

BUSINESS CASE
BREGGHAN POINT OF SALE SYSTEM

AURORA

**PROJECT DOCUMENTATION SUBMITTED TO THE FACULTY OF THE
SCHOOL OF COMPUTING AND INFORMATION TECHNOLOGIES**

ASIA PACIFIC COLLEGE

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
SYSTEM ANALYSIS AND DETAILED DESIGN FOR IT
PROJMAN**

**BREGGHAN STORE
60 MT. MAKILING ST.
POST PROPER SOUTHSIDE, MAKATI CITY**

DATE
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1. EXECUTIVE SUMMARY

Bregghan Mini Grocery Store is a family-owned business that supplies retail, wholesale, and bulk products to residents and sari-sari stores in the area. The store's current system for tracking sales and stocks is manual, using pen and paper, which has led to difficulty in monitoring inventory and potential loss of sales due to items being out of stock.

To address these pain points, our team aims to develop a responsive webapp that digitizes the recording of stocks and sales, notifies the user when stocks are at a critical level, and automates the computation of sold items. In addition, the webapp will also produce a basic report that shows the items sold.

1.1. Issue

- **Manual inventory tracking**
The current system at Bregghan mini grocery store involves manual recording of stocks and sales on paper, which can be time-consuming and prone to errors. The lack of a proper inventory management system can result in out-of-stock items and missed sales opportunities.
- **Inefficient sales tracking**
The current sales tracking process relies on hand-written receipts, which can lead to errors in the computation of sold items and total sales. This can result in inaccurate sales data and hinder the store's ability to make informed business decisions.
- **Lack of real-time monitoring**
Without a digital system, the staff at Bregghan mini grocery store are unable to monitor stocks and sales in real-time. This can result in missed opportunities to replenish stock levels and can make it difficult for the store to keep up with customer demand.

1.2. Anticipated Outcomes

- **Improved inventory management**
The implementation of a digitized sales and stock tracking system will allow Bregghan mini grocery store to have accurate and real-time data on their inventory. This will enable them to make informed decisions on when to replenish stock, which products to order, and how much stock to order, leading to a reduction in stockouts and overstocking.

- **Increased sales:**

With the implementation of a Point-of-Sale (POS) system, the checkout process will be faster and more efficient. Customers will have a better experience and may be more likely to return. The system will also be able to generate reports on the top-selling products, which can help the store to make informed decisions on product placement and marketing strategies.

- **Reduced errors:**

The automated computation of items sold will significantly reduce the occurrence of human errors, which can lead to miscounting of inventory and discrepancies in sales records. This will result in more accurate sales and inventory data.

- **Increased productivity:**

The implementation of a digitized sales and stock tracking system will reduce the workload of the staff, as they will no longer have to manually record sales and inventory. This will free up their time, allowing them to focus on other tasks that can improve the store's operations.

1.3. Recommendation

To address the identified business problem of inefficient stock and sales monitoring at Bregghan mini grocery store, the developers recommend developing a responsive web application that digitizes the recording of stocks and sales, automates computation of sold items, and produces reports. By implementing this solution, the staff and manager of Bregghan mini grocery store will be able to monitor stocks and sales in real-time, reducing workload and minimizing human error. This will lead to more efficient inventory management and faster checkouts, resulting in improved customer satisfaction. The system will also provide alerts when stock levels reach a critical point, allowing the store to replenish inventory on time and avoid potential revenue loss due to out-of-stock items. Furthermore, the application's capability to produce detailed sales reports will provide useful insights to the business, allowing for data-driven decision-making to further optimize operations and profitability. To conclude, the developers believe that the proposed solution will address the identified business problem and provide significant benefits to Bregghan mini grocery store, its staff, and its customers.

1.4. Justification

Bregghan mini grocery store recognizes the need for improvement in its operational processes, particularly in sales and inventory tracking. The current manual system in place is time-consuming and prone to errors, hindering overall efficiency. To address these challenges, the store proposes implementing a digitized system that offers numerous benefits.

By adopting a digital system, the staff, and managers at Bregghan can track sales and inventory in real-time, reducing the workload and improving efficiency. The proposed project will enable more accurate inventory tracking, ensuring timely restocking to avoid stockouts and potential sales losses. With better inventory management and automated sales tracking, the store can meet customer demands more effectively, leading to increased sales and greater customer satisfaction.

