**“BarterMe: A PLATFORM FOR EXCHANGING GOODS AND SERVICES”**

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Capstone Project

Presented to the Faculty of Information Technology Department

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In partial Fulfilment of the Requirements for the Degree of

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

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**CHAPTER 1**

**BACKGROUND OF THE STUDY**

Information technology or IT is known in this generation, people used to know this since it is common nowadays. It has developed into a potent force for change that is redefining traditional economic conceptions and altering interactions between people and organizations. Since everyone is aware of how quickly technology is developing, people work easily and use this in work, business and in school, even in their everyday lives. To put it another way, information technology affects every facet of daily life. In ancient time people did every essential thing to a survival one such as growing/making in their own food and even building in their house. That was before, but now we can do such things that are believable since there's so many invented technologies that are easy to use and handle. Presently, we purchase different goods and services with money, but with the help of this study, people can exchange their things for other people and make it easier for them to have a connection. Bartering is an oldest of commerce, Individuals and companies barter goods and services between each other based on equivalent estimates of prices and goods.  
 Bartering is a new way of understanding properties and effective one since bartering is very popular in other places, especially in Argentina during the crisis in 2001. At that time, approximately one million Argentinians turned to an alternative, moneyless economy to overcome their ﬁnancial problems. The barter system rescued a major part of the Argentinian lower and middle classes from the money crisis. However, the beneﬁts of barter exchange were noticeable in many other areas.  
 In a slow business, bartering can help a small business to find a customer and move their inventory, which supports the economy. Also, bartering can help people to a bad dept. The Internet is the way for them to help firm make the connections that they need. The motivation behind this capstone thesis, titled "BarterMe”, is to investigate the present-day ramifications and uses of bartering in the digital age. Our primary objective is that streamlines bartering transactions, building a vibrant community of users who can trade their items and services in a simple and efficient manner. To achieve this vision, we will integrate key technologies, specifically Database and User Interface, into the mobile application's core architecture.

This study focuses on BarterMe for exchanging goods and services in Carigara, Leyte. Barter has become effective in economy since the old practice of bartering has given new life by the quick development as by generation and influences, now that made it possible via online marketplaces and smartphone apps. "BarterMe," was inspired by a desire to investigate the modern implications of bartering in the digital era. We intend to provide an effective and entertaining platform for users to engage in smooth bartering transactions by creating a mobile application that makes use of fundamental technologies like Database and User Interface. Through this project, we seek to examine the possible effects of bartering on economic sustainability and community development while also modernizing and reviving the practice.

**OBJECTIVE OF THE STUDY**

**General Objectives;**

“BarterMe” aims to create and implement a user-friendly online platform that promotes and facilitates the exchange of things or so-called bartering items. Through this platform, the users could exchange their things to other people who are only using the app and willing to grab the things that are ready to barter. It will be helpful and usable since everyone is using gadgets.

**Specific Objectives**

1. To develop and design “BarterMe” as a user-friendly and have an efficient online bartering app.
2. To propose a recommendation that a user could input their comments and suggestions.
3. To evaluate the usability and functionality of “BarterMe” platform through the feedback and user-testing.
4. To investigate the potential benefits and challenges of “BarterMe” in business, including the impact and its resource utilization.

**Scope and Delimitation**

The scope of our capstone project is to create a comprehensive system particularly for the town of Carigara, promoting a sustainable and interactive community experience. It will facilitate the bartering of various items like household goods, electronics, clothing and such, allowing users to trade their possessions with others. To secure participation, the system will require user registration and authentication. Users will be able to create detailed item listings, set preferences for desired items, and utilize a search feature to find suitable exchange opportunities.

In addition, a private messaging system will be implemented to enable safe negotiations between users. However, the project's delimitations restrict monetary transactions, virtual goods or services exchanges, and the provision of delivery services. Furthermore, the platform will operate in the locality of Carigara, and while basic authentication is required, extensive user verification processes will not be conducted. As the project evolves, these scope and delimitations may be refined based on resource availability, time constraints, and feedback from stakeholders.

