ASSESSMENT 2 BRIEF

MODULE CODE	COM5003
MODULE TITLE	Further Software Development
MODULE LEADER	Dr Antesar Shabut
ASSESSMENT TITLE	Project Artefact
WEIGHTING	50%

ASSESSMENT LEARNING OUTCOMES

Upon successful completion of this assessment, you will be able to:

1. Demonstrate capacity to code effectively in an object-oriented language to meet given specifications.
2. Select and apply appropriate data structures and algorithms to a given problem.
3. Demonstrate knowledge of mobile app development, cloud hosting and security.
4. Test and evaluate the efficiency of an implementation relative to a given problem.

INSTRUCTIONS

This assessment has been designed to provide you with an opportunity to apply your software development skills in the context of Object-Oriented Programming and Mobile App Development. It challenges you to solve a real-world problem, similar to Assessment 1, but with enhanced functionalities, as outlined in the business problem described on **page 2**. You will employ your mobile development skills in designing, planning and implementing your app. You need to do the following:

- Develop a fully functional, testable, and deployable Android mobile app with a database connection.
- Submit the complete source code, including all necessary data or dependencies essential for the application's execution. Provide test results, along with related files, test cases, and images required for the testing process.
- Develop a commercialisation plan proposing potential strategies to commercialise and monetise your app.
- Create a ReadMe file offering a reflective evaluation of your software artefact. Detail its design, functionality, and monetisation plan (there is no specified word count, so focus on conciseness.)
- Record a video (maximum 10 minutes) showcasing the final application's features and functionality.

SUBMISSION DETAILS

RELEASE DATE	21st January 2025
SUBMISSION DATE	21st March 2025

DELIVERABLES	Your submission must include the following components:
	- Zipped Android code of your application: Submit a zipped folder containing all the code files required to run your application (***not just the APK file***).
	- ReadMe file: This file should include:
	  - A link to your GitHub repository.
	  - A reflection that explains your app design and plan for implementation.
	  - A monetisation plan for your app
	  - A link to a media file (.MP4 or any other format) that demonstrates the final application and highlights its key features.
	- Evidence of completing lab tasks: Provide proof of completion for all lab tasks by organising them in the same GitHub repository. Arrange the files into clearly labelled folders (e.g., *Assignment_2*, *Session_1*, *Session_2*, etc.).

SUBMISSION DETAILS	Submit your assignment by uploading it to Moodle before midday on the submission date. This deadline will be automatically and strictly enforced. If your submission is late, your grade may be affected. If you have any issues submitting your work, you must email the assessment team and copy in the module leader before the assessment due time. Do not leave your submission until the last minute to avoid any penalties due to problems with the submission portal. Assessment Team: assessment@leedstrinity.ac.uk Module Leader: a.shabut@leedstrinity.ac.uk We may ask for a demonstration of your work following the submission. If needed, this will be communicated to you individually via email. Please check your emails regularly.

Your feedback / feed forward and mark for this assessment will be provided within 15 working days.

Problem Statement - LTU Degree Tracker App
Students often struggle to track their academic progress, calculate degree classifications, and manage study goals efficiently. The LTU Degree Tracker App addresses these challenges by offering a comprehensive platform to monitor grades, simulate outcomes, and stay organised.

Core Functions and Features

1. User Account
    - Allow users to create secure accounts with email, username, or social media; password recovery and multi-factor authentication.
    - Allow users to customise their accounts (user profile) with academic details, profile photo, or avatar.
2. Degree Classification Calculator
    - Allow users to input grades with credits for all degree levels classifications including Foundation (FY), Undergraduate (UG), and Postgraduate (PG).
    - Calculate degree classifications based on degree levels with actual grades or "What-If" scenario simulations.
3. Grade Tracker
    - Allow users to set targets for their degree classification.
    - Notify users for grade goals and incomplete module information.
4. Enhanced Features
    - Integrate Academic Calendar and sync deadlines, exams, or result publications.
    - Recommend tailored tips based on performance analytics.
    - Share progress, export reports, and connect with peers or mentors.
5. Potential Add-Ons
    - Customisable themes for accessibility.
    - Gamification and rewards for academic milestones.

