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Technical Assessment



Proof of Concept Documentation
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Introduction

The purpose of this document is to explain the Proof of Concept application that I have developed for a technical assessment for EPI-USE.

The Application consists of:

- An MS SQL database
- An ASP.NET MVC API
- A C# Windows Forms Application

The database and API are hosted online with AbsoluteHosting.co.za

The API's URL is: <http://pocassessmentapi.co.za/>

The C# program will automatically request the required data from the API.

The Application does the following (Detailed under "User Guide"):

- Generate and Display the Corporate Structure in a tree data view.
- Search for employees via their Name/Surname/Employee Number/Role.
- Identify employees born before or after a specified date.
- Report on the highest earnings, grouped per role, with additional information.

The source code, DB scripts etc. can be accessed from 2 sources, at your convenience:

- A GitHub Repository: <https://github.com/Caliban491/TechnicalAssessment>
- A Google Drive Folder (Zipped): <https://drive.google.com/drive/folders/1VliE4m-iHquq5Ux7EeCAv88fgmWCtwbl?usp=sharing>

Installation

This application requires Microsoft's .NET Framework. The installer might request to install .NET Framework, which is an automated process. (Installer will download the necessary package/s from Microsoft).

Please open the folder from the GitHub Repo/Drive Folder and navigate to:

C#_Program > POC_Setup > Debug > setup.exe

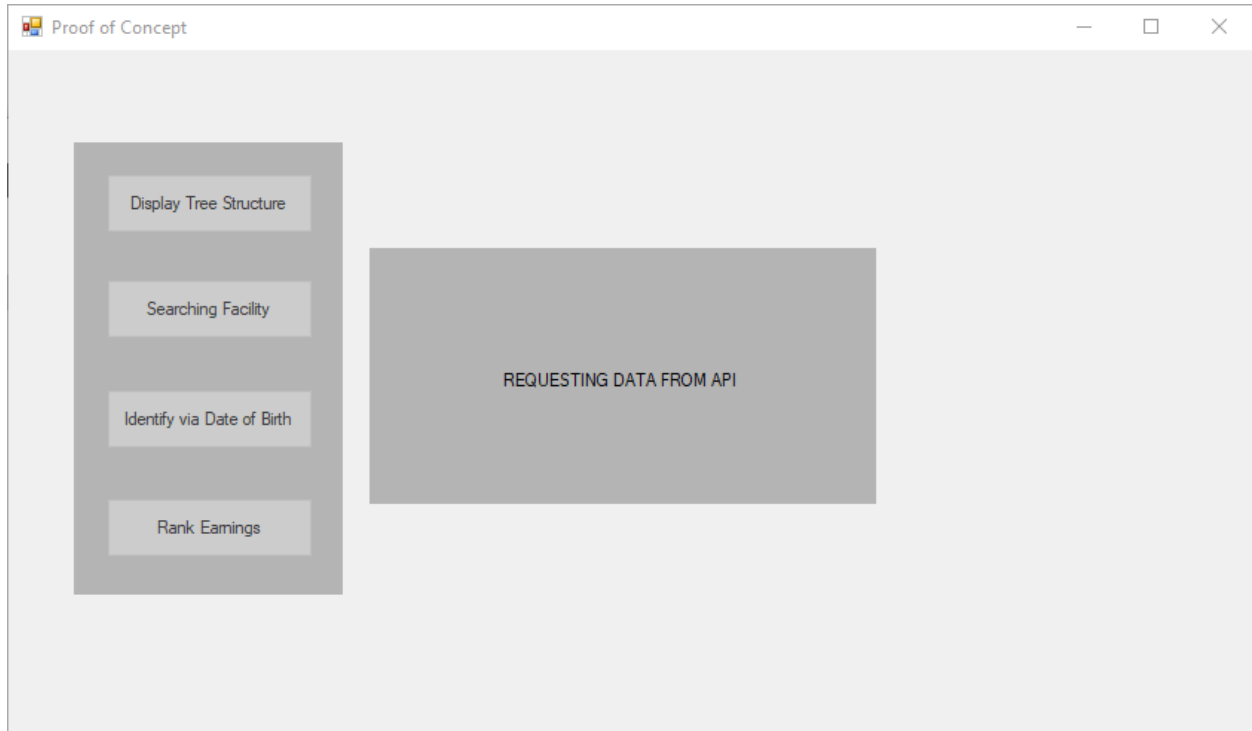
Follow the prompts to install the application. A shortcut will be on your desktop called "Proof of Concept". Simply run it to run the application.

