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# Context

# Purpose

The goal of this design document is to give a high level view of the MySql database architecture on the Google Cloud Platform (GCP) that could store the data of individual defined benefits pension plan (idbpp) participants

# Motivation for project

Here you describe/discuss why you think there is a business case for the project

## Scenarios

Current typical cases of end users and how they would change under the assumption the project is realised

### Example Scenario 1

#### Current situation

Milton Waddams is the actuarial consultant from Ivory&Tower Inc. to perform the annual actuarial valuation of 100 individual pension plans managed by Initech Corp. In order to perform these valuations, he needs to get between 30 and 50 inputs from each individual. Milton makes his requests to Peter Gibbons, an Initech employee who is becoming progressively overworked by Milton’s constant back and forth request via emails for new and missing data inputs when he performs his individual actuarial valuations

#### Alternative with implemented solution

Milton Simply writes a Query and uses it to get the data he needs when required

### Example Scenario 2

#### Current situation

Peter Gibbons is a financial analyst/planner at Initech Corp who is trying to create a pension illustration for a current client. He needs to gather approximately 30 different inputs such as the client’s current RRSP values & space available, previous salaries etc. Data gathering is laborious and sometimes error prone and it takes almost 10 days for a prospective client to get an illustration so he can better understand what is going on.

#### Alternative with implemented solution

Peter now simply uses the information in the database via a pre-written script under the assumption that the client data is now in the database in the format suggested in this design document. If a front end application is implemented, those queries will already exist within the front end web app to abstract away all the SQL code and will be more of a “drag & drop” process requiring very little IT skill.

# Explanation of Solution retained

## Solution description

Here you describe in non technical terms the basics of the solution retained

## Solution justification

Additional justifications and insights into the solution if necessary/useful

# 

# Flowchart of solution

Here you draw the relations between the elements of your solution. How classes interact, the workflow of inputs to outputs etc.

## Example :Flowchart of a database

## 

## Example 1: Database Table’s field

### rrsp\_contributions

| rrsp\_contributions | |
| --- | --- |
| rrsp\_contribution\_id | Int primary key |
| client\_id | int |
| rrsp\_id | Int foreign key |
| date | date |
| amount | float |
|  |  |

## Example 2 : Function’s description

We need a function that can approximate an actuarial reserve between actuarial valuations that is in accordance with accounting standard 4462 which means that it should be able to make a linear interpolation.

The function will require as input:

* The original valuation date before the current date
* The date at which the approximation is required
* The value of the actuarial reserve at the previous evaluation’
* The interest rate/yield curve at which the reserve is evaluated

Etc etc

# Rejected solutions

Here you describe which solutions were rejected and why.