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| **FURTHER EDUCATION AND TRAINING CERTIFICATE: INFORMATION TECHNOLOGY: SYSTEMS DEVELOPMENT**  **ID 78965 LEVEL 4 – CREDITS 165** |
| **SUMMATIVE ASSESEMENT**  **SAQA: 14930**  **DEMONSTRATE AN UNDERSTANDING OF THE PRINCIPLES OF DEVELOPING SOFTWARE FOR THE INTERNET** |

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| **FULL NAME & SURNAME** | **Mila Mihlali Ngewu** |
| **ID NUMBER:** | **9909106615084** |
| **NAME OF ASSESSOR** | **Anneline Nombeko** |
| **DATE OF ASSESSMENT** | **05/10/2023** |
| **VENUE** | **NMB iHUB** |

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|  | **ACHIEVED** | **NOT ACHIEVED** |
| **KNOWLEDGE** |  |  |
| **SKILLS** |  |  |

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| **Signature of learner** | **Signature of Assessor** |

**ASSESSMENT PACK**

**Please complete the following sections (A and B) before commencing with this assessment. The moderator of this assessment will complete section C.**

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| **Section A Learner Information** | | | | | | | | | | | | | | | | |
| **Name:** | | | | | | | **Mila Mihlali** | | | | | | | | | |
| **Surname:** | | | | | | | **Ngewu** | | | | | | | | | |
| **Date:** | | | | | | | **05/10/2023** | | | | | | | | | |
| **Contact telephone no:** | | | | | | | **0823655804** | | | | | | | | | |
| **Learnership agreement no:** | | | | | | | **MICT/PVT/Lship/LoI/2023204/50358** | | | | | | | | | |
| **Company:** | | | | | | | **Site:** | | | | | | | | | |
| **ID** | **9** | **9** | **0** | **9** | **1** | **0** | |  | **6** | **6** | **1** | **5** |  | **0** | **8** | **4** |

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| **Section B Assessor Information** | | | | | | | | | | | | | | | | |
| **Name:** | | | | | | |  | | | | | | | | | |
| **Surname:** | | | | | | |  | | | | | | | | | |
| **Date:** | | | | | | |  | | | | | | | | | |
| **Contact telephone no:** | | | | | | |  | | | | | | | | | |
| **Assessor no:** | | | | | | |  | | | | | | | | | |
| **Provider no:** | | | | | | | **Site:** | | | | | | | | | |
| **ID** |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |

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| **Section C Moderator Information** | | | | | | | | | | | | | | | | |
| **Name:** | | | | | | |  | | | | | | | | | |
| **Surname:** | | | | | | |  | | | | | | | | | |
| **Date:** | | | | | | |  | | | | | | | | | |
| **Contact telephone no:** | | | | | | |  | | | | | | | | | |
| **Moderator no:** | | | | | | |  | | | | | | | | | |
| **Provider no:** | | | | | | | **Site:** | | | | | | | | | |
| **ID** |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |

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| **Results:** |
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| PART ONE |

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| Assessors Guide |

**1. INSTRUCTIONS TO ASSESSOR**

**Introduction:**

This assessment guide has been designed as a generic assessment guide and is intended for use by the accredited Training Providers.

**Purpose of the assessment**

The purpose of summative assessment against this unit standard is to:

♦ Award credits to the NQF to learners who are able to start and run their businesses.

**Learning assumptions**

The following knowledge, skills, attitude and/or equivalent:

♦ Demonstrate knowledge of communication and numeracy at Abet Level 3

**Assessment methods**

The following assessment methods will be used for the summative assessments:

♦ written and/or/verbal questioning

♦ Product sample and on site assessment

**2. Assessment Process**

**General**

* Use the assessment guide and your latest company policies and standard operating procedures to assess the evidence received from the learner.
* Use the section: Addition Comments/Questions to note down any further comments or questions on the evidence assessed.
* Use the model answers as a guideline to assess the learner’s answers to the assessment questionnaire.
* The learner can complete the assessment questionnaire orally. In this case, agree a date, time and venue.
* Provide the learner with a feedback within 10 working days of receiving the evidence.

**Step 1 - Planning for the Assessment**

Review this assessment guide to:

* Ensure that you understand all the requirements of the assessment in terms of evidence required to prove competence.
* Identify and prepare the learner for the assessment by:
  + Completing the Assessment Plan with the learner to discuss and agree the details regarding the assessment.
  + Completing the Assessment Preparation Checklist and getting the learner to sign.
* Ensure that you have familiarized yourself with the following:
  + The various patrolling functions and standard operating procedures within the company.

