



**Department: Information Technology**

**Advanced Diploma in Information and Communications Technology (ADICTI) & Bachelor of Information and Communications Technology (BINCTI)**

**MODULE / SUBJECT CODE: PBDE40I | PBDV30I**

**Project I – Web-Based Application Project**

**Due Date – Refer to the Learner Study Guide**

**Marks - Refer to the Assessment Rubric**

# General Information and Project Task

Collaborative projects afford students the opportunity to fully engage in their learning by communicating their needs, ideas, and opinions. This not only helps to cultivate competencies in various areas of software and application development, but also prepares them for future employment opportunities and other projects.

## Establishment of the Project Team

This is a group project evaluation, and each group must strive to represent diverse knowledge, skills, and expertise. The following are the criteria that ALL groups must satisfy:

1. **Group Name:** Each group must have a unique name that best represents them.
2. **Group Size:** 10 - 12 members per group.
3. **Diversity & Inclusiveness**
  - 4-6 group members must be from the Diploma in ICT in Applications Development.
  - 1-2 group members must be from the Diploma in ICT in Business Analysis.
  - 3-4 group members must be from the Bachelor of ICT.
4. **Group Leader:** Each group must elect a “group leader”.

**REGISTER A GROUP** through the link below:

<https://docs.google.com/spreadsheets/d/1748zGc9G3bsDapoYzWw5iKlcHOBVnKseCFYTAOWHUqY/edit?usp=sharing>

**Due Date for grouping: 1 March 2022**

**Each group member must:**

- Contribute to overall project objectives.
- Complete individual deliverables.
- Provide expertise.
- Work respectfully with other group members.
- Find solutions to problems and not make excuses.

Any group that does not meet the criteria outlined in this document will be invalidated except in exceptional cases communicated and acknowledged by the lecturer via email before the project begins. Note that a member of one group may not be allowed to migrate to another group. Any unforeseen challenges should be discussed with the lecturer. Failure to adhere to the criteria will result in penalties that will negatively impact all group members.

While this project emphasizes group work, it is the responsibility of each individual student to ensure that they understand the curriculum for this module and the requirements of the project.

## Project Ideas

As a group, you must choose from the following identified challenges/issues that affect the Durban University of Technology (DUT) community and develop a simple yet innovative solution that addresses it. The challenges/issues identified are coded under the following themes:

- **Smart Mobility**

Navigating an unfamiliar location in a foreign environment can be a daunting task, often requiring some form of guidance to reach the intended destination. This challenge is particularly prevalent in diverse environments, such as college and university campuses. You have been assigned the task of creating a solution to assist students, visitors, and staff in locating lecture and office venues within the Ritson, Steve Biko, and ML Sultan campuses.

- **Safety and Maintenance**

Ensuring a safe and functional learning environment for students, staff, and faculty members is crucial, and maintaining a university campus is a significant part of achieving this goal. However, with the vast size of the campus and numerous buildings, it can be challenging to keep track of all areas that require maintenance. To address this challenge, it is essential to encourage students and faculty members to report any maintenance issues they come across promptly. To facilitate this process, you have been assigned the task of helping the Maintenance Unit establish a central solution where individuals can report areas on campus that require maintenance.

- **Education**

For undergraduate and graduate students, seeking teaching assistant (TA) and tutor positions offered by academic departments can prove to be extremely advantageous. These positions offer numerous benefits, such as the development of teaching skills, a deeper understanding of course material, networking opportunities with faculty and peers, and the ability to contribute to the academic community. However, in order to apply for such positions, academic departments need an accessible solution for interested students to provide their relevant details for the purpose of shortlisting and scheduling appointments.

The objective is to explore how a web-based application solution could address the aforementioned challenges or issues. As per the project requirements, the *Crystal (Yellow)* agile methodology development process should be followed, using the *Python programming* language and the *Flask framework* to build the solution. A relational database can be chosen based on the storage needs of the project. It is recommended to leverage previous experience and skills in software/application development to expedite the learning curve. Additional resources will be provided to support the implementation of the solution.

To ensure timely completion, the proposed solution should be within the allocated time. The group leader is responsible for communicating the potential idea to the lecturer for review and approval via email. The feedback on the approvals or declines will be communicated within 24 hours. The potential idea should include the features that will be a part of the solution, the objective of each feature, and the timeline for implementation.

**The deadline for the approval of potential solutions: 2 March 2022.**

**\*Further details on assessment rubric, documentation and presentations will be communicated in due course\***