**Significance of the study**

The findings of this study will have a great impact on society, considering that BarterMe has an important role in the digital era. This study will help not only the users but also the people who live in the community, future users from other places and lastly, the future researcher.

For the people who live in the community/residents - Through bartering connecting user within the BarterMe app, it may enhance the community interactions, supporting different local businesses, and strengthen social bonds. By this, people that are living in a community could have easy access, and they also have a connection to each other by not knowing their real identity but only in their name that they used in the Barter app.

For future users from other places, this study may provide them with insight on how barter works.

For future researchers, through the outcome it will be useful to the future researchers, who have plan to make or improve any related to this study.

**Chapter II**

**THEORETICAL FRAMEWORK**

In today's generation, people usually use technology in their everyday lives, making their lives easier. This chapter primarily presents the different researchers and other literature from both foreign and local researchers, the theoretical and conceptual framework, and the importance of barter which has been significant in research. It focuses on different aspects that will help in the development of this study.

**REVIEW OF RELATED LITERATURE**

Our study is related to Barter, a platform for exchanging goods and services. This literature aims to explore the existing bartering system, its challenges, and the benefits of the barter system in foreign and local countries that can help the researchers in the study.

**Foreign Related Literature**

According to Rampton (2017), social media is a ground-breaking channel for drawing in and associating with current clients. It enables you to demonstrate you are progressively close to the home side, rapidly address client concerns, and demonstrate that you are a specialist in your field. Be that as it may, web-based life can likewise be a key driver of new prompts for your business. Moreover, as these prospects become clients, online life enables you to sustain those new connections, prompting more prominent associations, and in the end, transformations (Rampton, 2017).

Bartering goods and services for psychotherapy is a controversial and polarizing topic. Authors have written that bartering in any circumstance is unethical (e.g., Woody, 1997,) and until recently the APA strongly discouraged bartering in their code of ethics (APA, 2010). However, the literature on the topic is scattered and there are no empirical studies to evidence that bartering causes harm to clients. Despite this fact, bartering-related issues are a cause for many ethical complaints (Pope & Vasquez, 2011). Further, current ethical codes restrict bartering only when it is (a) clinically contraindicated or (b) exploitative of the client (APA, 2010). So long as these conditions are met, there are ethical issues as defined by the APA; however, prudent practitioners should consider the implications for transference/countertransference, the issue of multiple relationships, and the symbolic meaning of the barter. Bartering substitutes money for other forms of payment, and individuals who have products or expertise, but little income may therefore be able to obtain services they would not otherwise. This increase in access to services is in line with the philosophy of social justice, which is a philosophical underpinning of counseling psychology (Vera & Speight, 2003).

According to Graeber (2011), "gift economies" were common, at least at the beginnings of the first agrarian societies, when humans used elaborate credit systems. In other words, if we do not allow the existence of delayed barter -and therefore of the associated debit/credit system – then barter is a pure abstraction.

For some authors, such as Chapman (1980), barter should be restricted to pure economic transactions, i.e., only to market exchange. However, it is also possible to consider that exchanges motivated by social obligations or even coercion (e.g., by reciprocity or redistribution, according to Polanyi's terminology) are also barter if they are cashless.

In emerging economies, the activities of barter traders do not only make it easier to spread existing resources more efficiently, but also provide for the growth of resources (Bauer, 2000: 4). Barter is therefore a special financial instrument that transforms the economic resources of countries and companies into economic gain. Today's modern barter system provides the exchange of goods and services in an organized market. Barter is therefore a special financial instrument that transforms the economic resources of countries and companies into economic gain. Today's modern barter system provides the exchange of goods and services in an organized market. In the literature, this organized barter type is referred to as "multilateral barter” and "financial exchange". But barter is a financing tool more contemporary and comprehensive than simple exchange (Özkan, 2002). Today, the barter system is also referred to as "stock exchange of the goods and services" (Alptürk, 2009) and "free trade" (Şimşek, 2004: 28). Indeed, today's modern barter system is created by the organizer company, there is a common market where companies that are members of the system can shop with each other and the goods or services purchased in this market are paid by goods or services produced or traded, not by money (Yeşiloğlu and Yiğit, 1996: 16). Therefore, barter is a financing instrument that a firm can use to buy goods and services needed and a trading technique by which a firm can sell goods and services produced.

