



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

GROUND FOR GROWTH: EMPOWERING SUSTAINABLE AGRICULTURE THROUGH A COFFEE GROUND EXCHANGE PLATFORM

A Capstone Project

Presented to the Faculty of the College of Computer and Information Sciences

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In Partial Fulfillment of the Requirements for the Degree

Bachelor of Science in Information Technology

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CHAPTER 1 – INTRODUCTION

1.1. PROJECT CONTEXT

Over 2.25 billion cups of coffee are consumed every day worldwide, making coffee consumption a crucial aspect of modern-day living. An estimate of about 250,000 metric tons of coffee grounds ends up in landfills every year. Based on a statistical report, (Philippines: Coffee Consumption 2021 | Statista, 2021) the Philippines in terms of coffee consumption numbers with an approximate of 3.3 million 60-kilogram bags in the years 2020-2021. Considering the vast assessment of waste indulged, used coffee grounds have become a significant contributor to the sizeable amount of trash from this widespread consumption of coffee, which increases the amount of organic waste in landfills and the severity of generating greenhouse gases and damaged soil. Despite that, coffee grounds are potential resources that can be utilized as an agent for an effective method of treating and alleviating waste such as the creation of other products like candles and biofuel and can even be a natural plant fertilizer used for composting. Nescafe, a big corporate brand, was recycling spent coffee grounds to produce energy back in 2008. They further support the claim by stating that by using biomass as a substitute for bunker fuel, we prevent the adverse air emission pollution which is a natural by-product of combustion of fossil fuels (Philippine Star, 2008).

The concept of donating coffee grounds is one creative way to address the issue of coffee waste. With this, coffee grounds are gathered from cafes and coffee shops and donated to local organizations that may utilize them effectively, and at the same time they can sell the donated coffee grounds using the system.

The researchers saw the opportunity to develop a website that will also be in line with the United Nation's Sustainable Development Goals, specifically tackling Responsible Consumption and Production (12) and Life on Land (15). Providing an easier way to redistribute SCGs for people with recycling and reusing intentions helps reduce the ecological footprint of coffee joints while also possibly reducing the contribution of SCGs to the country's total waste. This idea prevents these potential resources from ending up in landfills, which lowers waste production while simultaneously fostering a healthy local economy.



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Having said that, this capstone will serve as an opportunity to create a coffee grounds donation system. The researchers will look at the possible advantages of such a system, including its efficacy on the environment, economy, and society. The researchers intend to look onto various solutions to address the difficulties and obstacles that could occur while making such a system.

In general, this will shed light on the potential of wasted coffee grounds as a useful resource and the advantages of establishing a donation system to encourage sustainability and help local communities.

1.2. TECHNICAL BACKGROUND

1.2.1. Equipment/Hardware

LAPTOP

CATEGORY	Specifications
PROCESSOR	Intel Pentium 4
OPERATING SYSTEM	Windows 7
MEMORY	Minimum 1 GB; Recommended 4 GB or above
HARD DRIVE	Minimum 32 GB; Recommended 64 GB or more

1.2.2. Software

CATEGORY	SPECIFICATIONS
IDE	Visual Studio Code
LANGUAGE	PHP
FRAMEWORK	Laravel
UI/UX	Figma

1.2.3. Peopleware/Manpower

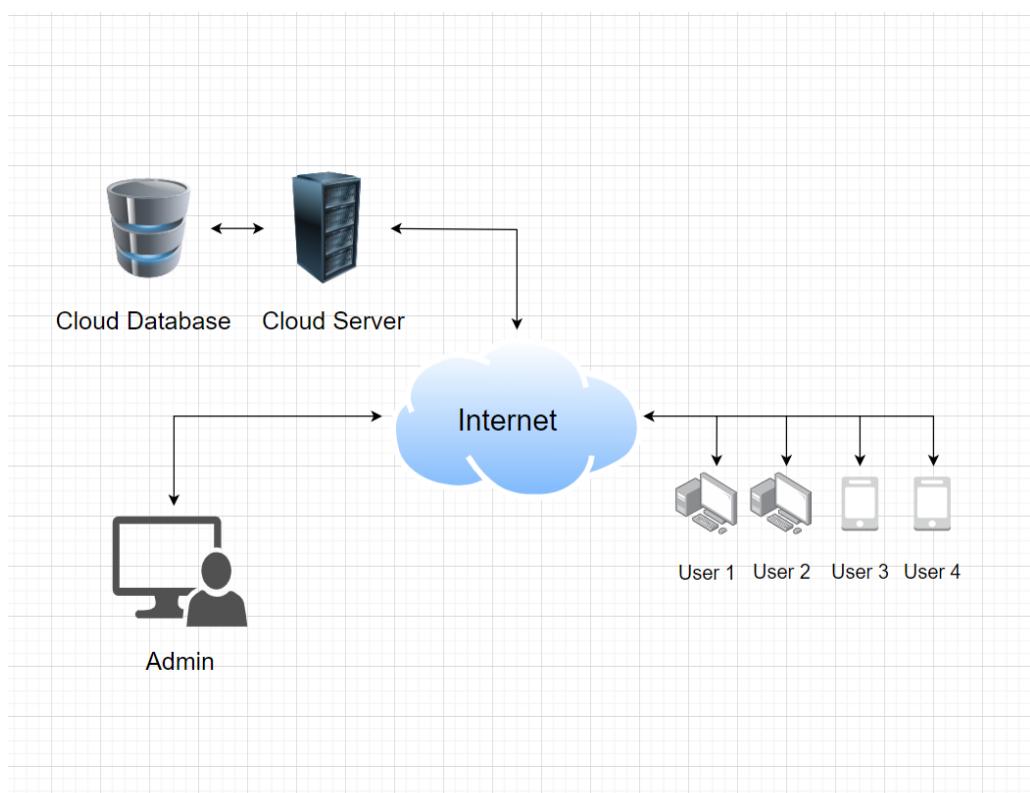
Position	Responsibilities
Café Owner	<ul style="list-style-type: none">The founder of the coffee shopThe one who manages the staff of the coffee business.From a hierarchical standpoint, the café owner also supervises and account the profit of the coffee business
Barista	<ul style="list-style-type: none">The one who makes coffee orders.



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	<ul style="list-style-type: none">• The one who works in the kitchen to make and serve drinks from the menu, such as tea, sandwiches, coffee.• The one who attempts to satisfy customers on their orders.
Café Accountant	<ul style="list-style-type: none">• Records the transactions, such as expenses, profits, and revenues.• The café accountant analyzes and prepare monthly financial statements to keep the coffee business running• Audits and prepare reports to the café owner

1.2.4. Network Infrastructure/Architecture



The Grounds for Growth web-based system, which is run on the Grounds for Growth web-app that utilizes Cloud server over the Internet, is administered by a single administrator who authorizes and responds to all inquiries. The cloud database stores data that is sent from the application. Only the administrator and registered users are permitted access all of the features of Grounds for Growth. Users ask questions about the donations, and the administrator reviews and approves the queries before responding.

1.2.5. Storage, Backup and Recovery Procedure

The developers will be implementing a cloud-based server provided by the webhost that will store all the management system's data. Only the



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administrators will be able to access the cloud server to prevent potential threats to the data.

1.2.6. Security Procedures

Users will be asked to register and login after deciding to use the website, they are free to look at various information on the website as a non-registered user but there will certainly be restrictions. These accounts will be stored on the aforementioned cloud-based server.

1.2.7. Policies and Procedures

Users

Account Registration

- Users need to provide accurate and complete information during the registration process.
- The website is targeted only to café owners to use for donations.

User Responsibility

- The user should be responsible for maintaining confidential and credible data in their accounts.
- In case of changes, users must update account information to avoid misprocessing of purchases or donations

User Account Security

- Any suspicious activities in their accounts must be reported to the admins.
- Users must take note that we will never ask for their password via email or communication channels for no reasonable explanations.

Donations

- Users must ensure the accuracy of the information details before confirmation, if not, the donation process will be terminated.

Processing Payments

- Admins will secure payment methods to protect information of the users.

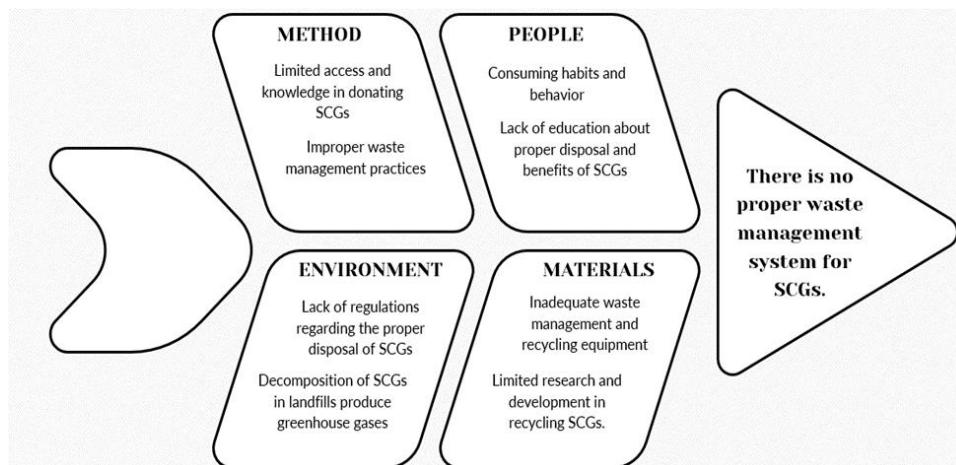


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- The donors of the spent coffee grounds are responsible for the transaction fees.

1.3. PROBLEM ANALYSIS

1.3.1. Fishbone Diagram



The main problem lies in a well-planned waste management system for SCGs. The main problem lies in four categories: People, Materials, Method, and Environment. These four factors are connected to the main problem.

People

Consumer habits such as excessive coffee consumption play a huge role in the accumulation of SCGs. As human behavior plays a vital role in this issue, the lack of education to the public about proper coffee waste disposal and benefits of spent coffee grounds for the environment leads to mismanagement of valuable coffee resources.

Materials

The materials highlight the challenges in terms of infrastructure. Inadequate waste management and recycling equipment can also cause the diminishing of efficient waste disposal for SCGs. In addition, there are limited studies and development for innovating solutions in recycling SCGs.

Method

Limited access and knowledge in donating SCGs and lack of knowledge about certain solutions in managing SCGs is lacking effort. Furthermore, improper waste management practices also worsen the problem, leading to unnecessary disposal to landfills of SCGs.



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Environment

The environmental aspect firstly focuses on the lack of regulations that govern the disposal of SCGs, meaning that they are often disposed improperly. Furthermore, the decomposition of SCGs in landfills produces harmful greenhouse gases, which leads to the degradation of the environment.

1.3.2. Problem and Solution Statement

SCGs pose a significant challenge in environmental sustainability. Furthermore, the lack of efficient exchange platform for used coffee grounds creates a gap between the benefits of environmental sustainability and the waste from coffee consumption. Existing methods for SCGs do not fully address its potential for valuable fertilizing resources. Moreover, the absence of an existing platform for SCG producers inhibits the potential benefits in the environment.

In addition, creating an online exchange platform for SCGs can foster environmental preservation. The platform must address issues that relate to the supplier and the recipients, promote user trust, ensure secure transactions, and provide educational resources to reach its target users the potential of SCGs in the environment.

1.3.3. Problem – Requirements Matrix

The problem lies as there is no proper waste management system for spent coffee grounds, contributing to landfill waste



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Problems	Solutions
1. The lack of community-driven actions when it comes to proper disposal and management of spent coffee grounds.	Development of a donation-focused system where businesses and individuals with SCGs can distribute these SCGs to people who want to use them for recycling purposes.
2. Deciding on a PHP framework to implement that is both efficient and beginner friendly.	The researchers chose Laravel as their framework because after browsing through numerous paperwork, Laravel was seen as the most prominent framework for beginner web developers.
3. Inefficient Donation Tracking	The system will use a Database for storing and organizing donation records. It will also link the User profiles to donation history.
4. Limited access and knowledge in SCGs	The researchers will develop an intuitive platform that will address and educate users about the benefits of SCGs and can address donations. The researchers intend on developing a website that can provide information regarding SCGs.
5. Inadequate waste management equipment	The researchers will develop a website that will specialize in coffee shops donating coffee grounds. The donated coffee ground will be recycled by the researchers to sell on the e-commerce platform of Grounds for Growth in order to facilitate and process the SCGs properly.



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1.4. PURPOSE AND DESCRIPTION

The main objective of this capstone project is to provide an effective platform for managing the donation of spent coffee grounds, providing a service that exchanges coffee grounds as a new product instead of waste, which will align in promoting sustainability, community fostering engagement, and using spent coffee grounds as a valuable resource for compost in agriculture.

1.5. SPECIFIC OBJECTIVES

1. To design an intuitive user experience interface for both donation and e-commerce functionality.
2. To integrate effective data management techniques in handling user information and transactional data.
3. To develop a system that will provide its users coffee ground listing and searching functionalities, which will allow users to list their coffee grounds for donation, which will include details such as quantity, location, and information.
4. To promote and contribute to the exploration of innovative SCG recycling strategies and applications in order to increase overall sustainability.
5. To provide its users with information on how to properly manage these coffee grounds they plan on collecting as well as to educate the users about the reusability of coffee grounds.

1.6. SCOPE AND LIMITATIONS

The online application will give charitable groups a platform to sign up, log in, and display their events on the internet. The app will allow donors to sign up for and donate to their chosen charity events that are showcased on the charity website. People who are less fortunate can register and seek charitable groups for their requirements. Administrators may manage and verify whether organizations and their events are legitimate or not. The online application will benefit society in an unprofitable way. The online application will just provide a platform for the nonprofit groups to register for and advertise their events. It won't be responsible for any



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transactions between donors and nonprofit organizations. When requesting essentials from charitable organizations, those in need must present the appropriate documentation. However, the online application cannot guarantee that the charitable organizations will meet their needs. The administrator of the online application will complete the validation procedure for the charitable organizations. The legitimacy of the groups, however, cannot be guaranteed by the online application. Any legal disputes between charitable organizations and donors or those in need are not the responsibility of the website application.

1.7. SIGNIFICANCE OF THE STUDY

Giving to charity has always been important to our society since it assists the less fortunate. But over time, there have been conflicts and concerns with trust and transparency, which have led to a decrease in support from donors. These challenges have highlighted the necessity for developing gift management systems that resolve the problems faced by contributors generally. In our nation, there is an urgent need for a trustworthy contribution management system that tackles the issues faced by both backers and inheritors. By increasing the accessibility and openness of charitable contributions, we want to improve society by assisting those in need. With the help of our technology, we want to regain donors' confidence and develop a more effective and successful charitable giving strategy.

1.8. DEFINITION OF TERMS

Spent coffee grounds (SCG): The residue obtained during the brewing process of coffee. It is typically a wet, dark brown material that is rich in organic matter.

Donation system: A system that allows individuals or organizations to donate goods or services to others in need. In the case of spent coffee grounds, a donation system would allow individuals or businesses to donate their used coffee grounds to a recycling or composting facility.



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PHP: A popular general-purpose scripting language that is especially suited to web development. Fast, flexible and pragmatic,

Laravel: Laravel is an easy-to-use web framework that will help you create extensible PHP-based websites and web applications at scale. Before creating a web app or website, you need to make a foundational decision as to what technology you are going to use.

Upcycling: The process of converting waste materials into new products of higher quality or value. SCGs can be upcycled into a variety of products, such as compost, fertilizer, and biogas.



CHAPTER 2 – REVIEW OF RELATED LITERATURE/SYSTEMS

ALTERNATIVE USES FOR SPENT COFFEE GROUNDS (SCGs)

Gardening uses for used coffee grounds don't stop with compost. Many individuals decide to utilize coffee grinds as fertilizer by dumping them directly into the ground. Coffee grinds will not instantly contribute nitrogen to your soil, but they will add nitrogen to your compost. The advantage of utilizing coffee grounds as fertilizer is that it increases the amount of organic material in the soil, which enhances aeration, drainage, and water retention. The spent coffee grounds will also encourage the growth of microorganisms that are good for plant growth and attract earthworms. (Rhoades, 2022).

Uses for used coffee grounds (SCG) include biotechnological (bioethanol, volatile aromatic compounds, carotenoids, fungi, and enzymes), energy-related (combustion, pyrolysis, torrefaction, gasification, hydrothermal carbonization), and environmental (composting) applications. SCGs are simple to break down by microbes and release CO₂ into the atmosphere due to their high quantity of transformable chemicals. However, a C retention of more than 85% is possible when SCG is added directly to soil. This SCG application for the environment with relation to climate change seems promising (Perez-Burillo et al., 2022).

According to the study of Saberian et. Al (2021), SCGs could be used as aggregates in building materials for a variety of civil engineering projects. Also, Salazar-Loper et. Al (2019) stated that SCG is the source of chemicals known as nutraceuticals, including phenolic compounds, melanoidins, and antioxidant dietary fiber, which have been linked to positive impacts on human health, particularly gastrointestinal and cardiovascular illnesses, weight loss, and cancer prevention.

To develop a systematically system that sorts, classifies and guides users towards SCGs content and compounds according to their purpose as this can be sold and exchanged to a wide variety of people and opportunists especially to those pursuing a study that also caters the use of spent coffee grounds rather than ending up in landfills. According to a 2019 review (McNutt and He, 2019) spent SCGs can be of direct use, a holistic process towards zero waste approach without much procedure mainly for compositional reuse or for the latter, can be used for biorefinery.



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With this concept, users can identify their interests and be guided sequentially by the system about the procedure of both its respective classifications.

ONLINE DONATION PLATFORM

Based on the study of Asyraf, J.A and Luckayardi S. (2019), technological developments provide convenience for the community, especially in business. People are more comfortable making payments online and do not need to leave home, only using cell phones and the internet can all be done quickly and efficiently. Through this site, people have the convenience of donating, not worrying about transfer payments and the public can monitor the distribution of donations they have given.

Alzahrani et.al (2020) presented a study entitled “E-Sharing: Developing a Web Based Online Donation System” there must be a platform that users must be able to donate quickly with only one click, hence there must be some quick, easy, intuitive, and secure means to do such online donations. The Unified Modelling Language (UML), SQL Server to build the database, and the ASP.NET and Visual Basic programming languages were used to design and develop the proposed work.

The paper “Reduction of Food Waste Through Donation Using Online Food Management System for Orphanage” by Rajvor et.al (2021) describes that wastage of food is increasing day by day. They proposed to develop a web-based platform “Surplus Food for Orphanage” that connects food providers and donors. By reducing food waste, the system will encourage more people to donate food to orphanages and make it easier for them to do so. PHP, HTML, and CSS are the programming languages that are used to create the system. They use MySQL for Database and XAMP for web server. This website will be beneficial for diminishing the wastage of food in a country.

Based on the study of Azyraf and Luckyardi (2019), the community today benefits from technological advancements, particularly in business. Online transactions are more comfortable for customers, and they can be completed swiftly and effectively without requiring them to leave their homes. Through the website, anyone may donate easily without worrying about money transfers, and the public can keep track of how their funds are being used.



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According to Shrum (2022), statistics shows that 54% of contributors globally prefer to make donations online, and this number is rising yearly. With an aggregate gain of more than 32% over the previous three years, it rose by 21% in 2020. Thus, donations are shifting online. Since your procedure is automated through online system, you have quick access to your data. To get a comprehensive view of your fundraising activities, you may run reports and track your incoming donations in real-time. Getting rid of manual entry also cuts down on human mistakes.

According to Keela (2021), nonprofits all over the world are seeing the value of providing online giving alternatives to their supporters as the world becomes more digital. They can profit from using the online donation system to boost donor involvement. Online donations provide quicker and more flexible transactions. Additionally, it offers a safer platform to safeguard their data and donations.

Innovative techniques are helping donation sites that use a basic mobile payment system get noticed. In Korea, online donations increased quickly, from 3.0% of all personal donations in 2013 to 23.2% in 2019. The online donation method can be used in one of the following ways: direct donations can be made through a platform or an online bank from a prior donation using account transfers; participatory methods based on blogs or social media; or funding methods such as a long walk or a crowdfund. Notably, non-profit organizations are experimenting with a new contribution technique utilizing blockchain that is novel in terms of management efficiency and ethical enhancement. Non-profit organizations that manage donations, including donation management or fund management transparency (Kim, Kim, 2021).

Donors can contribute money to organizations that are in need using online contribution platforms like DonorsChoose, GlobalGiving, or CrowdFunder. In a typical situation, contributors provide financial support to assist collect the desired amount within a predetermined timeframe after a fundraiser file a request outlining her need. Although the purpose of these platforms is to balance out social imbalances, skewed contribution tendencies may make the allocation of resources to the needy even more unjust. Prior studies have examined how biased information, models, or human behavior affect inequity in various socio-technical systems, but they have mainly



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ignored the choice architecture that governs how funding decisions are made (Chakraborty, Mota, Biega, et al., 2019).

For many years, there has been an unfriendly climate for the philanthropic sector. The rising level of rivalry among organizations, reluctance to give owing to strong competition, and the current health crisis, which has taken a lot of donations away from other causes, are all elements that encourage charities to differentiate themselves and maximize their tactics. Charities may use their websites to engage with donors and generate more money in this way. The internet gives you the chance to make a global donation request, grabbing the interest and money of many people in the process. As a result, the capacity of organizations to spur the act of giving online is a major problem and has transitioned from being a differentiator to becoming a key determinant in their success and sustainability (Bataoui, Boch, 2023).

The significance of the credibility of the three primary online contribution components—campaigns, websites, and donation organizations—through a credibility transfer mechanism has not been addressed in prior studies on online donations. Using the legitimacy of campaigns, websites, and organizations as a starting point, this model can subsequently identify the elements that affect a person's motivation to contribute online. The Elaboration Likelihood Model (ELM) hypothesis, which describes the process of someone expanding a message through a core route or a peripheral route, is then connected to each of these elements (Purwandari, Khairiyah, Purwaningsih, 2022).

As the Internet continues to transform our lives, contribution procedures are also being updated to reflect the rapidly changing nature of technology, rendering outdated more traditional forms of fundraising. For instance, internet technologies are used by event planners to raise money while also promoting exposure and recruiting volunteers. Crowdfunding, which has grown quickly in recent years, has arisen as a new type of micro-financing on the Internet. Popular crowdfunding platforms like Indiegogo and Kickstarter focus mostly on equity- or reward-based fundraising initiatives. (Zhang, Tan, Sun, et al., 2020).