**Step 2: Complete the Assessment**

* Collect the evidence in accordance with the methods and evidence requirements specified.
* Mark each question as correct or incorrect in the “Office Use” column.
* Record the evidence on the assessment guide and indicate “Competent”, “Not Yet Competent” or “Not Assessed” for each assessment criterion. Note down any comments at the back of the assessment guide.
* Ask the learner additional questions, if necessary, to clarify points. Record these on the guide.
* All questions must be complete as per the criteria specified.
* Answers provided must be similar to the model answers.

**Step 3 - After the Assessment**

* Prepare the feedback by writing comprehensive, developmental feedback after each section on the Assignment Sheets. In addition to this, you are required to write a summary overall feedback on the Assessment Guide.
* Provide the feedback to the learner in a safe, undisturbed in nature.
* Ensure that your feedback is developmental and supportive in nature.
* Advise the learner on what action to follow in the event of a “Not Yet Competent” rating.
* Advise the learner on what action to take where he/she feels the need to appeal against your decision.
* Allow the learner time to provide you with feedback relevant to the process.
* Record the learner’s feedback in the guide and ensure that it is given to the person responsible for the quality assurance of assessment tools.
* Ensure that the learner co-signs the assessment guide to indicate agreement with the feedback.

**3. Assessment documentation required:**

**Step 1: Planning for the Assessment**

♦ Assessment Plan

♦ Assessment Preparation Checklist

♦ Assessment Policy (including Appeals)

♦ Evidence Matrix

♦ Assessment Instruments

**Step 2: Conducting the Assessment**

♦ Assessor Guide

♦ Learner’s workbook

♦ Summative assessment pack

**Step 3: After the Assessment**

♦ Assessment Comments

♦ Feedback Report

**4. Specific Instructions**

Please note that Part 3 Assessment Instruments are not included in this guide and are to be included by the assessor on an individual basis.

The actual summative assessments need to be completed and signed off by both learner and assessor. The assessor will take control of the completed assessment instruments and will file them under the tab for Assessment Evidence.

The completed assessment pack will be kept in safekeeping at the training provider for three months after endorsement by SETA and will then be returned to the learner.

**Guidelines where** a**n appeal is lodged**

* The normal appeal procedure prescribed by SETA and described by the provider’s Quality Management System will be followed.

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| PART TWO |

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| Assessment Planning |

**ASSESSMENT PLAN**

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| **ASSESSMENT DETAILS** | | | | | | | | | | | |
| **Date of Assessment** | | | | **Option 1** | **Option 2** | | | | **Option 3** | **Option 4** | |
| **05/10/2023** |  | | | |  |  | |
| **TIME OF ASSESSMENT** | | | | | | | | | | | |
| **Start:** | **12:30** | | | | | **End:** | | **16:30** | | | |
| **VENUE** | **NMB iHUB** | | | | | **Contact**  **person** | |  | | | |
| **LANGUAGE MEDIUM**  **METHOD OF** | | | | | | **English** | | | | | |
| **METHOD OF ASSESSMENT (please tick off the one to be used)** | | | | | | | | | | | |
| **OBSERVATION** | | | **ORAL** | | | | | **WRITTEN** | | | |
| **Simulation** | |  | **Knowledge test** | | | |  | **Knowledge test** | | |  |
| **Product** | |  | **Interview** | | | |  |  | | |  |

**PRE-ASSESSMENT MEETING CHECKLIST**

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| **ACTION** | **YES/NO** | **COMMENTS** |
| Set learner at ease; be friendly, polite and professional. | **yes** |  |
| Explain to the learner and agree on the following issues.   1. The unit standard that will be assessed 2. Date, time, venue and process to be followed during the assessment. 3. Summative assessment tools to be used for the assessment. 4. The assessment plan 5. Purpose of assessment | **yes** |  |
| Explain to the learner and agree on the role of all involved during the assessment process. | **yes** |  |
| Identify possible barriers and or disabilities of the learner. | **yes** |  |
| Explain the meaning and application of RPL. | **yes** |  |
| Explain, discuss and provide one complete set of the Appeals process documentation. | **yes** |  |
| Explain to the learner when final results will be available and how feedback will be provided. | **yes** |  |
| Discuss previous assessment results if applicable. | **yes** |  |

I, MM Ngewu (initials and surname of learner), DECLARE THE FOLLOWING:

A copy of the unit standard(s) involved has been given to me prior to this meeting. I know I will be assessed against the criteria, which have been set to the applicable unit standards. The criteria have been discussed with me, and the procedures and purpose of the assessment has been clearly explained to me.