According to the US Department of Commerce, barter constitutes about 30% of total world trade in various forms. The Business Trend Analysts' research has found that 40% of world trade is done with the barter system. Again, according to US statistics, barter trade has increased around 16% per year (Saygılıoğlu, 2009: 197). The oldest known barter organization was established in Switzerland in 1934 (Arslan and Aykutlu, 1999: 2-3). Organized barter system is most applied in USA. Today more than 900 barter companies are operating in various countries and more than 700 thousand companies actively trade barter (Toroslu, 2010: 68). In Turkey, barter organizations have been operating since the 1990s (Bayrav, 2009: 8), and barter system began to be recognized in 1994 economic crisis when overstock of companies were utilized by barter.

Damitio and Schmidgall (1995) were interested in barter in tourism; they specifically focused on the lodging industry. They found that the retention of cash was the major reason for bartering. Another driver for bartering was to dispose of surplus inventory. The final motive was the possibility to obtain advertising at a lower cost than if they had to pay for it in cash.

Some researchers mention quality as one of the issues in bartering. Quality is usually unknown. Li (1998) argues that this makes an intermediary, who checks the quality of the bartered goods, a useful extension of the barter relationship. Fong and Szentes (2005) point out that there is no inherent intention to increase quality in bartered goods.

Lindberg (2002) points out that there are also other reasons to engage in nonmonetary exchanges, such as barter, and thus avoid cash transactions. For instance, Gaddy and Ickes (1998, p. 639 60) note that ―[t]he tax authorities might be less likely to accept noncash payments from an enterprise holding a lot of cash. Cash is also vulnerable to extortion by organized crime‖.

According to Braudel’s (1992) historical description of the evolution of market capitalism, the modern classical definitions of money set out above “leave out the essential point—the monetary economy itself, the real reason for the existence of money. Money only becomes established where men need it and can bear the cost.” Indeed, rather than a linear evolution from barter to money, Braudel (1992, 439) emphasizes the simultaneous existence of monetary exchange and what is better called “exchange in-kind” rather than bilateral barter exchange: “Commodities were commonly exchanged for one another in Naples,” without the intervention of a money commodity as late as the 18th century. These real exchanges required “all parties agreeing to abide by prices which the authorities fixed later (prices called alia voce). Then each consignment of merchandise was valued in money and exchanged according to the ratio of these values” (Braudel 1992, 470). Braudel (1992, 447) also provides a description of the United States in 1791: “it is the practice here for country people to satisfy their needs by direct reciprocal exchanges. The tailor and bootmaker go and do the work of their calling at the home of the farmer who requires it and who, most frequently, provides the raw material for it and pays for the work in goods.”

Indeed, Stolle (2017, 112) points out that the classical emphasis on the emergence of a single “commodity money” to serve as a reference for exchange ratios would thus seem to presume “that no one in the murky past had the brains to buy stuff in order to resell it.”

The increase in bartering is nowhere better exemplified than in Fiji, which inspired Dunne’s London group. The country has a long tradition of barter, known as ‘veisa’. It’s only grown amid Covid-19, and Fijians have harnessed modern technology to connect even more people. “I knew that money would be tight to stretch out and even harder to come by. I asked myself what happens when there’s no more money? Barter was a natural solution to that,” says Marlene Dutta, who started the Barter for a Better Fiji group on 21 April. Its membership is just under 190,000 – more than 20% of Fiji’s population. Items changing hands have run the gamut – pigs for kayaks, a violin for a leather satchel and doughnuts for building bricks – but the most requested items have been groceries and food. “The primary reason for setting up the Facebook group was to help offer a solution to our current economic situation,” says Dutta. Fiji’s tourism-dependent economy has been hit particularly hard during the pandemic, with an estimated 100,000 people (about the seating capacity of the Los Angeles Memorial Coliseum) losing jobs in an industry that contributes around 30% to Fiji’s GDP and employs around a third of Fiji’s total labor force. Along with goods, some people have been trading another precious commodity that they may have had more of recently – time.

