



Co-funded by the European Union



Norwegian Embassy
Islamabad



ANDROID APPLICATION DEVELOPER



ASSESSMENT PACKAGE
National Vocational Certificate Level 4

Version 1 - June, 2019



Implemented by
giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Published by

National Vocational and Technical Training Commission
Government of Pakistan

Headquarter

Plot 38, Kirthar Road, Sector H-9/4, Islamabad, Pakistan
www.navttc.org

Responsible

Director General Skills Standard and Curricula, National Vocational and Technical Training Commission
National Deputy Head, TVET Sector Support Programme, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Layout & design

SAP Communications

Photo Credits

TVET Sector Support Programme

URL links

Responsibility for the content of external websites linked in this publication always lies with their respective publishers. TVET Sector Support Programme expressly dissociates itself from such content.

This document has been produced with the technical assistance of the TVET Sector Support Programme, which is funded by the European Union, the Federal Republic of Germany and the Royal Norwegian Embassy and has been commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in close collaboration with the National Vocational and Technical Training Commission (NAVTTTC) as well as provincial Technical Education and Vocational Training Authorities (TEVTAs), Punjab Vocational Training Council (PVTC), Qualification Awarding Bodies (QABs)s and private sector organizations.

Document Version

June, 2019

Islamabad, Pakistan

ANDROID APPLICATION DEVELOPER



© TVET SSP

ASSESSMENT PACKAGE
National Vocational Certificate Level 4

Version 1 - June, 2019

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001029	Level: 4	Version:
Competency Standard Title: Apply Design Patterns For Mobile App Comply with Workplace Policy and Procedures	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>1. Assessment Task 1: Test the activity and fragment with the structure of 02 design pattern. Also explain advantage of 02 design pattern</p> <p>And complete:</p> <p>2. Knowledge assessment test (Written or Oral) 3. Portfolios at the time of assessment (if any)</p>
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1:CU1-P1 Identify design pattern for android APP</p> <p>Performance Criteria 2:CU1-P2Identify relevant design pattern as per requirement</p> <p>Performance Criteria 3:CU2-P1 Build appropriate design pattern as per requirements.</p> <p>Performance Criteria 4:CU2-P2 Implement selected design pattern as per structure</p> <p>Performance Criteria 5:CU3-P1 Implement J-Unit Testing with MOCKITO for activity</p> <p>Performance Criteria 6:CU3-P2 Implement fragment scenario testing for fragment</p> <p>Performance Criteria 7 Complete work tasks within deadlines in according to order of priority</p> <p>Performance Criteria 8: Supervisors are informed of any delays in work times or projects</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)								
Activity	Method					Result		
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent	
Practical Skill Demonstration			✓		✓			
Knowledge Assessment	✓	✓						
Other Requirement								
Each Assessment Task (with performance criteria)								
Assessment Task 1			Description of assessment task 1 Test the activity and fragment with the structure of 02 design pattern. Also explain advantage of 02 design pattern					
During the practical assessment, candidate demonstrated the following:						Yes	No	Remarks
1.	Performance Criteria 1:CU1-P1 Identify design pattern for android APP							
2.	Performance Criteria 2:CU1-P2Identify relevant design pattern as per requirement							
3.	Performance Criteria 3:CU2-P1 Build appropriate design pattern as per requirements.							
4.	Performance Criteria 4:CU2-P2 Implement selected design pattern as per structure							
5.	Performance Criteria 5:CU3-P1 Implement J-Unit Testing with MOCKITO for activity							
6.	Performance Criteria 6:CU3-P2 Implement fragment scenario testing for fragment							
7.	Performance Criteria 7 Complete work tasks within deadlines in according to order of priority							
8.	Performance Criteria 8: Supervisors are informed of any delays in work times or projects							
Competent <input type="checkbox"/>			Not Yet Competent <input type="checkbox"/>					

Portfolio (if any)		Description of portfolio			
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks	
1	Performance criteria 1				
2	Performance criteria 2				
3	Performance criteria 3				
4	.....			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>			

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Apply Design Patterns For Mobile App	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
1. What is design pattern?	Structural design patterns are Adapter, Bridge, Composite, Decorator, Facade, Flyweight, Private Class Data and Proxy. Behavioral patterns are about identifying common communication patterns between objects and realize these patterns.
2. Name category of design pattern?	They are categorized in three groups: Creational, Structural, and Behavioral.
3. What is Mockito?	Mockito is a popular mock framework which can be used in conjunction with JUnit. Mockito allows you to create and configure mock objects. Using Mockito simplifies the development of tests for classes with external dependencies significantly.
4. How fragment lifecycle is essential, explain fragment lifecycle	A fragment can be used in multiple activities. Fragment life cycle is closely related to the life cycle of its host activity which means when the activity is paused, all the fragments available in the activity will also be stopped. A fragment can implement a behavior that has no user interface component.
5. How activity lifecycle is essential, explain activity lifecycle	Activity-lifecycle concepts to navigate transitions between stages of the activity lifecycle, the Activity class provides a core set of six callbacks: onCreate() , onStart() , onResume() , onPause() , onStop() , and onDestroy() . The system invokes each of these callbacks as an activity enters a new state

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001031	Level: 4	Version:
Competency Standard Title: Assure the Quality of Mobile App Comply with Workplace Policy and Procedures	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task 1: Create Functional & Non-Functional Test cases as per required specifications of any previously developed App. (45 min) Assessment Task 2: Perform testing of Test cases that are created under (Task 1) (60 min) <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: CU1 – P1: Create functional test cases as per user requirements</p> <p>Performance Criteria 2: CU1 – P2: Create non-functional test cases as per user requirements</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1:CU2-P1 Perform functional testing as per user requirements</p> <p>Performance Criteria 2:CU2-P2 Perform non-functional testing as per user requirements</p> <p>Performance Criteria 3: CU2-P3 Practice organizational policy and procedures for responding to emergency incidents</p> <p>Performance Criteria 4: CU2-P4 Identify and implement workplace procedures and work instructions for controlling risks</p>
	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance criteria 1 CU1 – P3: Unit Test Cases</p> <p>Performance criteria 2 CU1 – P7: Beta Test Cases</p> <p>Performance criteria 3 CU1 – P8: Interface Test Cases</p> <p>Performance criteria 4 CU3 – P1: GDPR Policy</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Nature of Activity							
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							
Assessment Task 1			Description of assessment task 1 Create Functional & Non-Functional Test cases as per required specifications of any previously developed App. (45 min)				
During the practical assessment, candidate demonstrated the following:					Yes	No	Remarks
1	Performance Criteria 1: CU1 – P1: Create functional test cases as per user requirements						
2	Performance Criteria 2: CU1 – P2: Create non-functional test cases as per user requirements						
3							
4	.....					
Competent <input type="checkbox"/>				Not Yet Competent <input type="checkbox"/>			

