**mPort Practical Assessment**

Please complete the following 3 objectives and submit all completed source code for objectives 2 & 3. Solutions should be completed in C# and SQL using Visual Studio 2012/2013 and MS SQL 2008/2012. It should take no more than 1.5hrs to complete. Free versions of these IDEs are available online. If you cannot complete the assessment please explain why.

**1st Objective**

mPort captures body measurement data from members of the public that scan in our booths. Design a relational database schema that would allow us to record this data.

*Assumptions:*

1. We have multiple scanning booths.
2. Members can scan multiple times, and in different booths.
3. You can assume we record a large number of measurements per scan, but for the sake of this exercise just store height, weight and waist circumference.
4. Members register an account using their unique email address and a password.

**2nd Objective**

Implement the above design in a MS SQL database and create a stored procedure that returns a jeans size based on their waist circumference. The stored procedure should accept an email address as an input parameter and return the member’s size.

Assume that jeans sizes are determined by the following sizing rules:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Size | 28 | 30 | 32 | 33 | 34 | 36 | 38 | 40 | 42 |
| Waist | 72 | 77 | 82 | 84 | 87 | 92 | 97 | 102 | 107 |

Supply the SQL scripts required to:

1. Create the database, tables, user logins, and above stored procedure
2. Seed the database with some test data

Include any assumptions you have made as comments in your code.

**3rd Objective**

Implement a RESTful Web API that is consumed from a HTML client. The Web API will connect to the above database schema.

The HTML client should have a form that accepts a member’s email address as input, and displays their jeans size when submitted.