# CPRG 214 – Alternate Individual Lab 2

**40 points**

In this lab you will practice database programming within ASP.NET using ADO.NET and object data sources.

## Introduction

The TechSupport database is used to track technical support incidents for a small company named SportsPro.

The main table is the Incidents table, which contains one row for each technical support incident. Each incident references a technical staff assigned to it. Information about technical staff is stored in Technicians table.

Your task is to develop a website that allows displaying and updating incidents. User can select a technician from a drop down list. Upon selection, incidents that belong to this technician are displayed in a grid view. It will be possible to edit any incident displayed in the grid, but only the DateClosed and Description fields. Creating new incidents and deleting incidents is NOT required.

## Detailed Task Specification

Install TechSupport database on your SQL Server instance (script provided).

Create Web Forms application with one Web form.

Create entity classes Incident and Technician that have public properties corresponding to the tables in the database. Include all columns of Incidents table and at least columns TechID and Name from Technicians table.

Create appropriate data access classes to support object data sources:

* TechSupportDB - has a method that defines database connection
* TechnicianDB – has a method that retrieves technicians’ data, at least TechID and Name, ordered by the Name
* InvoiceDB – has two methods:
  + SELECT type method that retrieves invoices for a given technician, ordered by the DateOpened starting from most recent
  + UPDATE type method that updates DateClosed and Description of an incident. Make sure that this method ensures optimistic concurrency. Note that DateClosed column of an incident may contain NULL values, you need to include some additional code to get the update work correctly when changing from null to a value and from a value to null.

Add drop down list ddlTechnicians to the form. Configure object data source for it using TechniciansDB class. Make technician’s name display in the list, and use TechID as selected value. Make the drop down list post back automatically.

Add a grid view control gvIncidents that will display incidents assigned to the selected technician. Configure object data source for the grid view using IncidentDB class. Make it possible to Edit each incident displayed in the grid view. Only DateClosed and Description fields are updateable; the remaining fields are read-only.

# Marking Scheme

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| **Marking Criterion** | **Out Of** |
| Classes Incident, IncidentDB , and TechSupportDB are created as instructed | 5 |
| User can select technician from a drop down list at the top of the page that displays technicians’ names rather than TechIDs | 3 |
| Incidents assigned to the selected technician are displayed in a grid view control, using GetTechIncidents method from IncidentDB | 5 |
| Only DateClosed and Description fields are updateable; the remaining fields are read-only | 2 |
| Update of Description works correctly | 5 |
| Update of DateClosed works correctly, allowing in particular changing from null value to date value and back to null | 12 |
| Optimistic concurrency is ensured | 3 |
| Web page is responsive, clear and visually pleasing and all code is written in good style, with CSS styles separated from HTML code | 5 |
| **Total:** | **40** |