Assessment Task 2		Description of assessment task 2 Perform testing of Test cases that are created under (Task 1) (60 min)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: CU2-P1. Perform functional testing as per user requirements			
2	Performance Criteria 2: CU2-P2. Perform non-functional testing as per user requirements			
3	Performance Criteria 3: CU2-P3 Practice organizational policy and procedures for responding to emergency incidents			
4	Performance Criteria 4: CU2-P4 Identify and implement workplace procedures and work instructions for controlling risks			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio			
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks	
1.	Performance Criteria 3: CU1 – P3.Create unit test cases as per user requirements				
2.	Performance Criteria 4: CU1 P4. Create system test cases as per specification				
3.	Performance Criteria 5: CU1 P5. Create integration test case as per the required specification				
4.	Performance Criteria 6: CU1 P6. Create regression test cases as per given requirements				
5.	Performance Criteria 7: CU1 P7. Create beta test cases as per user requirements				
6.	Performance Criteria 8: CU1 P8. Create interface test cases as per given design				
7.	Performance Criteria 3: CU2-P3. Perform unit test cases as per requirements				
8.	Performance Criteria 4: CU2-P4. Perform system test cases as per specification				
9.	Performance Criteria 5: CU2-P5. Perform integration test case as per the required specification				
10.	Performance Criteria 6: CU2-P6. Perform regression test cases as per given requirements				
11.	Performance Criteria 7: CU2-P7. Perform beta test cases as user requirements				
12.	Performance Criteria 8: CU2-P8. Execute interface test cases as per given design				
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>			

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001031	Level:4	Version:1
Competency Standard Title: Assure the Quality of Mobile App	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Assure the Quality of Mobile App	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
6. What is software testing	Software testing is an investigation conducted to provide stakeholders with information about the quality of the software product or service under test .
7. What is the purpose of unit testing	The purpose is to validate that each unit of the software performs as designed.
8. What is unit	A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output.
9. Explain Regression testing	Regression Testing is nothing but a full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine.
10. What is system testing	System Testing (ST) is a black box testing technique performed to evaluate the complete system the system's compliance against specified requirements.
11. What is difference between alpha testing Beta testing	<u>Alpha Testing</u> is a type of software testing performed to identify bugs before releasing the product to real users or to the public. Alpha Testing is one of the user acceptance testing. <u>Beta Testing</u> is performed by real users of the software application in a real environment. Beta testing is one of the type of User Acceptance Testing.
12. What is integration testing what is the purpose of this testing	INTEGRATION TESTING is a level of software testing where individual units are combined and tested as a group. The purpose of this level of testing is to expose faults in the interaction between integrated units.

Question	Candidate's answer
13. Differentiate white box testing and black box testing	14. Black Box Testing is a software testing method in which the internal structure/ design/ implementation of the item being tested is known to the tester 15. White Box Testing is a software testing method in which the internal structure/ design/ implementation of the item being tested is not known to the tester.
16. Explain sanity testing	Sanity test is usually unscripted, helps to identify the dependent missing functionalities. It is used to determine if the section of the application is still working after a minor change. Sanity testing can be narrow and deep. Sanity test is a narrow regression test that focuses on one or a few areas of functionality.
17. Define GDPR	The General Data Protection Regulation (GDPR) is a legal framework that sets guidelines for the collection and processing of personal information from individuals who live in the European Union (EU).

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001027	Level: 4	Version:
Competency Standard Title: Develop and Analyze Algorithm for Coding Perform Advanced Communication	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> Assessment Task 1: Write an algorithm for a program that gets 3 random numbers from user and Print them in sorted order on screen. (30 min) <p>And complete:</p> <ol style="list-style-type: none"> Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: CU2 – P1: Make graphical representation of selected solution.</p> <p>Performance Criteria 2: CU2 – P2: Select best solution for problem as per given instruction</p> <p>Performance Criteria 3: CU2 – P3: Arrange the sequence of tasks</p> <p>Performance Criteria 4: CU2 – P4: Identify the statement of a pseudo code which establishes the main goal</p> <p>Performance Criteria 5: CU2 – P5: Write the pseudo code accordingly</p> <p>Performance Criteria 6: Identify task requirements.</p> <p>Performance Criteria 7: Plan steps to complete tasks.</p> <p>Performance Criteria 8: Review planning and organizing process.</p> <p>Organize work.</p> <p>Portfolios required at the time of assessment (if any) for</p> <p>P1. Performance criteria 1:CUI-P1 Gather information of issues for problem statement as per functional and non-functional requirements</p> <ul style="list-style-type: none"> • Make a list of issues • Analyze the issues for problem statement • Review of problem statement constraints <p>P2. Performance criteria 2 : CU1-P2 Identify different possible solutions for problem.</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)

Activity	Method					Result	
	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Nature of Activity							
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			

Each Assessment Task (with performance criteria)

Assessment Task 1	Description of assessment task 1 Write an algorithm for a program that gets 3 random numbers from user and Print them in sorted order on screen. (30 min)
-------------------	--

