**TechTrek 2022 Challenge**

**Statement**

25th March 2022

**Introduction**

As a Bank, one of the areas which generate the most revenue is from giving out loans. The total loans transferred amounted to SGD (Singapore Dollars) 2.14 billion, including net non-performing loans of SGD 212 million.

**Challenge Statement**

As a team, your task is to create a simplified full-stack loan management platform that allows customers to borrow money and pay back their loans if applicable. This ***must be a web application***.

\*For every Frontend task, there will be a matching Backend task as indicated by the numbering. E.g.,

|  |  |
| --- | --- |
| **Basic Requirements (Frontend)** | **Basic Requirements (Backend)** |
| User must be able to login [1] | Server must be able to authenticate a user's identity [1] |

Create customer account -> Login -> 1. Borrow money

2. Pay back loan if applicable

Basic Application Requirements (Frontend):

* You must render a login/sign up page
  + User must be able to login [1]
* You must render a home page
  + User must be able to view their current account balance [2]
  + User must be able to view their current loans [3]
  + User must be able to view their loan history [4]
* Users must be able to:
  + Apply for a new loan [5]
  + Pay back outstanding loans (Full/Partial) [6]

Basic Application Requirements (Backend):

* You must set up a valid authentication API
  + Server must be able to authenticate a user's identity [1]
* You must set up API endpoints with the following functionalities:
  + Return user’s **balance** from the ***Account*** table [2]
  + Return user’s **loan\_amount** from the ***Loan*** table [3, 4]
  + Insert new loan created from frontend into the ***CustomerLoan*** and ***Loan*** tables [5]
  + Update ***Payment*** and ***Loan*** table with amount paid [6]

Basic Application Requirements (Integrate):

* Integration is a crucial requirement for this hackathon. The front end and back end should be ***integrated seamlessly***.

Advanced Requirements (Optional, in any order, but good to have):

* Able to search by loan id
* Able to limit the total amount of total loan a customer can take
* Include JSON Web Tokens in your authentication
* Features that enhance the user journey

Optional Technical Depth (showcase your skill set):

* AWS/GCP to deploy your application to the cloud

**Data provided**

You will be given:

* Data in JSON and SQL format
  + The entries provided are not exhaustive and you can add more to suit the needs of your application

**ERD Diagram**