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SOFTWARE DEVELOPMENT

According to a journal done by Solanki, et al. (2017), Laravel is the most advantageous among the frameworks available for use in PHP in website development. Laravel was also voted as the easiest to use framework overall and that is why the researchers deem it necessary to implement Laravel as their starting framework for PHP website development.

The integration of the Laravel framework for updating old websites was proved to be significant by an article done by Soegoto (2018). Soegoto (2018) stated that the four factors considered for the Brand Image of the website when updating using Laravel were Reputation, Recognition, Affinity, and Brand Loyalty where the implementation of the framework impacted the influence of each factor significantly and putting into practice the advantages of Laravel as an up-to-date framework in web development.

Laravel was also proved useful by a study conducted by Wicaksono and Pakereng (2020), where they made a library information system implementing Laravel as the framework. Wicaksono and Pakereng (2020) stated that, with the use of Laravel, modifications for user authentication functions were easier to create and that database structure was easily created with the built-in function of Laravel, migration, without having to interact directly with the database.

CHAPTER 3 – METHODOLOGY

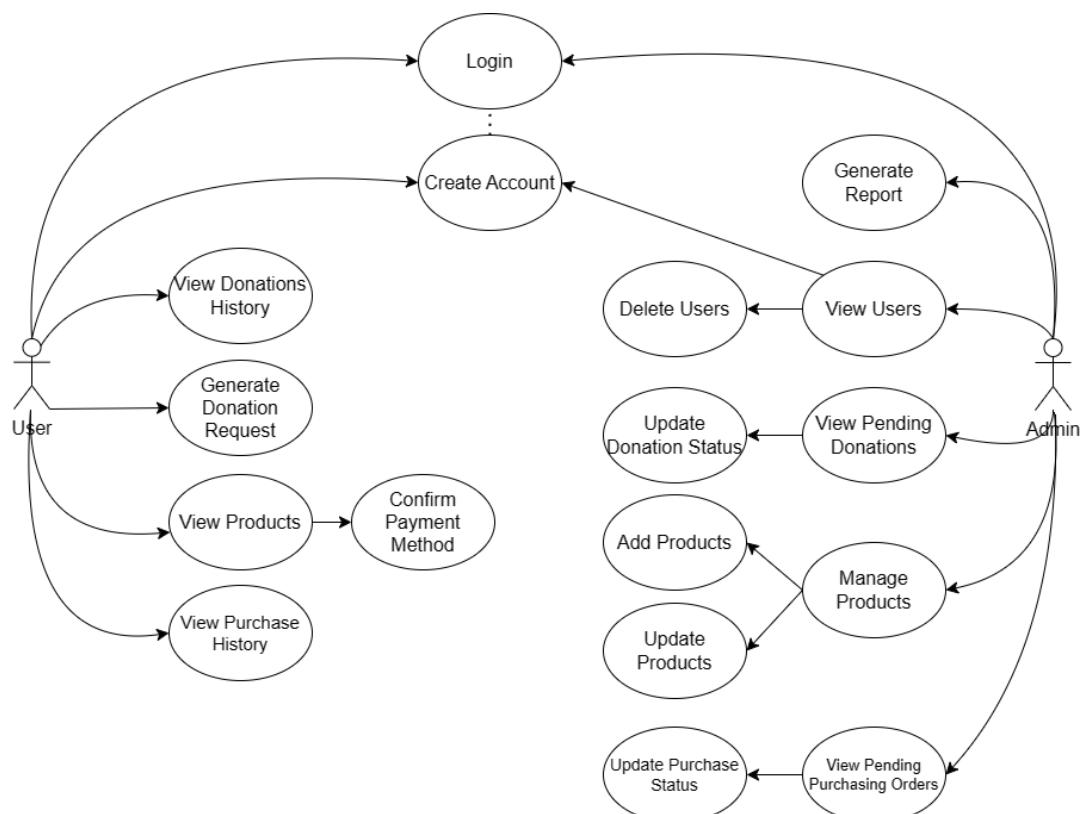
3.1. REQUIREMENTS ANALYSIS

3.1.1. Requirements – Features Matrix

Requirements \ Features	Content Management System	Donation System	Featured Product Page	Product Order System	Registration of Accounts	Order / delivery status	Admin authority controls
The administrators must be able to revise or edit content of the website	✓						✓
The website must be able to hold multiple administrators that can manage the website.							✓
Users that currently own a coffee business are only allowed to create an account.		✓			✓		
The website should be able to allow administrators to receive the amount of donations they receive on the website		✓		✓		✓	
The website should incorporate a feature where users can track the process of their donations or orders.		✓		✓		✓	
The website should be able to also control and read the orders they receive from the featured product page				✓		✓	
The website should allow users to order the featured products on the website.	✓		✓				✓

3.1.2. Use Case Diagram

- Overall Use-Case Diagram



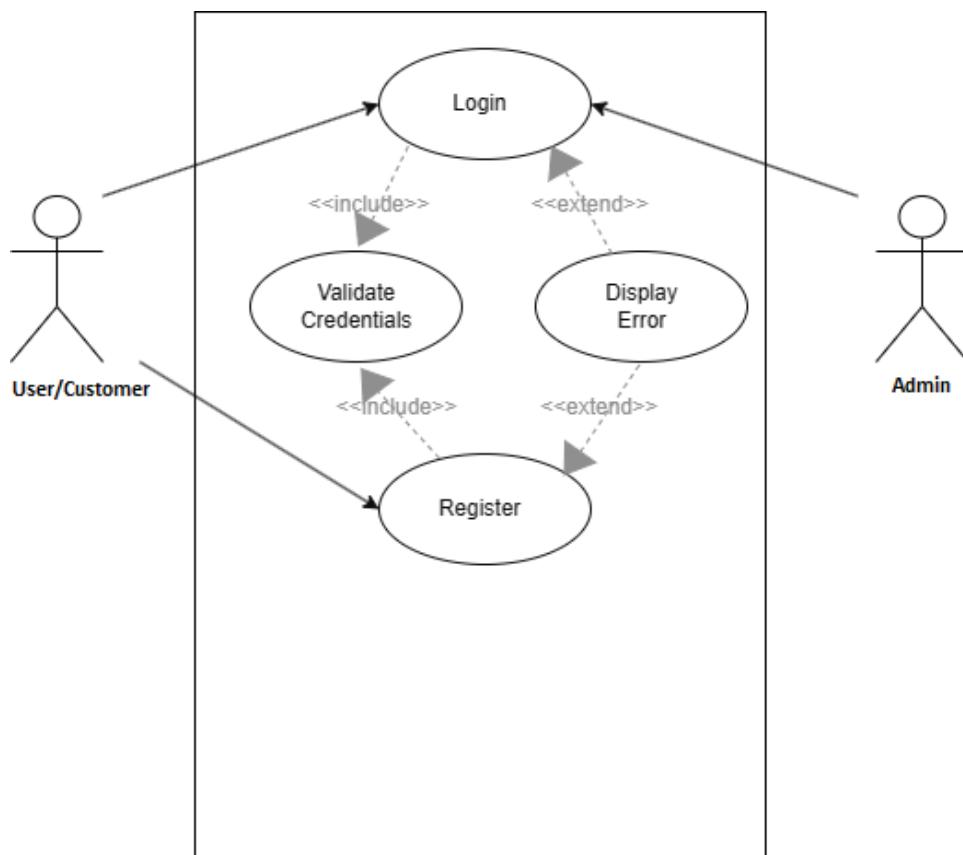
As shown in the figure above, both the admin and the regular user can login through the system and register an account, but the admin is allowed to



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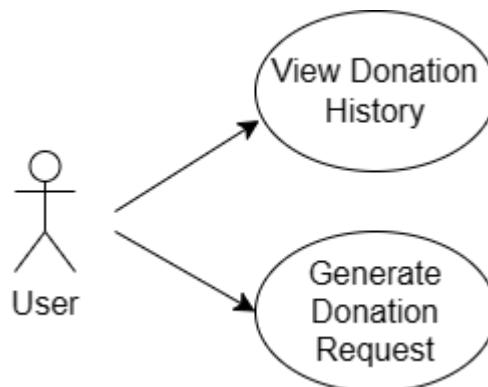
delete users. The admin can generate an overall report of the website's details. The admin can also view pending donations and update their statuses, manage products by adding, updating, or deleting products, and view pending purchasing orders and updating their status.

- Login Use-Case Diagram



A partition of the previous use-case diagram is the Login feature, the Login feature involves the register feature and will include the validation of credentials. Incorrect credentials will result in displaying an error message for the user. Some features within the website will not be accessible and will be locked until the user logs in with their account.

- User - Donation Use-Case Diagram

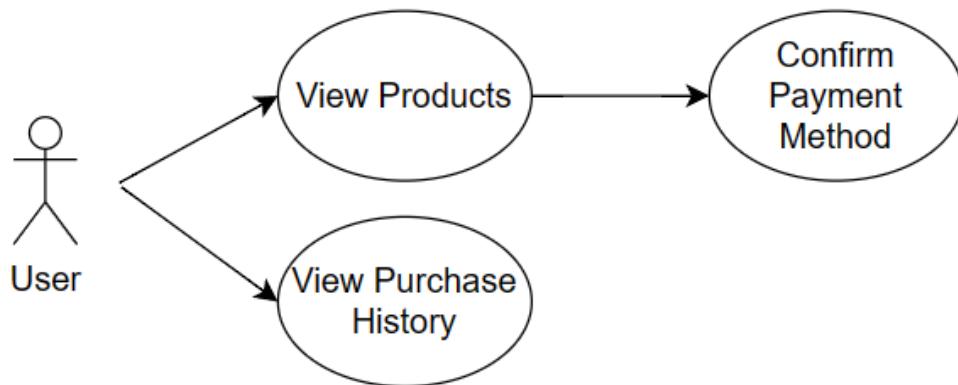




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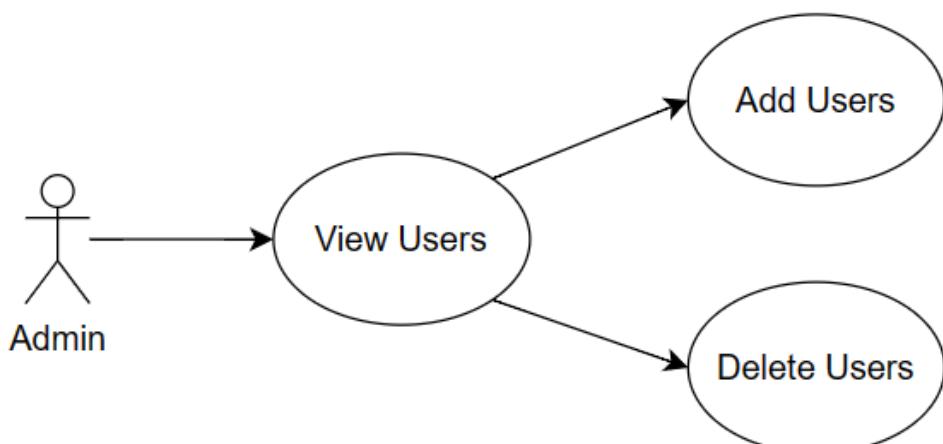
The figure above displays how the regular user can view donation history and also generate donation requests. The website will automatically fill up some parts of the information required but will still ask for details regarding the item for donation itself, the method of donation whether pickup or delivery, and the date and location of when and where the donation will happen.

- User - Purchase Use-Case Diagram



The diagram above shows a simple presentation of how users can purchase products on the website. Users can view products available to them and add items to their carts, they can then view their carts and either remove items from it or proceed to purchasing to generate a purchase order. Once purchase orders are set, users can check on their purchase history for updates about their purchases.

- Admin - Manage Users Use-Case Diagram

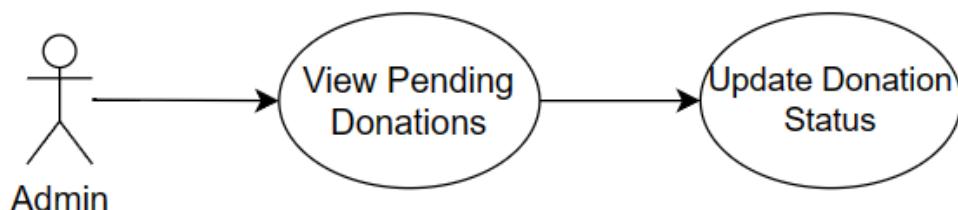




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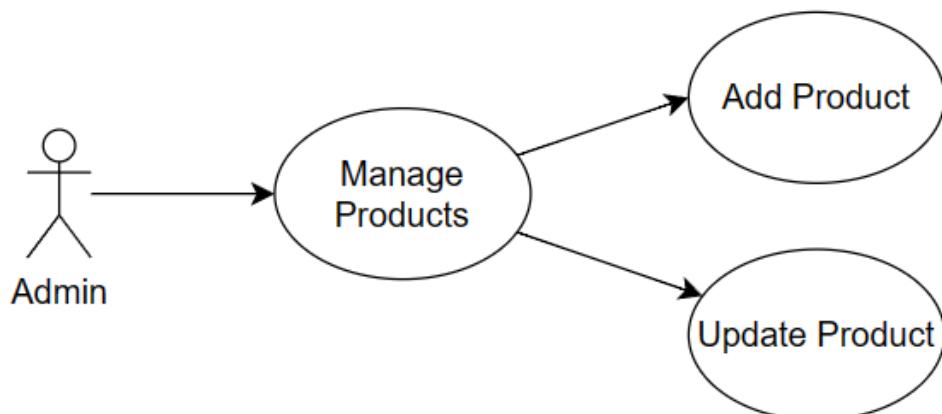
Admins can directly add users and delete users in the view users part of the admin user-interface. The details of the users registered only include their name, email address, and addresses.

- Admin - Manage Pending Donations Use-Case Diagram



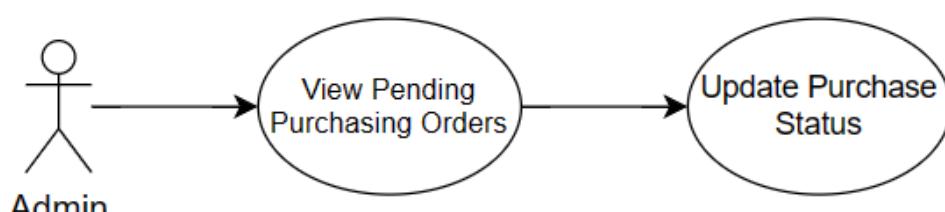
Once donation orders are requested by users, admins can update these orders by either approving them or not. Once an order is complete, the admin will change the status to completed.

- Admin - Manage Products Use-Case Diagram



The admin can register products on the website by providing necessary information about the item. The admin must provide the name, category, description, price, quantity available, and the preview image of the product to successfully register an item. The admin can also update the details of the product and also delete them.

- Admin - Manage Pending Purchases Use-Case Diagram





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Admins can view pending purchasing orders of users and update them according to the mode of delivery, from “processing” to “to be received” to “completed”, this also includes “cancelled”.



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3.1.3. Use Case Report

- Use Case Report – Login

Use Case Name	Login	
Purpose	To authenticate if the user is registered in the system as a customer or as an admin	
Actors	Admin, Café Owners, Customers	
Triggers	The user accesses other features that require an account to progress.	
Preconditions	The user must be registered and not logged in.	
Post-conditions	The user has logged in to the website.	
Basic Flow	Actor	System
	1. Press the login button 2. Input email address and password 3. Click "Login" button	1.1. Display login page 3.1. Validate inputted email and password
Alternative Flow	1a. If the user is logged in, display profile button.	
Include Use-Case	Validate Credentials	
Extend Use-Case	Display Error	
Priority	High	
Frequency	Every time a user wants to use a feature in the website	

- Use Case Report – Register

Use Case Name	Register	
Purpose	To add an account to the system.	
Actors	Café Owners, Customers	
Triggers	The user does not have an account and wishes to create one.	
Preconditions	The user must not have an account.	
Post-conditions	The user has registered an account.	
Basic Flow	Actor	System
	1. Press the Register here button 2. Input necessary information 3. Click Register button	1.1. Display Register page 3.1. Validate information whether everything fits their appropriate criteria. 3.2. Successfully register the account in the system.
Alternative Flow	1a. If the user already owns an account, proceed to login.	
Include Use-Case	Validate Credentials	
Extend Use-Case	Display Error	
Priority	High	



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Frequency	Every time a user wants to register an account on the website.	
<ul style="list-style-type: none">• Use Case Report – User: Donation		
Use Case Name	Donation	
Purpose	To navigate the users to the donation page to make a donation order for the admin.	
Actors	Café Owners, Customers	
Triggers	The user wishes to donate SCGs through the use of the website.	
Preconditions	The user must be logged in on the website.	
Post-conditions	The user has successfully made a donation.	
Basic Flow	Actor	System
	1. Press the Make Donation button 2. Input required information 3. Select mode of donation 4. Input additional information 5. Click “Confirm” button	1.1. Display Donation page 3.1. Display which additional information is required regarding which type of mode of donation is selected. 5.1. Verify if the inputted information is complete and fits the data required. 5.2. Add request to pending donation requests.
Alternative Flow	1a. If the user wishes to purchase, press Shop button.	
Include Use-Case	Validate Donation Data	
Extend Use-Case	Display Error	
Priority	High	
Frequency	Whenever a registered or non-registered user wishes to donate SCGs through the use of the system.	

- Use Case Report – User: Purchase

Use Case Name	Purchase	
Purpose	To navigate the users to the shop page to make a purchase order for the admin.	
Actors	Customers	
Triggers	The user wishes to purchase products provided by the website.	
Preconditions	The user must be logged in on the website.	
Post-conditions	The user has successfully made a purchase order.	
Basic Flow	Actor	System
	1. Press the Shop button 2. Click Add to Cart button for desired items 3. Click Cart button 4. A) Click Desired method of Payment. 5. Upload Proof of Payment	1.1. Display Shop page 2.1. Add item to Cart of the user. 3.1. Display Cart page 3.2. Display list of items inside the cart. 4.1. Add request to pending purchasing orders.



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Alternative Flow	1a. If the user wishes to donate, press Make Donation button.
Include Use-Case	Validate Donation Data
Extend Use-Case	Display Error
Priority	High
Frequency	Whenever a registered or non-registered user wishes to purchase an item through the use of the system.

- Use Case Report – Admin: Manage Users

Use Case Name	Manage Users	
Purpose	To manage registered users in the system by the admin.	
Actors	Admin	
Triggers	The admin wishes to manage users in the system.	
Preconditions	The user must be an admin.	
Post-conditions	The user has successfully made changes to a user.	
Basic Flow	Actor	System
	1. Press the Users button. 2. Select Manage Users. 3. Click Delete button on a user. 4. Click "Confirm" button	2.1. Display Users list 3.1. Display confirmation message. 4.1. Delete the data of the user.
Alternative Flow	2a. If the user wishes to add an account, press Add User button. 2b. Display window containing Register page.	
Include Use-Case	Validate Donation Data	
Extend Use-Case	Display Error	
Priority	High	
Frequency	Whenever the admin wishes to manage users in the system.	

- Use Case Report – Admin: Manage Pending Donations

Use Case Name	Manage Pending Donations	
Purpose	To manage pending donations made by regular users.	
Actors	Admin	
Triggers	The admin wishes to manage pending donations in the system.	
Preconditions	The user must be an admin.	
Post-conditions	The user has successfully updated donation requests.	
Basic Flow	Actor	System
	1. Press the Manage Donations button. 2. Click Update button on an order. 3. Set status of the order. 4. Click Update button.	1.1. Display Pending orders list 2.1. Display donation order details. 3.1. Display drop-down list of pending, approved, disapproved, and completed. 4.1. Move order to appropriate list depending on the status selected.



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Alternative Flow	2a. If the user wishes to view approved donations, click Approved tab. 2b. If the user wishes to view disapproved donations, click Disapproved tab. 2c. If the user wishes to view completed donations, click Completed tab. 4a. If the user does not wish to continue updating the order, click Close button.
Include Use-Case	Validate Donation Data
Extend Use-Case	Display Error
Priority	High
Frequency	Whenever the admin wishes to manage orders in the website.

- Use Case Report – Admin: Manage Products

Use Case Name	Manage Products	
Purpose	To manage products in the system.	
Actors	Admin	
Triggers	The admin wishes to manage products registered in the system.	
Preconditions	The user must be an admin.	
Post-conditions	The user has successfully updated donation requests.	
Basic Flow	Actor	System
	1. Press the Products button. 2. Click Add Products. 3. Provide information required. 4. Click Details Tab. 5. Click Add Product button.	2.1. Display Add Product page 4.1. Display Details Tab. 5.1. Check if all required information is provided and fits the appropriate criteria. 5.2. Add product to the products list.
Alternative Flow	2a. If the user wishes to manage existing products, click Manage Products. 2a.1. Select a product to edit or delete.	
Include Use-Case	Validate Product Data	
Extend Use-Case	Display Error	
Priority	High	
Frequency	Whenever the admin wishes to manage orders in the website.	