I am well aware of the venue, date and time that I will be assessed. I consider the period of time given to me to prepare myself for the assessment to be fair.

I understand clearly that I have the right to appeal against any decision made by the assessor during the assessment of the evidence provided by me, and that I have free access to the appeals procedures attached to this assessment pack. I understand that I have the right to be accompanied by another person during all procedures, and that I have free access to the Training Division of SBV’S Health and Safety Procedures- filed at the offices.

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|  | **05/10/2023** |
| **Signature of learner** | **Date** |

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| PART THREE |

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| Assessment Evidence |

**Assessment Instruments**

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| **TAKE NOTE** |
| **The assessment instruments included in this assessment pack are all summative assessment instruments and are to be read in conjunction with the formative assessment instruments contained in the learner workbook. Both formative (workbook) and summative assessments are to be retained as part of the learner’s portfolio of evidence.** |

**A number of the assessment instruments contained in this assessment are workplace knowledge based questions. This means that you will arrange with the learner, a time that is suitable, during which the learner will complete each questions.**

**Complete the following activities according to the instructions provided**

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| **Activity** |  | **Mark** |
| **1** | **Demonstrate understanding of network protocol.** | **5** |

Network protocols are sets of rules governing data exchange in networks. Key types include TCP, IP, UDP, and HTTP. The OSI Model's layers, such as physical, transport, and application, organize protocols. Functions include addressing, error detection, and encapsulation. Protocols work in stacks like TCP/IP, facilitating modular communication. Understanding these concepts is vital for effective communication in computer networks.

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| **Activity** |  | **Mark** |
| **2** | **Distinguish between Session ID Randomness and Session ID Length** | **6** |

**Session ID Randomness:**

* Session ID randomness refers to the unpredictable and non-repetitive nature of session identifiers assigned to user sessions.
* Session ID randomness refers to the unpredictable and non-repetitive nature of session identifiers assigned to user sessions.
* Achieved by using strong random number generators to generate unique session IDs for each user session.

**Session ID Length:**

* Session ID length refers to the number of characters or bits used to represent a session identifier.
* Longer session IDs provide a larger pool of possible combinations, making it more challenging for attackers to guess or brute-force the session ID.
* Increasing the number of characters or bits in the session ID, typically done during the session ID generation process.

session ID randomness focuses on the unpredictability of session identifiers, while session ID length involves the size or complexity of the identifiers.

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| **Activity** |  | **Mark** |
| **3** | **Demonstrate an understanding of different user interface methods used for Internet applications.** | **8** |

HTML Forms and POST Requests:

HTML forms allow users to input data, which is then submitted to the server using the HTTP POST method.

ASP can process form data on the server-side, utilizing the Request object to retrieve form values and generate dynamic responses.

AJAX (Asynchronous JavaScript and XML):

AJAX enables asynchronous data exchange between the browser and the server, allowing parts of a web page to be updated without requiring a full page reload.

ASP Role: ASP can handle AJAX requests, responding with dynamic content (often in JSON format) based on the client's request.

Characteristics of Active Server Pages (ASP):

Server-Side Scripting:

ASP is primarily a server-side scripting technology, allowing code execution on the server before the page is sent to the client.

Interoperability:

Supports various languages such as VBScript and JScript, providing flexibility and interoperability.

Dynamic Content Generation:

Enables the creation of dynamic, data-driven web pages by embedding server-side code within HTML.

Integration with Databases:

Easily integrates with databases using ADO (ActiveX Data Objects) to retrieve and manipulate data.

Basic Objects of Active Server Pages:

Request Object:

Represents client requests and provides access to request parameters, form data, and server variables.

Response Object:

Allows server-side code to send output, such as HTML content, back to the client's browser.

Server Object:

Offers methods and properties for server-related operations, including file system access and server variables.

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| **Activity** |  | **Mark** |
| **4** | **Demonstrate understanding of copyright issues related to Internet development.** | **8** |

Copyright issues in internet development revolve around the protection of digital content, code, and creative works. Developers need to be vigilant about respecting copyright laws to avoid legal consequences. This includes understanding the licensing terms of third-party libraries or frameworks they integrate, ensuring compliance with open-source licenses, and respecting the intellectual property of others when creating original content. Additionally, issues like unauthorized use of images, text, or multimedia on websites can lead to copyright infringement claims. Developers should stay informed about copyright regulations, use proper licenses for their work, and obtain permission or use content under appropriate licenses to ensure a legal and ethical approach to internet development.

