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| **Qualification details** |  | | |
| **Training Package code and title:** | ICT Information and Communications Technology Training Package | | |
| **National Qualification Code & Title:** | ICT50220 - Diploma of Information Technology | **State code:** |  |

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| **Student Name** | Poorav Sharma 30045900 | | |
| **Student Declaration** | I declare that the evidence submitted is my own work:  ………………………………………….. | | |
| **Assessor Name** |  | | |
| **Date Due** | Session 12 | **Date Received** | Session 1 |
|  |  | **Criteria Assessed** | ICTPRG554 and ICTPRG556 |
| **Reasonable adjustment in the assessment process:** | In some circumstances, adjustments to assessments may be made for you. If you require support for literacy and numeracy issues; support for hearing, sight or mobility issues; change to assessment times/venues; use of special or adaptive technology; considerations relating to age, gender and cultural beliefs; format of assessment materials; or presence of a scribe you need to inform your lecturer. | | |
| **Instructions to Student** | 1. In order to meet the criteria, you will need to complete all parts of this project. 2. This assessment must be done during class or at home. 3. You may be required to explain or demonstrate your understanding of any component of this assessment. 4. All work must be submitted by the end of session 12 unless previously negotiated 5. If you have any questions, please see your assessor. 6. The assessment is OPEN BOOK. You may use the Internet and weekly labs as a reference | | |
| **INFORMATION FOR ASSESSORS** | **Lecturer instructions**  This assessment involves various programming tasks, ensure that all aspects of the task are completed.   * All tasks are individual * The assessment is open book * Students may use the Internet as a reference   Use the marking checklist in conjunction with the marking guide and answer guide when assessing the students.  **Resource Requirements**  CITE classroom, as per the “Assessment Conditions” in the mapping  Access to a computer with IDE and Office  Access to the Internet for research  Access to the Intranet for Blackboard | | |

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| **Duration of Training/location and group details** | | | |
| **Date** | **2022 Semester 2** | **Session Times:** | **Thornlie** |
| **Thornlie** |
| **Murdoch** | **Murdoch** |
| **Rockingham** | **Rockingham** |
| **Location** | **Thornlie**: 10F82  **Murdoch**: T108  **Rockingham**: RHF36 | | |
| **Group Details** |  | | |
| **Mode of delivery** | Face to face | | |
| **Course Custodian contact information** | Andrew.Samway@smtafe.wa.edu.au | | |
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| |  |  |  |  | | --- | --- | --- | --- | | **Unit of Competency** | | | | | **National Code & Title** | ICTPRG554 Manage data persistence using noSQL data stores | **State code:** |  | | **National Code & Title** | ICTPRG556 Implement and use a model view controller framework | **State code:** |  | | **Assessment Tool** | Assessment 2 – Portfolio of Tasks |  |  | |  |  | | | | **Demonstration Tasks** | **Objective:** To demonstrate your ability to create MVC and noSQL  **Background:**  You have been hired as the new programmer by CITEMS, you are required to work on a project to analyse a business situation, build a database and then provide an interface for that database  **Software Specifications/Requirements**  You will adhere to coding standards (for this the **organisational documentation** is found <https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/inside-a-program/coding-conventions>), ensure proper commenting include screenshots of debugging in a document, and have a test table with screenshots You will need to identify which information repositories and organizational documents you have used (e.g. Blackboard)  **Question 1** –  You have been placed in charge of a new project, the first step of which is to identify if NoSQL and MVC technologies are suitable. Your brief for the project is a company is a gaming data company they require player profiles, matchmaking and leader boards.  Your boss has asked that you answer the following questions about this project.   1. Explain how noSQL meet these requirements? 2. Describe the difference between horizonal and vertical scaling, how would horizontal scaling meet the project requirements? 3. Compare and contrast the difference between relational models and NoSQL. 4. Review MongoDB and compare it to another noSQL vendor. 5. Explain Why MVC is a good choice and how using ASP.NET MVC Web Application could meet the project’s needs. 6. What tools exist in Visual Studio to create an MVC template, and what would that template look like?   **Question 2** –  Your boss is happy with your answers and wants to get started on a prototype.  They have provided you with a few links (<https://tracker.gg/apex/leaderboards/stats/all/RankScore> and <https://tracker.gg/apex/profile/psn/OriolesRule0613/overview> ) to give you some idea what they are looking for.   1. Create a MongoDB database. That stores a player and their ranking. 2. Make sure you can sort players by their rank. 3. Make sure you can sort players by their name 4. Add two characters to each player and be able to sort by playtime.   **Question 3** –  Your boss wants you to select an API to use the noSQL data store screenshots are required.   1. Select the API that will work with MongoDB. 2. Screenshot how to connect to the API 3. Insert a player using the API 4. Insert two characters in one operation 5. Select a player using the API 6. Select all players 7. Rank all players 8. Rank all characters by playtime 9. Delete one character and then delete multiple characters at the same time 10. Update 1 players rankings, then update multiple at the same time 11. Store an image to be used as a character’s avatar 12. Create a trigger when a player becomes top ranked 13. Show your testing of players changing rank multiple times 14. Show how data is encrypted and that admin logins are secured 15. Create a document that identifies how this API accomplishes all the previous tasks | | | | **Demonstration Tasks** | | | | | | |  |

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|  | **Question 4**  Your boss wants you to build the front end for the site in MVC using Visual Studio. You have a list of items you must have on the site.   1. Players must have CRUD functionality. 2. Characters must have CRUD functionality. 3. There should be two levels of control one for staff and one for viewers of the website. 4. There needs to be two separate pages for Character rankings and Player rankings 5. You must show debugging screenshots and document the functionality of the website |

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| **Materials and Equipment** | Students will need a USB drive to save their work on.  The internet |
| **Skills being assessed** | ICTPRG554 and ICTPRG556 |

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| **Assessment Decision** | ☐ Satisfactory | ☐ Not Yet Satisfactory | |
| **Assessor Signature** |  | **Date** | Click here to enter a date. |
| **Feedback to student** | | | |
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| **Feedback from student** | | | |
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| **Student signature** |  | **Date** |  |