	ISCG 7424 Mobile Software Development Semester 2, 2025	**2**
School of Computing, Electrical and Applied Technology	**Due Date: 12:59 PM 2nd June 2025**	
Assignment Two **Web Services, Cloud database OpenTDB**	**Total Marks: 100** **Weighting of this assignment: 40%**	

Assignment 2 – Individual

Learning Outcomes

1. Acquire in depth knowledge of a range of advanced technical features that extend the standard software development environment to cater for the development of software for mobile devices by obtaining information from the internet, manuals, textbooks and supplied sample code.

2. Demonstrate the ability to successfully apply such features and techniques when writing code to solve selected problems in the given language for a mobile device.

3. Communicate the knowledge from learning outcome 1, in a form that other programmers will find usable, relevant and easily intelligible.

Web Services, Cloud database and OpenTDB

You need two create two Android projects. One for exercises 1-2 and another for mini project. Incomplete answers will be assessed based on the amount of work successfully completed.

Exercises

1. Develop android application using cloud database such as Firebase for back end. The backend must contain at least one entity with 4 attriburtes. Your application must have add, update, delete and search operations.

    [10 marks]

2. Develop an Android application that allows a user to interact with a JSON API. You must use recyclerview with card view to display fetched data. You must use either Retrofit or Volley.

    [10 marks]

Mini Project

3. Develop an Android quiz application using OpenTDB (https://opentdb.com/) with following features

   a. There must be two types of users, admin and player.
   b. Admin user:
      o Log into the application using an email/username & password.
      o Create a new quiz tournament. Fields include name, category, difficulty, start date & end date.
      o A quiz tournament consists of 10 questions dynamically fetched from the OpenTDB (https://opentdb.com/). Using either Retrofit or Volley. Questions can be multi-choice, true/false or a mixture of both.
      o View all quiz tournaments
      o Update a quiz tournament. Updatable fields include name, start date & end date.
      o Delete a quiz tournament. Prompt the user for deletion.
      o View the number of likes for each quiz tournament.
         [25 Marks]
   c. Player user:
      o Log into the application using an email/username & password.
      o Display ongoing, upcoming, past & participated quiz tournaments.
      o Player user should not be able to participate in upcoming, past or participated quiz tournaments.
      o Participate in ongoing quiz tournaments. All player users that enter the same quiz tournament will be presented with the same 10 questions.
      o Questions must presented on separate pages.
      o Display appropriate feedback for correct & incorrect answers. If a question is answered incorrectly, display the correct answer.
      o When the player user's quiz tournament is completed, display their score out of 10.
      o Like & unlike quiz tournaments.
         [25 Marks]

Coding and application look and feel
4. Code elegance and applications are aesthetically pleasing.
   [10 marks]

Source Control
5. Evidence of incremental contributions to projects using an industry standard source control system system. End product does not arrive at the last minute.
   [10 marks]

Project Demonstration
6. Demonstrate application features. Do some live coding. Time approx 5-10 minutes.
   [10 marks]

Submission Details and Marking Criteria:

This is an individual assignment. You must work on the individual tasks by yourself and all work you submit must be your work and your work only. Your final submission should contain the following:

- A zip file which contains program source code.
- A Microsoft Word or PDF file with screenshot of each interface with brief explanation (-20 marks if this is not done).
- Include a list of references in this document if you have used any print or electronic resources
- Do NOT embed your program code in a Microsoft Word document.
- Optional Screen recoding of all features.

Grades will be awarded for each section of the assignment successfully completed:

Assignment hand-in

Assignments submitted after the due date and time without having received an extension through an Affected Performance Consideration (APC) will be penalised according to the following scheme:

- 10% of marks deducted if submitted within 24hrs of the deadline
- 20% of marks deducted if submitted after 24hrs and up to 48hrs of the deadline
- 30% of marks deducted if submitted after 48hrs and up to 72hrs of the deadline
- No grade will be awarded for an assignment that is submitted later than 72hrs after the deadline.

Students submitting assignments after the due date and time will be ineligible to resubmit a failed assignment.

Affected Performance Consideration

A student, who due to circumstances beyond his or her control, misses a test, final examination or an assignment deadline or considers his or her performance in a test, final examination or an assignment to have been adversely affected, should complete the Affected Performance Consideration (APC) form available from Student Central.

When requesting an APC for an assignment, the APC form must be submitted (along with work completed to date) within the time frame of the extension requested; i.e. if the Doctor's certificate is for one (1) day, then the APC form and work completed must be submitted within one (1) day.

Unacceptable Assistance

- Working together on one copy of the assessment and submitting it as own work.
- Giving another student your work.
- Copying someone else's work. This includes work done by someone not on the course.
- Copying from books, Internet etc. and submitting it as own work. Anything taken directly from another source must be acknowledged correctly: show the source alongside the quotation.
- Changing or correcting another student's work.

This is an individual assignment. You must work on the individual tasks by yourself and all work on these tasks must be your own.

Please sign the statement below to declare that this assignment submission is your own work and hand in the signed statement with your assignment. Failure to sign and include this statement may mean your assignment is not marked.