To **Uninstall**: In your Programs and Features, simply uninstall the program listed as POC_Setup.

User Guide

Please ensure that you have an internet connection before opening the application.

This is the first screen you'll be presented with:



Once the data is retrieved from the API, the buttons will unlock:



View Corporate Structure

Click on the “Display Tree Structure” button on the side menu.

The screenshot shows a web application window titled "Proof of Concept". On the left is a side menu with four buttons: "Display Tree Structure" (highlighted with a blue border), "Searching Facility", "Identify via Date of Birth", and "Rank Earnings". The main area displays a "Corporate Structure" tree. The tree has a root node "Corporate Structure" which branches into "Manager 1 John Smith" and "Employee 2 Jane Doe". "Manager 1 John Smith" further branches into "Employee 3 Jim Bean", "Trainee 4 Roger Wilco", and "Trainee 5 Susan Roe". "Employee 2 Jane Doe" branches into "Manager 6 John Did", "Employee 7 Josh Taylor", "Trainee 10 Gilad Mannington", and "Trainee 11 Howard Jones". "Manager 6 John Did" branches into "Employee 8 Bjoern Gelotte", "Trainee 12 Jesse Leach", "Employee 9 Anders Friden", and "Trainee 13 Adam Dutkiewics". Each node displays the name, date of birth, and earnings. On the right is a "Statistics" panel showing: Manager Count: 2, Employee Count: 5, Trainee Count: 6, and Total Count: 13. Below the statistics are two buttons: "Expand Corporate Structure" and "Collapse Corporate Structure".

Node	Name	Date of Birth	Earnings
Manager 1	John Smith	1980-11-18	R700 000,00
Employee 2	Jane Doe	1995-01-31	R150 000,00
Employee 3	Jim Bean	1987-03-23	R175 000,00
Trainee 4	Roger Wilco	1978-12-27	R100 000,00
Trainee 5	Susan Roe	1986-08-20	R100 000,00
Manager 6	John Did	1995-01-31	R750 000,00
Employee 7	Josh Taylor	1992-07-15	R150 000,00
Trainee 10	Gilad Mannington	1997-11-20	R110 000,00
Trainee 11	Howard Jones	1991-07-24	R110 000,00
Employee 8	Bjoern Gelotte	1985-05-06	R175 000,00
Trainee 12	Jesse Leach	1993-12-14	R115 000,00
Employee 9	Anders Friden	1987-12-11	R180 000,00
Trainee 13	Adam Dutkiewics	1996-01-01	R110 000,00

You can use the buttons on the right to expand or collapse the tree structure.

Search for Employees

Click on the “Search Facility” button on the side menu.