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: CU2 – P1: Make graphical representation of selected solution.			
2	Performance Criteria 2: CU2 – P2: Select best solution for problem as per given instruction			
3	Performance Criteria 3: CU2 – P3: Arrange the sequence of tasks			
4	Performance Criteria 4: CU2 – P4: Identify the statement of a pseudo code which establishes the main goal			
5	Performance Criteria 5: CU2 – P5: Write the pseudo code accordingly			
6	Performance Criteria 6: Identify task requirements.			
7	Performance Criteria 7: Plan steps to complete tasks.			
8	Performance Criteria 8: Review planning and organizing process.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio: Able to explain Functional & Non-Functional Requirement.			
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks	
1	Performance criteria 1: CUI-P1 Gather information of issues for problem statement as per functional and non-functional requirements <ul style="list-style-type: none"> • Make a list of issues • Analyze the issues for problem statement • Review of problem statement constraints 				
2	Performance criteria 2 : CU1-P2 Identify different possible solutions for problem				
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>			

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001027	Level:4	Version:1
Competency Standard Title: Develop and Analyze Algorithm for Coding	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Develop and Analyze Algorithm for Coding	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
18. Define gathering requirements.	It is the process of generating a list of requirements (functional, system, technical, etc.) from the various stakeholders (customers, users, vendors, IT staff, etc.)
19. What are 5 W's	Who, What, Where, When, Why.
20. Understand functional and non-functional requirements.	A functional requirement describes what a software system should do, while non-functional requirements place constraints on how the system will do so.
21. Describe constraints.	The definition of a constraint is something that imposes a limit or restriction or that prevents something from occurring.
22. Understand time complexity.	Time complexity is a concept that deals with the quantification of the amount of time taken by a set of code or algorithm to process or run as a function of the amount of input.
23. Understand Selected Algorithm.	a selection algorithm is an algorithm for finding the kth smallest number in a list or array; such a number is called the kth order statistic. This includes the cases of finding the minimum, maximum, and median elements.
24. What is meant by Parsing.	Parse is defined as to break something down into its parts, particularly for study of the individual parts.
25. What is a parser	A parser is a compiler or interpreter component that breaks data into smaller elements for easy translation into another language. A parser takes input in the form of a sequence of tokens or program instructions and usually builds a data structure in the form of a parse tree or an abstract syntax tree.

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001030	Level: 4	Version: 1 Formative Assessment
Competency Standard Title: Develop Professional Android App Develop Advance Computer Application Skills	Assessment Date (DD/MM/YY):		

Candidate Details	Name:
	Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task 1: Design User Interface and Develop an android app for Cheffs which has:</p> <ul style="list-style-type: none"> • chef profiles • client profile <p>Chefs would be able to:</p> <ul style="list-style-type: none"> • add recipes, picture and videos • view personal messages • view orders • receive notification for orders • send notification to deliverer and client. <p>Client would be able to:</p> <ul style="list-style-type: none"> • follow chefs • view recipes, pictures and videos • like, comment and provide feedback on chefs posts and profile. • Place orders • Receive notification <p style="text-align: right;">(Time duration: 300 Minutes)</p> <p>Assessment Task 2: Develop mobile and web API's (Application Programming Interfaces) for the app developed in Assessment Task 1. For chefs and client registration, login and logout modules only.</p> <p style="text-align: right;">(Time duration: 180 Minutes)</p> <p>Assessment Task 3: Upload the project developed in Assessment Task 1 & 2 on GitHub.</p> <p style="text-align: right;">(Time duration: 120 Minutes)</p> <p>.....</p> <p>And complete:</p> <p>Knowledge assessment test (Written or Oral) Portfolios at the time of assessment (if any)</p>

Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: (CU2)-P1: Create new project in android studio</p> <p>Performance Criteria 2: (CU3)-P1: Develop design using up-to-date design software as per requirement</p> <p>Performance Criteria 3: (CU3)-P2: Select appropriate layout mode using Android Studio as per specification</p> <p>Performance Criteria 4: (CU3)-P3: Implement design for different screens using Android Studio as per requirement</p> <p>Performance Criteria 5: (CU3)-P4: Check Compatibility for portrait and landscape mode</p> <p>Performance Criteria 6: Develop graphic design concepts based on a thorough understanding of the communication need</p> <p>Performance Criteria 7: Use design techniques confidently to produce designs</p> <p>Performance Criteria 8: Integrate design tools skillfully to produce designs</p> <p>Performance Criteria 9: Evaluate the success of completed designs to meet objectives</p> <p>.....</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: (CU2)-P2: Create network layer between mobile and web API's</p> <p>Performance Criteria 2: (CU2)-P3: Integrate android app with Web API's for data communications</p> <ul style="list-style-type: none"> • Check Web API's Compatibility • Verify Web API's working • Apply "Get" and "post" methods for communication with API's
	<p>Assessment Task 3</p> <p>Performance Criteria 1: (CU1)- P1: Create repository in third party cloud platform (GitHub) for version controlling</p> <p>.....</p>
	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance criteria 1 for the evaluation of portfolio</p> <p>Performance criteria 2 for the evaluation of portfolio</p> <p>Performance criteria 3 for the evaluation of portfolio</p> <p>.....</p>

Continued on following page

Assessment Task 1	<p>Description of assessment task 1</p> <p>Design User Interface and Develop an android app for Cheffs which has:</p> <ul style="list-style-type: none"> • chef profiles • client profile <p>Chefs would be able to:</p> <ul style="list-style-type: none"> • add recipes, picture and videos • view personal messages • view orders • receive notification for orders • send notification to deliverer and client. <p>Client would be able to:</p> <ul style="list-style-type: none"> • follow chefs • view recipes, pictures and videos • like, comment and provide feedback on chefs posts and profile. • Place orders • Receive notification <p style="text-align: right;">(Time duration: 300 Minutes)</p>
-------------------	---

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU2)-P1: Create new project in android studio			
2	Performance Criteria 2: (CU3)-P1: Develop design using up-to-date design software as per requirement			
3	Performance Criteria 3: (CU3)-P2: Select appropriate layout mode using Android Studio as per specification			
4	Performance Criteria 4: (CU3)-P3: Implement design for different screens using Android Studio as per requirement			
5	Performance Criteria 5: (CU3)-P4: Check Compatibility for portrait and landscape mode			
6	Performance Criteria 6: Develop graphic design concepts based on a thorough understanding of the communication need			
7	Performance Criteria 7: Use design techniques confidently to produce designs			
8	Performance Criteria 8: Integrate design tools skillfully to produce designs			
9	Performance Criteria 9: Evaluate the success of completed designs to meet objectives			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2 Develop mobile and web API's (Application Programming Interfaces) for the app developed in Assessment Task 1. For chefs and client registration, login and logout modules only. (Time duration: 180 Minutes)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU2)-P2: Create network layer between mobile and web API's			
2	Performance Criteria 2: (CU2)-P3: Integrate android app with Web API's for data communications <ul style="list-style-type: none"> • Check Web API's Compatibility • Verify Web API's working • Apply "Get" and "post" methods for communication with API's 			
3	Performance Criteria 3:			
4				
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3 Upload the project developed in Assessment Task 1 & 2 on GitHub. (Time duration: 120 Minutes)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU1)- P1: Create repository in third party cloud platform (GitHub) for version controlling			
2	Performance criteria 2:			
3	Performance criteria 3:			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>		Authentic <input type="checkbox"/>
		Valid <input type="checkbox"/>		Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001030	Level: 4	Version: 1 Formative Assessment
Competency Standard Title: Develop Professional Android App	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Develop Professional Android App	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
26. What is meant by Commit a code on GitHub?	Commit, or "revision", is an individual change to a file (or set of files). It's like when you save a file every time you save it creates a unique ID (a.k.a. the "SHA" or "hash") that allows you to keep record of what changes were made when and by who.
27. Why team is created in a cloud?	Team is created in a cloud for centralization of the project.
28. What is the purpose of Volley and Retrofit Libraries?	Retrofit aims to make it easier to consume RESTful web services where as the goal of Volley is to handle all your networking needs for Android specifically
29. What are online cloud platforms?	Google Cloud Platform, OneDrive, GitHub, Amazon Web Services, GoDaddy, Microsoft Azure,
30. What is meant by API	Application Programming Interface a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service
31. What are REST API's	A (Representational State Transfer) Rest API is an application program interface (API) that uses HTTP requests to GET, PUT, POST and DELETE data.
32. What are SOAP API's	Simple Object Access Protocol is SOAP and is a message protocol that allows distributed elements of an application to communicate
33. What is meant by JSON	JSON stands for JavaScript Object Notation. JSON is a lightweight format for storing and transporting data.

Question	Candidate's answer
34. What is meant by XML	XML stands for eXtensible Markup Language. XML is a markup language much like HTML

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 061300132	Level: 4	Version:1Formative Assessment
Competency Standard Title: Develop Professionalism capable of Android App Development Develop Entrepreneurial Skills	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <ol style="list-style-type: none"> 4. Assessment Task 1: Develop and present a business idea based on career goal in front of class (35 mins for development of business idea and 20 mins for presentation) 5. Assessment Task 3: Identify the steps to showcase a mobile app development blog. 6. <p>And complete:</p> <ol style="list-style-type: none"> 7. Knowledge assessment test (Written or Oral) 8. Portfolios at the time of assessment (if any)

Minimum Evidence Required

During a practical assessment, under observation by an assessor, you will complete:

Assessment Task 1

Performance Criteria 1:CU1-P1 Develop technical introduction and related portfolio.

Performance Criteria 2:CU1-P2 Participate in interpersonal activities

- Group discussions
- Team Competitions

Performance Criteria 3:CU1-P3 Organize internal activities to improve employability skills

Performance Criteria 4:CU1-P Develop a career goal

Performance Criteria 5: CU2-P14 Develop a profile on Upwork/Fiver with portfolio.

Performance Criteria 6:CU2-P2 Develop business communication skills required for android development field

- Proposals
- e-mails
- Tools like Skype, Slack & Zoom etc.

Performance Criteria 7:CU2-P3 Schedule a mockup client/freelancer interview session

Performance Criteria 8: Conduct a market survey to collect following information

- Customer /demand
- Tools, equipment, machinery and furniture with rates
- Raw material
- Supplier
- Credit / funding sources
- Marketing strategy
- Market trends
- Overall expenses
- Profit margin

Performance Criteria 9: Select the best option in terms of cost, service, quality, sales, profit margin, overall expenses

Performance Criteria 10:Compile the information collected through the market survey, in the business plan format

Assessment Task 2

Assessment Task 3

Performance Criteria 1:CU3-P1Create a Linked-In profile and expand professional network.

Performance Criteria 2:CU3-P2Create a Mobile App Development blog and share it online.

Performance Criteria 3:CU3-P3Create a Professional Resume with portfolio, experience and blogging info

.....

Assessment Task 1		Description of assessment task 1 : : Develop and present a business idea based on career goal in front of class (35 mins for development of business idea and 20 mins for presentation)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1:CUI-P1 Develop technical introduction and related portfolio.			
2	Performance Criteria 2:CUI-P2 Participate in interpersonal activities <ul style="list-style-type: none"> • Group discussions • Team Competitions 			
3	Performance Criteria 3:CUI-P3 Organize internal activities to improve employability skills			
4	Performance Criteria 4:CUI-P Develop a career goal			
	Performance Criteria 5: CU2-P14 Develop a profile on Upwork/Fiver with portfolio.			
	Performance Criteria 6:CU2-P2 Develop business communication skills required for android development field <ul style="list-style-type: none"> • Proposals • e-mails Tools like Skype, Slack & Zoom etc.			
	Performance Criteria 7:CU2-P3 Schedule a mockup client/freelancer interview session			
	Performance Criteria 8: Conduct a market survey to collect following information <ul style="list-style-type: none"> • Customer /demand • Tools, equipment, machinery and furniture with rates • Raw material • Supplier • Credit / funding sources • Marketing strategy • Market trends • Overall expenses • Profit margin 			
	Performance Criteria 9: Select the best option in terms of cost, service, quality, sales, profit margin, overall expenses			
	Performance Criteria 10:Compile the information collected through the market survey, in the business plan format			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2: Identify the steps to showcase a mobile app development blog.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1:CU3-P1Create a Linked-In profile and expand professional network.			
2	Performance Criteria 2:CU3-P2Create a Mobile App Development blog and share it online.			
3	Performance Criteria 3:CU3-P3Create a Professional Resume with portfolio, experience and blogging info			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio			
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks	
1	Performance criteria 1				
2	Performance criteria 2				
3	Performance criteria 3				
4	.....			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>			

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001032	Level:4	Version:1
Competency Standard Title: Develop Professionalism capable of Android App Development	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Develop Professionalism capable of Android App Development	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
35. Team importance while work?	feel that your work is valued when you contribute to something that produces results. If you offer an idea that helps improve productivity, such as a new filing system, confidence and trust is built within the team. Each team member has something special to offer
36. Name 5 tech tech famous founders.	Steve Jobs Bill Gates Sergey Brin Mark Zuckerberg Jack Dorsey. Tim Cook.
37. Why technical blogging is important for IT person.	Technical blogging is a great way to share your expertise while building a potentially valuable readership. It can help you to document projects, or provide guidance to other web users. You can also monetize your content, or use your blog to market your services
38. Free lancing and it market places?	Freelancer, and freelance worker, are terms commonly used for a person who is self-employed and is not necessarily committed to a particular employer long-term. Basically freelancing is key to start the business and put hike in your skills according to the client requirements.

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001028	Level: 4	Version:
Competency Standard Title: Develop SDLC for Apps development Comply with Workplace Policy and Procedures	Assessment Date (DD/MM/YY):		

Candidate Details	Name:
	Registration/Roll Number:

Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>9. Assessment Task 1: Choose a project (own choice) and conduct requirement analysis and develop Software Requirement Specification (SRS) document. Also work on the planning of the project e.g. timeline, task distribution and delegation, deadlines, status & feedback/comments etc. and generate a report to inform your supervisor about the performance evaluation of the team. (Time Duration: 120 Minutes)</p> <p>10. Assessment Task 2: Design, Implement, Test and execute the project selected in Assessment task 1. As per Software Requirement Specification (SRS) document. (Time Duration: 300 Minutes)</p> <p>11. Assessment Task 3:</p> <p>12.</p> <p>And complete:</p> <p>13. Knowledge assessment test (Written or Oral)</p> <p>14. Portfolios at the time of assessment (if any)</p>
------------------------	--

Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: (CU1)-P1: Use task management tools to develop a timeline for a given project</p> <p>Performance Criteria 2: (CU1)-P2: Distribute tasks across software team as per the project specifications</p> <p>Performance Criteria 3: (CU1)-P3:Track tasks of the team as per assigned module</p> <p>Performance Criteria 4: (CU1)-P4: Generate report to evaluate performance of the team as per assigned task.</p> <p>Performance Criteria 5: CU2-PAalyze requirements to determine the quality of the given project</p> <p>Performance Criteria 6: CU2-P3 Develop Software Requirement Specification (SRS) document for the given project</p> <p>Complete</p> <p>Performance Criteria 7: work tasks within deadlines in according to order of priority</p> <p>Performance Criteria 8: e initiative to prioritize and facilitate competing demands to achieve organizational goals and objectives</p> <p>Performance Criteria 9: Use technology efficiently and effectively to manage work priorities and commitments</p> <p>Maintain appropriate work-life balance</p> <p>.....</p>
---------------------------	---

	<p>Assessment Task 2</p> <p>Performance Criteria 1: CU3-P1 Design components as per project specification</p> <p>Performance Criteria 2: CU3-P2 Draw data flow diagrams according to Software requirement specification</p> <p>Performance Criteria 3: CU3-P3 Create Entity Relationship diagram (ERD) according to data flow diagram</p> <p>Performance Criteria 4: CU3-P4 Create UML diagram according to Software Requirement Specification (SRS)</p> <p>Performance Criteria 5: CU4-P1 Design Interface as per application requirements</p> <p>Performance Criteria 6: CU4-P2 Create database as per Entity Relationship diagram ERD</p> <p>Performance Criteria 7: CU4-P3 Develop an application as per design UML and ERD</p> <p>Performance Criteria 8: CU5-P1 Perform validation technique as per project requirements</p> <p>Performance Criteria 9: CU5-P2 Test project as per Software Requirement Specification (SRS) document</p> <p>Performance Criteria 10: CU6-P1 Deploy project in production environment as per client requirement.</p> <p>Performance Criteria 11: CU6-P2 Perform user acceptance test as per client requirements</p> <p>.....</p>
	<p>Portfolios required at the time of assessment for Assessment Task 2</p> <p>Performance criteria 1 for the evaluation of portfolio</p> <p>Performance criteria 2 for the evaluation of portfolio</p> <p>Performance criteria 3 for the evaluation of portfolio</p> <p>.....</p>

Continued on following page

Assessment Task 1		Description of assessment task 1 Choose a project (own choice) and conduct requirement analysis and develop Software Requirement Specification (SRS) document. Also work on the planning of the project e.g. timeline, task distribution and delegation, deadlines, status & feedback/comments etc. and generate a report to inform your supervisor about the performance evaluation of the team. (Time Duration: 120 Minutes)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU1)-P1: Use task management tools to develop a timeline for a given project			
2	Performance Criteria 2: (CU1)-P2: Distribute tasks across software team as per the project specifications			
3	Performance Criteria 3: (CU1)-P3:Track tasks of the team as per assigned module			
4	Performance Criteria 4: (CU1)-P4: Generate report to evaluate performance of the team as per assigned task.			
5	Performance Criteria 5: CU2-PAalyze requirements to determine the quality of the given project			
6	Performance Criteria 6: CU2-P3 Develop Software Requirement Specification (SRS) document for the given project Complete			
7	Performance Criteria 7: work tasks within deadlines in according to order of priority			
8	Performance Criteria 8: e initiative to prioritize and facilitate competing demands to achieve organizational goals and objectives			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2 Design, Implement, Test and execute the project selected in Assessment task 1. As per Software Requirement Specification (SRS) document. (Time Duration: 300 Minutes)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Design components as per project specification			
2	Performance Criteria 2: Draw data flow diagrams according to Software requirement specification			
3	Performance Criteria 3: Create Entity Relationship diagram (ERD) according to data flow diagram			
4	Performance Criteria 4: Create UML diagram according to Software Requirement Specification (SRS)			
5	Performance Criteria 5: Design Interface as per application requirements			
6	Performance Criteria 6: Create database as per Entity Relationship diagram ERD			
7	Performance Criteria 7: Develop an application as per design UML and ERD			
8	Performance Criteria 8: Perform validation technique as per project requirements			
9	Performance Criteria 9: Test project as per Software Requirement Specification (SRS) document			
10	Performance Criteria 10: Deploy project in production environment as per client requirement.			
11	Performance Criteria 11: Perform user acceptance test as per client requirements			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/>	Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001028	Level:4	Version:1
Competency Standard Title: Develop SDLC for Apps development	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Develop SDLC for Apps development	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
39. What is the importance of gathering requirements from customer?	Gathering requirements from client is important because it enables the app developer to understand the requirements of the client.
40. What is meant by task management tools for scheduling, give one example?	Task management tools are used by individuals, teams and organizations that help complete projects more efficiently by organizing and prioritizing related tasks. Example is JIRA.
41. Why task distribution is important.	To divide the workload and task delegation.
42. What are requirement gathering techniques?	Client's brief, survey forms, trend analysis, proto-typing.
43. What is meant by requirement analysis?	Requirement analysis is done to analyze if the given requirements are sufficient and workable or not.
44. What is SRS document?	This document contains functional and non-functional specifications/requirements which are necessary for an app development.
45. What is user flow diagram?	User Flow diagrams are the fastest way for creators to plan customer journey paths and improve User Experience
46. What is Data Flow Diagram (DFD)?	Data flow diagrams are used to graphically represent the flow of data in a business information system. DFD describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation.

Question	Candidate's answer
47. What is Database Management System (DBMS)?	A database management system (DBMS) is system software for creating and managing databases
48. What is meant by validation of a project?	Validation is to check whether software meets the customer expectations and requirements.
49. What are testing techniques for verification and validation of a project?	User acceptance testing, beta testing, prototyping, integration testing, unit testing.
50. What is meant by deployment of a project?	Deployment means to make the project live on a host server e.g. GooglePlay

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4 Time: 210 Min.	Version: 01 Summative Assessment
Competency Standard Title: <ul style="list-style-type: none"> • Undertake research and planning for apps development. • Develop SDLC for apps development. • Develop and analyses algorithm for coding. • Apply design patterns for mobile app. • Develop professional android app. • Assure the quality of mobile app. • Develop professionalism capable of android app development. Undertake research and planning for Apps Development	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
--------------------------	--

To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):

15. **Assessment Task 1:** How to find the key feature to analyze target market for nearby Location based places.
16. **Assessment Task 2:** Develop android application using suitable design pattern for getting the Nearby Location according to user needs. Also connect web API's for login screen. (Annexures A, B, C)

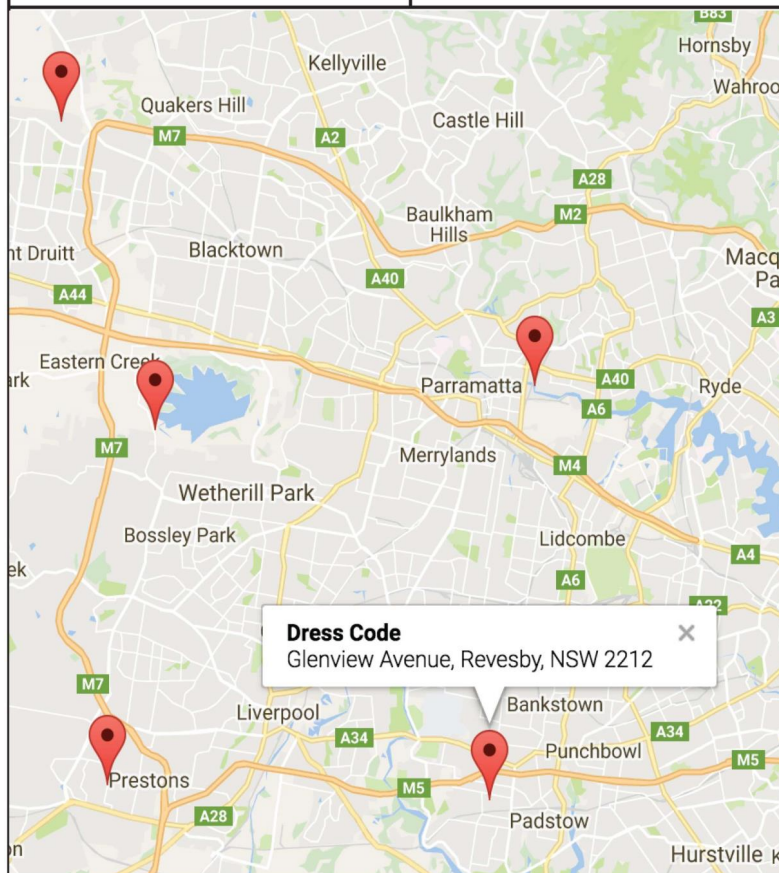
Nearby Location

Location	Maps
Name of Place	<input type="checkbox"/>
Name of Place	<input type="checkbox"/>
Name of Place	<input type="checkbox"/>

Nearby Location

Location

Maps



During a practical assessment, under observation by an assessor, you will complete:

Assessment Task 1

- Performance Criteria 1: Use Apps to identify market trends
- Performance Criteria 2: Explore market trends using social media
- Performance Criteria 3: Browse blogs to find market trends
- Performance Criteria 4: Design survey form to get market trends
- Performance Criteria 5: Develop timeline for app development.
- Performance Criteria 6: Develop app work flow based on gathered information.
- Performance Criteria 7: Develop a project proposal

Assessment Task 2

- Performance Criteria 1: Create new project in android studio
- Performance Criteria 2: Create network layer between mobile and web API's
- Performance Criteria 3: Integrate android app with Web API's for data communications
- Performance Criteria 4: Check Web API's Compatibility
- Performance Criteria 5: Verify Web API's working
- Performance Criteria 6: Apply "Get" and "post" methods for communication with API's
- Performance Criteria 7: Use Network communication libraries (Volly, Retrofit).
- Performance Criteria 8: Identify design pattern for android APP
- Performance Criteria 9: Identify relevant design pattern as per requirement
- Performance Criteria 10: Build appropriate design pattern as per requirements.
- Performance Criteria 11: Implement selected design pattern as per structure.

Minimum Evidence Required

Assessment Task 3

:

1. **Performance Criteria 1:**Create functional test cases as per user requirements
2. Create non-functional test cases as per user requirements
3. Create unit test cases as per user requirements
4. Create system test cases as per specification
5. Create integration test case as per the required specification
6. Create regression test cases as per given requirements
7. Create beta test cases as per user requirements
8. Create interface test cases as per given design
9. Perform functional testing as per user requirements
10. Perform non-functional testing as per user requirements
11. Perform unit test cases as per requirements
12. Perform system test cases as per specification
13. Perform integration test case as per the required specification
14. Perform regression test cases as per given requirements
15. Perform beta test cases as user requirements
16. Execute interface test cases as per given design.
17. Gather requirements by communicating with the customer for given project.
18. Analyze requirements to determine the quality of the given project
19. Develop Software Requirement Specification (SRS) document for the given project
20. Design components as per project specification
21. Draw data flow diagrams according to Software requirement specification
22. Create Entity Relationship diagram (ERD) according to data flow diagram

Portfolio Submission for already developed android App.

Submit all the research and planning that was gathered previously.

Submit already developed Android Application for review and assessment.

Portfolios required at the time of assessment (if any) for

Performance criteria 1 for the evaluation of portfolio

Performance criteria 2 for the evaluation of portfolio

Performance criteria 3 for the evaluation of portfolio

.....

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			

Each Assessment Task (with performance criteria)	
Assessment Task 1	Description of assessment task 1: How to find the key feature to analyze target market for nearby Location based places

During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Use Apps to identify market trends			
2	Performance Criteria 2: Explore market trends using social media			
3	Performance Criteria 3: Browse blogs to find market trends			
4	Performance Criteria 4: Design survey form to get market trends			
	Performance Criteria 5: Develop timeline for app development.			
	Performance Criteria 6: Develop app work flow based on gathered information.			
	Performance Criteria 7: Develop a project proposal			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2: Develop android application using suitable design pattern for getting the Nearby Location according to user needs. Also connect web API's for login screen. (Annexures A, B, C)		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: Create new project in android studio			
2	Performance Criteria 2:Create network layer between mobile and web API's			
3	Performance Criteria 3:Integrate android app with Web API's for data communications			
4	Performance Criteria 4:Check Web API's Compatibility			
	Performance Criteria 5:Verify Web API's working			
	Performance Criteria 6:Apply "Get" and "post" methods for communication with API's			
	Performance Criteria 7Use Network communication libraries (Volly, Retrofit).			
	Performance Criteria 8:Identify design pattern for android APP			
	Performance Criteria 9:Identify relevant design pattern as per requirement			
	Performance Criteria 10:Build appropriate design pattern as per requirements.			
	Performance Criteria 11:Implement selected design pattern as per structure.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3: Follow the SDLC plan for android app which is used by consumer to find nearby location.		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Performance Criteria 1:Create functional test cases as per user requirements			
2.	Create non-functional test cases as per user requirements			
3.	Create unit test cases as per user requirements			
4.	Create system test cases as per specification			
5.	Create integration test case as per the required specification			
6.	Create regression test cases as per given requirements			
7.	Create beta test cases as per user requirements			
8.	Create interface test cases as per given design			
9.	Perform functional testing as per user requirements			
10.	Perform non-functional testing as per user requirements			
11.	Perform unit test cases as per requirements			
12.	Perform system test cases as per specification			
13.	Perform integration test case as per the required specification			
14.	Perform regression test cases as per given requirements			
15.	Perform beta test cases as user requirements			
16.	Execute interface test cases as per given design.			
17.	Gather requirements by communicating with the customer for given project.			
18.	Analyze requirements to determine the quality of the given project			
19.	Develop Software Requirement Specification (SRS) document for the given project			
20.	Design components as per project specification			
21.	Draw data flow diagrams according to Software requirement specification			
22.	Create Entity Relationship diagram (ERD) according to data flow diagram			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 4		Description of assessment task 4		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance criteria 1:			
2	Performance criteria 2:			
3	Performance criteria 3:			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio: Submit all the research and planning that was gathered previously. Submit already developed Android Application for review and assessment.		
Current <input type="checkbox"/>	Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level:4	Version:1 Summative Assessment
Competency Standard Title: <ul style="list-style-type: none"> • Undertake research and planning for apps development. • Develop SDLC for apps development. • Develop and analyses algorithm for coding. • Apply design patterns for mobile app. • Develop professional android app. • Assure the quality of mobile app. • Develop professionalism capable of android app development. 	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:1 Summative Assessment
Competency Standard Title: <ul style="list-style-type: none"> • Undertake research and planning for apps development. • Develop SDLC for apps development. • Develop and analyses algorithm for coding. • Apply design patterns for mobile app. • Develop professional android app. • Assure the quality of mobile app. • Develop professionalism capable of android app development. 	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
51. What is meant by Parsing.	Parse is defined as to break something down into its parts, particularly for study of the individual parts.
52. What is design pattern?	Structural design patterns are Adapter, Bridge, Composite, Decorator, Facade, Flyweight, Private Class Data and Proxy. Behavioral patterns are about identifying common communication patterns between objects and realize these patterns.
53. Understand functional and non-functional requirements. 54.	A functional requirement describes what a software system should do, while non-functional requirements place constraints on how the system will do so.
55. What is Mockito?	Mockito is a popular mock framework which can be used in conjunction with JUnit. Mockito allows you to create and configure mock objects. Using Mockito simplifies the development of tests for classes with external dependencies significantly.
56. Define gathering requirements.	It is the process of generating a list of requirements (functional, system, technical, etc.) from the various stakeholders (customers, users, vendors, IT staff, etc.)
57. What are online cloud platforms?	Google Cloud Platform, OneDrive, GitHub, Amazon Web Services, GoDaddy, Microsoft Azure,
58. What is meant by JSON	JSON stands for JavaScript Object Notation. JSON is a lightweight format for storing and transporting data.

