Objective: Demonstrate knowledge of application and basic database design and development

Requirements: Create a Ruby web application for importing, manipulating, storing, and display of public data. It is to be built as a single page web application that has two sections to update and analyze the data in a database as described below:

1. User authentication using username/ password. You may use OAuth as appropriate.

2. For updating the data, do the following:
    a. Read data from the following public datasets:
        i. Population Statistics for British Columbia (https://catalogue.data.gov.bc.ca/dataset/2016-census-semi-custom-profile-health-regions-of-british-columbia/resource/1665c496-7e16-487a-bb6a-54f05d166bc7)
        ii. Health Services Expenditure for British Columbia (https://catalogue.data.gov.bc.ca/dataset/bc-health-services-patient-counts-and-expenditures-by-gender-health-service-delivery-area-and-fiscal/resource/b8fea73b-cb28-43aa-ab22-ce52e80f9941)
    b. Combine and clean the data and store it in a database. You would need to design and create the database and can choose any database.
    c. Use the following fields from the “Population Statistics for British Columbia” dataset:

Row Labels	Sum of HA 1 Interior	Sum of HA 2 Fraser	Sum of HA 3 Vancouver Coastal	Sum of HA 4 Vancouver Island	Sum of HA 5 Northern
Total - Age groups of females - 100% data	376280	874490	582170	399375	137495
Total - Age groups of males - 100% data	363710	845570	549545	377035	142385
Grand Total	**739990**	**1720060**	**1131715**	**776410**	**279880**

    d. Use the following fields from the “Health Services Expenditure for British Columbia” dataset

SERVICE	Medical	
SERVICE_TYPE	Expenditures	
Row Labels	**Sum of M_20092010**	**Sum of F_20092010**
1 - Interior	181854213.3	237120327.8
2 - Fraser	362710411.4	483162421.8
3 - Vancouver Coastal	250034110.9	331723660.6
4 - Vancouver Island	192457910.6	252955123.8
5 - Northern	64963092.54	86920886.08
Unknown	1632015.56	2107617.53
Grand Total	**1053651754**	**1393990038**

3. For analyzing the data, do the following:
    a. Retrieve and display the data from the database in a table
    b. Provide the ability to filter and sort the data by Gender (“Total - Age groups of females - 100% data” from the first table and “Sum of F_20092010” from the second table for females and similarly for males) and various SERVICE and SERVICE_TYPE from the second table.
    c. Give the option to download the data in csv or PDF format

Design Considerations:

1. Build a Ruby Gems library for the APIs required to update and retrieve the data
2. Create at least one microservice
3. Create test cases to demonstrate understanding and approach

Input:
The data files are provided above.
You may use your own setup of Ruby on Rails or we can optionally provide you remote access to a VM with Ruby on Rails installed on it.

Please share your estimate before you start work on this.

You can reach vipul.k@optimusinfo.com or +91 98102 86872 for clarifications.