## Inspiration

“Yayy my salary will be paid today. Time for shopping. \*Few days later\* Oh I need to pay my rent and the electricity bill. Oh no… where is all my money???”

That short story may be familiar with most students, especially international students, when they start moving out of their family to live independently. They may start the journey with a happiness of new life; however, soon to be, the financial burden of paying bills will welcome them. It is not matter how much they have earned money, but how the money is spent. Like other students, we have also experienced these situations. We believe that most students all know the essential to save and spend wisely our money; but, they just don’t have a tool to do it effectively.

With the application Piggy Bank - a childhood and familiar name with everyone, we want to provide other peer students a tool to manage their money efficiently by not only recording their spending habits but also helping them to create a saving behaviour for their future financial goals.

## What it does

Piggy Bank is an online service that fits into all platforms (web, mobile application) to help users track their spending transaction-by-transaction and create saving plans for their future financial goals.

There are two main functions of Piggy Bank – transaction recorder and finance planner.

When users start logging into the Piggy Bank application, they can either enter their transaction by hand or let Piggy Bank automatically connect to their bank card for automatic transaction records. The application would generate a detailed report on overall spending and incomes that students have in a monthly period. The application will go beyond just a simple recorder by actively pushing notifications to alert individual users when they spend a large amount of money which does not occur frequently. In addition, the application will also push notification when the spending is about to be over the income amount. With this function, we aim to prevent individual from impulsive spending behaviour.

The second main function of Piggy Bank is a finance planner. By letting users implement their financial targets in the future, Piggy Bank will play as a tool to remind and make individual users keep track with their targets. For example, a student can set a target to save up to $4000 as tuition fee by the middle of the year. Piggy Bank will generate a saving plan for the user (e.g., saving $1000 from February to June). With this target, Piggy Bank will do two jobs. Initially, the application will evaluate the potential of the finance target by examining previous income and spending pattern of the user. Later then, the application will keep track with the saving plan and push an alert when it records a possibility that the monthly saving plan would be breached.

## How we built it

Piggy Bank is entirely built with Python and PyQt5. We also used SQL to load transaction data from csv file.

We split the work by having half of our team craft the backend function of the application and one person focusing on designing frontend UI and preparing the pitching. The last person helped out others and cooked the dinners :D

## Challenges we ran into

We initially had trouble in deciding the scope of our project because each team member had different idea in how to develop Piggy Bank. Some functions are really amazing but may be suitable for the future development rather than a first-time prototype.

We faced difficulties in using PyQt5 and how to optimise the widgets in Python as this was our first time to use PyQt5 for frontend UI

Debugging the application took a significant amount of time. Getting the application layout, component logic and ensuring the precision of the function in a short amount of time we had was significantly challenging.

## Accomplishments that we're proud of

Although our team had no experience with either PyQt5 or the hackathon structure. Two out of four members had a main background in data analysing and data science; hence, we are really proud of how we walked through the whole hackathon from forming an idea to finalising the application structure within 24 hours.

## What we learned

We learned a lot about PyQt UI and how to build an application in Python. Plus, the team-working and managing conflicts were crucial as well

## What's next for Money should be funny

The finance planner will be the next step for Piggy Bank. This step may involve the real data from individual spending pattern to fully operate the function’s target