      Navigating to a URL like *api/projects/Approval Status/Approved* will return all projectswith status completed as JSON

5.   Create a dashboard that visualizes the data by Country(ies), Lead Org Unit and Themes.

6.   **Important**: Share your source code, database dumps and **instructions on how to install your application** via a public **GitHub, GitLab or Bitbucket.**

7.   Send a signed copy of this document with the URL to your files to **daniel.ndeti@un.org**

8.   Please be as creative as possible.

**Signed**: …………………………………………….

**Interviewee Name**: ……………………………………………..

**Date**: ………………………………………….