Proof of Concept

Display Tree Structure

Searching Facility

Identify via Date of Birth

Rank Earnings

☒ Search Name/Surname ☐ Search Employee Number

All

John	Smith	1980-11-18	No:1
Jane	Doe	1995-01-31	No:2
Jim	Bean	1987-03-23	No:3
Roger	Wilco	1978-12-27	No:4
Susan	Roe	1986-08-20	No:5
John	Did	1995-01-31	No:6
Josh	Taylor	1992-07-15	No:7
Bjoem	Gelotte	1985-05-06	No:8
Anders	Friden	1987-12-11	No:9
Gilad	Mannington	1997-11-20	No:10

As you enter/change the search criteria in either the textbox or the numeric edit (or change the filter in the combo box between “All”, “Managers”, “Employees or “Trainees”) the results in the rich text edit will update accordingly:

Proof of Concept

Display Tree Structure

Searching Facility

Identify via Date of Birth

Rank Earnings

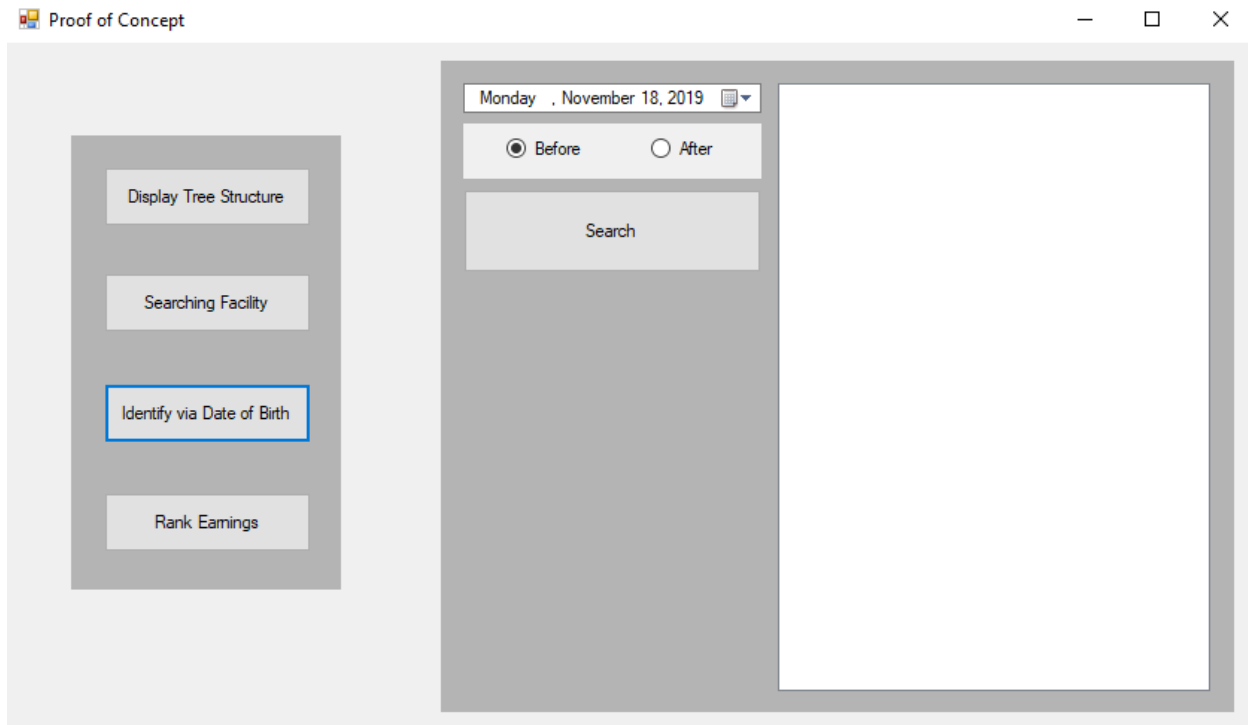
☒ Search Name/Surname ☐ Search Employee Number

Employees

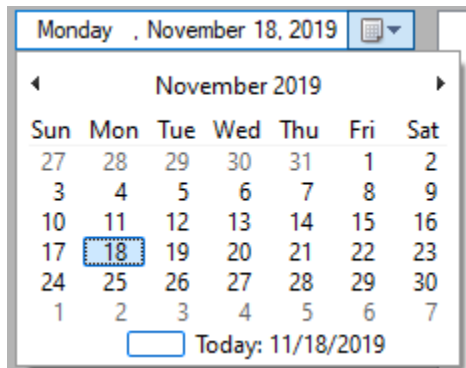
Jane	Doe	1995-01-31	No:2
Jim	Bean	1987-03-23	No:3
Josh	Taylor	1992-07-15	No:7

