

COSC2196
Introduction to Information Technology
Assignment 1

Sameh Abdelhamid
Student ID: S9967839

Contents

Overview	3
Motivation	3
Description	4
Tools And Technologies	5
Skills Required	5
Outcome	5
References	6

Overview

The concept of the application that I have come up with is a system which integrates with pay pass on a user's mobile phone, and upon buying an item, the user is prompted if they would like to round up the transaction to the next dollar and donate the funds to a number of organisations that have opted in.

The user will select the charity when setting up their account, and if they purchase a coffee for \$3.80, they will get a quick prompt to donate 0.20c to the charity. They can click yes or no. Upon clicking yes, the funds will be sent to the organisation.

The non-profit orgs will be based on helping the deforestation issue that we face in today's global crisis. They will range from teams that re-plant, to companies that are assisting with the Amazon deforestation and palm oil issues.

For more information the URL for the site is located here: <https://s9967839.github.io/index.html>

Motivation

Between 2015 and 2020, the rate of deforestation was estimated at 10 million hectares (FAO, n.d.). This is an alarming rate of deforestation and one that needs to be solved for future generations. Many studies have also linked global warming to the deforestation, as well as numerous other global impacts.

The only way to deal with this is to have a long-term mitigation plan in place.

Pay pass uptake has grown significantly and recent research has shown that cardholders use pay pass card more often (at a rate 52% more than not having a pay pass) (Datamonitor, 2006).

There are many organisations around the world that are buying land, planting trees, and finding ways to employ people in underprivileged areas that rely on logging. These organisations are in desperate need of funding, and this app could generate millions of dollars of funds by using small amounts of donations.

Description

The product that will be built is a smartphone application that will sit inside the user's digital wallet (integrated with Apple Pay or Google Pay).

When a user has activated a credit card for pay pass on this application, they will be prompted to setup "Chump Change Donations". Upon selecting this, a list of organisations which have been vetted to be authentic will be selected.

The user can select any one organisation – these organisations will be non for profits which are hand selected by the team that qualify for deforestation duties. The qualities that we will look for include but are not limited to the following

- Amazon conversationalists (working with areas of the amazon forest to buy land for conservation)
- Rainforest replantation teams
- Sustainable logging organisations, helping the logging industry and the global use for wood by aggressive replanting.

The app will be registered as an Apple pay/Google Pay beneficiary, when a purchase is made using the RFID on the user's phone, the app will calculate the amount to the next dollar value and request the user to opt in or opt out for donation.

Upon opting in, the transaction will be debited using the smartphones pay app and sent to the organisation of choice. The user can opt out of the application at any stage by de-registering from their digital wallet. The user can also decline the rounding up every time if they have had a change of heart. The system relies purely on people's generosity for this global crisis and does not in any way want to deceptively make transactions.

The technical limitations of this require that the Chump Change application is a registered application to be added to Google pay/Apple pay. Organisations will apply and be vetted for their suitability to be part of the Chump Change System. They will need to meet certain criteria to qualify for receiving the funds. Only established organisations with strict requirements to deforestation will be allowed to partake in the system.

This application is limited strictly to smartphones and people who are using pay pass. It will not directly impact or deal with the banks and will act as a standard purchase being made from the user's device as they would any retail transaction. The transactions will not cost the user anything as it will be dealt with as a credit card transaction.

Tools And Technologies

The software, hardware and other equipment needed includes the following

- Native application development tools (Objective C using XCode) for apple, and Android Studio for Android.
- Apple an PC desktops for development
- AWS platform for hosting the application as the application will be cloud hosted
- GIT for version controlling the code
- Project will be managed in Trello using Kanban boards where user stories, testing and progress will be tracked and monitored.
- Pay Pass test bed (obtained from banks to practice and simulate pay pass transactions) for UAT and system testing.

Skills Required

The following skills are required for the development of this project

- Apple and Android developers
- AWS system engineers or experts
- CI/CD pipeline experts
- Project manager to oversee the program
- System testers to ensure the application works as per the user stories/requirements
- Performance testers to validate throughput of the system

Outcome

If the project is successful, the application will be launched publicly, and revenue will be generated. This type of solution is not a fast one and relies on volume and time to be successful. What we aim to achieve is generating millions of dollars globally to the deforestation issue. Over the next few generations, we aim to be one of the largest contributors of funding to solving global deforestation.

The next steps would be to try and find a solution to bring on large multinational organisations to assist in donating with Chump Change. This has not been thought out yet, but there can be other solutions not limited to pay pass that could assist.

One of them may be to team up with suppliers where invoices include a donation component, but this will be a new phase of the application.

References

Datamonitor. (2006). *Mastercard Paypass Performance Insights*. N/A: Mastercard pty ltd.

FAO. (n.d.). *food and agriculture organisation*. Retrieved from food and agriculture organisation:
<https://www.fao.org/state-of-forests/en/>