# SINGAPORE POLYTECHNIC

SCHOOL OF COMPUTING

Diploma in Infocomm Technology (DIT)

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| Module Code | : | ST0507 |
| Module Name | : | APPLICATION DEVELOPMENT STUDIO |
| Acad Year/Semester | : | 2021/2022 Semester 1 |
| Set by | : | Jeremiah Ang |
| Assignment Title | : | CA3 – Freestyle |
| Assignment Type | : | Individual |
| Weighting | : | 20% |
| Deadline | : | Source Code: Week 16 (06 Aug 2021 6pm)  Presentation: Week 17 |
| Deliverables | : | GitHub repository links to source code, Hosted backend URL, APK |
| Mode of Submission | : | Submit via Blackboard |
| Number of Pages | : | Page 1 of 2 |

WARNINGS:

Plagiarism means passing off as one's own the ideas, works, writings, etc., which belong to another person. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turning it in as your own, even if you would have the permission of that person. Plagiarism is a serious offence and disciplinary action will be taken against you. If you are guilty of plagiarism, you may fail all modules in the semester, or even be liable for expulsion.

50% of marks to be deducted for submission of assignment within ONE calendar day after the deadline. No marks shall be awarded for assignments submitted more than one day after the deadline.

CA3 – Freestyle

# Assignment Objectives

1. Integrate mobile application with a backend by building a simple application.

# Assignment Instructions

* You are to build a frontend(Website/Bot/Mobile) application using any programming language/framework/library/SDK you like. (e.g., React, Vue, React Native, Java, etc…)
  1. Bonus 20% if it is a mobile application.
* You are to build a backend that would support the frontend application. The backend should be reading from/writing to a persistent storage (e.g., database, JSON file, etc…)
  1. You can use any language you like for your backend framework (e.g. python, .NET)
* The frontend app should interact with the backend via at least 2 API (e.g., getting data and updating data)
* You are expected to host the backend and produce a working application that interacts with the hosted backend.
  1. Website/Bots: Hosted
  2. Mobile: Android APK
* Some ideas you may choose to consider:
  1. Quiz app (e.g., <https://taha-quiz.netlify.app/>)
  2. Online Multiplayer Tic Tac Toe (Sample: [Reddit](https://www.reddit.com/r/reactjs/comments/hccnc2/my_first_fullstack_project_online_multiplayer/)))
  3. Something not exactly useful, but interesting (Sample: [Tapsify](https://www.tapsify.com/))
  4. [Conway’s Game of Life](https://en.wikipedia.org/wiki/Conway%27s_Game_of_Life) simulator (Sample: <https://audrium.github.io/game-of-life/>)
  5. Equation Solver (Sample: [equation solver](https://jeremiah-ang.github.io/app/src/EquationSolver/index.html))
* Some Fun/Unique/Wow factor that is good to have but not necessary:
  1. Use of 3rd Party OAuth Service (e.g., [GitHub OAuth](https://docs.github.com/en/developers/apps/authorizing-oauth-apps))
  2. Realtime Application (e.g., [Socket.IO](https://socket.io/))
  3. Implementation of some well-known algorithm (e.g., [Sorting algorithms](https://www.geeksforgeeks.org/sorting-algorithms/))
  4. Good use of some well-known data structure (e.g., [Data structures](https://en.wikipedia.org/wiki/Data_structure#:~:text=In%20computer%20science%2C%20a%20data,be%20applied%20to%20the%20data.))
  5. Good use of third-party libraries/packages/solutions (e.g., [AWS Lambda](https://aws.amazon.com/lambda/))
  6. Outstanding UI/UX (e.g., [Behance Worthy](https://www.behance.net/?tracking_source=typeahead_search_direct&search=ui))
  7. Useless but fun (e.g., [useless but fun](https://www.cosmopolitan.com/uk/worklife/campus/a30714/time-wasting-funny-pointless-websites/))
  8. Animations

# Marking Scheme

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| Backend Writes to persistent storage | 10% |
| Backend has at least 2 API | 10% |
| Backend is hosted | 10% |
| Frontend consumes data from Backend | 10% |
| Frontend is hosted/APK | 10% |
| Frontend is Mobile Bonus | 20% |
| Complexity of Application | 10% |
| Fun/Unique/Wow Factor of Application | 10% |
| Presentation | 10% |
| **Total** | **100%** |