- Use Case Report – Admin: Manage Pending Purchases

Use Case Name	Manage Pending Purchases	
Purpose	To manage pending purchase orders made by regular users.	
Actors	Admin	
Triggers	The admin wishes to manage pending orders in the system.	
Preconditions	The user must be an admin.	
Post-conditions	The user has successfully updated purchase orders.	
Basic Flow	Actor	System
	1. Press the Manage	1.1. Display Pending orders list



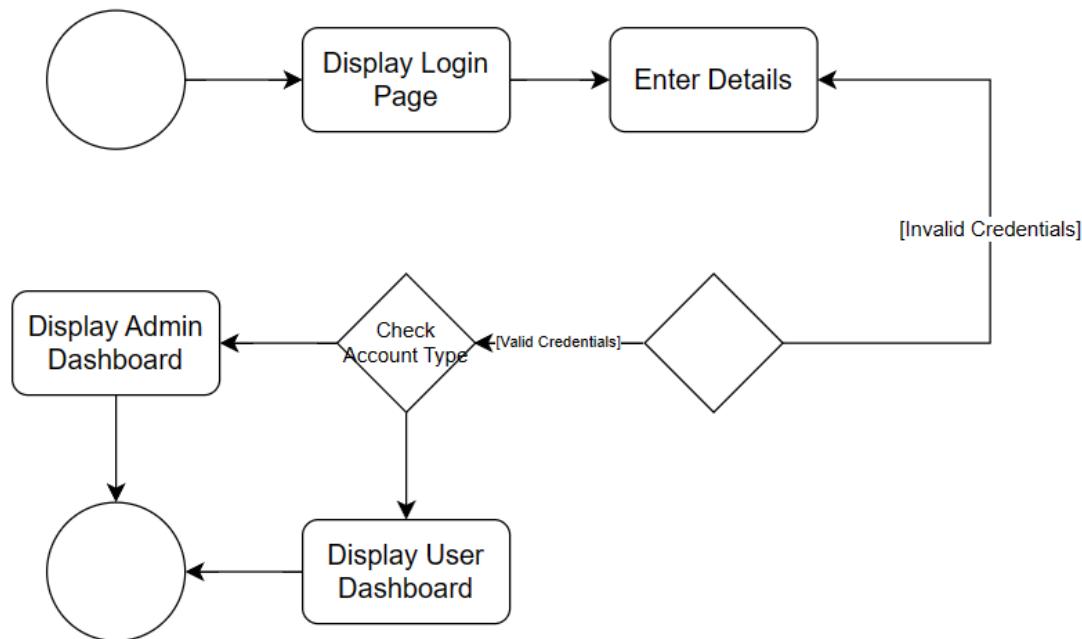
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES

	<p>Orders button.</p> <p>2. Click Update button on an order.</p> <p>3. Set status of the order.</p> <p>4. Click Update Order Status button.</p>	<p>2.1. Display Update Product window.</p> <p>3.1. Display drop-down list of processing, to receive, completed, and cancelled.</p> <p>4.1. Change the order status of the order depending on the selected status.</p>
Include Use-Case	Validate Donation Data	
Extend Use-Case	Display Error	
Priority	High	
Frequency	Whenever the admin wishes to manage orders in the website.	

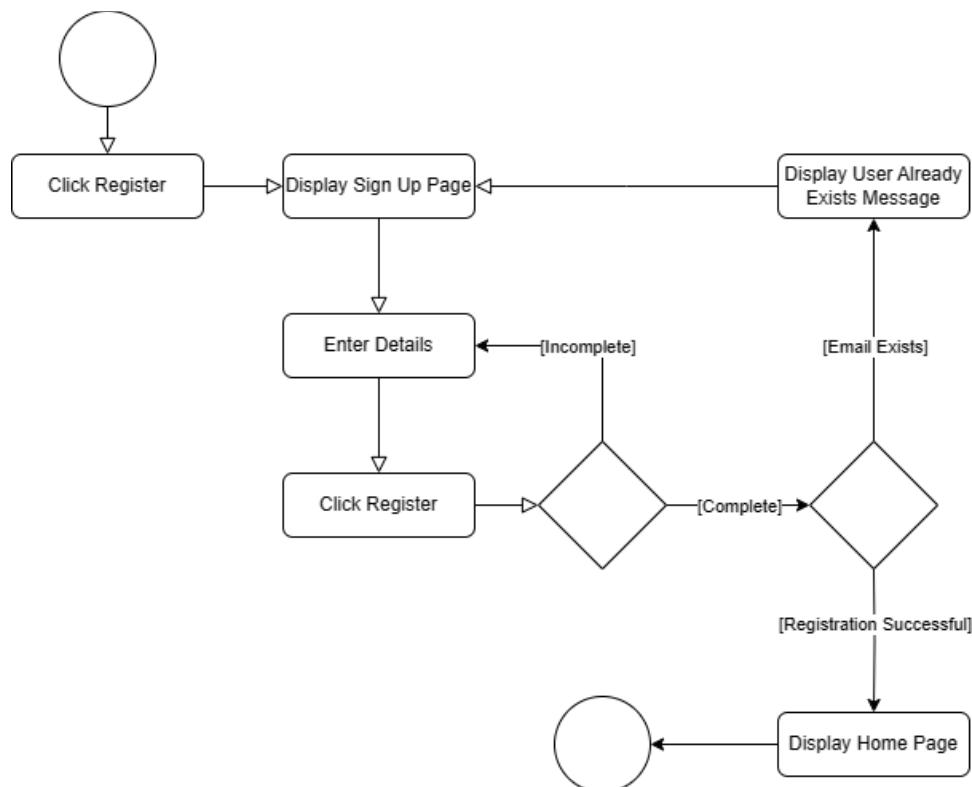
3.2. DESIGN SPECIFICATIONS

3.2.1. Activity Diagram

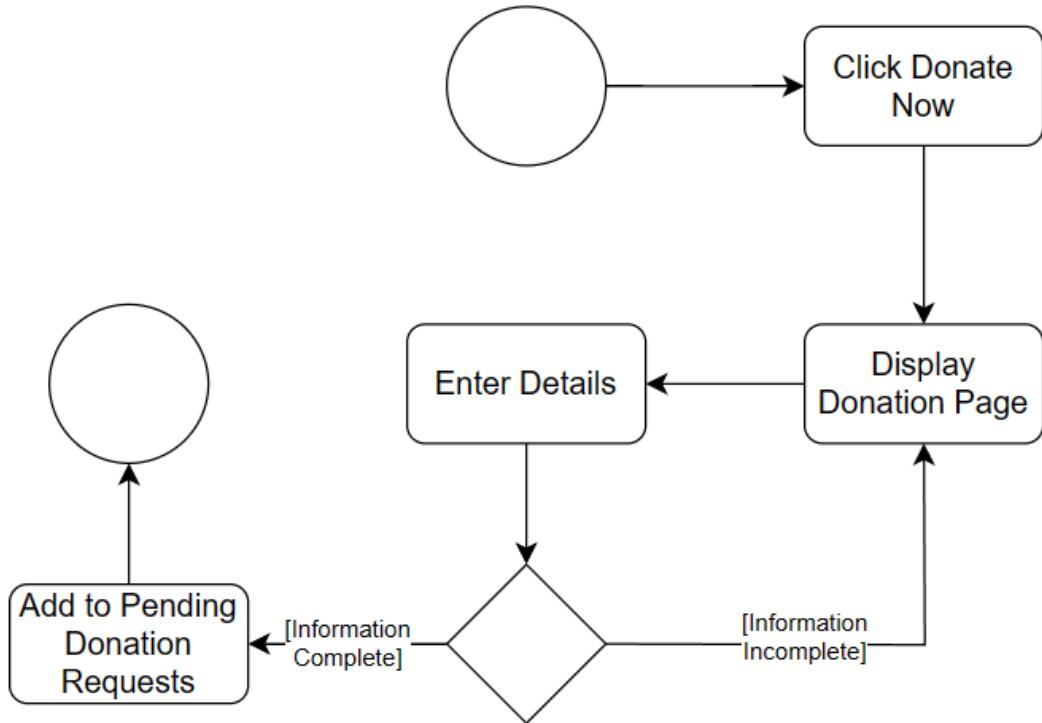
- Activity Diagram - Login



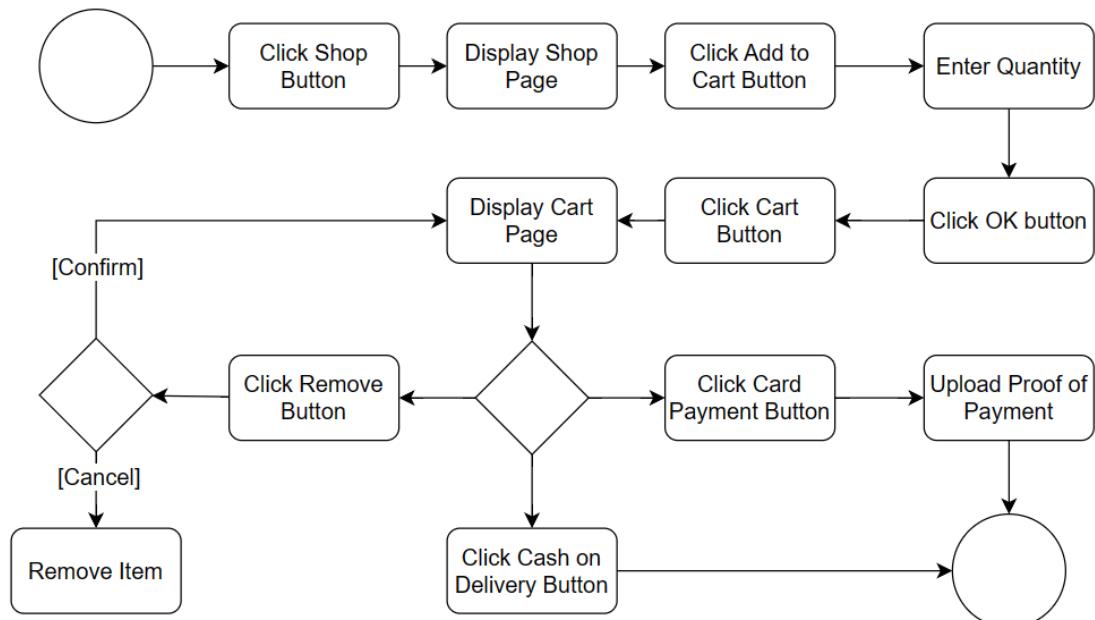
- Activity Diagram – Register



- Activity Diagram – Donation



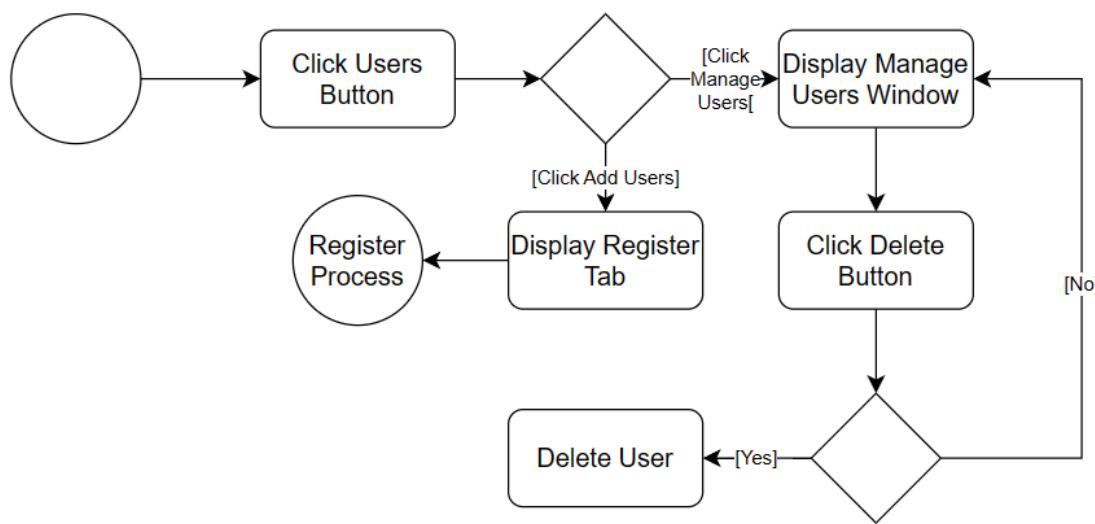
- Activity Diagram – Purchase



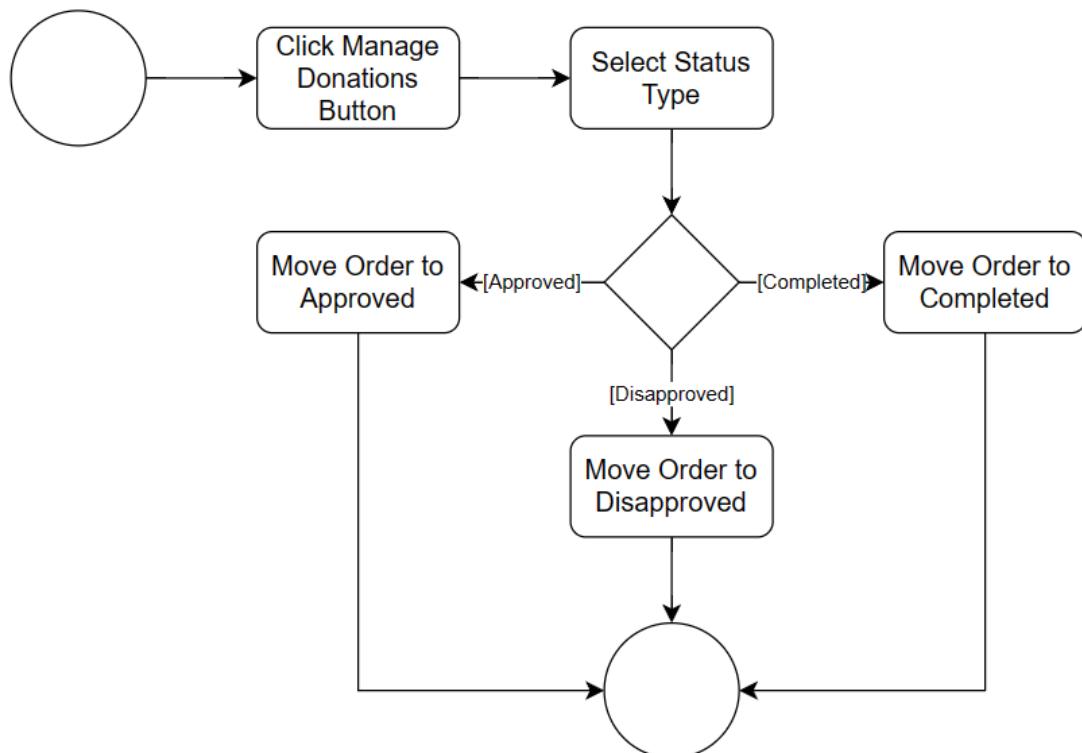
- Activity Diagram – Manage User



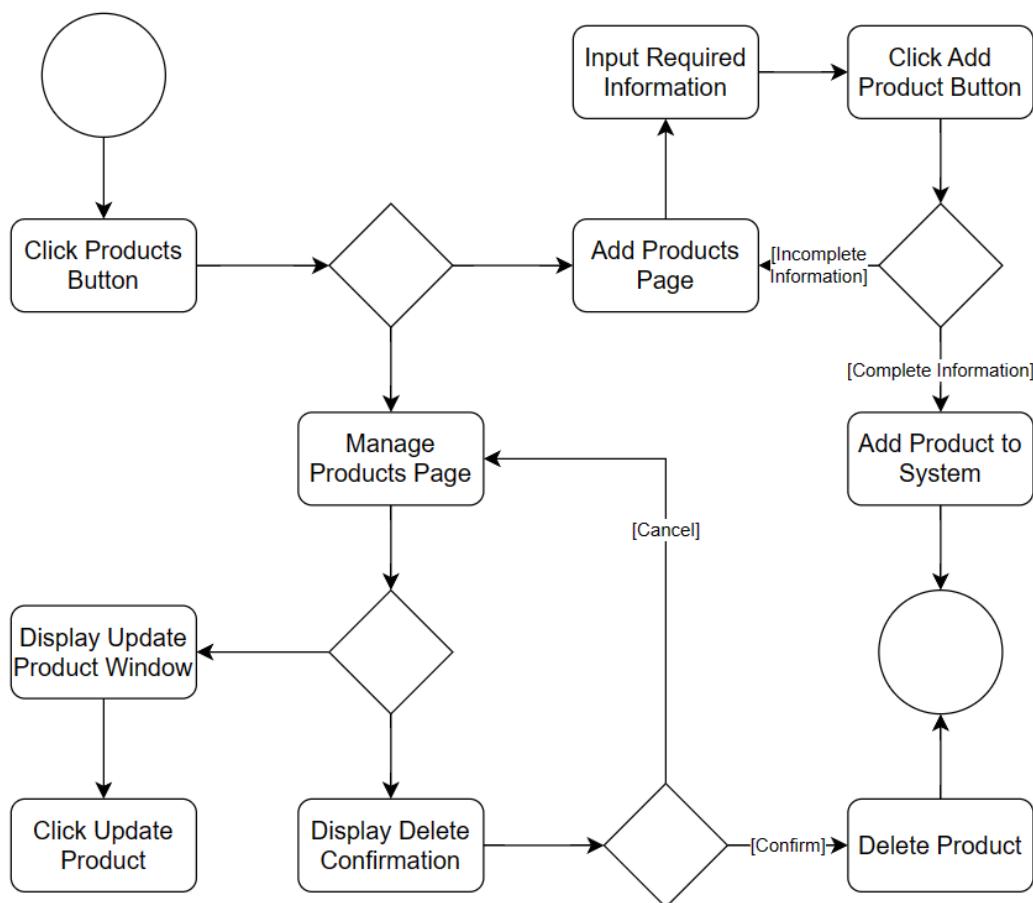
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES



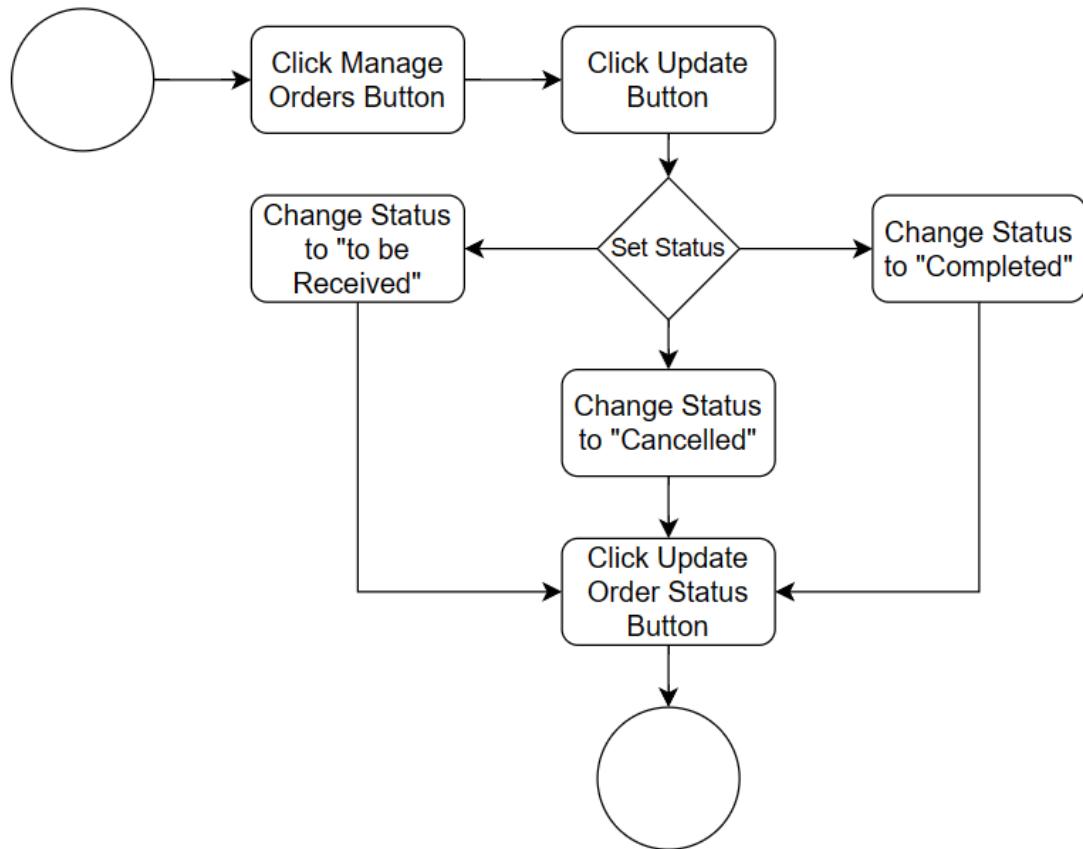
- Activity Diagram – Manage Pending Donations



- Activity Diagram – Manage Products



- Activity Diagram – Manage Pending Purchases



3.2.2. Class Diagram

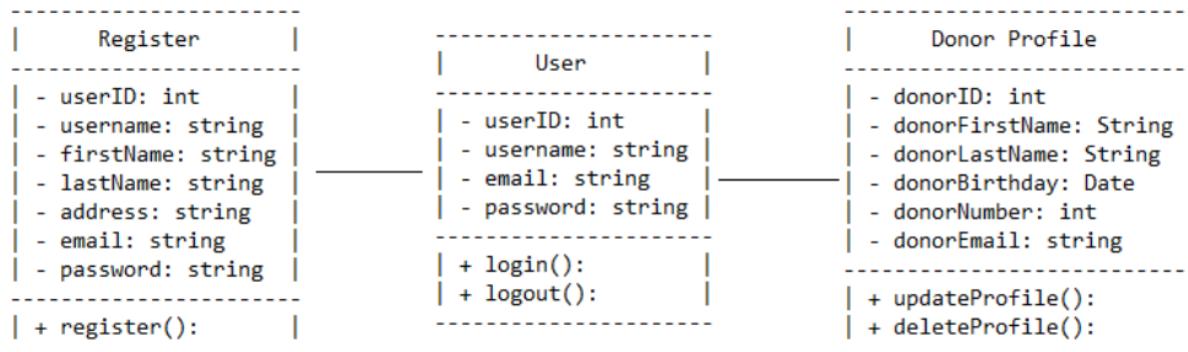
- Overall Class Diagram



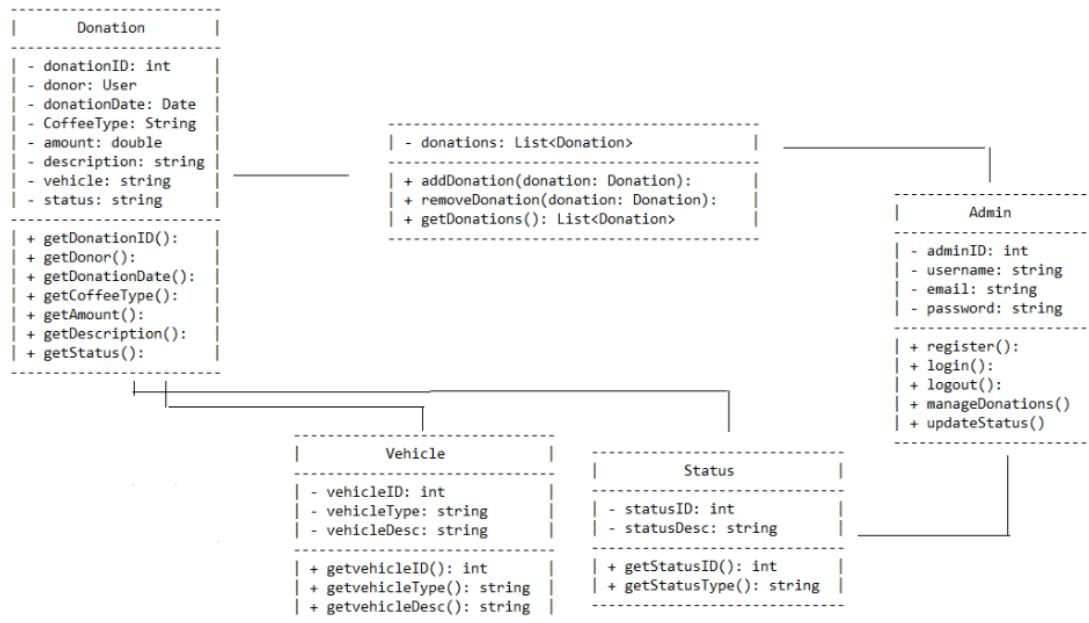


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- Login Class Diagram



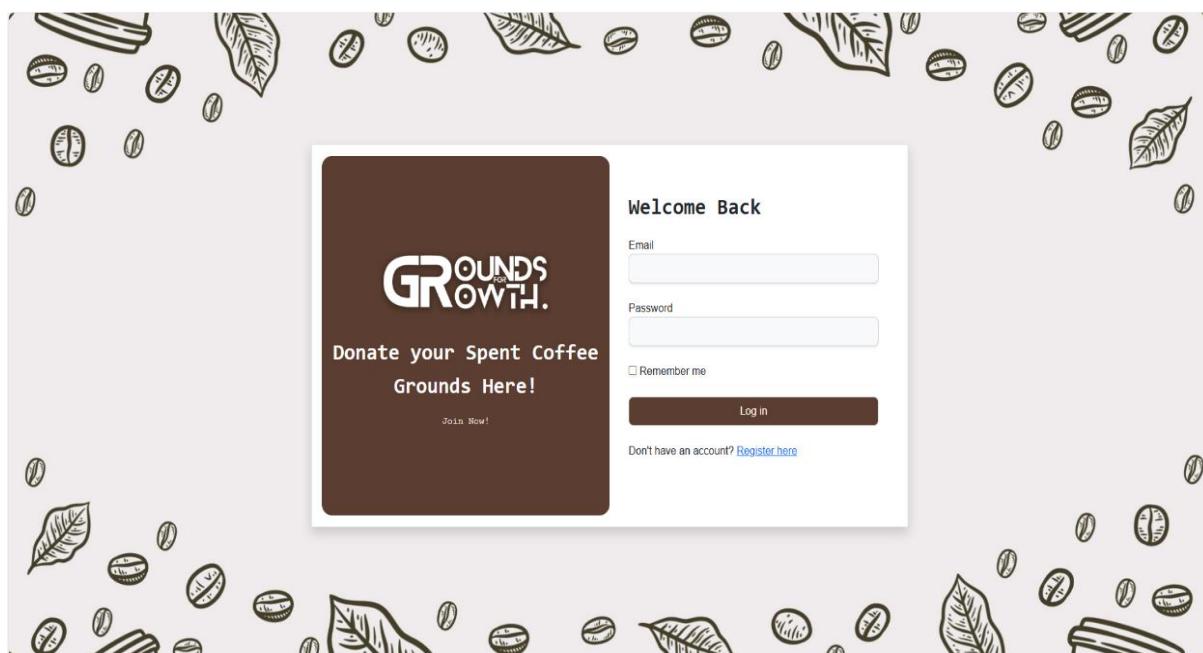
- Donation Class Diagram



3.2.3. GUI Design

- Login Page

Description: The user inputs his registered username and password to access.