‘Time banking’, which started in Japan in the 1970s, and in the US in 1992, is seeing a jump in popularity. Members of a time bank spend one hour helping another member and can receive one hour of help in return. People offer and receive things such as piano lessons, painting services or language teaching.

**Local Related Literature**

Bartering has been present in the Philippines long before the Spanish colonized our country and when the pandemic happens, it seems that the barter trade is making a comeback.

The COVID-19 pandemic has endangered our health system worldwide, and infection control has caused an economic crisis by bringing a huge measure of economic activity to a sudden end. The pandemic has worsened the economy, leading to the emergence of online marketplace, via social media platforms such as Facebook. The intensity of internet-based life is the capacity to interface and offer data with anybody on Earth (or large numbers of individuals) if they likewise utilize web-based life (Dollarhide, 2019).

The **Department of Trade Industry** warned Filipinos against engaging in the “online barter trade” amid the novel coronavirus pandemic because it is not taxed.

There was an immediate rise of search volume in Google for the term “barter” in the country. From April to May, **iPrice Group** conducted a study that saw a big jump of up to 407% in total search volume. This also applies to related keywords such as “barter trade” going up 203%. We could say that Filipinos are really getting into bartering much like we did back in the good old days.

What is also interesting is that most people engaging in barter trade in the country are from outside Metro Manila. **iPrice Group** analyzed 85 popular Facebook barter groups in the country, a total of 2,150,448 Filipinos are in one way or another, members of these groups. 72% out of 85 are groups outside of Metro Manila which accounts for 1,902,873.

Online bartering has become a massive trend in the Philippines. Many people have lost work because of the novel coronavirus pandemic, and exchanging goods is a way to procure basic necessities. The movement began with Bacolod-based lawyer Jocelle Batapa Sigue, who started an online barter community with just 10 members back in May 2020. She sets rules, such as no cash transactions, and in-person exchanges only, to promote a system of mutual assistance. Today over a million people across the Philippines are bartering online. Explore how Filipinos are using this new system to make it through the pandemic.

Users can post items or services they want to exchange on the online barter communities. A barter community was set up in the city of Bacolod by Jocelle Batapa Sigue, a former politician and practicing lawyer. Entertainer Rodelyn Enchaw-Walter is exchanging performances for necessities like groceries.

Filipinos getting into Bartering, to declutter, to grab essential items, and lastly, to Socialize and get a sense of community. What is great in this system is that you don’t need money to participate, you get what you need for the right item.

**Conceptual Framework**

**Chapter III**

**OPERATIONAL FRAMEWORK**

**Introduction**

This chapter provides an overview of the operational framework used in the study. It contains Information about the materials that the researchers used to construct the system. It contains the software and hardware that is very relevant to systems development. And lastly, the proponent outlined the methodologies used for this study.

**Materials**

In this study, the software used in developing the application was the Visual Studio Code also commonly referred to as VS code, it is a source-code editor made by Microsoft with the Electron Framework, for Windows, Linux and macOS. The second one is Flutter, which is Google’s UI toolkit for building beautiful, natively compiled applications for mobile, web, and desktop from a single codebase. Flutter works with existing code, is used by developers and organizations around the world, and is free and open source. The third one is the Android Studio; it was created with the IntelliJ IDEA software by JetBrains and is the official integrated development environment (IDE) for Google's Android operating system. Lastly, Firebase is a cloud-hosted database. Data is stored as JSON and synchronized in real-time to every connected client.

**Software**

* Visual Studio Code
* Flutter
* Android Studio
* Firebase

While the hardware used for testing the application is Mobile phone and for developing the program and making it functional is Laptop Windows 10 OS. The table below shows the hardware specifications.

Table 1: Hardware Specification Used in Developing the Application

|  |  |
| --- | --- |
|  | **Laptop Windows OS** |
| Processor |  |
| Installed RAM |  |
| System Type |  |
| Edition |  |
| Version |  |

**Table 1** above shows the hardware used in developing the program of the proposed application BarterMe: A Platform for Exchanging Goods and Services.

