Assessment Tool

Qualification national code and title	ICT40120 Cert IV in Information Technology (Programming)
Cluster	Mobile Applications
Unit/s national code/s and title/s	ICTICT437 Develop client user interface ICTPRG436 Develop mobile applications

Assessment type (☑):

☐ Questioning (Oral/Written)
☒ Practical Demonstration
☐ 3rd Party Report
☒ Other – Project/App

Assessment Resources:

Visual Studio Community Edition 2019/2022
Android SDK / Emulator / Physical Device (provided by TAFE)
Design Software of choice (Photoshop/InDesign/XD) **OR** physical materials

Assessment Instructions:

This assessment requires you to take the understanding of mobile development that you have developed through the 10 sessions and apply them into a project. You are being assessed on all elements of ICTPRG436 and ICTICT437.

Due Date:
Part A - End of week 6
Part B - End of week 16
Part C - End of week 19

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 your own individual effort.

Assessment Instrument:

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Assessment 1 – Project

Applying the knowledge gained through the portfolio components, develop a complete mobile application from designs through to deployment. This assessment will be completed in **three** parts:

Part A – Plan

Using the specification in appendix 1*, plan out the design and implementation of a mobile application that meets the specified requirements.
The UX design should:

1. Satisfy all functional requirements set out in appendix 1.
2. Identify necessary user inputs required for functionality.
3. Highlight any outputs and data displayed using appropriate controls.
4. Identify any events required that form the user interaction such as gestures (Click, Scroll, Swipe etc).
5. Be readable and accessible.
6. Maintain a clear, consistent design throughout.

*Designs must be submitted and signed off by lecturer **before** work commences on the implementation (Part B).*

Deliverables:

i. Wireframes/UI Designs for each screen with consideration for orientation. (*Can be done hard-copy or in design software of choice. Scan and attach any sketches done to the final submission.)*
ii. Actions and Events list (if not included in designs).
iii. Requirements and feature list documentation. (Additional Template materials available)
iv. Stakeholder Sign-off completed.

Part B – Implementation

1. Using MAUI and XAML, implement the UI designs
2. Create functional business/app logic using C# object orientated programming techniques
3. Build the inputs, outputs and events described by the designs.
4. Utilise the MVC/MVVM Software Pattern with clear distinctions between each component.
5. Connect to Web API to retrieve and display data.

Deliverable(s):

i. Zipped visual studio solution of MAUI Project with XAML UI Designs and shared business logic.

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Part C – Test and Deploy

1. Continually debug and use iterative development techniques to complete application.
2. Finalise some simple testing documentation to ensure that the application meets all the necessary requirements set out by the brief.
3. Complete stakeholders sign off form.
4. Build and package application for both Android and iOS.
5. Deploy app onto testing devices.

Deliverable(s):

i. Release build APK file of mobile application
ii. Demonstration of final project in class between week 18-19.
iii. Final Stakeholder Sign-off.

Zip full project (including parts A, B and C) and submit to blackboard

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Appendix 1

Weather App

Design and implement a weather app that displays information about weather from a chosen selection of locations. The app should return the temperature, climate information and humidity for a location.

Minimum Requirements:

1. App must have at least 4 unique screens.
2. App UI designs should consider multiple device sizes, resolutions and orientations.
3. Must retrieve and parse data from a web API (E.g. OpenWeather).
4. Contain user preferences to customize the experience of the app. (Degrees F/C, Font Size, Appearance etc)

Functional Requirements:

1. Ability to search for a particular city location.
2. Users can select and save a favourite city; a list of the favourites can be viewed along with the current location.
3. Support preferences such as light/dark modes and accessibility support for font and colours.

Additional Optional Requirements:

1. Ability to select a location on a map.
2. Include image / icon representation of weather conditions.
3. Display background image that changes based upon the current weather.

** An alternative API may be used instead of open weather provided the application still meets all other minimum requirements.*