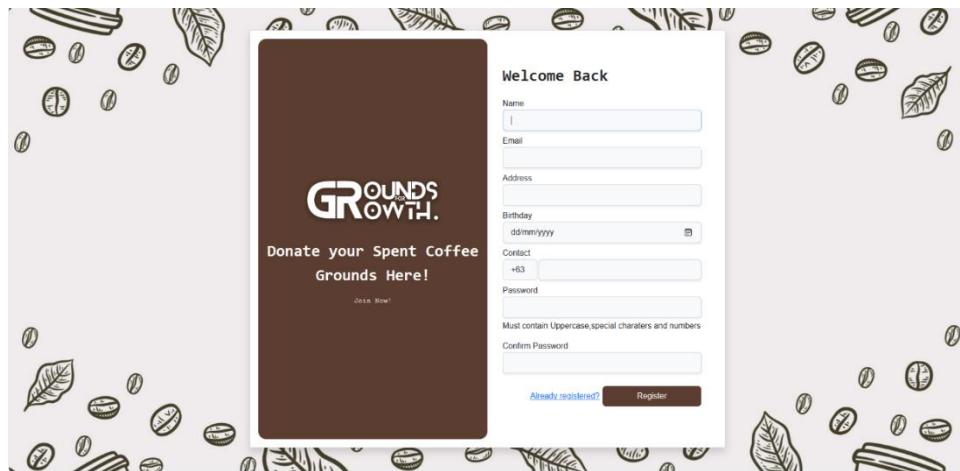


- Sign Up Page



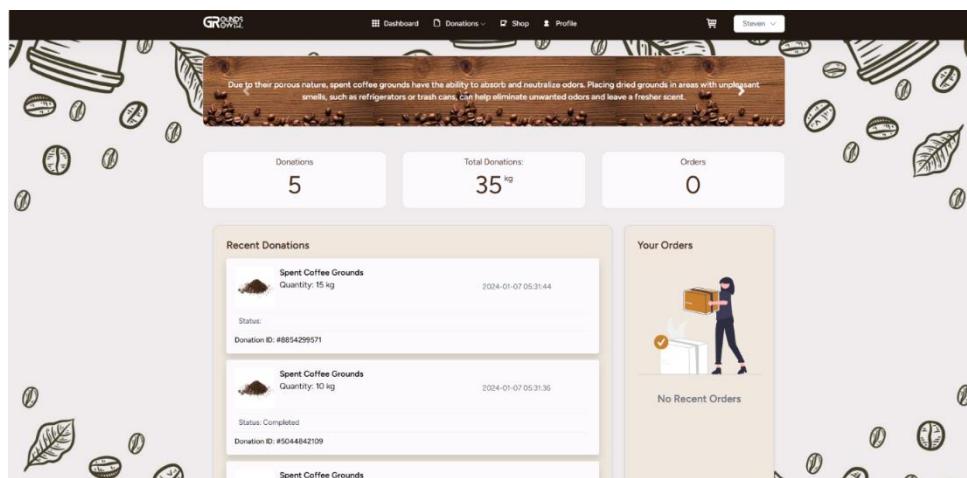
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Description: The user can register for an account to gain access to the system.



- User Dashboard

Description: This is where the user can manage the orders and donations made on the website. A carousel feature is also inserted in the user dashboard to educate users about spent coffee grounds.



- User Profile

Description: This is where the user can see his/her information.



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A screenshot of a website for "Grounds Grown" showing a user profile for "Steven". The profile page has a decorative background of coffee beans and leaves. The profile information includes:

- Name: Steven
- Birthday: 2000-10-10
- Email: delapaz.jansteven0@gmail.com
- Contact: +632254336214
- Address: 17 2nd St.
- Birthday: 2000-10-10

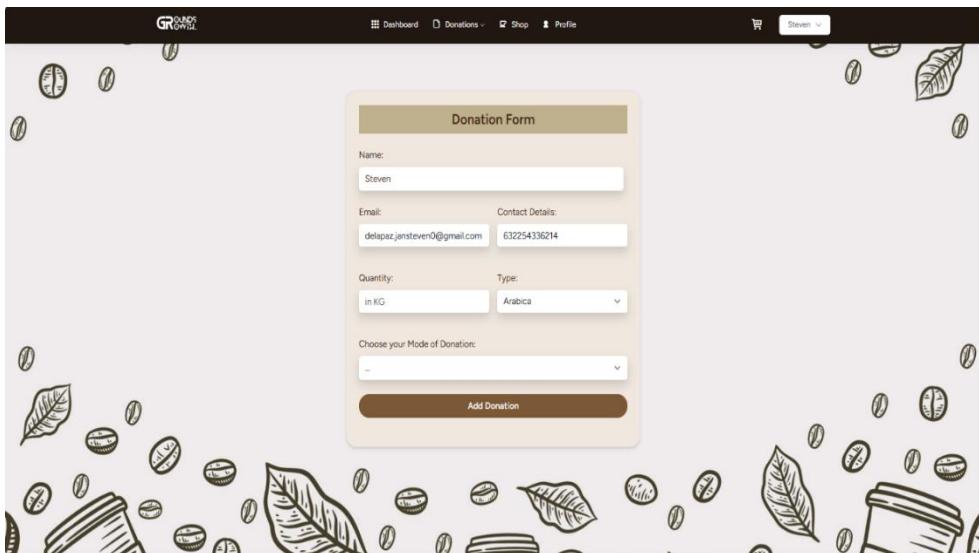
A red "Delete" button is visible at the bottom left of the profile section. At the top right, there are links for Dashboard, Donations, Shop, and Profile, along with a shopping cart icon and a dropdown menu for "Steven".



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- Donation Page

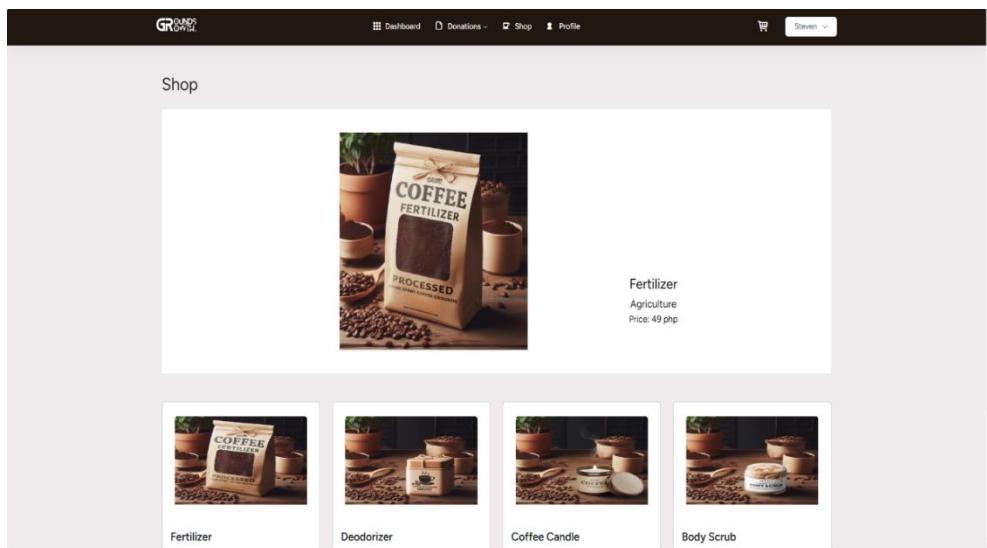
Description: Where the user can donate their spent coffee grounds in the website.



A screenshot of a web application interface titled "GRounds". The main header includes "Dashboard", "Donations", "Shop", and "Profile". A user profile "Steven" is shown. The central area is a "Donation Form" with fields for Name (Steven), Email (delapaz.jansteven0@gmail.com), Contact Details (632254336214), Quantity (in KG), Type (Arabica), and Mode of Donation (dropdown). A large "Add Donation" button is at the bottom. The background features a repeating pattern of coffee beans and leaves.

- Shop Page

Description: Where the user can navigate and buy a product that the shop offers.



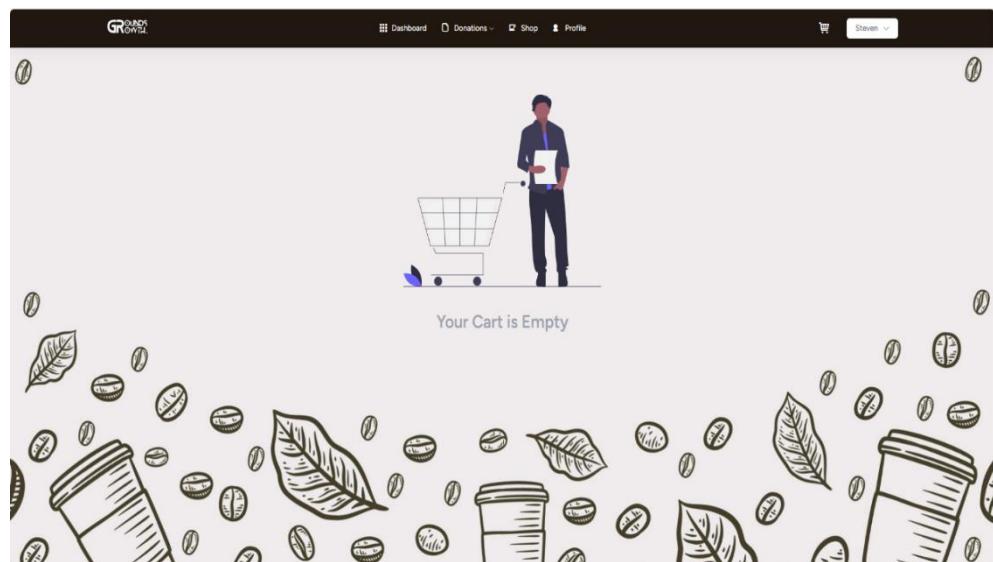
A screenshot of the "Shop" section of the GRounds website. The header is identical to the donation page. The main content shows a product card for "Fertilizer" (Agriculture, Price: 49 php) with an image of a bag labeled "COFFEE FERTILIZER". Below this are four smaller product cards: "Fertilizer" (image of bag), "Deodorizer" (image of container), "Coffee Candle" (image of candle), and "Body Scrub" (image of container).

- Cart Page

Description: Where the user can use all the items they added before buying it out.

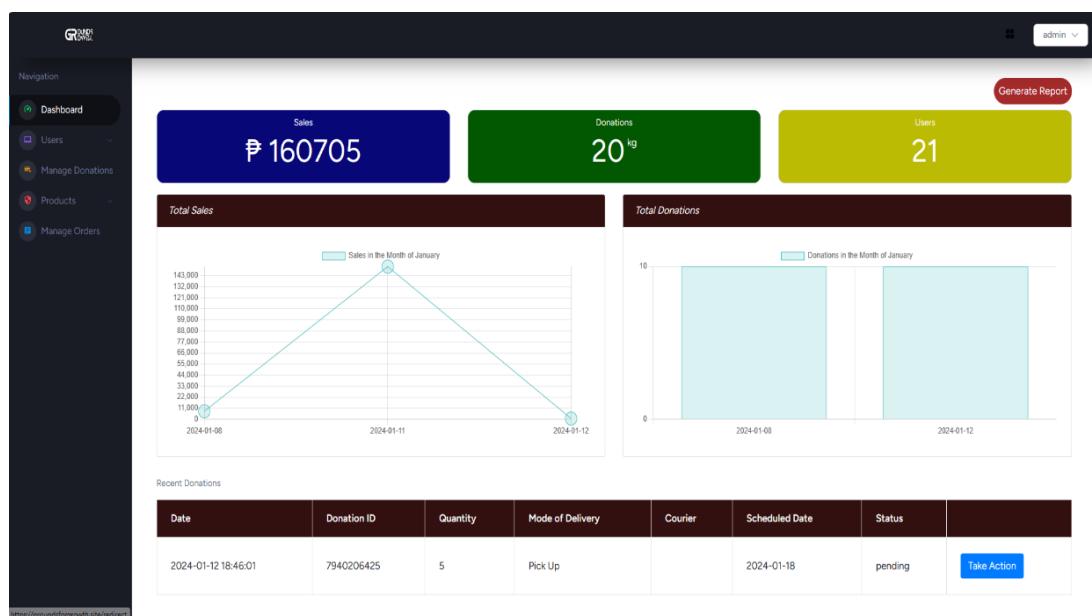


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- Admin – Dashboard

Description: This is where the admin can see all the data that is done within the month, all the recent donations and orders of the users that need to be taken in action.



- Admin – User Management

Description: This is where the admin can manage the users in the web application, it allows the admin to delete and add the users.



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Name	Email	Address	Action
admin	admin@gmail.com	Taguig City	
Renz	camatorenz@gmail.com	Taguig City	Delete
Sophia Cueto	cuetosophia@gmail.com	15 Bagong Bahay St. Brgy. San Isidro Galas	Delete
renzcamato	renzcamato@gmail.com	Taguig City	Delete
Heidle Torzar	deeanazingme05@gmail.com	66 Linaluz St. Brgy. San Carlos, Binangonan, Rizal	Delete
Melvin James	mlvnmjms07@gmail.com	Angono, Rizal	Delete
Mew	elle@gmail.com	Pasig	Delete
Rose Marie	wkdal.esmarie@gmail.com	Angono Rizal	Delete
Rufio Sy	rufiossy@gmail.com	Lot 4 Blk 5 Sorrento st. Brgy Bahay Toro, Congressional Ave Churchill Mansions QC	Delete
Jonalyn	jona.cueto17@gmail.com	15 Bagong Bahay St. Brgy San Isidro, Galas, QC	Delete
Pauline Colendres	paulinecolendres15@gmail.com	85 Josefina Subd., Brgy. Mambungan, Antipolo City	Delete

Add Users

Name:

Email: Address:

Birthday: Contact:

Password:

Confirm Password:

Add User

- Admin – Donation Management

Description: This is where the admin can see all the donations separated by its status. If the order is pending, it allows the admin to update the status of the donation.

Pending	Approved	Disapproved	Completed
@ Gardo Batumbakal Spent Coffee Grounds Quantity: 10 kg			
Status: Completed			
Donation ID: #4553249450			
@ Steven Spent Coffee Grounds Quantity: 10 kg			
Status: Completed			
Donation ID: #5044842109			



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- Admin – Order Management

Description: This is where the admin can see all the orders. It allows the admin to update the status of the orders.

The screenshot shows a table with columns: Order ID, Customer Name, Contact, Address, Product Title, Product Image, Quantity, Price, Payment Status, Delivery Status, and Action. The table contains five rows of order data.

Order ID	Customer Name	Contact	Address	Product Title	Product Image	Quantity	Price	Payment Status	Delivery Status	Action
425990067	Pauline Colendres	639567148870	85 josefinas subd., brgy. mambungan, antipolo city	Fertilizer		20	980	Paid	Completed	<button>Update</button>
9031648222	Pauline Colendres	639567148870	85 josefinas subd., brgy. mambungan, antipolo city	Deodorizer		25	1975	Paid	Completed	<button>Update</button>
8340383563	Pauline Colendres	639567148870	85 josefinas subd., brgy. mambungan, antipolo city	Body Scrub		100	7000	Paid	Completed	<button>Update</button>
639794042	Pauline Colendres	639567148870	85 josefinas subd., brgy. mambungan, antipolo city	Coffee Candle		600	150000	Paid	Completed	<button>Update</button>
8786378387	user	639306119784	Taguig City	Fertilizer		5	245	Cancelled	Cancelled	

- Admin – Product Management

Description: This is where the admin can see all the products that the web application offers. It also allows the admin to add more products to the shop.

The screenshot shows a form titled "Add Product". The form has two main sections: "Product" and "Details". The "Product" section contains fields for "Product Name" (with a placeholder "Product Name") and "Product Category" (with a dropdown menu showing "..."). The "Details" section contains a "Description" field (with a placeholder "Product Description") and a large "Add Product" button at the bottom.



