

THE AUTOMATION OF THE HNC STATIONERY STORE STOCK CONTROL SYSTEM

Caribbean Advanced Proficiency Examination
(CAPE)



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Problem Definition

Holy Name Convent has a stationary store located next to the library that students can access through a window. The store sells pencils, markers, erasers and many other necessary stationary items for both teachers and students. The shop also sells school merchandise such as PE t-shirts and supporter t-shirts.

The bursa manually keeps track of the amount of stationery items and other school merchandise on sale using a logbook that has the name, price, and amount of the items being sold from the store. At the end of each school day the bursa manually checks and counts each receipt given to a student or teacher and compares it to the amount of inventory from the start of the day to the end of the day to make sure there are no mistakes. The bursa also manually creates reports about the items that need to be restocked by looking around the store checking by sight what needs to be replenished. When she's done, she leaves the report on the front desk in the general office so that they can buy all the items listed.

As the range and amount of these items increases, the process of manually checking the inventory can become tedious, time consuming and can lead to slower transactions because of the bursa having to manually check to see if the item that the customer is requesting is still in stock. Also, there is an increased risk of human error due to the bursa herself checking everything herself. There is also a risk of the report being lost in the general office among all the other documents that the administrator must go through. The school would like to create an automated system which would act as a more efficient method of managing their stock and generating reports.

Analysis of Problem

Questionnaire

1. How old are you?

- ☐ 11-13
- ☐ 14-16
- ☐ 17+

This question was asked to determine the ages of the participants.

2. What form are you in?

- ☐ Form 1
- ☐ Form 2
- ☐ Form 3
- ☐ Form 4
- ☐ Form 5
- ☐ Lower 6
- ☐ Upper 6

This question was asked as the form of the respondent may affect how often they purchase at the stationery store.

3. Have you ever purchased goods from HNC's stationery store?

- ☐ Yes
- ☐ no

This question was asked to determine how many students have purchased from the stationery store priorly.

4. If yes, often do you purchase goods from Holy Name Convent's stationery store?

Very frequently

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7

Not very frequently

This question was asked as the number of times the respondent purchases items at the stationery store may affect the quality of service they received.

5. What items do you usually purchase?

- ☐ Pens/Pencils (regular)
- ☐ HNC Pencils
- ☐ Markers
- ☐ HNC Notebooks/Copybooks
- ☐ HNC Notepads

- ☐ HNC Folders
- ☐ Folders/Binders(regular)
- ☐ Staplers/Paper Clips
- ☐ Post-Its/Sticky Notes
- ☐ Correction Pen/Tape
- ☐ Glue Sticks/Liquid Glue
- ☐ Other: _____

This question was asked for the following reasons:

- To evaluate whether students use the HNC stationery store to purchase any goods in general or specifically HNC brand items.
- To determine whether issues were arising in relation to any specific item.

6. Have you ever requested an item which you later found to be out of stock?

- ☐ Yes
- ☐ No

This question was asked to determine how many students have experienced this problem

7. Do you frequently experience delays in purchasing items due to them being out of stock?

- ☐ Yes, very frequently
- ☐ Sometimes
- ☐ No

This question was asked to evaluate how often/if the participants ever experienced delays in purchasing products due to issues with stock.

8. If yes, how long do you usually wait until the item is restocked?

- ☐ 1-5 weekdays
- ☐ 6-10 weekdays
- ☐ More than 11 weekdays

This question was asked to determine how long the customer must wait for an item to be restocked after the issue presented in question 7.

9. Have you ever had to wait for the stationery store workers to search through the extra stock for an item only for them to come back empty handed?

- ☐ Yes
- ☐ no

This question was asked to determine how many students are affected by the stationery store's inability to keep track of their stock.

10. If yes, did you feel inconvenienced by the time wasted due to the worker having to manually search their inventory?

- ☐ Yes, extremely inconvenienced
- ☐ Yes
- ☐ Slightly, but it was no big deal
- ☐ Not at all

This question was asked to determine how many students have had a negative reaction to the situation described in question 9.

11. How satisfied are you with the service provided by the stationery store?

Very dissatisfied

- 1
- 2
- 3
- 4
- 5
- 6
- 7

Very satisfied

This question was asked to determine the overall satisfaction of the students with the service provided by the stationery store.

12. Would you say (based on the quality of service provided) the stationery store properly manages its inventory?

- Yes
- Somewhat, but there are aspects that require improvement
- No

This question was asked to determine if the students think the inability to properly manage stock is of the main issues that lead to a lesser quality of service provided.

13. If not, do you think a change in inventory management methods would ultimately increase the quality of service provided?

- Yes, it would improve the quality of service provided by a great deal
- It would be slightly helpful
- No, it would not affect the quality of service provided

This question was asked to determine whether students think a change in inventory management methods would increase the quality of service provided by the stationery store (in relation to question 12)

14. Do you experience long wait lines when going to purchase a product?

- Yes
- Sometimes
- No, this question was asked to determine how many students/ how often students experience long waiting lines.

15. Would you rather purchase stationery from the HNC stationery store or an outside stationery store (one that is not linked to the school).

- HNC stationery store
- Outside stationery store
- It does not matter

This question was asked to determine if the students have a preference between shopping at the HNC stationery store or an outside stationery store.

Sample of Completed Questionnaire

How old are you? *

- ☐ 11-13
- ☐ 14-16
- ☒ 17+

What form are you in? *

Upper 6

Have you ever purchased goods from HNC's stationery store? *

- ☒ Yes
- ☐ No

If yes, how often do you purchase goods from HNC's stationery store?

Very frequently

- 1 ☐
- 2 ☒
- 3 ☐
- 4 ☐

Rarely

What items do you usually purchase?