**Duration of Copyright:**

Copyright protection typically lasts for the life of the author plus 70 years. For works created by a company or anonymously, copyright lasts for 95 years from the date of publication or 120 years from the date of creation, whichever is shorter.

2. Things Protected on the WWW:

Original Works: Original text, images, videos, and other content are automatically protected by copyright upon creation.

Software: Code, scripts, and software applications are protected as literary works.

Databases: Original databases, especially those involving a substantial investment, may receive protection.

**Dos and Don'ts of Creating a Webpage:**

**Dos:**

Create Original Content:

Develop original content for your webpage to avoid copyright infringement.

Use Licensed or Public Domain Content:

If you use third-party content, ensure it's licensed for use or falls under public domain. Follow the terms of the license.

Attribute and Seek Permission:

Provide proper attribution to content creators and seek permission when required.

Understand Fair Use:

Understand the concept of fair use, which allows limited use of copyrighted material for purposes such as criticism, commentary, news reporting, teaching, scholarship, or research.

Implement a Clear Copyright Policy:

Clearly state the copyright policy on your website, specifying the terms of use for your content.

**Don'ts:**

Use Content Without Permission:

Avoid using copyrighted material without proper permission from the owner.

Assume All Online Content is Free to Use:

Not all content found online is free to use. Check the licensing terms before using any material.

Ignore Licensing Terms:

Respect licensing terms and conditions. Ignoring them could lead to legal consequences.

Plagiarize:

Do not copy and paste content from other sources without proper attribution or permission.

Distribute Unauthorized Copies:

Avoid distributing unauthorized copies of software, music, or other copyrighted works.

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| **Activity** |  | **Mark** |
| **5** | **Demonstrate an awareness of ownership issues related to Internet development.** | **5** |

Copyright issues in internet development revolve around the protection of digital content, code, and creative works. Developers need to be vigilant about respecting copyright laws to avoid legal consequences. This includes understanding the licensing terms of third-party libraries or frameworks they integrate, ensuring compliance with open-source licenses, and respecting the intellectual property of others when creating original content. Additionally, issues like unauthorized use of images, text, or multimedia on websites can lead to copyright infringement claims. Developers should stay informed about copyright regulations, use proper licenses for their work, and obtain permission or use content under appropriate licenses to ensure a legal and ethical approach to internet development.

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| **Activity** |  | **Mark** |
| **6** | **Explain version control and security issues related to Internet Applications.** | **10** |

Version control, also known as source code management, is a system that helps track changes to code, documents, and other files over time. In the context of internet applications, version control is crucial for several reasons:

**Collaboration**: Multiple developers can work on the same project simultaneously without interfering with each other's work. Version control systems merge changes intelligently and allow developers to collaborate seamlessly.

**Conflict Resolution**: In collaborative environments, conflicts can arise when two or more developers make changes to the same file. Version control systems provide mechanisms to resolve conflicts and ensure a coherent codebase.

**Backup and Recovery**: Version control serves as a form of backup for the entire project. In case of data loss or catastrophic failure, developers can recover the project from the version control system.

**Security Issues Related to Internet Applications:**

**Data Security:** Internet applications often deal with sensitive user data. Proper encryption (such as SSL/TLS) should be implemented to secure data during transmission, and robust authentication mechanisms must be in place to control access.

**Injection Attacks:** Applications must guard against injection attacks, where malicious code is inserted into input fields. Techniques like parameterized queries in databases and input validation help prevent SQL injection, XSS (Cross-Site Scripting), and other injection vulnerabilities.

**Session Management:** Insecure session management can lead to unauthorized access. Developers should use secure session handling practices, such as generating random session IDs, encrypting session data, and implementing session timeouts.

**Secure File Uploads:** If internet applications allow file uploads, there's a risk of malicious file uploads. Proper validation, setting upload restrictions, and utilizing secure storage practices are essential.

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| **ASSESSOR REPORT** |
| **ASSIGNMENT**  CANDIDATE NAME:  DATE OF FEEDBACK: |
| OVERALL ASSESSMENT DECISION:  I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the assessor, declare the candidate **Competent / Not Yet Competent** (circle relevant) on all the criteria within the assignment. |
| STRENGTHS: |
| WEAKNESSES: |
| LEARNER COMMENTS: |
| DEVELOPMENT PLAN: |
| CANDIDATE DECLARATION:  I Mila Ngewu, the candidate, declare that I have received feedback and been informed of my overall competence for the criteria within the assignment. |
| ASSESSOR SIGNATURE LEARNER SIGNATURE  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |