



Qualification national code and title	ICT50718 Diploma of Software Development
Unit/s national code/s and title/s	ICTPRG532 Apply advanced object-oriented language skills ICTPRG529 Apply testing techniques for software development ICTPRG503 Debug and monitor applications

Assessment type (☑):

- ☐ Questioning (Oral/Written)
- ☒ Practical Demonstration
- ☐ 3rd Party Report
- ☒ Other – Project/Portfolio (*please specify*)

Assessment Resources:

Personal computer with Visual Studio & with appropriate software for native mobile app development, plus internet connection and access to online Git repository.
Access to Blackboard shell "Cluster – Advanced OOP C#".

Assessment Instructions:

This is a group assessment that requires you to develop and test a mobile app for your project. You are being assessed on ICTPRG532 elements 2, 3 and 4, ICTPRG529 elements 2, 3 and 4 and ICTPRG503 elements 1, 2 and 3.

Due Date: End of week 17

1. Complete all the assessment tasks below.
2. Observation by your lecturer of you doing the assessment is considered part of the assessment process.
3. Submit your documentation into the Blackboard assessments area.
4. All skills must be demonstrated to achieve a satisfactory result.
5. All work submitted must be the effort of the members involved in the team. Please declare which work components were contributed by each team member.



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Assessment Instrument:

Assignment 2: Project application

Complete all parts of this assignment. Work in your teams to develop the project for your client.

Part A: Develop the mobile app

1. Review the requirements specifications and implementation plan documented for your project in assessment 1. You are required to develop a mobile app that meets the requirements. It is desirable that your app should make calls to a RESTful API or web service to get data from a remote server.
2. Develop a mobile app that is functional on at least one target platform (Android or iOS).
3. Use a version control system to enable team members to share and edit program code.
4. Comment your code and follow a coding standard for the object-oriented programming language.
5. Implement a logging framework within your application to log informational, warning and error messages to a log file at runtime. Provide evidence showing the log file messages.

Part B: Test and profile the mobile app

Prepare for testing

6. Prepare the test environment. (This may include using emulators and real devices for testing.)
7. Prepare your testing tools. (You will need a code debugger, profiling tool, issue tracking tool, unit testing tool.)
8. Using the test plan that was prepared for assessment 1, prepare your tests and test data. You may test the UI manually and/or write unit test scripts for automating the functional testing.

Conduct testing

9. Execute your tests against your application.
10. Document your test results. Log any issues.
11. Use the debugging tool within the IDE to trace through code at runtime to detect and fix errors. Take a snapshot of your debugging session.
12. Fix any errors that were found and repeat the test cycle as necessary. Continue to maintain testing documentation as you track and fix issues.

Test your app's performance

13. Use a profiling tool to test your app. Check performance and resource consumption like RAM, CPU and time. Take a screenshot.
14. Analyse performance issues, and if necessary, make performance improvement changes.



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Part C: Demonstrate your mobile app

15. Prepare a presentation for your client to demonstrate the application.
16. Review the deliverable against the requirements specifications and determine how to address variances.

Upload your application and testing evidence in compressed format into the Blackboard submission area. Only one Blackboard submission is required by each group. Fill in the collaboration document to identify which team members were involved in particular tasks in this assignment.