Bill Samurai
Bill Splitting Made Simple

Brought to you by **Tahu Tech**
NUS Fintech Month Hackathon 2023

Executive Summary

The Problem

Bill Splitting process is slow and inconvenient if we do it manually. Existing bill-splitting application is not comprehensive

The Solution

Utilising Machine Learning in the form of OCR to build a one-stop bill-splitting application.

The Opportunity

The app can be extended to a variety of contexts outside of diners, such as supermarket receipts.

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Problem Analysis

Problem

Dinners Dilemma - diners agree to divide the bill evenly before ordering their meals, unfair for the person ordering less expensive meals

Not every restaurant offers that option as it is inconvenient for the waitress.

Painstaking (Identifying each diner's items, sum the amount, calculate the GST and service charges, and keep track of people's payment status).
Slow (The process has to be done repeatedly for each person's order)

Solution

Diners pay only for the items they ordered. Each person gets billed individually.

Choose a person to pay in advance. The rest would then pay back the original payer - **BILL SPLITTING**

How do we utilise Machine Learning to make the bill splitting process FAST, EASY, and EFFORTLESS?

Benchmarking Analysis

Existing App

Possible Improvement

Our Goal

Cannot scan receipt, so users need to type in the items in the receipt one by one - **Painstaking & Slow**

Allow users to take a picture of their receipt - **Practical and Fast**

Improve existing bill-splitting apps by **streamlining all processes of bill-splitting**, ranging from inputting data, cost calculation, and payment transfers, **into one seamless process**.

Not integrated with users bank account / payment system - **Inconvenient & Error Prone**

Link the app to users bank account / payment system - **Convenient & Infallible**

Solution

A comprehensive bill-splitting application that will optimize your bill-splitting process. You only need one app to do everything from calculating to tracking the payment. It is **FAST, PRACTICAL, and EFFORTLESS**

Step 1 Take a picture of the receipt
Step 2 Select the people to split the bill with from contacts
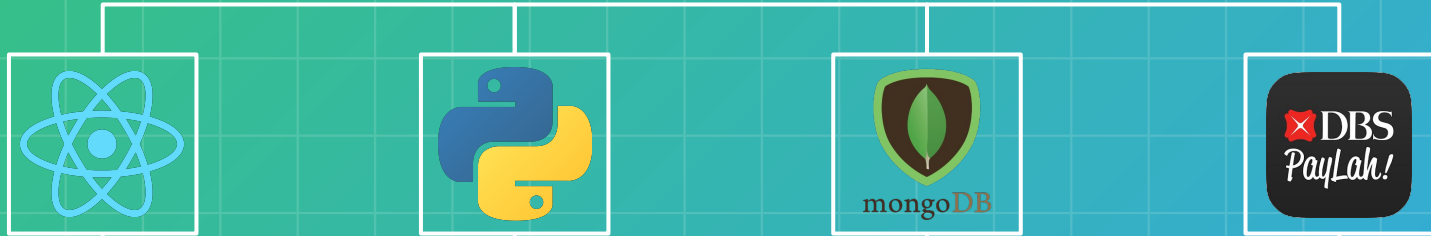**Step 3** Pair people with their respective items
Step 4 Send payment request through paylah
Step 5 Track the people who have paid in the status bar

Machine Learning in the form of optical character recognition (OCR) will be used to scan the receipt, clean the image, do text recognition, and determine the shop's name, the items, the prices, quantities, and any charges.

General Tech Stack

React Native JS

Front End &
Back End

Python

Machine Learning
(Python OpenCV,
pytesseract, Imaging
Library)

MongoDB

Database
management

PayLahl API

Payment method