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Navigation

- Dashboard
- Users
- Manage Donations
- Products
 - Add Products
 - Manage Products
 - Manage Orders

admin

Search Products

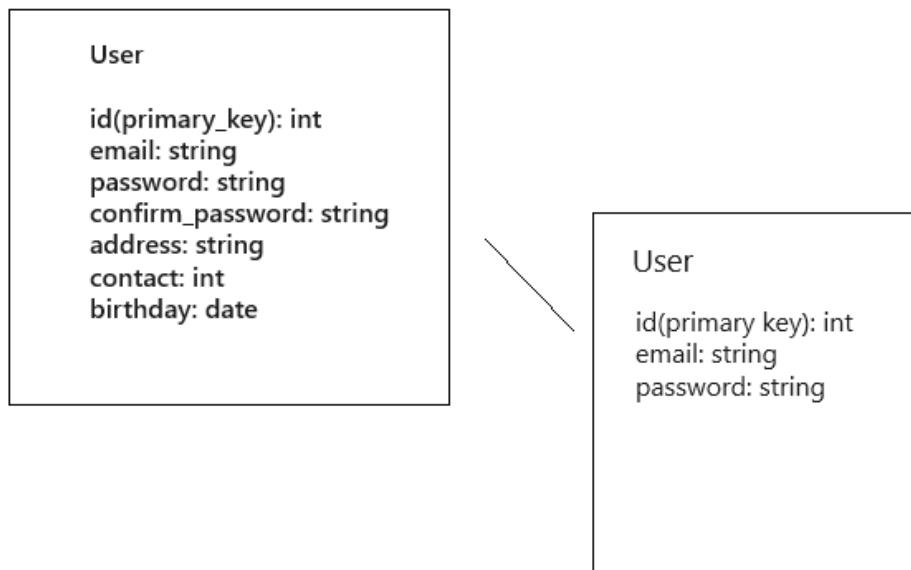
Product Title	Description	Price	Quantity	Image	Action
Fertilizer	A sustainable and nutrient-rich blend that nourishes your plants and add a touch of eco-friendly elegance.	49	499		Delete Edit
Deodorizer	a unique and aromatic solution to refresh your home and surroundings.	79	495		Delete Edit
Coffee Candle	Scented soy candle.	250	497		Delete Edit
Body Scrub	Indulge in the rejuvenating experience of our Coffee Body Scrub, a luxurious blend designed to awaken your senses and leave your skin irresistibly smooth and radiant.	70	500		Delete Edit



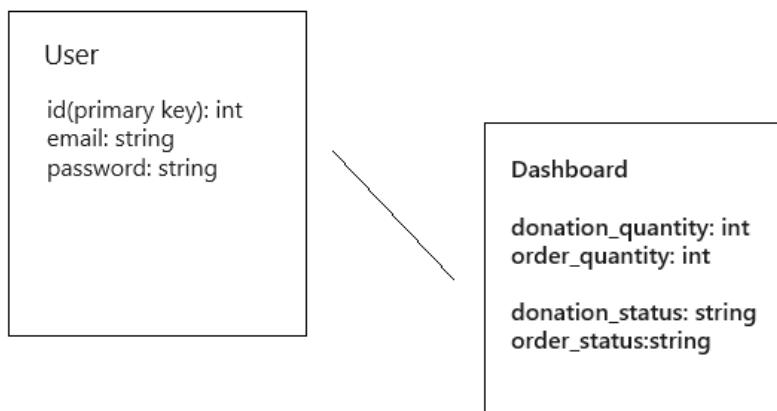
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3.2.4. Database Schema

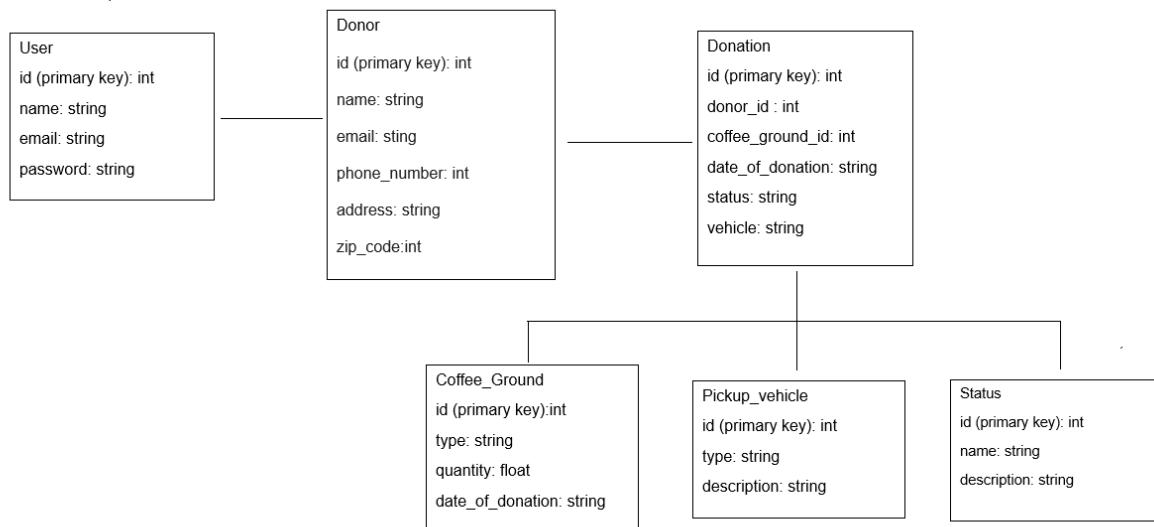
- Register



- Login



- Donate





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3.2.5. Database Schema

- Data Dictionary – Carts

Field Name	Type	Key	Null
id	bigint(20)	UNSIGNED	NOT NULL
name	varchar(255)		NOT NULL
email	varchar(255)		NOT NULL
contact	varchar(255)		NOT NULL
address	varchar(255)		NOT NULL
user_id	varchar(255)		NOT NULL
product_id	varchar(255)		NOT NULL
product_title	varchar(255)		NOT NULL
price	varchar(255)		NOT NULL
quantity	varchar(255)		NOT NULL
product_image	varchar(255)		NOT NULL
created_at	timestamp	DEFAULT	NULL
updated_at	timestamp	DEFAULT	NULL

- Data Dictionary – Categories

Field Name	Type	Key	Null
category	varchar(255)		NULL
id	bigint(20)	UNSIGNED	NOT NULL
created_at	timestamp		NULL
updated_at	timestamp		NOT NULL

- Data Dictionary – Donations

Field Name	Type	Key	Null
id	bigint(20)	UNSIGNED	NOT NULL
name	varchar(255)	DEFAULT	NULL
address	varchar(255)	DEFAULT	NULL
contact_number	varchar(255)	DEFAULT	NULL
mode_of_delivery	varchar(255)	DEFAULT	NULL
date	varchar(255)	DEFAULT	NULL
quantity	varchar(255)	DEFAULT	NULL
courier	varchar(255)	DEFAULT	NULL
status	varchar(255)	DEFAULT	NULL
user_id	varchar(255)	DEFAULT	NULL
created_at	timestamp		NULL
updated_at	timestamp		NULL
uuid	varchar(255)		NOT NULL
pickup_location	varchar(255)	DEFAULT	NULL
dropoff_date	varchar(255)	DEFAULT	NULL
reason	varchar(255)		NOT NULL
type	varchar(255)	DEFAULT	NULL

- Data Dictionary – failed_jobs

Field Name	Type	Key	Null
id	bigint(20)	UNSIGNED	NOT NULL
uuid	varchar(255)		NOT NULL
connection	text		NOT NULL



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queue	text		NOT NULL
payload	longtext		NOT NULL
exception	longtext		NOT NULL
failed_at	timestamp	DEFAULT	NOT NULL

- Data Dictionary – Migration

Field Name	Type	Key	Null
id	int(10)	UNSIGNED	NOT NULL
migration	varchar(255)		NOT NULL
batch	int(11)		NOT NULL

- Data Dictionary – Orders

Field Name	Type	Key	Null
id	Bigint(20)	UNSIGNED	NOT NULL
name	varchar(255)		NOT NULL
email	varchar(255)		NOT NULL
contact	varchar(255)		NOT NULL
address	varchar(255)		NOT NULL
user_id	varchar(255)		NOT NULL
product_id	varchar(255)		NOT NULL
product_title	varchar(255)		NOT NULL
price	varchar(255)		NOT NULL
quantity	varchar(255)		NOT NULL
product_image	varchar(255)		NOT NULL
payment_status	varchar(255)		NOT NULL
delivery_status	varchar(255)		NOT NULL
created_at	timestamp	DEFAULT	NULL
updated_at	timestamp	DEFAULT	NULL
uuid	varchar(255)		NOT NULL
proof	varchar(255)	DEFAULT	NULL

- Data Dictionary – Password Reset Tokens

Field Name	Type	Key	Null
email	varchar(255)		NOT NULL
token	varchar(255)		NOT NULL
created_at	timestamp	DEFAULT	NULL

- Data Dictionary – Payments

Field Name	Type	Key	Null
id	Bigint(20)	UNSIGNED	NOT NULL
name	varchar(255)		NOT NULL
card_number	varchar(255)		NOT NULL
date	varchar(255)		NOT NULL
cvv	varchar(255)		NOT NULL
created_at	timestamp	DEFAULT	NULL
updated_at	timestamp	DEFAULT	NULL
user_id	varchar(255)		NOT NULL



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- Data Dictionary – Personal Access Tokens

Field Name	Type	Key	Null
id	bigint(20)	UNSIGNED	NOT NULL
tokenable_type	varchar(255)		NOT NULL
tokenable_id	bigint(20)	UNSIGNED	NOT NULL
name	varchar(255)		NOT NULL
token	varchar(64)		NOT NULL
abilities	text		NULL
last_used_at	timestamp	DEFAULT	NULL
expires_at	timestamp	DEFAULT	NULL
created_at	timestamp	DEFAULT	NULL
updated_at	timestamp	DEFAULT	NULL

- Data Dictionary – Users

Field Name	Type	Key	Null
id	bigint(20)	UNSIGNED	NOT NULL
name	varchar(255)		NOT NULL
email	varchar(255)		NOT NULL
address	varchar(255)	DEFAULT	NULL
usertype	varchar(255)	DEFAULT	NOT NULL
birthday	date	DEFAULT	NULL
region	varchar(255)	DEFAULT	NULL
contact	bigint(20)	DEFAULT	NULL
email_verified_at	timestamp	DEFAULT	NULL
password	varchar(255)		NOT NULL
two_factor_secret	text	DEFAULT	NULL
two_factor_recovery_codes	text	DEFAULT	NULL
two_factor_confirmed_at	timestamp	DEFAULT	NULL
confirm_password	varchar(255)	DEFAULT	NULL
remember_token	varchar(100)	DEFAULT	NULL
current_team_id	bigint(20)	UNSIGNED	
profile_photo_path	varchar(2048)	DEFAULT	NULL
created_at	timestamp	DEFAULT	NULL
updated_at	timestamp	DEFAULT	NULL
zip	varchar(255)	DEFAULT	NULL

- Data Dictionary – Sessions

Field Name	Type	Key	Null
id	varchar(255)		NOT NULL
user_id	bigint(20)	UNSIGNED	DEFAULT
ip_address	varchar(45)	DEFAULT	NULL
user_agent	text	DEFAULT	NULL
payload	longtext		NOT NULL
last_activity	int(11)		NOT NULL



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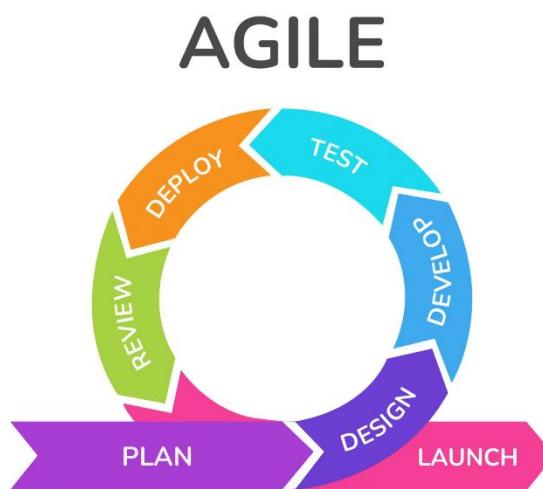
- Data Dictionary – Products

Field Name	Type	Key	Null
id	bigint(20)	UNSIGNED	NOT NULL
title	varchar(255)	DEFAULT	NULL
description	varchar(255)	DEFAULT	NULL
image	varchar(255)	DEFAULT	NULL
price	varchar(255)	DEFAULT	NULL
quantity	varchar(255)	DEFAULT	NULL
discount_price	varchar(255)	DEFAULT	NULL
created_at	timestamp	NULL	DEFAULT
updated_at	timestamp	NULL	DEFAULT
slug	varchar(255)	DEFAULT	NULL
category	varchar(255)	DEFAULT	NULL

3.3. DEVELOPMENT METHODOLOGY

3.3.1. Process Model

Agile Methodology



The proponents will be using the AGILE Methodology for its reputation when it comes to efficiency, flexibility, and collaboration with the client. Through the use of the Agile Methodology, the proponents can better assign themselves workloads that they excel at and can hasten the development of the system. In response to the close collaboration with the client, the development of the system will be transparent for the clients and where their feedback will be important for developing the system they need.

3.3.2. Development Tools

- Hypertext Preprocessor (PHP) - PHP is an open-source scripting language especially suited for web development (PHP, n.d.). It can be



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embedded into HTML where it can execute codes on the server as well as connect the system to the database.

- Hypertext Markup Language (HTML) - HTML is the standard markup language for web development.
- Cascading Style Sheets (CSS) - CSS comes together with HTML because CSS manages how HTML will be presented. CSS provides additional customization on how the HTML code will be displayed on the web page.
- MySQL - MySQL is a relational database system developed by Oracle that is based on structured query language (SQL) (talend, n.d.). MySQL is integral for the system as it will serve as the main database language the proponents will use for storing data.
- Visual Studio Code – VS Code is a source code editor that boasts its speed and efficiency, implementing IntelliSense code completion, and having a debugging feature included.
- Laravel - Laravel is an easy-to-use web framework that will help you create extensible PHP-based websites and web applications at scale. Before creating a web app or website, you need to make a foundational decision as to what technology you are going to use.

3.4. TEST METHODOLOGY/PROCEDURES

3.4.1. Development Testing

The development testing will be processed during the development phase of the project. The researchers intend to evaluate the system while in the process of building and meeting the requirements of the website. Furthermore, the researchers intend to check first the system before letting the client test the website.



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3.5. SYSTEM REQUIREMENTS

3.5.1. Hardware Requirements

LAPTOP OR PERSONAL COMPUTER

CATEGORY	Specifications
PROCESSOR	Intel® Core™ i5 or i7 Quad Core Processor (Intel 11 Generation or Newer) or AMD Ryzen 5 or 7 Quad Core (AMD 5000 or 6000 series Ryzen or newer)
OPERATING SYSTEM	Window 7
MEMORY	At least 24 GB RAM (DDR4 SDRAM or newer)
HARD DRIVE	512GB SSD and 1TB HDD
GRAPHICS PROCESSING UNIT	Integrated Graphics card or Dedicated Graphics card.

3.5.2. Software Requirements

SOFTWARE SPECIFICATIONS

CATEGORY	Specifications
OPERATING SYSTEM	Windows 10 Pro (32-bit & 64-bit) Windows 11 Pro (32-bit & 64-bit)
ANTI-VIRUS	Standard Windows Defender
HARD DRIVE ENCRYPTION AES 256-BIT REQUIRED	BitLocker (Windows 10 or 11 Pro)
INTERNET BROWSER	Google Chrome
ARCHIVE SOFTWARE	7-zip, WinZIP, WinRAR
OFFICE SOFTWARE	Microsoft Office 365
PDF FILE SOFTWARE	Adobe Reader
CODING SPECIFIC	Encoder Pro

3.5.3. Peopleware

PEOPLEWARE AND RESPONSIBILITIES

CATEGORY	Responsibilities
TEAM LEADER	In charge of overseeing the documentation of the project, and setting schedules and timeframes for the team
UI/UX DESIGNER	Responsible for the overall user-interface design
FRONT-END DEVELOPER	Transfers the idea of the UI/UX designer into code for the website.
BACK-END DEVELOPER	The backbone of the project is the one responsible for managing the database and connecting the front-end to the system.



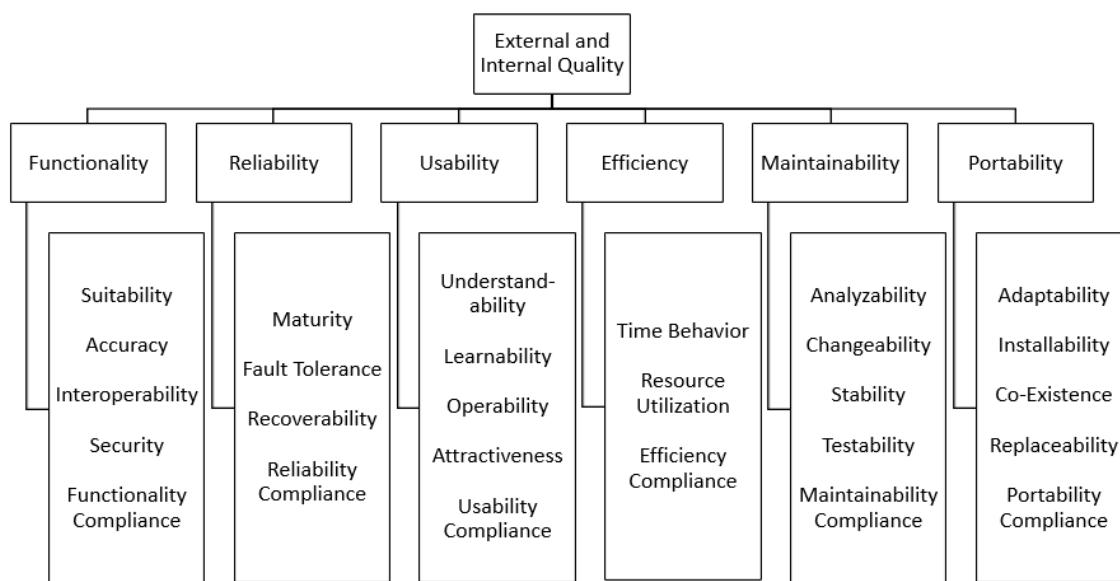
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3.6. QUALITY PLAN

3.6.1. Tools and Instrument

- ISO 9126-1

To verify the quality of the system, the proponents implemented ISO 9126-1, an international standard that provides a useful Quality Model for software characteristics. The model, the figure below, contains six quality characteristics, which are functionality, reliability, usability, efficiency, maintainability, and portability. Furthermore, these six qualities are subdivided into several characteristics that contribute to the evaluation of the system.



- User Acceptance Test (UAT)

An evaluation questionnaire for the system will be provided by the developers, the questionnaire will follow the standards of the ISO 9126-1 model to better grade the qualities of the system. The questionnaire will be given to the client for evaluation and possible adjustments, depending on the feedback. The proponents will be utilizing Google Form as their platform for the survey.

3.6.2. Criteria for Evaluation

Quality Characteristics	Description
Functionality	<ul style="list-style-type: none">• The website performs the procedure the clients want accurately.• The system is secure and cannot be accessed without an authorized account.• The website's connection to the database is



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	secure and vice versa.
Reliability	<ul style="list-style-type: none">The system can reliably store back-up data in case a failure occurs.
Usability	<ul style="list-style-type: none">The user interface of the website is simple and easily understandable, making it user-friendly.The website does not use any grandiose terms that the general user cannot understand.
Efficiency	<ul style="list-style-type: none">The proponents will provide the minimum system requirements for running the website efficiently.
Maintainability	<ul style="list-style-type: none">The source code of the system is organized and readily accessible for diagnosis and modifications.
Portability	<ul style="list-style-type: none">The system is a web-based system that can adjust depending on what device the user will access it from, such as laptops, tablets, and smartphones.

3.7. EVALUATION PLAN

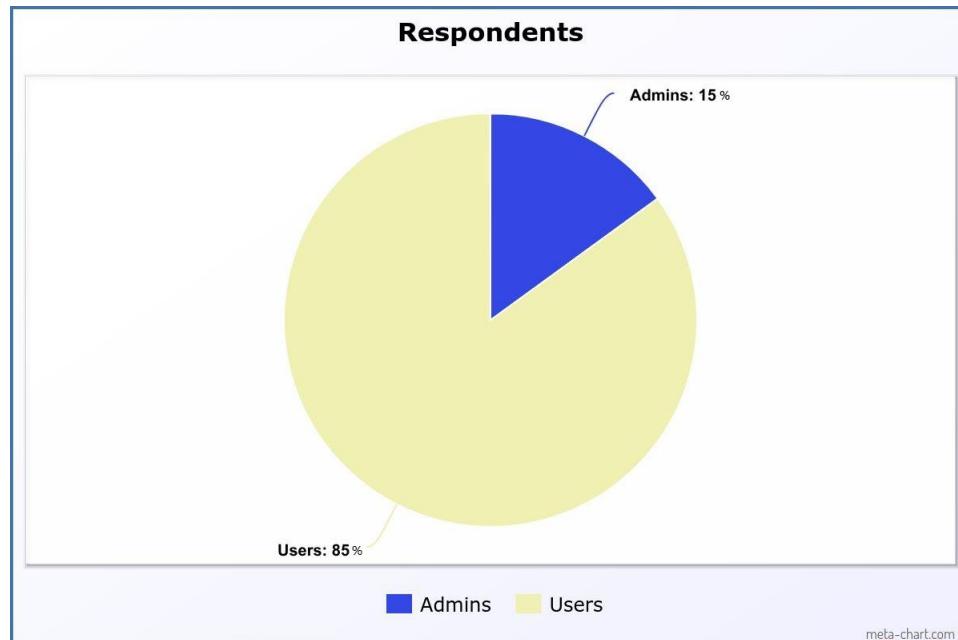
3.7.1. Evaluation Tool for Feedback

According to Kasmadi and Sunariah [22], the Likert scale is a psychometric tool frequently used in survey research and is the most widely used scale in surveys. The respondent indicated how much they agreed or disagreed with a sequence of assertions when answering a questionnaire item. As a result, the scale for several assertions accurately reflects their intensity. This scale is popular because it is simple to use, allows you to freely insert pertinent information, has a high degree of reliability, and can be applied to a wide range of situations. (Abtaliana, A. et al., 2017) [23]

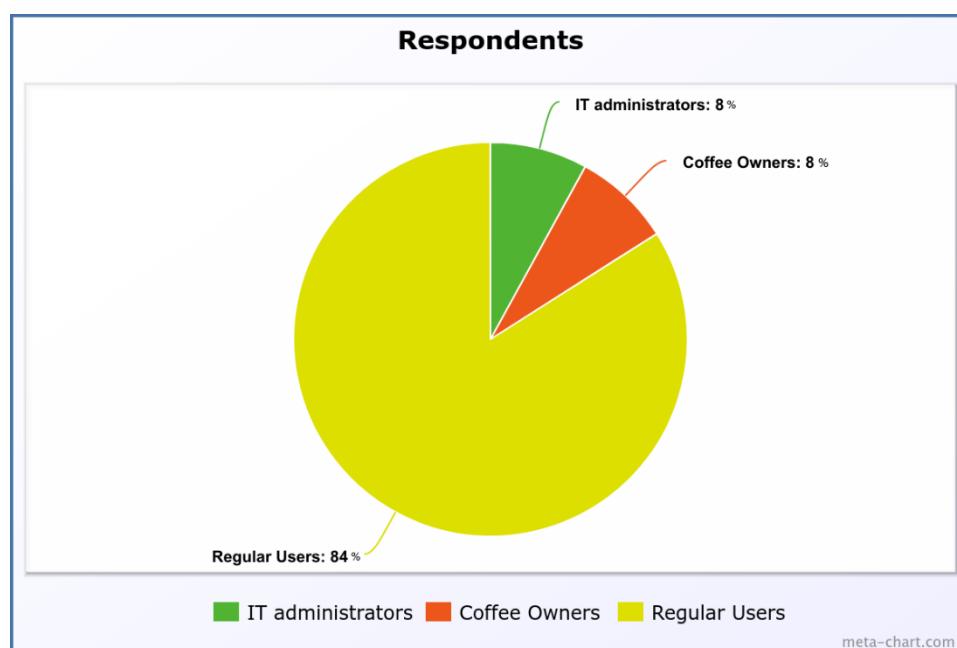
The Likert Scale will be used to interpret user feedback on the system evaluation. Each question under each specific quality characteristic will have a range of 1 to 5, where 1 is **Strongly Disagree** and 5 is **Strongly Agree**. Below is a table to better explain the interpretation of the 5-point Likert Scale.

Scale	Range	Verbal Interpretation
5	4.20 - 5.00	Strongly Agree
4	3.40 - 4.19	Agree
3	2.60 - 3.39	Neither Agree nor Disagree
2	1.80 - 2.59	Disagree
1	1.00 - 1.79	Strongly Disagree

3.7.2. Respondents



Administrators and users will be the two groups of users included in the evaluation. Administrators will receive 15% of the feedback weight throughout the review process, while users will receive 85% of it. Eighty-five percent of the comments will come from the second group of consumers, which consists of all users. Their comments will be vital in reviewing the design, performance, and overall user experience of the system



The users for evaluation will consist of three sets of persons, feedback from the clients will be of the utmost importance. The main client will primarily provide feedback for the Admin side of the system, criticizing the performance, design, and integrity of the system. Other IT Administrators will be asked for feedback to provide the researchers with a different perspective. The second set would be the personnel involved in coffee shops (employees or managers). These persons will be the providers of the coffee ground donation requests so their feedback regarding the User side will be important, primarily focused on design, performance, and how easy it is for them to use. The last set is the general user, these users' feedback will primarily focus on the e-commerce side of the system, because they are possible donors as well their feedback regarding the donation system will be taken into account as well.

