

VPE and above  
Product Managers and above

LinkTek Policy of 23 April 2018

Last updated by Prakash Channagiri on 6 March 2020

# LinkTek Programmer Hiring Test Specification

## Instructions

### Database

Setup a SQL Server database by restoring the provided SQL Server database backup file. Any version of SQL Server can be used.

### Configuration

Please create a text file (readme.txt) that provides instructions for configuring the database for your applications. If there are any other configurations that needs to be done, please state that as well.

## SQL Database Editor Application Using WPF

Create an application that allows the editing of data stored in a SQL Server database. For this test you must use WPF (Windows Presentation Foundation), Caliburn.Micro MVVM framework, and C#.

### Main Window

- The main window should consist of a {Load} button and a grid.
- Clicking the button will asynchronously retrieve all rows from the database's customer table and display them in the grid.
- Single-clicking a column heading will toggle between sorting the grid ascending or descending.
- Double-clicking a row will display the row in an edit window for editing.

### Edit Window

- The edit window consists of controls for editing each of the fields in the customer table row.
- A ComboBox should be used to display the state.
- An {OK} and {Cancel} button will control whether edits are saved or discarded.

- All fields should use validation to ensure the data is valid for the field type.
- Every field must have a value.

## Restrictions

You must adhere to the following restrictions while implementing your solution:

- The solution must be created using the latest version of either Microsoft Visual Studio Professional or Microsoft Visual Studio Express.
- The solution must run on a standard installation of Microsoft Windows 7 and Microsoft Windows 10.
- The WPF application must implement the MVVM design pattern.

## Code Quality

Consideration should be given to the following items when writing code:

- Writing *modular* code (such that each program action that will have to be repeated in multiple places in the code is isolated in its own well-defined function).
- Clearly and unambiguously naming variables, functions, objects, files and other source code elements.
- Trapping all errors and unexpected conditions.
- Producing a maximally clear message for each error and unexpected condition your code may encounter.
- Clearly and effectively documenting your code.
- Creating intuitive, aesthetic and efficient user interfaces.
- Meticulously and consistently maintaining the formatting of your source code and comments.
- Developing code to the above standards *quickly*.

OSCAR ALBORNOZ

EVPO