In addition to sales and inventory improvements, the implementation of a point-of-sale (POS)-like system will enhance the overall customer experience. Customers will benefit from faster checkouts and more accurate receipts, resulting in improved service quality. Furthermore, by embracing digitalization, Bregghan mini grocery store can remain competitive with other stores that have already implemented similar systems, maintaining its position in the market.

Failure to implement the proposed project would have negative consequences for the store. The current manual system would continue to hinder efficiency and accuracy, resulting in wasted time and potential revenue loss. Inaccurate inventory tracking could lead to stockouts, lost sales, and dissatisfied customers. Furthermore, without keeping pace with competitors who have already embraced digital systems, Bregghan mini grocery store risks losing customers to these technologically advanced stores. Therefore, it is imperative for the store to proceed with the implementation of the proposed project to drive efficiency, sales growth, customer satisfaction, and maintain a competitive edge in the market.

2. BUSINESS CASE ANALYSIS TEAM

The roles and responsibilities of the team members involved in the plan development are illustrated in Table 1.

Designation	Name
Project Sponsor:	Ms. Devilyn C. Ligligen
Project Advisor:	Doc. Manuel L. Calimlim Jr.
Project Manager:	Ramon Benedict V. Elloso
Project Team Leader:	Carlos C. Ligligen Jr.
Team Member:	Andrei Gabriel B. Palma
Team Member:	Donne Paolo Y. Tarinay

Table 1. Responsibilities of Team Members

3. PROBLEM DEFINITION

3.1. Problem Statement

Bregghan mini grocery store is currently facing several issues in their daily operations, which are mainly caused by their manual recording and tracking system. Specifically, the store has trouble in monitoring their inventory, which can result in insufficient stocks or overstocking. Additionally, the manual computation of sold items often leads to errors, which affects the accuracy of their sales records. As a result, the store loses potential customers due to a lack of available items, leading to decreased profits. Furthermore, the current process of tracking sales and stocks is time-consuming, which can lead to slower checkouts and longer queues. Overall, the business problem is the need for a more efficient and accurate system to monitor inventory and sales to improve the overall customer experience and increase revenue.

3.2. Organizational Impact

The implementation of the proposed project will have a significant impact on the organizational processes, tools, hardware, and software of Bregghan mini grocery store. It will require the adoption of new technology and the implementation of new processes

to manage sales and inventory in a digitized and automated way. The system will replace the traditional pen-and-paper method of tracking sales and inventory, which will require staff to be trained in the use of the new technology.

New roles will be created to manage the system and ensure its proper functioning. The system will also require the creation of a database of products that the store offers, and this will need to be updated and maintained regularly.

The proposed project will bring a positive impact to the organizational processes, increasing the efficiency and accuracy of sales and inventory tracking. The store staff will be able to manage the stock level in real-time, making restocking more efficient and reducing the risk of stockouts.

3.3. Technology Migration

The plan for the Bregghan POS System involves the creation of a website and mobile application that will be powered by Amazon Web Services (AWS) for the database. AWS is a type of cloud service that allows businesses to rent computing resources like servers, storage, and databases. The developers chose AWS for the mini grocery store due to its scalability, allowing the store to scale up or down easily to meet changing demands in the future without worrying about managing their infrastructure. AWS is also highly reliable and can handle large volumes of traffic and data without slowing down. The data migration process will ensure that all necessary data is transferred to the new system, and the new system will undergo thorough testing to ensure reliability, efficiency, and security.

4. PROJECT OVERVIEW

This section provides a broad overview of the Bregghan POS System, which encompasses a description, its goals and objectives, performance criteria, assumptions, constraints, and major milestones.

4.1. Project Description

The project will develop a Point-of-Sale system to address the business problem of Bregghan mini grocery store which is the lack of efficient monitoring of their stocks and sales. The purpose of the project is to develop a digital application that will provide the staff and manager of the store with an efficient way of monitoring their stocks and sales in real time, reducing the workload and potential for human errors. The project will consist of developing a POS system where users can monitor the items that go in and out of the store and can compute the total prices, and a system for generating and storing digital copies of receipts. The system will be developed using modern software development practices and technologies. The project will be executed in different

phases, with clear milestones and deliverables to ensure that it stays on track and within scope.

4.2. Goals and Objectives

The project team intends to accomplish the project as effectively as possible to help and improve the current system of Bregghan Store. The following listed objectives are the team needed to accomplish:

- To develop a responsive web application that accurately tracks sales and inventory for Bregghan mini grocery store, enabling real-time monitoring and reporting.
- Decreases the number of steps that the user can do in the whole transaction for faster checkouts.
- To fully digitize the recording of stocks and sales for Bregghan mini grocery store, ensuring that all inventory and sales transactions are accurately captured and stored electronically.
- To implement a notification system that alerts the user when stock levels reach a critical threshold, ensuring timely replenishment and avoiding stockouts.
- To automate the computation of sold items, ensuring accurate and efficient tracking of sales data.