3.8. ETHICAL CONSIDERATION

Respondents are not required to identify themselves when answering our questionnaires, and only surveys with specific background requirements will be requested personal information of. The researchers will respect the decisions of the respondents if they wish to remain anonymous. All participants will be informed ahead of time that their feedback will be recorded, as well as their names if they wish to provide it although it is not mandatory. The data gathered for this research will be



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treated with utmost confidentiality in accordance with the Data Privacy Act of 2012, RA No. 10173.

3.9. STATISTICAL TREATMENT

The Likert Scale was used to give a numerical value for user's feedback ranging from 1 to 5 to interpret the evaluation of the system. General and specific mean scores are computed to determine the verbal interpretation of each criterion per characteristic, and the overall result of each characteristic. The formula for computing the mean for each criterion is as follows:

$$x_{\bar{x}} = \frac{\Sigma x}{n}$$

Where:

\bar{x} = mean

Σx = sum of all data values

n = number of data items in the sample

CHAPTER 4

RESULTS AND DISCUSSION

Respondents

Types of Respondents	No. of Respondents	Percentage
Admin	4	6.78%
User	55	92.33%
Overall Total	59	100%

In the survey, the respondents were categorized into two groups: administrators (admin) and users. 4 respondents were administrators with a percentage of 6.78% of total respondents. Most of the respondents constitutes about 92.33%, which results in 55 responses. The overall total of respondents gathered in this capstone project is 59.

Admin Questionnaire Results

Respondents' evaluation on Grounds for Growth Website (Admin) - Functionality

TABLE 1
FUNCTIONALITY

1.1. Suitability: How well does the admin panel meet your needs for managing cafe



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donations and ecommerce operations?		
	Weighted Mean	Verbal Interpretation
1.1.1. Ease of donation tracking, product management.	4.50	Strongly Agree
1.1.2. Navigation efficiency, reporting tools.	4.25	Strongly Agree
1.2 Accuracy: How accurate is the information presented in the admin dashboard?		
1.2.1. Donation record accuracy, and product inventory accuracy.	4.25	Strongly Agree
1.3 Security: Rate the level of security in place for admin functionalities.		
1.3.1. Access control, data encryption.	3.50	Agree
1.3.2. User authentication, audit trails.	4.00	Agree
TOTAL	4.10	Agree

The overall results of the functionality system of the admin interface.

Statement 1.1.1 got the weighted mean result of 4.50 with the verbal interpretation of "Strongly Agree." However, statement 1.3.1. resulted in a 3.50 weighted mean with a verbal interpretation of "Agree". The total weighted mean of the table got a score of 4.10 with a verbal interpretation of "Agree".

Respondents' evaluation on Grounds for Growth Website (Admin) - Reliability

TABLE 2 Reliability		
	Weighted Mean	Verbal Interpretation
2.1.1. System uptime, error rates.	4.00	Agree
2.1.2. Task completion success rates, system responsiveness.	4.25	Strongly Agree
TOTAL	4.13	Agree

The summary score of the reliability of the website. Statement 2.1.1. got an overall score of 4.00 with a verbal interpretation of "Agree", while statement 2.1.2. has a



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weighted score of 4.25 with a verbal interpretation of “Strongly Agree”. The total weighted mean is 4.13 with a verbal interpretation of “Agree”.

Respondents' evaluation of the Grounds for Growth Website (Admin) - Usability

TABLE 3
Usability

3.1 Operability: Evaluate the ease of operating the admin interface.

	Weighted Mean	Verbal Interpretation
3.1.1. Task efficiency, error recovery.	3.75	Agree
3.1.2. Consistency in operation, user guidance.	4.25	Strongly Agree
TOTAL	4.00	Agree

The summary of the results of the usability of the website. Statement 3.1.1 got a score of 3.75 with a verbal interpretation of “Agree”. In statement 3.1.1., 1 respondent is dissatisfied with the task efficiency and error recovery of the website. Statement 3.1.2. resulted with a weighted mean of 4.25 with a verbal interpretation of “Strongly Agree”. The total weighted mean of the table resulted in a score of 4.00 with a verbal interpretation of “Agree”.

Respondents' evaluation of the Grounds for Growth Website (Admin) - Reusability

TABLE 4
Reusability

4.1 Understandability for Reuse: How well can admin users understand and reuse functionalities?

	Weighted Mean	Verbal Interpretation
4.1.1. Documentation clarity, ease of feature reuse.	4.00	Agree
4.1.2. Consistency in design, adaptability.	4.25	Strongly Agree
TOTAL	4.13	Agree

The summary of reusability of the website. Statement 4.1.1. shows the weighted mean of 4.00 with a verbal interpretation of “Agree”, while statement 4.1.2.



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shows the weighted mean of 4.25 with a verbal interpretation of “Strongly Agree”. The total weighted mean of table 4 is 4.13, with a verbal interpretation of “Agree”.

Respondents' evaluation of the Grounds for Growth Website (Admin) - Efficiency

TABLE 5
Efficiency

5.1 Time Behavior: Assess the speed and responsiveness of admin tasks.

	Weighted Mean	Verbal Interpretation
5.1.1. Task completion time, system response time.	4.25	Strongly Agree
5.1.2. Resource efficiency, transaction speed.	4.50	Strongly Agree
TOTAL	4.38	Strongly Agree

The efficiency of the website. Statement 5.1.1. shows a weighted mean of 4.25 with a verbal interpretation of “Strongly Agree”. Statement 5.1.2. summarizes the weighted mean of 4.50 with a verbal interpretation of 4.38 with a verbal interpretation of “Strongly Agree”.

Respondents' evaluation of the Grounds for Growth Website (Admin) - Maintainability

TABLE 6
Maintainability

6.1 Analyzability: Evaluate how easily issues in the admin functionalities can be analysed.

	Weighted Mean	Verbal Interpretation
6.1.1. Debugging tools, logging.	3.50	Agree
6.1.2. Code readability, system documentation.	3.50	Agree
TOTAL	3.50	Agree

The table above shows the summary of results of the maintainability of the website. 6.1.1. and 6.1.2. both show the weighted mean of 3.50, which interprets as “Agree”. The total weighted mean of the maintainability of the website is 3.50 with a verbal interpretation of “Agree”.



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Respondents' evaluation of the Grounds for Growth Website (Admin) - Portability

**TABLE 7
Portability**

7.1 Adaptability: How well can the admin functionalities adapt to changes?

	Weighted Mean	Verbal Interpretation
7.1.1. Configuration flexibility, version compatibility.	4.25	Strongly Agree
7.1.2. Data migration ease, system integration.	3.75	Agree
TOTAL	4.00	Agree

Presented above is the summary of the gathered data of the adaptability of the website. Statement 7.1.1. scored a weighted mean of 4.25 with a verbal interpretation of "Strongly Agree", meanwhile 7.1.2 scored a weighted mean of 3.75 with a verbal interpretation of "Agree".



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User Questionnaire Results

User Specifications

User Specifications	No. of Respondents	Percentage
Regular User (E-Commerce User)	52	94.5%
Cafe Owner/Employee (Donator)	3	5.5%
Overall Total	55	100%

The overall total of respondents in the user interface of Grounds for Growth is 55. 3 of which are the cafe owner or employee, and 52 respondents are the regular user.

Respondents' evaluation of the Grounds for Growth Website (User) - Functionality

TABLE 8
Functionality

8.1. Suitability: How well does the user interface meet your needs for donation and shopping?

	Weighted Mean	Verbal Interpretation
8.1.1. Donation process ease, shopping experience.	4.35	Strongly Agree
8.1.2. Clarity in navigation, order tracking.	4.49	Strongly Agree
TOTAL	4.42	Strongly Agree

The data shows the summary of results in the functionality of the user interface. According to statement 8.1.1., the weighted mean scores 4.35 with a verbal interpretation of "Strongly Agree". Statement 8.1.2. scores an average of 4.49 which is also equivalent to "Strongly Agree". The total weighted mean scored 4.42 with a verbal interpretation of "Strongly Agree".

Respondents' evaluation of the Grounds for Growth Website (User) - Usability

TABLE 9
Usability

9.1. Learnability: Evaluate how easy it is for users to learn and use the website.

	Weighted Mean	Verbal Interpretation
9.1.1. Onboarding process, user guidance.	4.42	Strongly Agree
9.1.2. Intuitiveness, user assistance.	4.34	Strongly Agree



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9.2. Attractiveness: Rate the visual appeal and design attractiveness of the user interface.

9.2.1. Aesthetics, user engagement.	4.42	Strongly Agree
9.2.2. Consistency in design, responsiveness.	4.51	Strongly Agree
TOTAL	4.42	Strongly Agree

The data above presents the summary of the usability of the website. Statement 9.1.1 shows the weighted mean of 4.42 with a verbal interpretation of "Strongly Agree". Statement 9.1.2. shows a weighted mean of 4.34 with a verbal interpretation of "Strongly Agree". In statement 9.2.1. shows a weighted mean of 4.42 with a verbal interpretation of "Strongly Agree". Lastly, statement 9.2.2. shows a weighted mean of 4.51 with a verbal interpretation of "Strongly Agree". The total weighted mean of table 9 is 4.42 with a verbal interpretation of "Strongly Agree".

Respondents' evaluation of the Grounds for Growth Website (User) - Efficiency

TABLE 10
Efficiency

10.1 Time Behavior: Assess the speed and responsiveness of user tasks.

	Weighted Mean	Verbal Interpretation
10.1.1. Donation process time, shopping transaction speed.	4.40	Strongly Agree
10.1.2. Loading times, checkout efficiency.	4.35	Strongly Agree
TOTAL	4.38	Strongly Agree

The data above shows the results of the efficiency of the user interface. Statement 10.1.1. shows a weighted mean of 4.40 with a verbal interpretation of 'Strongly Agree', while statement 10.1.2. shows a weighted mean of 4.35 with a verbal interpretation of "Strongly Agree". The total weighted mean of table 10 is 4.38 with a verbal interpretation of "Strongly Agree".

Respondents' evaluation of the Grounds for Growth Website (User) - Maintainability



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TABLE 11
Maintainability

11.1 Changeability: How easy is it for users to adapt to changes on the website?

	Weighted Mean	Verbal Interpretation
11.1.1. Update communication, user adaptability.	4.34	Strongly Agree
11.1.2. Clarity in updates, user feedback.	4.41	Strongly Agree
TOTAL	4.38	Strongly Agree

Summary of data presents the results of the respondents regarding their experience from the maintainability of the user interface. Statement 11.1.1. shows the weighted mean of 4.34 with a verbal interpretation of “Strongly Agree”, while 11.1.2. resulted with an average of 4.41 with a verbal interpretation of “Strongly Agree”. The total weighted mean is 4.38 with a verbal interpretation of “Strongly Agree”.

Respondents' evaluation of the Grounds for Growth Website (User) - Portability

TABLE 12
Portability

12.1. Co-existence: Evaluate the compatibility of the website with different devices and browsers.

	Weighted Mean	Verbal Interpretation
12.1.1. Cross-browser compatibility, device responsiveness.	4.49	Strongly Agree
12.1.2. Mobile-friendliness, consistent experience.	4.45	Strongly Agree
TOTAL	4.47	Strongly Agree

The data interprets the summary of the experience of users in the portability of the user interface. Statement 12.1.1. states that the weighted mean is 4.49 with a verbal interpretation of “Strongly Agree”. Statement 12.1.2. states the weighted mean of 4.45 with a verbal interpretation of “Strongly Agree”. The total weighted mean of table 10 is 4.47 with a verbal interpretation of “Strongly Agree”.

The proponents also gather in-depth insights into the experience of users in the user interface. The proponents opted for a qualitative approach by conducting



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voice recordings to document their feedback and opinions regarding the Grounds for Growth website.

In the admin interface, two respondents (admin) agreed to give feedback regarding their experience. The first respondent recommended creating a pop-up card to approve donations and product updates to avoid the potential slowdown caused by having separate pages. The first administrator also recommended incorporating a product preview feature on the admin interface to see the list of product details that will be displayed in the admin interface. The second administrator also recommended creating a super admin account to have access and controls to admins on the Grounds for Growth website.

One respondent agreed through a conversation to take their time into reviewing the user interface of the website. The respondent stated that the user interface and design of the website is aesthetically pleasing. Furthermore, the respondent highlighted that there is nothing to further suggest or improve as the user interface of the website are all responsive. The respondent also stated that they did not experience any errors other than the products from the shop page are always out of stock.



CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The capstone project's main objective is to design and develop a web-based system that will cater to the needs of preserving the environment. The proponents aim to identify the level of compliance of Grounds for Growth regarding the ISO 9126-1 or the system requirements with the help of 59 respondents accordingly. 6.78% out of 59 respondents are administrators and the remaining 92.33% out of the 59 respondents are users, 3 respondents in the users are cafe owners or employees.

SUMMARY OF FINDINGS

Based on the analysis of data, the following findings were determined:

1. The researchers have developed the Grounds for Growth website for the sustainability of the environment. There is a significant positive result with the weighted arithmetic mean from the administrators and its users. The proposed website has provided the following:
 - a. The website allows the admin panel to manage cafe donations and ecommerce operations.
 - b. The website allows users to meet their needs for donation and shopping.
 - c. The website allows users to learn to use the website easily.
 - d. The website also provides a visual appeal and design to its user interface.
 - e. The website also provides compatibility to different devices and browsers.
2. **Questionnaire results of user and admin.** Based on the gathered data of responses, it can be considered that the present capstone study is feasible since most responses resulted with "Very Satisfactory" and "Satisfactory". This complies with the ISO 9126-1 standard.
3. **Benefits of using the Grounds for Growth website.** The responses have shown good benefits of using the donation website. The administrator can gather data from the users through the results shown in the admin dashboard.



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The respondents from the user interface of the website showed positive results in being user friendly and easy to understand the flow of the website.

Conclusion

Grounds for Growth is a website created for handling donations in spent coffee grounds to recycle into new products. The feature of the system allows the administrator to handle spent coffee ground donations and shop orders, generate reports, and see the latest updates that is happening in the Grounds for Growth website.

The main objective of this capstone project is providing an effective platform for managing the donation of spent coffee grounds, providing a service that exchanges coffee grounds as a new product instead of waste, which will align in promoting sustainability, community fostering engagement, and using spent coffee grounds as a valuable resource for compost in agriculture.

Based on the respondents' rating of the system, the website was helpful for the users in terms of the overall use of the website. The results showed high weighted scores with a verbal interpretation of "Very Satisfactory" and "Satisfactory". The users also benefited from tracking their orders and donations during the process. The users were satisfied with the overall functions of the website.

In conclusion, the Grounds for Growth website will contribute to present students, cafe owners, and future researchers who wish to create a donation web-based system as it provides sustainability for the health of its environment.

Recommendations

The capstone project provided by the researchers will benefit the cafe owners or employees and anyone interested in donating spent coffee grounds for its environment sustainability. Furthermore, future researchers may also benefit by the following recommendation presented by the following:

1. Create a pop-up card for the approval of donations and product updates to avoid the potential slowdown caused by having separate pages. Additionally, incorporate a product preview feature on the admin side for a convenient overview of product details.



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2. Create a comprehensive report beyond sales and donations, specifically covering aspects such as impact metrics, transparency reports, and gratitude and recognition reports. This approach provides deeper insights into sales and donation activities, facilitating more informed decision-making and strategic refinement.



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APPENDICES

APPENDIX A

DATA GATHERING INSTRUMENT

Admin Questionnaire

GROUNDS FOR GROWTH: Empowering Sustainable Agriculture Through a Coffee Ground Exchange Platform

Greetings!

We, fourth-year students of Polytechnic University of the Philippines – College of Computer and Information Sciences, are currently conducting a capstone project entitled "*Grounds for Growth: Empowering Sustainable Agriculture through a Coffee Ground Exchange Platform*". This project aims to build a community where we can sustain spent coffee grounds for a better environment.

In connection with this, we are humbly asking for your time and effort to participate in this survey by answering the questions on our survey form that are deemed relevant and helpful in completing our capstone project.

Rest assured that all data gathered from here will be treated with utmost confidentiality in accordance with the Data Privacy Act of 2012, RA No. 10173.

We will take note of all your feedback that will be useful in developing our website. Your positive response is highly appreciated and will be extremely beneficial to us.

The questionnaire you are about to answer is based on the ISO 9126-1 standard in order to verify the quality of the system. The website to be surveyed for this questionnaire can be accessed by clicking [Here](#).

Thank you very much for your participation.

Best regards,
Camato, Renz Micko C.
Cueto, Sophia
Dela Paz, Steven
Gelia, Clint Edward

*This survey is in compliance to our requirements for our subject Capstone Project 2

cuetosophia@gmail.com [Switch account](#)



* Indicates required question

Email *

Your email

Name

Your answer



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FUNCTIONALITY

Suitability:

How well does the admin panel meet your needs for managing cafe donations and ecommerce operations?

Accuracy: How accurate is the information presented in the admin dashboard?

Security:

Rate the level of security in place for admin functionalities.

Ease of donation tracking, product management. *

1 2 3 4 5

Very Dissatisfied Very Satisfied

Navigation efficiency, reporting tools. *

1 2 3 4 5

Very Dissatisfied Very Satisfied

Donation record accuracy, product inventory accuracy. *

1 2 3 4 5

Very Dissatisfied Very Satisfied

Access control, data encryption. *

1 2 3 4 5

Very Dissatisfied Very Satisfied

User authentication, audit trails. *

1 2 3 4 5

Very Dissatisfied Very Satisfied



RELIABILITY

Maturity: How mature and stable do you find the admin functionalities?

System uptime, error rates. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Task completion success rates, system responsiveness. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

USABILITY

Operability:

Evaluate the ease of operating the admin interface.

Task efficiency, error recovery. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Consistency in operation, user guidance. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied



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REUSABILITY

Understandability

for Reuse: How well can admin users understand and reuse functionalities?

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Consistency in design, adaptability.

1 2 3 4 5

Very Dissatisfied

Very Satisfied

EFFICIENCY

Time

Behavior: Assess the speed and responsiveness of admin tasks.

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Resource efficiency, transaction speed.

1 2 3 4 5

Very Dissatisfied

Very Satisfied



MAINTAINABILITY

Analyzability:

Evaluate how easily issues in the admin functionalities can be analysed.

Debugging tools, logging. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Code readability, system documentation. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

PORABILITY

Adaptability:

How well
can the admin functionalities adapt to changes?

Configuration flexibility, version compatibility. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Data migration ease, system integration. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied



User Questionnaire

GROUNDS FOR GROWTH: Empowering Sustainable Agriculture Through a Coffee Ground Exchange Platform

Greetings!

We, fourth-year students of Polytechnic University of the Philippines – College of Computer and Information Sciences, are currently conducting a capstone project entitled "*Grounds for Growth: Empowering Sustainable Agriculture through a Coffee Ground Exchange Platform*". This project aims to build a community where we can sustain spent coffee grounds for a better environment.

In connection with this, we are humbly asking for your time and effort to participate in this survey by answering the questions on our survey form that are deemed relevant and helpful in completing our capstone project.

Rest assured that all data gathered from here will be treated with utmost confidentiality in accordance with the Data Privacy Act of 2012, RA No. 10173.

We will take note of all your feedback that will be useful in developing our website. Your positive response is highly appreciated and will be extremely beneficial to us.

The questionnaire you are about to answer is based on the ISO 9126-1 standard in order to verify the quality of the system. The website to be surveyed for this questionnaire can be accessed by clicking [Here](#).

Thank you very much for your participation.

Best regards,
Camato, Renz Micko C.
Cueto, Sophia
Dela Paz, Steven
Gelia, Clint Edward

*This survey is in compliance to our requirements for our subject Capstone Project 2

cuetosophia@gmail.com Switch account



Not shared

* Indicates required question

Specify User Type *

- Cafe Owner/Employee (Donator)
- Regular User (E-commerce User)



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FUNCTIONALITY

Suitability:

How well does the user interface meet your needs for donation and shopping?

Donation process ease, shopping experience. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Clarity in navigation, order tracking. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

USABILITY

Learnability:

Evaluate how easy it is for users to learn and use the website.

Attractiveness: Rate the visual appeal and design attractiveness of the user interface.

Onboarding process, user guidance. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Intuitiveness, user assistance. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Aesthetics, user engagement. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Consistency in design, responsiveness. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied



EFFICIENCY

Time

Behavior: Assess the speed and responsiveness of user tasks.

Donation process time, shopping transaction speed. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Loading times, checkout efficiency. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

MAINTAINABILITY

Changeability:

How easy is it for users to adapt to changes on the website?

Update communication, user adaptability. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied

Clarity in updates, user feedback. *

1 2 3 4 5

Very Dissatisfied

Very Satisfied



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APPENDIX B

Evaluation tool, test documents, and test results

User Evaluation Tool

A 5-point Likert questionnaire that follows the criteria of the ISO 9126-1 software quality assurance was adapted for evaluating the system and was used separately for the administrator and users. A score of 5 is equivalent to a verbal interpretation of "Strongly Agree", while a score of 1 is equivalent to the verbal interpretation of "Strongly Disagree". The website's evaluation was executed with Google Forms.

Google Form Questionnaire

B.1. Admin Questionnaire

B.2. User Questionnaire

B.3. Admin Survey Results

Administrator Raw Result - Functionality

FUNCTIONALITY						
Suitability: How well does the admin panel meet your needs for managing cafe donations and ecommerce operations?						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Ease of donation tracking, product management.	2	2	0	0	0	4.50
Navigation efficiency, reporting tools.	1	3	0	0	0	4.25
Accuracy: How accurate is the information presented in the admin dashboard?						
Donation record accuracy, and product inventory accuracy.	2	1	1	0	0	4.25
Security: Rate the level of security in place for admin functionalities.						
Access control, data encryption.	1	2	0	1	0	3.50
User authentication, audit trails.	1	2	1	0	0	4.00



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Frequency Total						4.10
-----------------	--	--	--	--	--	------

Administrator Raw Result - Reliability

Reliability						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
System uptime, error rates.	1	2	1	0	0	4.00
Task completion success rates, system responsiveness.	1	3	0	0	0	4.25
Frequency Total						4.13

Administrator Raw Result - Usability

Usability						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Task efficiency, error recovery.	2	1	0	1	0	3.75
Consistency in operation, user guidance.	2	1	1	0	0	4.25
Frequency Total						4.00

Administrator Raw Result - Reusability

Reusability						
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Understandability for Reuse: How well can admin users understand and reuse functionalities?						