Question	Candidate's answer
59. What are requirement gathering techniques?	Client's brief, survey forms, trend analysis, proto-typing.
60. What is user flow diagram?	User Flow diagrams are the fastest way for creators to plan customer journey paths and improve User Experience
61. What is meant by validation of a project?	Validation is to check whether software meets the customer expectations and requirements.
62. What are online cloud platforms?	Google Cloud Platform, OneDrive, GitHub, Amazon Web Services, GoDaddy, Microsoft Azure,

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001026	Level: 4	Version:
Competency Standard Title: Undertake research and planning for Apps Development	Assessment Date (DD/MM/YY):		

Candidate Details	Name: Registration/Roll Number:
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>20. Assessment Task 1: Conduct analysis of latest market trends using different platform i.e. apps, social media, blogs and Design a survey form to analyze needs of general public. (time duration: 120 minutes)</p> <p>21. Assessment Task 2: Develop a project proposal for an App development to target the needs of latest market trend based on the analysis conducted in Assessment task 1. (time duration: 180 minutes)</p> <p>22. Assessment Task 3:</p> <p>23.</p> <p>And complete:</p> <p>24. Knowledge assessment test (Written or Oral)</p> <p>25. Portfolios at the time of assessment (if any)</p>
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>Performance Criteria 1: (CU1)-P1: Use Apps to identify market trends</p> <p>Performance Criteria 2: (CU1)-P2: Explore market trends using social media</p> <p>Performance Criteria 3: (CU1)-P3: Browse blogs to find market trends</p> <p>Performance Criteria 4: (CU1)-P4: Design survey form to get market trends</p> <p>.....</p>
	<p>Assessment Task 2</p> <p>Performance Criteria 1: (CU1)-P5: Identify target audience</p> <p>Performance Criteria 2: (CU3)-P1: Develop timeline for app development.</p> <p>Performance Criteria 3: (CU3)-P2: Develop app work flow based on gathered information.</p> <p>Performance Criteria 4: (CU3)-P3: Develop a project proposal</p> <p>.....</p>
	<p>Portfolios required at the time of assessment (if any) for</p> <p>Performance criteria 1 for the evaluation of portfolio</p> <p>Performance criteria 2 for the evaluation of portfolio</p> <p>Performance criteria 3 for the evaluation of portfolio</p> <p>.....</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Nature of Activity							
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement				✓			
Each Assessment Task (with performance criteria)							
Assessment Task 1			Description of assessment task 1				
During the practical assessment, candidate demonstrated the following:					Yes	No	Remarks
1	Performance Criteria 1: (CU1)-P1: Use Apps to identify market trends						
2	Performance Criteria 2: (CU1)-P2: Explore market trends using social media						
3	Performance Criteria 3: (CU1)-P3: Browse blogs to find market trends						
4	Performance Criteria 4: (CU1)-P4: Design survey form to get market trends						
Competent <input type="checkbox"/>			Not Yet Competent <input type="checkbox"/>				

Assessment Task 2		Description of assessment task 2		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance Criteria 1: (CU1)-P5: Identify target audience			
2	Performance Criteria 2: (CU3)-P1: Develop timeline for app development.			
3	Performance Criteria 3: (CU3)-P2: Develop app work flow based on gathered information.			
4	Performance Criteria 4: (CU3)-P3: Develop a project proposal			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance criteria 1:			
2	Performance criteria 2:			
3	Performance criteria 3:			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/>		Sufficient <input type="checkbox"/>		Authentic <input type="checkbox"/>
		Valid <input type="checkbox"/>		Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4	.....		
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code: 0613001026	Level:4	Version:1
Competency Standard Title: Undertake research and planning for Apps Development	Assessment Date (DD/MM/YY):		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	--

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:.....
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:.....

Title of Qualification: National Vocational Certificate Level 4 Android Application Developer	CS Code:	Level: 4	Version:
Competency Standard Title: Undertake research and planning for Apps Development	Assessment Date (DD/MM/YY):		

WRITTEN ASSESSMENT

Question	Candidate's answer
63. What is a programming language? What are different types of programming languages for android app development?	A programming language is a vocabulary and set of grammatical rules to provide instructions to machine to perform specific tasks. The following are some examples of the programming languages used for android app development: Java, Kotlin, C, C++, C#
64. What are different tools for app development?	Android studio, emulators, libraries, Software Development Kit (SDK)
65. Why hardware requirements must be identified for developing apps?	Hardware requirements must be identified to analyze and identify the storage capacity an app would be consuming.
66. Why analysis of market trends is important?	Analysis of market trends allows one to understand the current tendencies and developments in the needs of customers and consumers.
67. What are different tools/platforms to identify market trends?	Social Media, Blogs, Market Survey
68. What is meant by vision of the app?	Vision provides a platform for the future of an app with imagination or wisdom. Vision helps to create aims, goals, objectives, functions and strategies for the app.
69. Differentiate between functional & nonfunctional specifications?	Specifications are basically the requirement. Functional specification provides the platforms for functionality or the tasks operations of an app whereas non-functional specification targets the validation and quality measures of an app, in other words a requirement that specifies criteria that can be used to judge the operation of a system is known as non-functional requirements or specifications.

