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| **Technical Report** |
| ICTPRG532 – Apply Advanced Object-Oriented Language Skills |
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| **[Student Name]** |
| **[Pick the date]** |
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# Areas of this Technical report will call for information or screenshots from the Java ICTPRG523 application – These sections will be marked with a ‘×’

Ensure you have removed all highlighted text (and this text) from this report before submission. This is a template for a technical report and should be presented in a professional manner

# Task 1 - Email

* Screenshot of the hypothetical email to the Project Manager to obtain program specifications, Implementation template, technical report template, business case scenario and programming guidelines.

# Task 2 – Email and Sign-Off Sheet for Presentation of Software Implementation Plan

* Screenshot of the hypothetical email to the Project Manager to set an appointment date to present your Implementation Plan.
* Fill-in the sign-off sheet below in regards to your presentation of your Software Implementation Plan to confirm that your manager has okayed your plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Name:** |  | | |
| **Project Manager:** | Shaun O’Sullivan | | |
| **Start Date:** |  | | |
| **Completion Date:** |  | | |
| **Project Deliverables:** | | | |
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| ***I acknowledge that I have submitted all the stated deliverables as per the Project Requirements and your instructions.*** | | | |
|  | |  |  |
| **Programmer’s Name** | | **Signature** | **Date** |
|  | |  |  |
| **Project Manager** | | **Signature** | **Date** |

# Task 3 – Web Application

## Front End (ASP NET Core MVC)

* Screenshot of using Git or Microsoft Team Foundation Server
* Screenshot of the code from any class that shows XML comment blocks, methods and variable declarations with proper naming conventions and indentations
* Screenshot of Web forms with buttons, labels, textboxes etc. (Show a rendered web page)
* Screenshot of the code showing how your front-end subscribes to the back-end
* Screenshot of adding a third-party library using NuGet
* Screenshot of your Endpoint pointing to the web service (method inside a controller retrieving data from the API)
* Screenshot of the code showing how your front-end subscribes to the back-end (This relates to how the Front End application knows where to go to find the API)

# Task 4 – Web Service

## Back End(ASP.NET Web API)

* Screenshot of the code of the back-end showing GET, POST, PUT, DELETE including XML comment blocks
* Screenshot of the code showing the Model in the back-end (Model/Migration Snapshot or Context class showing models)
* Screenshot of the database connection string

## Nested Classes in Action

* Screenshot of the code from either JAVA Project or ASP.NET Application showing one class nested within another.

# Task 5 – Drag and Drop and 2-D Graphics

* Screenshot of the Drag and Drop in your Web application
* Screenshot of the Drag and Drop code
* Screenshot of creating 2-D Graphics in your application or the JAVA Binary Tree graphical output × (JAVA) OR(ASP.NET)
* Screenshot of the code showing functions to generate 2-D Graphic ×s (JAVA) OR (ASP.NET)
* Screenshot of Web form with Help buttons (Link or links to help page)
* Screenshot of the implemented Help Files (A section of the a web application providing FAQ information or a basic instruction guide)
* Screenshot of code utilizing double linked list and a binary tree (JAVA) ×
* Screenshot of code utilizing Hash function (JAVA) ×

## Sorting Algorithms Comparison

* Compare three sorting algorithm and select one to implement (or have already implemented) in your project. ×

## Searching Algorithms Comparison

* Compare three searching algorithm and select one to implement (or have already implemented) in your project. ×

# Task 6

* Screenshot of the code with breakpoints and watches

## Defect Logs

* Include all syntax and logic errors that you have come across during the development of your application

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| **Syntax / Logic Errors** | **Solutions Applied** |
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## Debugging Tools in Action

* Explain the steps on how to set and use breakpoints and watches

# Task 7 –Test Data

* Prepare test data that you will use to confirm that code meets design specifications  
  (At least 10 Tests are required, and need to be testing multiple areas of your application (think User Interface, Application -> Service connections, Data Validation)

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| **Test** | **Expected Results** |
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# Task 8 –Test Report

* Perform the test using the test data in Task 7 and record the Actual Results.

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| **Test** | **Expected Results** | **Actual Results** |
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* Analyse the results and provide a test summary about the errors that occurred during testing and the possible solutions or fixes

# Task 10 - Documentation

### Documentation Maintenance

* Provide a summary of your plan to maintain all project documentation during and after development
* Discuss your plan for versioning your application and documentation (when would you use major and minor versioning steps 1.0 -> 2.0 and 1.1 -> 1.2)
* Provide a description of how you plan to store and deliver the project documentation alongside the application
* Talk about the naming conventions you would use on your packaged project documents so it will be consistent with all the other projects you will submit in the future. – Provide an example of how you may name another project using this naming convention.
* Describe and explain the version control system that you would use in your program e.g. Git or Team Foundation Server. (Copy from Implementation Plan under the section Version Control System)

# Task 11 – Sign-off Sheet

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| **Project Name:** |  | | |
| **Project Manager:** | Shaun O’Sullivan | | |
| **Start Date:** |  | | |
| **Completion Date:** |  | | |
| **Project Deliverables:** | | | |
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| ***I acknowledge that I have submitted all the stated deliverables as per the Project Requirements and your instructions.*** | | | |
|  | |  |  |
| **Programmer’s Name** | | **Signature** | **Date** |
| Shaun O’Sullivan | |  |  |
| **Project Manager** | | **Signature** | **Date** |