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			e			
Documentation clarity, ease of feature reuse.	1	2	1	0	0	4.00
Consistency in design, adaptability.	2	1	1	0	0	4.25
Frequency Total						4.13

Administrator Raw Result - Efficiency

Efficiency

Time Behavior: Assess the speed and responsiveness of admin tasks.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Task completion time, system response time.	2	1	1	0	0	4.25
Resource efficiency, transaction speed.	2	2	0	0	0	4.50
Frequency Total						4.38

Administrator Raw Result - Maintainability

Maintainability

Analyzability: Evaluate how easily issues in the admin functionalities can be analysed.

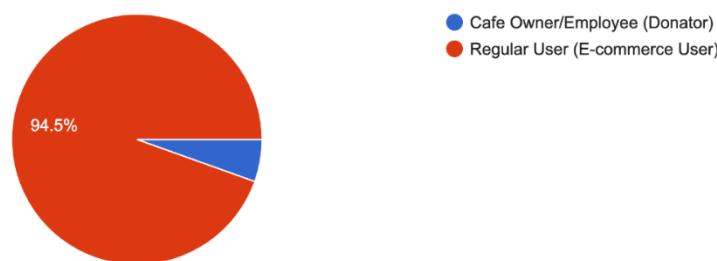
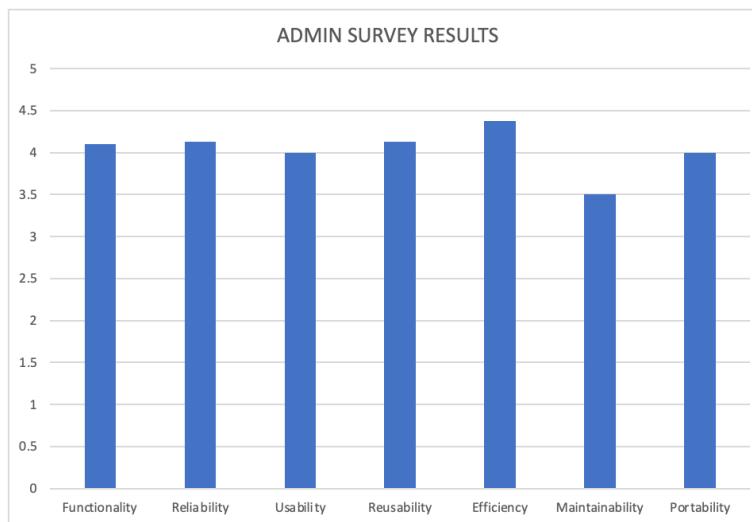
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Debugging tools, logging.	0	2	2	0	0	3.50
Code readability, system documentation.	0	2	2	0	0	3.50
Frequency Total						3.50

Administrator Raw Result - Portability

Portability



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Adaptability: How well can the admin functionalities adapt to changes?

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Configuration flexibility, version compatibility.	1	3	0	0	0	4.25
Data migration ease, system integration.	1	1	2	0	0	3.75
TOTAL						4.00

Admin Survey Summary

B.4. User Survey Results

Distribution of Users



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User Raw Result - Functionality

Functionality						
Suitability: How well does the user interface meet your needs for donation and shopping?						
Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Donation process ease, shopping experience.	29	17	8	1	0	4.35
Clarity in navigation, order tracking.	32	18	5	0	0	4.49
TOTAL						4.42



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User Raw Result – Usability

Usability						
Learnability: Evaluate how easy it is for users to learn and use the website.						
Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Onboarding process, user guidance.	29	20	6	0	0	4.42
Intuitiveness, user assistance.	28	18	9	0	0	4.34

9.2. Attractiveness: Rate the visual appeal and design attractiveness of the user interface.

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Aesthetics, user engagement.	33	13	8	1	0	4.42
Consistency in design, responsiveness.	37	10	7	1	0	4.51
Frequency Total						4.42

User Raw Result - Efficiency

Efficiency						
Time Behavior: Assess the speed and responsiveness of user tasks.						
Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Donation process time, shopping transaction speed.	31	18	7	1	0	4.40
Loading times, checkout efficiency.	31	14	8	0	0	4.35



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Frequency Total						4.38
------------------------	--	--	--	--	--	-------------

User Raw Result - Maintainability

Maintainability

Changeability: How easy is it for users to adapt to changes on the website?

Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Update communication, user adaptability.	26	20	9	0	0	4.34
Clarity in updates, user feedback.	30	18	7	0	0	4.41
Frequency Total						4.38

User Raw Result - Portability

Portability

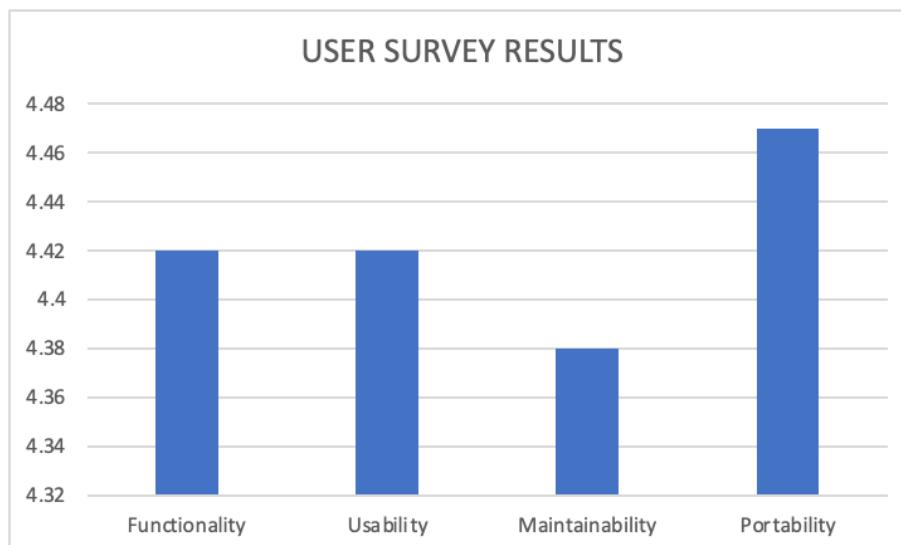
Co-existence: Evaluate the compatibility of the website with different devices and browsers.

Statements	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Weighted Mean
Cross-browser compatibility, device responsiveness.	36	11	7	1	0	4.49
Mobile-friendliness, consistent experience.	33	15	6	1	0	4.45
Frequency Total						4.47



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USER SURVEY SUMMARY





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APPENDIX C

ADMIN MANUAL

GROUND FOR GROWTH WEBSITE



ADMIN MANUAL

A step-by-step administrator guide to
getting started on the Grounds for Growth
website.

Version 1.0

January 2024



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GROUND FOR GROWTH WEBSITE — ADMIN MANUAL

1



INTRODUCTION

The Grounds for Growth website is a system that aims to provide a platform for managing the donation of spent coffee grounds (SCGs) and a service that exchanges SCGs as a new product instead of waste.

The administrator of the system is responsible for managing the website, this includes the following responsibilities; a) monitoring the total sales and donations made in the website, b) managing and/or registering users, c) managing and registering products, d) managing donation requests by either approving or denying them, and e) confirming purchase orders made by customers.

BROWSER REQUIREMENTS

The Grounds for Growth website will work in the following browsers:

- Chrome
- Edge
- Firefox
- Opera
- Safari

GETTING STARTED

To access the website:

1. Open your browser of choice.
2. Type “**groundsforgrowth.site**” in the address bar and **enter** to go into the website.



ADMINISTRATOR ACCESS

ACCESSING THE ADMINISTRATOR SITE

In order to access the administrator side of the website, you must possess the credentials for the admin account. To log-in:

1. Input the admin account details.

A screenshot showing the login interface for the "GROUNDS for GROWTH." website. On the left, there's a dark brown sidebar with the "GROUNDS for GROWTH." logo and the text "Donate your Spent Coffee Grounds Here!". Below that is a "Join Now!" button. On the right, the main area has a "Welcome Back" header, followed by "Email" and "Password" input fields, a "Remember me" checkbox, and a "Log in" button. Below the "Log in" button is a link "Don't have an account? [Register here](#)".

2. Click "Log in".

Once logged in, you are immediately directed to the admin dashboard.

ADMINISTRATOR DASHBOARD

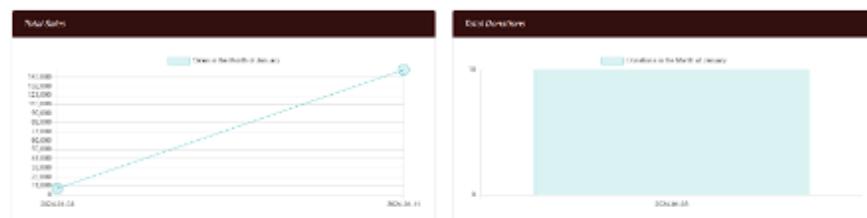
The dashboard for the administrator contains the total sales made in the website, total donations (of SCGs in kg) made in the website, and the current count of users registered in the website. You may **click "Generate Report"** to download the pdf of the report for total sales and donations.





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Aside from the numerical display of the total sales and total donations, the dashboard also provides a line graph for the total sales and a bar graph for the total donations made in each month.



Scrolling down past the graphs you will see a list for the recent donations and recent orders made in the system.

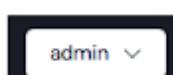
Recent Donations							
Date	Donation ID	Quantity	Made of Delivery	Courier	Scheduled Date	Status	Action
No Recent Donations							

Recent Orders											
Order ID	Customer Name	Email	Contact	Address	Product Title	Product Image	Quantity	Rice	Payment Status	Delivery Status	Action
No Recent Orders											

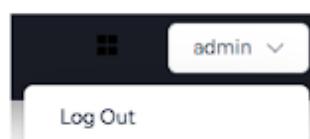
SIGN OUT

To sign out:

1. Click the admin button located at the top right corner of the system.



2. Click "Log Out" to complete the sign out process.



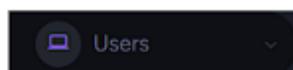


MANAGING AND ADDING USERS

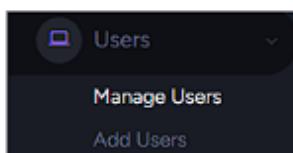
ACCESSING THE MANAGE USERS PAGE

To view the “Manage Users” interface:

1. Click the “Users” dropdown menu located at the left-side of the system.



2. Click “Manage Users”.



SEARCHING FOR A REGISTERED USER

To search for a specific user:

1. Select the “Search Users” text box.



2. Type the name of the user.

3. Click the “Search” button.





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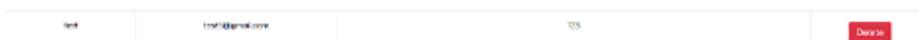
After completing the above steps, the admin will then be provided a list of names and emails containing the keyword inputted.

Name	Email	Action	Action
Sophia	sophia@gmail.com	Marikina City	Delete
Tom	tom@gmail.com	US	Delete
Marcus	marcus@gmail.com	Quezon City	Delete

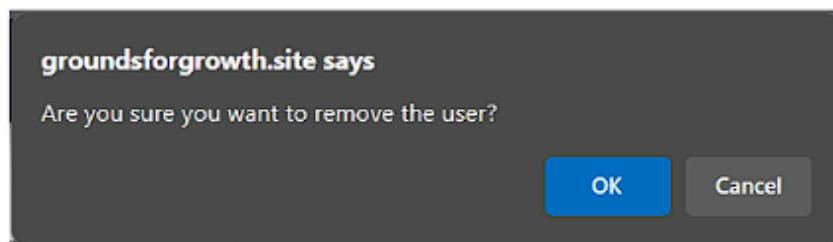
DELETING A REGISTERED USER

To delete a user:

1. Click the “Delete” button located under the “Action” column of a user.



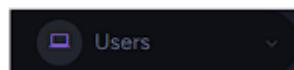
2. A prompt will pop-up and to confirm the deletion of the account click “OK”.



ACCESSING THE ADDING USERS PAGE

To view the “Add Users” interface:

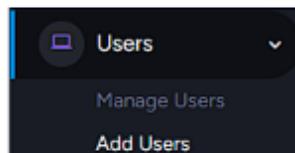
1. Click the “Users” dropdown menu located at the left-side of the system.





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2. Click “Add Users”.



REGISTERING A USER

To register a user to the system:

1. Input the required details of the user in the form displayed.

A screenshot of a registration form titled "Add Users". It contains fields for Name (with a "Name" placeholder), Email (with "Email" and "Address" placeholders), Birthday (with a date input field "dd/mm/yyyy" and a calendar icon), Contact (with a "Contact" placeholder), Password (with a "Password" placeholder), Confirm Password (with a "Confirm Password" placeholder), and a large blue "Add User" button at the bottom.

2. Click “Add User” to confirm the registration of the new user.

Add User

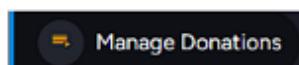


MANAGING DONATIONS

ACCESSING THE MANAGE DONATIONS INTERFACE

To view the “Manage Donations” interface:

1. Click “Manage Donations” located on the left side of the system.



The Manage Donations interface contains the donation requests made by the users of the system. The donations are divided each into their respective status ranging from Pending, Approved, Disapproved, and Completed.



UPDATING A PENDING ORDER

To update a pending order:

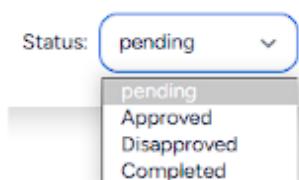
1. Click the “Pending” tab.



2. Click “Update” on the product.



3. Change the status via the dropdown menu.





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4. Click “Update” to finalize the change and “Close” to cancel the change.

Close Update

UPDATING AN APPROVED ORDER

To update an approved order:

1. Click the “Approved” tab.



2. Click “Update” on the selected product.

Update

3. Change the status via the dropdown menu.



4. Click “Update” to finalize the change and “Close” to cancel the change.

Close Update

VIEWING DETAILS OF AN APPROVED ORDER

To view the details of an approved order:

1. Click the “Approved” tab.



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Pending	Approved	Disapproved	Completed
---------	----------	-------------	-----------

2. Click "View Details" on the selected product.

View Details

The admin will be redirected to a receipt of the donation details.

3. Click "Print" if you want to print the receipt or "x" to close the receipt.

X

Print

VIEWING THE DISAPPROVED AND COMPLETED TABS

In order to view the disapproved and completed tabs, you simply just click the "Disapproved" and "Completed" tabs.

Pending	Approved	Disapproved	Completed
Pending	Approved	Disapproved	Completed

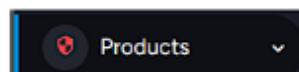


MANAGING AND ADDING PRODUCTS

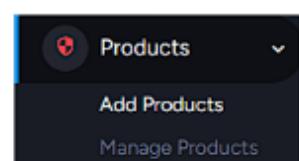
ACCESSING THE ADD PRODUCTS PAGE

To view the “Add Products” page:

1. Click the “Products” dropdown menu at the left-side of the website.



2. Click “Add Products”.



ADDING A PRODUCT

To add a product to the system:

1. Fill-in the required details in the form displayed.

A screenshot of a web-based "Add Product" form. The form has a header "Add Product" with tabs "Product" and "Details". The "Product" tab is active. Below the tabs are input fields for "Product Name" (with placeholder "Product Name") and "Product Category" (with placeholder "Category"). There is also a "Description" section with a "Product Description" input field. At the bottom of the form is a large blue "Add Product" button.



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2. Click the “**Details**” tab to proceed adding the details of the item.

A screenshot of a user interface showing two tabs: "Product" (which is highlighted in black) and "Details".

3. Continue filling in the required information about the product.

A screenshot of a "Details" tab form for adding a product. It includes fields for "Original Price" and "Discounted Price", both with input boxes. Below that is a "Quantity" field with an input box. Underneath is a "Choose File" button with the text "No file chosen" next to it. Below the file input is a placeholder image area labeled "Your Image". At the bottom is a large brown "Add Product" button.

4. Upload an image of the item by clicking “Choose File”.

A screenshot of a "Choose File" button with the text "No file chosen" next to it.

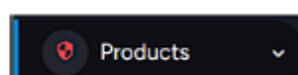
5. After selecting an image for the item, click “Add Product”.

A screenshot of a large brown "Add Product" button.

ACCESSING THE MANAGE PRODUCTS PAGE

To view the “**Manage Products**” interface.

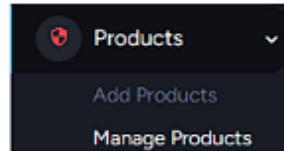
1. Click the “**Products**” dropdown menu at the left-side of the website.





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2. Click “Manage Products”.



The Admin will be directed to the **Manage Products** interface where registered products along with their details are located. The columns included per product are their Product Title, Description, Price, Quantity, Image, and Action.

Product Title	Description	Price	Quantity	Image	Action
Fertilizer	A fertilizer and soil mix blend that nourishes your plants and adds a boost of user-friendly elegance.	49	499		Delete Edit
Decorative Candle	An indoor decorative solution to beautify your home and surroundings.	29	500		Delete Edit
Coffee Candle	Scented soy candle.	150	500		Delete Edit
Body Scrub	Indulge in the rejuvenating experience of our Coffee Body Scrub. A delicious blend designed to exfoliate your skin and leave your skin looking smooth and radiant.	70	500		Delete Edit

SEARCHING FOR AN EXISTING PRODUCT

To search for an existing product:

1. Navigate to the **search textbox**.

Search Products

2. Type the name of the product.

Fertilizer



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3. Click “Search”.

Search

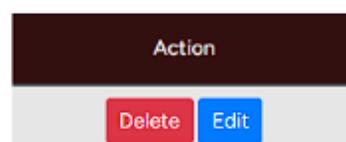
After completing the steps above, the system will display the list of products containing the name inputted.

Product List						Search Products	Search
Product Title	Description	Price	Quantity	Image	Action	Delete	Edit
Fertilizer	A sustainable and nutrient-rich blend that nourishes your plants and adds a touch of eco-friendly elegance.	49	499			Delete	Edit

UPDATING AN EXISTING PRODUCT

To update an existing product:

1. Click the “Edit” button under the Action column of the product.



2. Input the changes in the form similar to the “Add Product” form under each tab.

Update Product

Product	Details
<p>Product Name: Fertilizer</p> <p>Product Category: Agriculture</p> <p>Description: A sustainable and nutrient-rich blend that nourishes your plants and adds a touch of eco-friendly elegance.</p>	<p>Original Price: 49</p> <p>Discounted Price: <input type="text"/></p> <p>Quantity: 499</p> <p>Choose File: No file chosen</p>

3. Finalize by clicking the “Update Product” button.

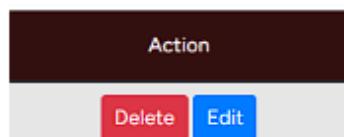
Update Product



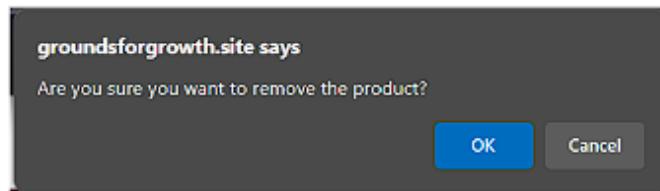
DELETING AN EXISTING PRODUCT

To delete an existing product:

1. Click the “Delete” button under the Action column of the product.



2. Click “OK” to confirm deleting the product.





MANAGING ORDERS

ACCESSING THE MANAGE ORDERS INTERFACE

Simply **click** the “Manage Orders” button located on the left side of the system.

The **Manage Orders** interface contains purchase orders made by users. Orders are displayed along with their Order ID, Customer Name, Contact, Address, Product Title, Product Image, Quantity, Price, Payment Status, Delivery Status, and Action.

Order ID	Customer Name	Contact	Address	Product Title	Product Image	Quantity	Price	Payment Status	Delivery Status	Action
POLY000000001	Ruelin Calzado	09999999999	80 Juanito Salcedo, Bagumbayan, Makati City	Product A		20	800	Paid	Completed	<button>Update</button>
POLY000000002	Ruelin Calzado	09999999999	80 Juanito Salcedo, Bagumbayan, Makati City	Product B		35	1900	Paid	Completed	<button>Update</button>
POLY000000003	Ruelin Calzado	09999999999	80 Juanito Salcedo, Bagumbayan, Makati City	Product C		100	7000	Paid	Completed	<button>Update</button>

FILTERING THE ORDERS

To filter the orders by their status:

1. **Click** the dropdown menu located at the top-right part of the interface.

Filter by Status:

2. **Select** the status.

Filter by Status:



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3. Click “Filter”.

Filter

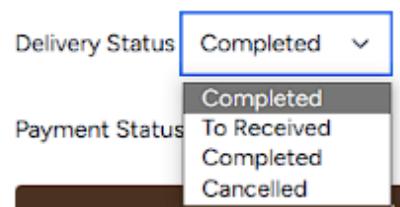
UPDATING ORDER STATUS

To update an order's status:

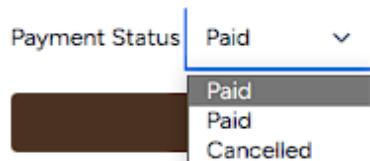
1. Click “Update” located under the Action tab of the product.

Update

2. Update the Delivery Status of the order.



3. Update the Payment status of the order.



4. Click the “Update Order Status” button.

Update Order Status



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USER MANUAL

GROUND FOR GROWTH WEBSITE



USER MANUAL

A step-by-step user guide to getting started
on the Grounds for Growth website.

Version 1.0

January 2024



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GROUND FOR GROWTH WEBSITE — USER MANUAL

1



INTRODUCTION

The Grounds for Growth website is a system that aims to provide a platform for managing the donation of spent coffee grounds (SCGs) and a service that exchanges SCGs as a new product instead of waste.

The users of the website range from regular users, users who primarily engage in the e-commerce aspect of the system, and donors, users who wish to donate their spent coffee grounds (SCGs).

