## Ms Web Tech – Final Exam

A consulting company has you creating a web site to track contracts and the time worked on each contract. Currently you’re doing the page to record the consultants’ time worked. Each record has the consultant that did the work, the contract it is to be charged against, date & hours worked, rate charged and the total cost of that work session.

1. Your initial project and database script is on your exam account’s G: drive. Work on C: or G: but **only what’s on the exam account’s G: drive can be marked.** You’re responsible for copying the project from C: to G:.
   1. Create the consulting database from the SQL script. The models, context, and Session support have already been added to the project.
   2. In ***\_layout.cshtml***:
      1. Add a menu entry for the ***Contract*** controller … consider one for ***Consultant*** controller
      2. Display the TempData variable “message” before the guest page, in bold & red.
      3. Put your name and section in the footer.
2. Generate the ***Contract*** controller with full views and EF support for the *contract* table.
   1. Index View: Add a hyperlink to each contract, passing its *contractId* to *WorkSession’*s Index action.
3. Generate the ***WorkSession*** controller with full views and EF support for the *workSession* table.
   1. If a *contractId* has been passed, persist it. If not, and one has not been saved to a cookie or session variable, return to the contract listing and display a message requesting they select one.
   2. Filter the Index listing to workSessions for the selected contract.
      1. In the heading, display total hours and total cost for all work sessions on this contract.
   3. On the Create view, do not display *contractId, hourlyRate*, *provincialTax* or *totalChargeBeforeTax*.
      1. Replace the *consultantId* dropdown with a textbox to check your edits and add a span tag for any field validation errors.
   4. On the Edit view, do not allow users to edit tax, total or contract ID.
   5. Use a try-catch in all actions that modify database tables:
      1. If the action succeeds, display a message to that effect on the Index page
      2. If not, re-display the user’s input and the innermost exception’s message, if one was thrown.
   6. On all views, modify the asp-validation-for span elements to display field errors.
4. ***WorkSession*** edits must be performed through the model except for Remote & custom annotation code:
   1. Do not apply edits, annotations or property changes to the generated model or controller actions.
      1. Use a metadata class to apply them to the model through a like-named partial class.

**[ModelMetadataType(typeof(xxx))]**might be useful

* + 1. Add the following to the top of the partial class, to provide access to database tables:

**ConsultingContext \_context = new ConsultingContext();**

* 1. If the *contract* for this *worksession* record is closed, produce an edit error to prevent the record from being updated or added to the database.
  2. *contractId* and *consultantId* must be validated against the appropriate database tables.
  3. *dateWorked* is required and cannot be in the future nor before the contract start date.
  4. *hoursWorked* must be greater than zero and total no more than 24 for all workSession records for this consultant on the day worked (regardless of which contract they’re for).
  5. If creating a new workSession record, load the *hourlyRate* from the selected consultant’s record.
     1. When editing an existing record, the user can modify *hourlyRate*, but it cannot exceed 1.5 times what’s on the consultant’s record, nor can it be less than zero.
  6. Compute the *totalChargeBeforeTax* using the *hourlyRate* and *hoursWorked*.
  7. Compute the *provincialTax* amount using the *totalChargeBeforeTax* and the tax rate from the customer’s province.

|  |  |
| --- | --- |
| **\_layout.cshtml:**   * TempData message variable is displayed before the guest page, red and bold * Student name & section is in the footer | \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 1 |
| **Contract controller**   * Is accessible from the menu * Passes the *contractId* of the selected record to the WorkSession’s Index action   **WorkSession controller & views**   * Index page is limited to the selected *contractId* on initial load and on return from actions   + If *contractId* was not passed or saved, displays a message on the contract listing   + The heading shows total hours and total cost for the current contract. * Create & Edit do not display *contractId, provincialTax* or *totalChargeBeforeTax*   + On Create, *consultantId* is a textbox, *hourlyRate* does not show; Edit can modify *hourlyRate* * Create, Edit & Delete work, displaying a message if successful * Create, Edit & Delete show the innermost exception (if thrown) and edit errors, with user input | \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 3  \_\_\_\_\_\_\_/ 3  \_\_\_\_\_\_\_/ 3 |
| **workSession Edits:** these must be in the metadata & partial class: 50% loss if done in controller   * Annotations and edits are not added to the generated model or controller actions   + Annotations are applied to model via a metadata class to a like-named partial class   + The like-named partial class is self-validating * *consultantId* and *contractId* are validated against the appropriate tables * *dateWorked* cannot be in the future nor before the contract start date * *hoursWorked* must be greater than zero   + … and total no more than 24 on all workSession records for this consultant on this day * Code correctly determines if user is creating a new record or editing an existing one:   + For a new record, the consultant’s current *hourlyRate* is retrieved & inserted   + On Edit, *hourlyRate* came from the original workSession record, and can be changed to range from zero to 1.5 times consultant’s current rate, inclusive * *totalChargeBeforeTax* is calculated correctly & inserted into record * Correct tax rate is retrieved from the customer’s province   + provincialTax amount is calculated correctly & inserted into record * If the contract is closed, an edit error to that effect is produced, stopping Edit & Create | \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 3  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 1  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 2  \_\_\_\_\_\_\_/ 1 |
| Base mark | \_\_\_\_\_\_\_/ 40 |
| -1@ for fixes Build Errors Run Errors | -\_\_\_\_\_\_ |
| Final Mark | \_\_\_\_\_\_\_/ 40 |