4.3. Project Performance

Assessing the project performance of a Point of Sale (POS) system project involves evaluating various aspects of the project to determine its progress, adherence to objectives, and overall success. Listed below are the project assessment of the Bregghan Point of Sale System:

- **Schedule Performance**
The team will have to evaluate the project's schedule performance by comparing the planned timeline with the actual progress. This assessment involves monitoring the achievement of milestones and deliverables within the defined timeframes and analyzing the schedule variance and schedule performance index. These indicators help determine if the project is progressing as scheduled or if there are delays.
- **Project Cost Performance**
The project team must assess the project's cost performance by comparing the planned budget with the actual expenditure. This evaluation involves analyzing the cost variance and cost performance index to determine if the project is

staying within the budget or if there are cost overruns. It is also essential to evaluate the effectiveness of cost control measures in place to manage expenses effectively.

- **Quality Performance**
The project team must evaluate quality performance by assessing the project's adherence to quality objectives and metrics defined for the POS system. This assessment involves examining the level of compliance with quality standards and customer requirements, as well as identifying and addressing any quality issues, defects, or customer complaints. The effectiveness of corrective actions taken to resolve quality issues should also be assessed.
- **Scope Performance**
The scope performance should be assessed by reviewing the alignment of project deliverables and scope with the initial project requirements and objectives. This evaluation involves analyzing any scope changes that have occurred and assessing their impact on the project's timeline and budget. It is crucial to evaluate the scope variance and the effectiveness of scope control measures implemented to ensure that the project stays on track.
- **Risk Performance**
The risk performance should be evaluated by the project team by assessing the identification and mitigation of project risks. This involves examining the effectiveness of risk response strategies implemented and identifying any emerging risks that may pose a threat to the project's success. Proactive risk management is essential to minimize the impact of risks on the project.
- **Stakeholder Satisfaction**
Finally, it is crucial for the project team to gather feedback from various stakeholders, including users, management, and other relevant parties, to ensure their satisfaction. Obtaining feedback from these stakeholders helps assess their level of involvement and contentment with the project's results. Additionally, it provides valuable insights that can be used to pinpoint areas that require enhancement based on the stakeholders' input.

4.4. Project Assumptions

- All necessary funding and resources will be secured and available for the duration of the project.
- All stakeholders will be available and able to provide input as needed throughout the project lifecycle.

- There will be no major technological or market disruptions that would impact on the project's success.
- The project team will have the necessary expertise and skill sets to complete the project successfully.
- All regulatory and legal requirements will be met, and any necessary permits or approvals will be obtained.
- The project will be completed within the proposed timeline and budget.
- The project scope will remain consistent throughout the project lifecycle, and any changes will be managed through a formal change control process.
- The project team will be able to effectively communicate and collaborate throughout the project lifecycle.
- The project will not have a significant negative impact on the environment, community, or stakeholders.
- The project will result in the anticipated benefits and outcomes as described in the business case.

4.5. Project Constraints

- Budget constraints: The project cannot exceed a certain budget, which may limit the scope or timeline of the project.
- Time constraints: The project must be completed within the designated timestamp.
- Resource constraints: The project team may have limited staff, expertise, or technology available to complete the project.



4.6. Major Project Milestones

Milestone	Duration
Project Initiation	03/28/2023 - 04/28/2023
Project Planning and Preparation	05/01/2023 - 05/18/2023
Phase I: Analysis	05/19-2023 - 05/26/2023
Phase II: Design and Development	05/29/2023 - 07/08/2023
Phase III: Testing	07/11/2023 - 08/15/2023
Phase IV: Implementation	08/16/2023 - 10/19/2023
Project Closeout/Completion	10/20/2023 - 11/20/2023

5. STRATEGIC ALIGNMENT

The strategic alignment of the Bregghan Point of Sale (POS) system refers to how well the project aligns with the organization's overarching strategic objectives and goals. The POS system should be designed and implemented in a manner that supports the organization's long-term vision and strategic initiatives.

To achieve strategic alignment, it is crucial for the project team to have a deep understanding of the organization's strategic direction and determine how the POS system can contribute to its success. This entails conducting a comprehensive analysis of the organization's business processes to identify areas where the POS system can enhance efficiency, improve the customer experience, or drive revenue growth.