MARKING CRITERIA

Marks are awarded based on the following criteria. Within each part, aim to complete the work for each section before moving on to the next. The following banded marking scheme is used:

Exceptional 1st	100/95/92		*2:ii*	58/55/52
Outstanding 1st	88/85/82		*3rd*	48/45/42
1st	78/75/72		*Bare Fail*	38/35/32
2:i	68/65/62		*Fail*	25/20/10/0

If you have completed all the preparatory exercises and attended your classes, the estimated additional time required to PASS this assessment is approximately 40 hours.

To obtain a 3rd mark (40%), you must have:	○ Developed an android mobile app to implement the basic requirements outlined in the problem statement (1 & 2). ○ Developed all UI screens, activities, fragments and layouts to an appropriate standard to implement the requirements 1 & 2 in the problem statement and connected to the database. Your code may contain some syntax or logical errors but there must be substantial evidence that an attempt has been made to complete the app UI, to create the database, and connect it to the application. ○ Presented evidence of app testing through Android Studio's 'Layout Validation' tool for UI design validation on different screens.
To obtain a 2:ii mark (50%), you must have (in addition to the above):	○ Demonstrated successful run of your app in line with all the basic requirements (1 to 3). ○ Provided evidence of correct connection of the database, particularly for the login and sign-up functionalities. ○ Presented evidence of code testing using JUnit tests to review code functionality. ○ Provided evidence of utilising Log messages and Logcat to test code behaviour, identified errors, and implemented necessary fixes.
To obtain a 2:i mark (60%), you must have (in addition to the above):	○ Provided evidence of correct connection of your database for all features necessitating data access. ○ Showed evidence of incorporating advanced Android functionalities, such as notifications and user messages. ○ Presented proof of well-documented code and utilised the ReadMe file to explain the app's design, functionalities and monetisation plan. ○ Demonstrated an attempt to utilise advanced test tools, such as Espresso or UI Automator, in your testing process.
To obtain a 1st mark (70+), you must have (in addition to the above):	○ Demonstrated evidence of attempting to develop all the requirements including 4 & 5. ○ Displayed well-crafted code adhering to Object-Oriented Programming (OOP) principles. Used some Android Dev best practices such as string management using string resources. ○ Offered proof of field validation during the database operations. ○ Presented evidence of using advanced test tools and integration of Firebase for thorough testing. ○ Included documentation in the ReadMe file discussing the challenges encountered during app development, their respective solutions, and valuable lessons learned, aligning them with best practices. ○ Supported your work with referenced research material where relevant, ensuring proper formatting and in-text citations in APA 7th format.

ACADEMIC MISCONDUCT

Academic Misconduct includes all forms of academic dishonesty, whether intentional or accidental, that compromise the integrity of the University's assessment processes. It is essential that you review our Student Academic Misconduct Policy to understand the guidelines and the serious consequences that may arise if they are not followed.

USE OF GENERATIVE ARTIFICIAL INTELLIGENCE IN THIS MODULE

You may use generative AI such as ChatGPT to assist you in the process of undertaking the assessment in the following ways: brainstorming, research, planning, feedback, editing.

All use of generative AI must be explicitly acknowledged, and any artificially generated content (e.g. images) explicitly labelled, with the source of the AI tool referenced using current APA referencing conventions You can find further guidance on the library website on their AI webpage).

In submitting your assignment, you agree to disclose the extent to which you have used generative AI in preparing this work and include evidence of your AI use in your appendices (e.g. dated screen shots of your use of this tool or copy and paste your AI chat into Word).

Failure to disclose your generative AI use may result in a 0 for your assignment and a referral for academic misconduct (see the Student Academic Misconduct Policy under Essential Info in the MyLTU app).

Include one of the following statements on your assignments:

Either:

- *This assignment used generative AI in the following ways for the purposes of completing the assignment (choose 1 to 5 of the following): brainstorming, research, planning, feedback, editing.*

Or:

- *This assignment did not use generative AI for the purposes of completing the assignment.*

HELP AND SUPPORT

- Please use the module handbook and the School of Computer Science Community Teams site as a source of information. Do try and find the answer out yourself before reaching out for help.
- Support will be provided via Microsoft Teams and email during office working hours. You can also ask questions during your timetabled sessions. You may request a one-to-one meeting with a tutor during their published office hours.
- The Student Support team are available seven days a week to support you in all aspects of student life. This could be for support relating to your course, your accommodation or for more general advice such as relationships or your wellbeing. Log in to the LTU app to access support services.
- The full set of university guidelines on assessments, deadlines, and extensions is available on the LTU app, please familiarise yourself with the documentation.