

# Vision Statement

**Team: Yao and “friends”**

**App Name: Uni-Pay<sup>2</sup>** (Universal University Pay)

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## Background

Learning to be financially responsible is a large part of becoming a modern adult. One of the biggest issues for young adults in college is learning how to manage and control expenses. Realistically, in order to build wealth you must live within your means. As a university student, however, it becomes difficult to live within your means when your own campus expenses are nearly impossible to keep track of. One of the first things all UCSB students learn during freshmen orientation is how to properly pay their dues through BARC (UCSB's online payment portal). BARC manages payments for tuition, rent, health insurance, meal plans, residence hall printing, lab materials, and other *various* fees. What's unfortunate about this system is that it's become a relic of the past. Nearly every menu is unintuitive, and the actual dues can only be paid using credit cards, electronic checks, or international payment. It's impossible to export any of this data to a suitable form as well. In the end, you never know what things on campus get charged to your BARC, making the entire process very troublesome and complicated. Without a proper visualization of how students' money is being spent, it's impossible for them to make sound decisions regarding their financial health.

## Outcome

We want to create a universal student payment system that allows you to easily pay your tuition and rent, credit anything on campus, and track your fees to see exactly where your money is going. Students should be in control of their finances on campus, and we would do this by providing an intuitive web experience and mobile app to boot. Students will be able to use their phone to scan QR codes or NFC enabled checkout systems in order to have speedier checkout times when purchasing on campus, and be able to make payments on their phone or web portal. Additionally, students should be able to track their finances, analyze their spending habits, *be given AI generated financial advice* based on how well they are using their money. We hope that the suggestions provided through the app would encourage students to handle their spending much more effectively.

## Milestones

1. Gain experience with Workday's API's and decide how we're going to manage the mock-university data we are given
2. Make a skeleton web-app that displays and interacts with the mock data
3. Create a mobile app that has the ability to interact with the web-app
4. Basic analytics provided by web/mobile app based on mock data
5. Data visualization + data exporter
6. Budget management functionality
7. Integrated payment, reading NFC tags/QR Codes for purchases
8. Integrate a super sexy feature along the lines of AI/Machine learning

## Process Overview

We will be having daily standups in class on Mondays, over Google hangouts every Tuesday and Wednesday at 6PM, in section on Thursdays, and hangouts on Saturday mornings at 11am.

There will be 4 two week sprints for this portion of the capstone course. The plan is as follows...

**Sprint 1:** Research the technologies that we will be using and learn how to use Workday APIs. Checking how realistic applying NFC to the payment system is (eg. iPhone accepting NFC?) Start the web-app implementation.

**Sprint 2:** Create skeleton web-app that displays mock data. Have a running web-app by the end of this sprint along with unit tests for testing out the various fields within the site, and database hookup. Start mobile app implementation.

**Sprint 3:** Add basic analytics to the web app (spending habits, spending vs other students, etc). Make sure NFC payments are functioning correctly for the mobile app.

**Sprint 4:** Add missing functionality in order to have a mostly functional version of our web-app and mobile app by the end of the quarter.

## Implementation Platforms

**Web App:** Backend: Golang, Frontend: React, Hosted on: AWS

**Mobile App:** Software: Kotlin, Hardware: NFC enabled Android devices

**Agile Development Tools:** Trello

**Git version control platform:** Github

**Communication:** Slack, Google Hangouts