BROWSER REQUIREMENTS

The Grounds for Growth website will work in the following browsers:

- Chrome
- Edge
- Firefox
- Opera
- Safari

GETTING STARTED

To access the website:

1. Open your browser of choice.
2. Type "groundsforgrowth.site" in the address bar and **enter** to go into the website.



REGISTERING AN ACCOUNT

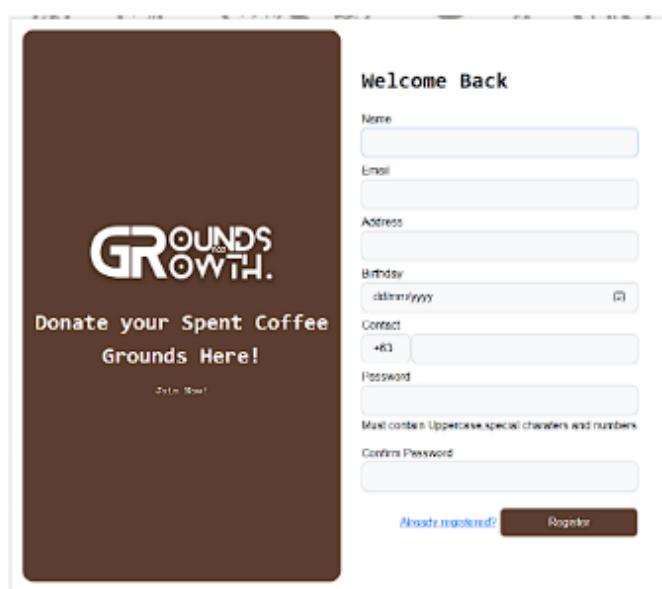
In order for the user to use the website, they must log into the system and to log into the system they must first have a registered account.

To register an account:

1. From the login page, **click** the hyperlink “**Register here**” located under the login button.

Don't have an account? [Register here](#)

2. **Fill-in** the registration form with the appropriate information.



The image shows a registration form titled "Welcome Back". It includes fields for Name, Email, Address, Birthday (with a date input field), Contact (with a country code "+83"), Password (with a note: "Must contain Uppercase, special characters and numbers"), and Confirm Password. There are also links for "Already registered?" and "Forgot your password?".

3. **Click** the “**Register**” button to finalize the registration of the account.

Register



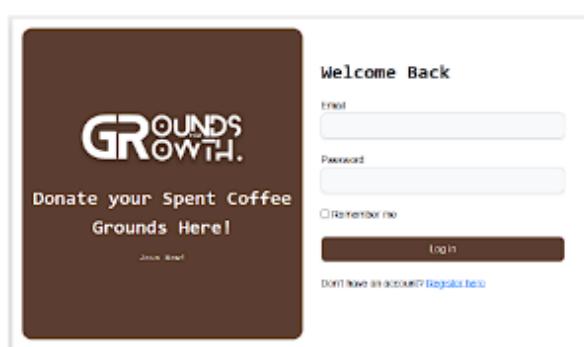
MAIN WEBSITE

LOGGING INTO THE WEBSITE

The user must first login to fully access the website.

To log in into the website:

1. **Input** the user credentials you previously registered with.



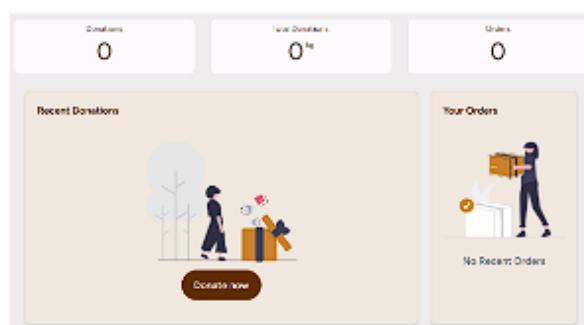
The image shows the login page of the "GROUNDS GROWTH." website. The page has a dark brown header with the logo "GROUNDS GROWTH." and the text "Donate your Spent Coffee Grounds Here!". Below the header, there is a "Welcome Back" message and fields for "Email" and "Password". There is also a "Remember me" checkbox and a "Log In" button. At the bottom, there is a link "Don't have an account? Register here".

2. **Click "Log In".**

Once logged in, you are immediately directed to the user dashboard.

USER DASHBOARD

The user dashboard contains the information and history of the user's recent donations, total donations, orders, and total orders.



GROUNDS FOR GROWTH WEBSITE — USER MANUAL

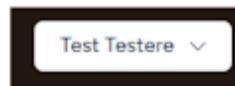


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SIGN OUT

To sign out from the system:

1. Click the button with your name located at the top right corner of the website.



2. Click "Log Out".

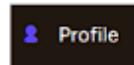




USER PROFILE

ACCESSING THE PROFILE PAGE

To view the profile page of the user, simply click the “Profile” button located on the navigation bar at the top of the website.



The profile page contains information from when the user registered their account. The user can update their profile, view their purchase history, and also delete their account.

A screenshot of a user profile page. On the left is a sidebar with a placeholder profile picture and sections for Test Testor, Contact No., Email, Address, and Birthdate. The main area has tabs for Profile and Orders. Under Profile, there are fields for Name (Test Testor), Birthdate (1996-11-06), Email (testor@gmail.com), Address (Test, Test), and Birthdate (1996-11-06). There is also a "Delete" button at the bottom of the sidebar and an "Edit" button in the main profile area.

UPDATING USER PROFILE

To update the user profile:

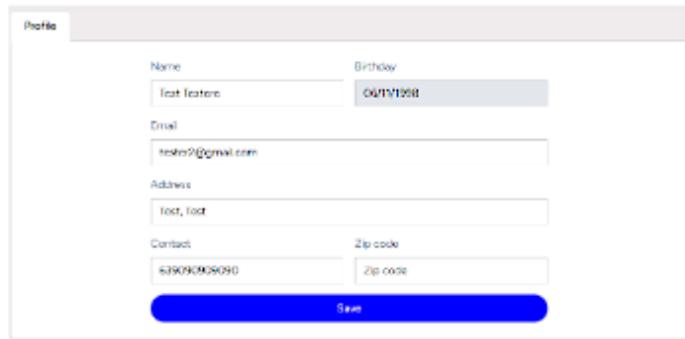
1. Click the “Edit” button.





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2. Input the changes in the form displayed.



A screenshot of a profile editing form titled "Profile". It contains fields for Name (text test), Birthday (04/04/1998), Email (tester2@gmail.com), Address (text, test), Contact (639090909090), Zip code (23000), and a blue "Save" button at the bottom.

3. Click the "Save" button to finalize changes.

Save

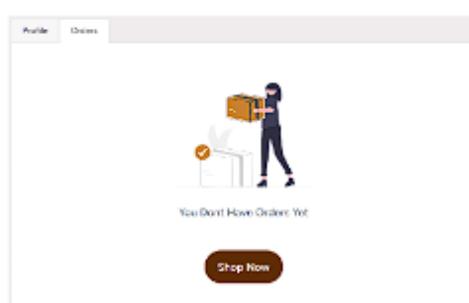
VIEWING PURCHASE HISTORY

To view the purchase history:

1. Click the "Order" tab.

Profile Orders

2. If the user does not have previous purchases then their Orders Tab will display this.



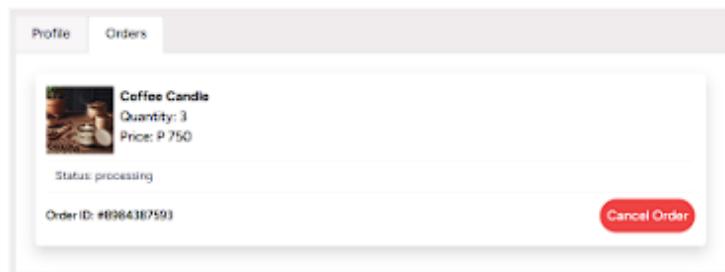
GROUND FOR GROWTH WEBSITE — USER MANUAL

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3. If the user has a previous purchase then their Orders Tab will display this.



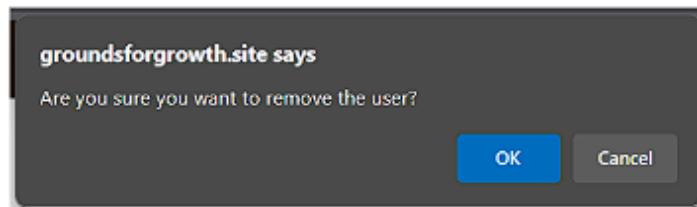
DELETING USER

To delete the user:

1. Click the “Delete” button.

Delete

2. Click the “OK” button to confirm deleting the account.





DONATIONS

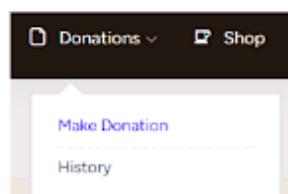
ACCESSING THE DONATIONS INTERFACE

To view the donations interface:

1. Click the “**Donations**” dropdown menu located on the navigation bar at the top part of the website.



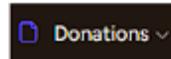
2. Click the “**Make Donation**” option.



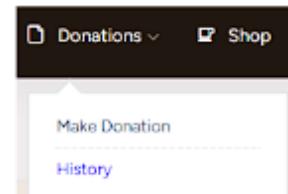
ACCESSING THE DONATION HISTORY INTERFACE

To view the donation history:

1. Click the “**Donations**” dropdown menu located on the navigation bar at the top part of the website.



2. Click the “**History**” option.





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The interface of the donation history will contain the previous donations made by the user. Information such as the date of the donation, Donation ID, Quantity (in KGs), the mode of delivery, the Courier, the scheduled date, and the status of the request.

Donation History						
Date	Donation ID	Quantity	Mode of Delivery	Courier	Scheduled Date	Status
2024-01-01 10:00:00	PH00000001	0	Pick Up		2024-01-01	Pending

MAKING A DONATION

While in the **Donation Interface**, to make a donation:

1. **Fill-in** the information required in the form provided.

Donation Form

Name:	Test Testere		
Email:	tester2@gmail.com	Contact Details:	639090909090
Quantity:	in KG	Type:	Arabica
Choose your Mode of Donation:			
Add Donation			

2. **Select** the mode of donation.

Choose your Mode of Donation:

--
--
Pick Up
Delivery



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3. Continue to **fill-in** the necessary information in the additional form.

Choose your Mode of Donation:

Delivery

Date of Delivery:
dd/mm/yyyy

Courier

Drop Off Location:
Manila



Add Donation

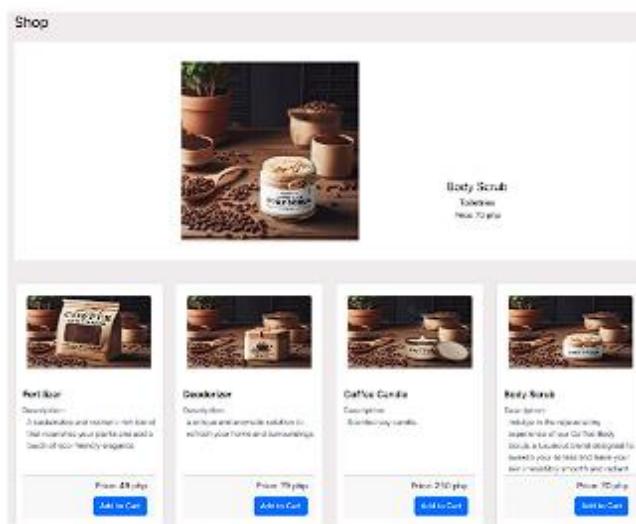
4. Click “Add Donation” to finalize the donation request.

Add Donation



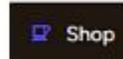
E-COMMERCE FEATURE

The E-commerce feature of the website includes the shop page, the cart page, and the purchase history page. The shop page contains products added by the admin, details such as the product image, description, price, and quantity are included here.



ACCESSING THE SHOP PAGE

To view the shop page, simply **click** the “**Shop**” button located on the navigation bar at the top part of the website.





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MAKING A PURCHASE ORDER

To make a purchase order:

1. Starting from the shop page, **click** the “Add to Cart” button of the desired product.

Add to Cart

2. **Input** the desired amount of the item.

3. **Click “OK”** to add the item to the cart.

Quantity OK

4. **Click** the cart icon located at the top right part of the website next to the user's name.

Test Testere ▾

5. If the user wishes to remove the item simply **click the “Remove”** button next to the product.

Remove

6. **Click** the “Cash on Delivery” button for the COD option and the “Card Payment” button for the E-Wallet option.

Cash On Delivery

Card Payment

7. For the COD option, **click “OK”** to finalize the order. And for the E-Wallet option, the system will provide a QR Code which the user can scan with their E-Wallet to complete their payment.



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COD Option:



E-Wallet Option:



8. Upload the screenshot of the receipt of the payment by clicking the "Choose File" button.

Proof of Payment
 No file chosen

9. Click "OK" to finalize the purchase order.

OK



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VIEWING THE PURCHASE HISTORY

The purchase history of the user can be seen from the user dashboard and inside the profile page.

Dashboard Display:

A screenshot showing the 'Your Orders' section of a user dashboard. It displays two completed orders. Order 1: Coffee Candle, Quantity: 3, Price: P 750, Status: Completed, Order ID: #8984387593. Order 2: Deodorizer, Quantity: 5, Price: P 395, Status: processing, Order ID: #1184531714. Each order item includes a small thumbnail image of the product.

Profile Page Display:

A screenshot showing the 'Orders' tab on a user profile page. It displays the same two orders as the dashboard. Order 1: Coffee Candle, Quantity: 3, Price: P 750, Status: Completed, Order ID: #8984387593, with a 'Cancel Order' button. Order 2: Deodorizer, Quantity: 5, Price: P 395, Status: processing, Order ID: #1184531714, with a 'Cancel Order' button.

GROUND FOR GROWTH WEBSITE — USER MANUAL

15



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APPENDIX

RESUME



MY CONTACT

Phone

+63 930 611 9784

Email

camatorenz@gmail.com

Address

Blk 22 Lot 10 EP Housing
Phase 2 Baragay Pinagsama
Taguig City

EXPERTISE

- HTML CSS, and Javascript
- Jquery
- React JS
- Figma
- Adobe Premier
- Davinci Resolve
- Adobe Photoshop

RENZ MICKO CAMATO

GRAPHIC & WEB DESIGNER

ABOUT MYSELF

Dedicated to knowledge acquisition, information technology skill development, and teamwork. Working autonomously with little supervision and collaborating with others on team tasks, self-directed and enthusiastic individuals who excel in autonomous and collaborative contexts.

EXPERIENCE

October 2018

Sutherland - IT SUPPORT (GTI DEPARTMENT)

Had basic experience on programming and Troubleshooting hardware issues, also had basic experiences on installing basic software applications for call center agents.

EDUCATION

2022-2024

Polytechnic Bachelor of Science in Information University of the Technology Philippines

2019-2022

Polytechnic Diploma in Information Communication University of the Technology Philippines



SOPHIA CUETO

MULTIMEDIA DESIGNER

MY CONTACT

Phone

+63 917 893 6065

Email

cuetosophia@gmail.com

Address

Quezon City, Metro Manila,
Philippines

EXPERTISE

- HTML CSS, and Javascript
- Adobe Photoshop
- Adobe Illustrator
- Adobe Indesign
- Adobe XD
- Figma
- Prototyping

ABOUT MYSELF

I'm dedicated to blending technology and creativity. My enthusiasm for design is fueled by a desire to create visually captivating solutions that make a lasting impact. Through my academic pursuits and entrepreneurial journey, I've honed my skills in multimedia design, aiming to push the boundaries of innovation. I believe in the power of technology to transform ideas into reality and am committed to continuous learning and growth in both my academic and professional endeavors. My goal is to contribute my skills and entrepreneurial spirit to meaningful projects and collaborations that inspire and drive positive change.

EXPERIENCE

Feb 2021-Present

Business Owner Operator

As the sole proprietor of Eudaimonia Co, I founded and managed a business specializing in organic, natural soy candles infused with essential oils. In this role, I oversaw all aspects of the business, from product curation and handcrafted production to marketing, quality assurance, and customer engagement. My commitment to sustainability and well-being drove the brand's growth and success.

May 2022 - Present

Freelance Designer

I work as a freelance designer, providing services to multiple clients. I operate independently and do not have a permanent company affiliation, allowing me to work on a diverse range of projects for different organizations.

EDUCATION

2022-2024

Polytechnic University of the Philippines Bachelor of Science in Information Technology

2019-2022

Polytechnic University of the Philippines Diploma in Information Communication Technology



MY CONTACT

Phone

+63 995-433-9217

Email

delapaz.jansteven0@gmail.com

Address

Marikina City, Philippines

EXPERTISE

- HTML CSS, and Javascript
- Web Design
- Computer Skills
- Communication Skills

JAN STEVEN DELA PAZ

WEB DEVELOPER

ABOUT MYSELF

Committed to continual knowledge acquisition and the development of information technology skills. Proficient at working both independently with minimal supervision and collaboratively within a team environment. A self-motivated and enthusiastic individual who thrives in autonomous and cooperative settings.

EXPERIENCE

Mar 2023- Present

Stream Operator

Add good quality source video to live stream in the platform. Continuously monitored the live stream during matches and events to ensure high video and audio quality, troubleshooting technical issues in real-time. Conducted quality control checks before, during, and after streaming to guarantee the highest possible streaming quality and minimize disruptions.

Jan 2022-Jun 2022

Melham Construction Corporation - UI/UX DESIGNER

Created intuitive, responsive UI/Ux for Delivery mobile using tools like Figma. Conducted user research, vsability testing, and applied findings to improve designs. Worked closely with cross-functional teams to refine designs and ensure alignment with project goals. Interacted with clients to understand their requirements, present design concepts, and gather feedback for continuous improvement.

EDUCATION

2022-2024

Polytechnic Bachelor of Science in Information
University of the Technology
Philippines

2019-2022

Polytechnic Diploma in Information Communication
University of the Technology
Philippines



MY CONTACT

Phone

+63 0905 045 4913

Email

klint.gelia2@gmail.com

Address

Rizal, Philippines

EXPERTISE

- C#
- C++
- Python
- Java
- COBOL
- HTML and PHP

KLINT EDWARD GELIA

WEB DEVELOPER

ABOUT MYSELF

A passionate web developer with a mission to transform ideas into interactive and user-friendly digital experiences. My journey in the ever-evolving world of web development has been nothing short of exhilarating.

EXPERIENCE

Mini E-commerce Website

A Full Stack Developer that excels on utilizing programming languages such as HTML, PHP, Javascript, MySQL, and Bootstrap Framework.

Inhouse Scheduling System

Had basic experiences as a project manager and a UI/UX Designer.

EDUCATION

2018-Present

Polytechnic University of the Philippines Bachelor of Science in Information Technology

2012-2018

Angono Private Highschool Senior Highschool



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Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
Office of the Vice President for Academic Affairs
College of Computer and Information Sciences

DTS #:

October 23, 2023

Dr. ANNA RUBY P. GAPASIN
Vice President for Research, Extension, and Development

Dear Dr. Gapasin,

I am writing to submit my formal Letter of Intent to request ethical clearance for my research project, titled 'GROUNDS FOR GROWTH: Empowering Sustainable Agriculture Through a Coffee Ground Exchange Platform'. This study aims to provide an effective platform for managing the donation of spent coffee grounds, providing a service that exchanges coffee grounds as a new product instead of waste, which will align in promoting sustainability, community fostering engagement and using spent coffee grounds as a valuable resource for compost in agriculture.

To ensure the highest ethical standards are maintained throughout the research process, I am seeking approval from the Institutional Review Board at the College of Computer Information Sciences.

I further attest that upon approval, I will abide by all existing rules and regulations set by the university.

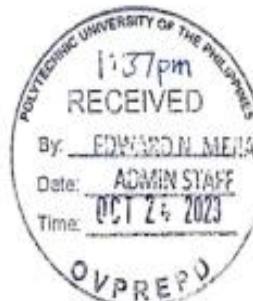
Respectfully,

Sophia P. Cueto
Researcher/Applicant's Name and Signature

Renz Micko C. Camato
Researcher/Applicant's Name and Signature

Jan Steven D. Dela Paz
Researcher/Applicant's Name and Signature

Clint Edward V. Gelia
Researcher/Applicant's Name and Signature



2nd Floor South Wing, PUP A. Mabini Campus, Anonas Street, Sta. Mesa, Manila 1016
Trunk Line: 335-1787 or 335-1777 local 233/712
Website: www.pup.edu.ph | Email: vpredl@pup.edu.ph

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Researcher/Applicant's Name and Signature

Renz Micko C. Camato
Researcher/Applicant's Name and Signature

Jan Steven D. Dela Paz
Researcher/Applicant's Name and Signature

Clint Edward V. Gelia
Researcher/Applicant's Name and Signature



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES



Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
Office of the Vice President for Academic Affairs
College of Computer and Information Sciences

DTS #:

Noted by:

Ms. Janelle Pyra A. Sagum, MIS
Adviser

Endorsed by:

Dr. Benilda Eleonor V. Comendador
Dean/Director/Principal



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	PUP-UNIVERSITY RESEARCH ETHICS CENTER APPLICATION FOR ETHICS REVIEW OF A NEW PROTOCOL		
	UREC Form No.	9	
	Version No.	1	

Instructions to the Researcher: Please accomplish this form and ensure that you have included in your submission the documents that you checked in Section 2 (Checklist of Documents).

1. General Information			
*Title of Study	Grounds for Growth: Empowering Sustainable Agriculture Through a Coffee Ground Exchange Platform		
*UREC Code/REC Panel Code (To be provided by UREC/REC)		*Study Site	Quezon City
*Name of Researcher	1. Renz Micko C. Camato 2. Sophia P. Cueto 3. Jan Steven D. Dela Paz 4. Klint Edward V. Gelia	Contact Information	*Tel No: N/A
*Name of Co-researcher/s (if any)			*Mobile No: 1. 09306119784 2. 09178936065 3. 09954339217 4. 09050454913
*Institution/ College/ Department	Polytechnic University of the Philippines – Sta. Mesa Manila College of Computer Information Sciences		
*Address of Institution	379 Pureza, Sta. Mesa, Maynila, 1008 Kalakhang Maynila		
*Field of Study (Please check one)	<input type="checkbox"/> Education <input checked="" type="checkbox"/> Computer Science Information Systems, and Technology <input type="checkbox"/> Engineering, Architecture, and Design <input type="checkbox"/> Humanities, Language, and Communication <input type="checkbox"/> Business <input type="checkbox"/> Social Sciences <input type="checkbox"/> Science, Mathematics, and Statistics		
*Source of Funding (Please check one)	<input checked="" type="checkbox"/> Self-funded <input type="checkbox"/> Government-funded <input type="checkbox"/> Scholarship/Research Grant <input type="checkbox"/> Institution-funded <input type="checkbox"/> Sponsored by a Pharmaceutical Company <input type="checkbox"/> Others		



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