Table 2; Hardware Specification Used in Running the Application

|  |  |
| --- | --- |
|  | **MOBILE PHONE** |
| Processor |  |
| RAM |  |
| Android Version |  |

**Table 2** shows the hardware specifications used in testing the application to examine how it works and its features.

**Data Gathering**

The researchers conducted an interview with random people (user of barter and non-barter user) in Carigara Leyte. According to her, Barter is a platform where you can see items that can be traded in by members of the group. She doesn’t know the users, but you can get to know them because you can meet them in person and you can chat with them, especially if you are interested in their items. She also added, “You can’t be scammed because you can get it personally. So, when you both meet, you can examine the product or items. If it's suitable for you or you like it or not, then if not, you don’t need to trade that item". The member of the group in Messenger/Facebook accepts if you don’t like the item. So far, there's no complaint about returning the item if you don’t like it because one of the rules of bartering is that “You can’t Barter if you don’t see the item in person”. The proponents ask if they encounter difficulty using Facebook and Messenger in Bartering. Since they only used messenger (group chat) when they wanted an item, they needed to backread the conversation, and then they couldn't see who posted it, so there was a first hitch when bartering because they didn't even know what date the item was posted.

**System Environment**

**Locale**

The locale of the study is within the Municipality of Carigara, Leyte only.



Figure 2: Carigara, Leyte

Figure 2 shows the exact Location where some of the users of Barter in Facebook/Messenger are located.

**Experimental Design/Model**

The diagram shows the Agile Methodology that will be used in the research process. It represents how the project is being implemented till the end of time. By that, the agile are divided into five (5) phases and each phases have specific function.

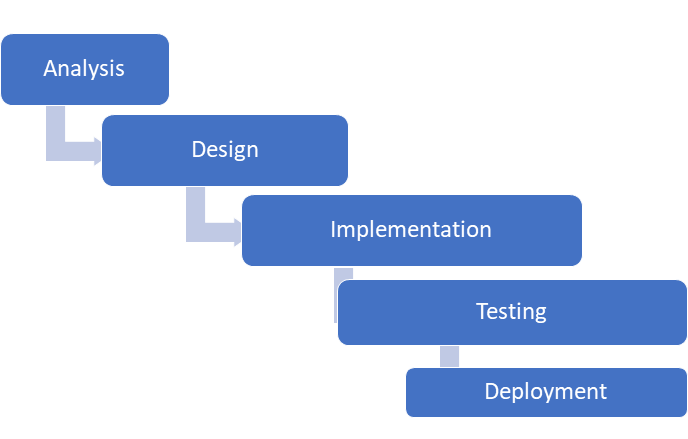


Figure 4: Agile Model

**Methods**

**Phase 1: Analysis**

In this phase, the researchers will gather data and conduct interviews with the people of Carigara, Leyte to know their perspective, experience and problems or challenges they encountered about Bartering and create a design according to the requirements.

**Phase 2: Design**

After gathering data, the researchers will discuss the flow of the study and design according to the gathered data. By collecting data about bartering, the researchers knew the challenges and the needed features upon creating mobile application that will be helpful for the users and track the schedule for expected date to develop the mobile application.

**TABLE FOR GANTT CHART**

Schedule of Activities and Timeline

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TASKS  NAME | MONTHS | | | | | | | |
| MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER |
| ANALYSIS |  |  |  |  |  |  |  |  |
| DESIGNING |  |  |  |  |  |  |  |  |
| IMPLEMENTING |  |  |  |  |  |  |  |  |
| TESTING |  |  |  |  |  |  |  |  |
| DEPLOYMENT |  |  |  |  |  |  |  |  |

**Phase 3: Implement**

In this phase, the developer will be coding and developing the system and the programming language that will be used to develop mobile applications is Flutter.

**Phase 4: Testing**

This is where testing will proceed to show the expected results of the system to decide if it is working or not. The system will be examined or tested, if an error occurs the developer can return to implementation where coding is being processed or any phases knowing the Agile Method until it functions correctly and accurately.

**Phase 5: Deployment**

If the system is done accurately and shows no signs of errors, the mobile application system is ready to deploy, and the users can finally install the application.

**Modelling**

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