Moreover, the project team must align the scope, features, and functionalities of the POS system with the organization's strategic priorities. This involves prioritizing the development and implementation of system components that are most critical to achieving the organization's strategic objectives.

Regular and effective communication and collaboration between the project team and key stakeholders, including senior management, play a vital role in ensuring strategic alignment. It is essential to actively involve stakeholders throughout the project lifecycle and seek their feedback to validate that the POS system is meeting strategic goals and delivering the desired impact on the organization's overall performance.

6. COST BENEFIT ANALYSIS

The following section in the document provides a detailed examination of the costs and benefits of the Bregghan POS System project. The aim of this analysis is to assess the financial viability of the project, considering the expenses as well as the projected advantages of the suggested system. The findings of the analysis will assist in determining if the project is a valuable investment for the client.

The costs considered in the cost benefit analysis include both upfront expenses, such as software development, hardware procurement, and implementation costs, as well as ongoing operational costs like maintenance, upgrades, and support. These costs are carefully estimated and aggregated to provide a comprehensive understanding of the financial investment required for the POS system.

Costs:

- Manpower Cost: ₱ 546,240.00
- Software Cost: ₱ 0.00
- Miscellaneous Cost: ₱ 88,200.00
- Contingency Cost: ₱ 81,285.80

Benefits:

Implementing a Point of Sale (POS) system in the Bregghan store can bring about a multitude of valuable advantages. Listed below are the several potential benefits:

- **Improved Efficiency**
A POS system automates various processes, such as inventory management, sales tracking, and transaction processing. This will reduce the number of steps of the current manual system of Bregghan store.
- **Enhanced Accuracy**
With a POS system, the chances of human errors in recording sales, calculating prices, or managing inventory are minimized. This leads to more accurate data and reduces discrepancies in stock levels and financial records.

- **Real-time Inventory Management**

A POS system allows for real-time tracking of inventory levels, enabling the store to maintain optimal stock levels, avoid stockouts or overstocks, and improve inventory turnover. This ensures that popular products are readily available for customers while minimizing holding costs.

- **Improved Customer Service**

With a POS system, store staff can quickly access product information, inventory availability, and customer purchase history, enabling them to provide personalized and efficient customer service. This enhances the overall shopping experience and fosters customer loyalty.

7. ALTERNATIVES ANALYSIS

Alternative systems offer different approaches to address the limitations of the current manual system and provide various benefits to the Bregghan store.

- **Status Quo:** The first alternative considered was to maintain the current process and not implement any changes.

Pros: No upfront costs or disruption to existing processes and systems.

Cons: Manual data entry and calculations are susceptible to human errors, such as miscounts, data inaccuracies, or calculation mistakes, which can impact inventory management, sales tracking, and financial records. Manual systems may struggle to handle increased volumes of data or business growth, as they often lack the scalability and efficiency of automated systems. Manual systems typically do not provide real-time data updates, making it challenging to have immediate insights into inventory levels, sales performance, and other critical business metrics.

- **Manual Process Improvement:** The second alternative considered was to improve the existing manual process by introducing new tools and technologies, such as automation software.

Pros: By introducing new tools and technologies, the manual process can be enhanced incrementally, allowing for a smoother transition, and minimizing disruption to ongoing operations.

Cons: While introducing new tools and technologies can enhance the manual process, it may not fully automate all tasks, leading to ongoing manual effort and potential

inefficiencies. The effectiveness of the improved manual process is still dependent on human input and diligence, making it susceptible to human errors, inconsistencies, and potential variations in execution.

- **Outsourcing:** The third alternative considered was to outsource the process to a third-party vendor. However, this option was rejected due to the lack of control over the process and potential security risks associated with sharing confidential company information with external parties.

Pros: Outsourcing provides access to specialized skills and expertise that may not be available within the organization. This allows for the optimization of the process through industry knowledge and experience. By outsourcing, Bregghan can save costs by avoiding the need to hire and train additional staff, invest in infrastructure, and maintain software or hardware systems.

Cons: Outsourcing relinquishes control over certain aspects of the process, such as decision-making, quality control, and data security, potentially affecting effective management and oversight. Working with external vendors may introduce challenges related to communication and coordination, including time zone differences, language barriers, or cultural variations. These can lead to misunderstandings and project delays.

8. APPROVALS

The approval of the project should be obtained from the Business Owner, Ms. Devilyn C. Ligligen, who is the owner of the business.