Identify a list of Employees based on their Date of Birth

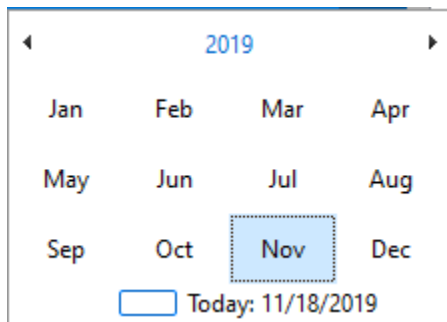
Click on the “Identify via Date of Birth” button on the side menu.



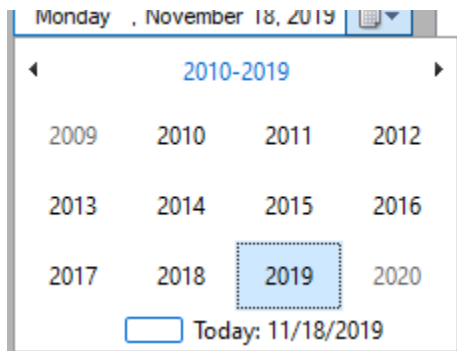
Click on the Date/Calendar on the top to open the date picker, then select a date:



You can click in between the arrows to select a month:



You can click again to select the year:



Then select whether you are looking for employees born before or after the specified date, and then click on the “Search” button:

A form with two radio buttons at the top: 'Before' (selected) and 'After'. Below the radio buttons is a large, light gray rectangular button labeled 'Search'.

The Results will appear in the rich text edit:

Monday , November 18, 2019

☒ Before ☐ After

Search

RESULTS:

John	Smith	1980-11-18	No:1
Jane	Doe	1995-01-31	No:2
Jim	Bean	1987-03-23	No:3
Roger	Wilco	1978-12-27	No:4
Susan	Roe	1986-08-20	No:5
John	Did	1995-01-31	No:6
Josh	Taylor	1992-07-15	No:7
Bjoem	Gelotte	1985-05-06	No:8
Anders	Friden	1987-12-11	No:9
Gilad	Mannington	1997-11-20	No:10
Howard	Jones	1991-07-24	No:11
Jesse	Leach	1993-12-14	No:12
Adam	Dutkiewics	1996-01-01	No:13

Rank Earnings

Click on the “Rank Earnings” button on the side menu.

Proof of Concept

Display Tree Structure

Searching Facility

Identify via Date of Birth

Rank Earnings

MANAGERS:	
John	Salary: R750 000,00
John	Salary: R700 000,00

EMPLOYEES:	
Anders	Salary: R180 000,00
Jim	Salary: R175 000,00
Bjoem	Salary: R175 000,00
Jane	Salary: R150 000,00
Josh	Salary: R150 000,00

TRAINEES:	
Jesse	Salary: R115 000,00
Gilad	Salary: R110 000,00
Howard	Salary: R110 000,00
Adam	Salary: R110 000,00
Roger	Salary: R100 000,00
Susan	Salary: R100 000,00

HIGHEST EARNER:	
Full Name: John Did	
Position: Manager	
Salary: R750 000,00	
Date of Birth: 1995-01-31	

BASICS STATS:	
Total Manager Earnings: R1 450 000,00	
Total Employee Earnings: R830 000,00	
Total Trainee Earnings: R645 000,00	
Total Earnings: R2 925 000,00	

Conclusion

This concludes the user guide for the Proof of Concept Technical Assessment by me, Reinhardt Francois Vetter.

If the application does not load the data from the API successfully, please let me know!
The API might be offline!