☒ Pens/Pencils (regular)

☒ HNC Pencils

☐ Markers

☐ HNC Notebooks/Copybooks

☒ HNC Notepads

☒ HNC Folders

☒ Folders/Binders (regular)

☐ Staplers/Paper clips

☐ Post-Its/Sticky Notes

☐ Correction pen/tape

☐ Glue sticks/ liquid glue

☐ Other:

Have you ever requested an item which you later found to be out of stock?

- ☒ Yes
- ☐ No

Do you frequently experience delays in purchasing items due to them being out of stock?

- ☐ Yes
- ☐ Sometimes
- ☒ Rarely
- ☐ No

If yes, how long do you usually wait until the item is restocked?

- ☐ 1-5 weekdays
- ☒ 6-10 weekdays
- ☐ More than 11 weekdays

If yes, did you feel inconvenienced by the time wasted due to the employee having to manually search their inventory?

- ☐ Yes
- ☒ Slightly
- ☐ No

Have you ever had to wait for an employee to search through the extra stock for an item only for them to come back empty handed?

- ☒ Yes
- ☐ No

Do you experience long wait lines when going to purchase a product?

- ☐ Yes
- ☒ Sometimes
- ☐ No

How satisfied are you with the service provided by the stationery store?

Very Satisfied

1 ☐

2 ☐

3 ☒

4 ☐

5 ☐

Very Dissatisfied

Would you say (based on the quality of service provided) the stationery store properly manages their inventory?

☐ Yes

☒ Somewhat, but there are aspects that require improvement

☐ No

If no, do you think a change in inventory management methods would ultimately increase the quality of service provided?

☒ Yes, it would help a great deal

☐ It would be slightly helpful

☐ No, it would not affect the quality of service provided

Would you rather purchase stationery from the HNC stationery store or an outside stationery store (one that is not linked to the school)

☐ HNC Stationery store

☒ Outside Stationery Store

☐ It does not matter

Questionnaire Graphs:

Have you ever requested an item which you later found to be out of stock?

33 responses

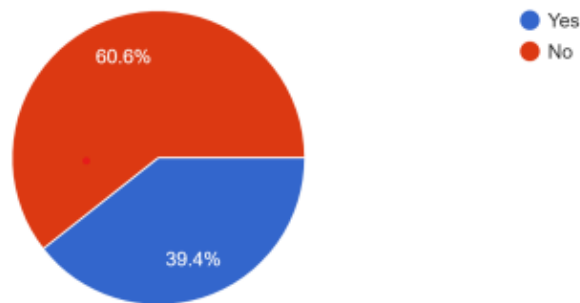


Diagram 6, showing how many respondents have requested an item which they later found to be out of stock. 39.4% said they have encountered this problem while 60.6% said they have not.

Do you frequently experience delays in purchasing items due to them being out of stock?

33 responses

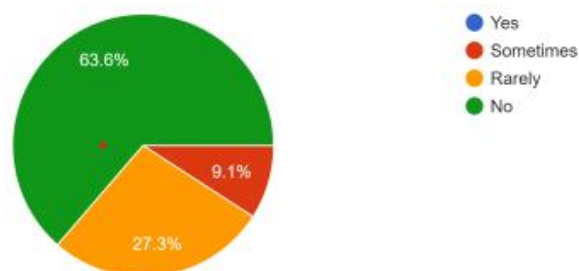


Diagram 7, showing if the respondents frequently experience delays in purchasing items due to it being out of stock. 29

If yes, how long do you usually wait until the item is restocked?

12 responses

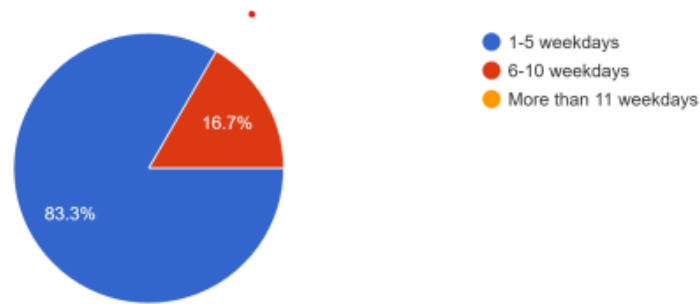


Diagram 8, showing how long the respondents must wait for items to restock (in relation to the question asked in diagram 7)

Have you ever had to wait for an employee to search through the extra stock for an item only for them to come back empty handed?

33 responses

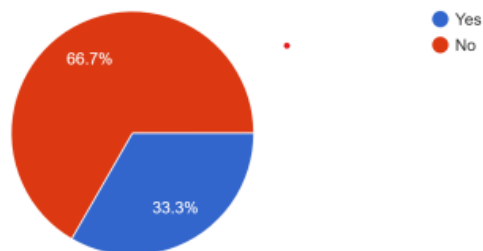


Diagram 9, showing whether the respondents ever had to wait an extended period for the stationery store employee to search through extra stock for an item only to come back empty handed.

Do you experience long wait lines when going to purchase a product?

33 responses

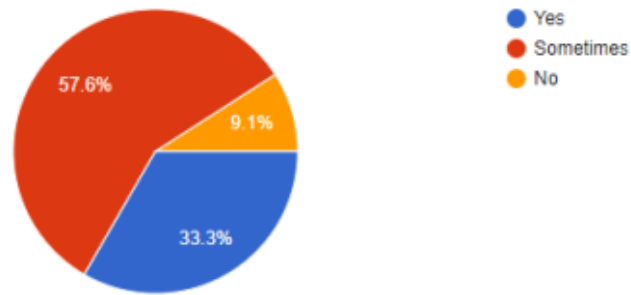


Diagram 11, showing how many respondents experienced long wait lines when going to purchase a product.

Would you say (based on the quality of service provided) the stationery store properly manages their inventory?

32 responses

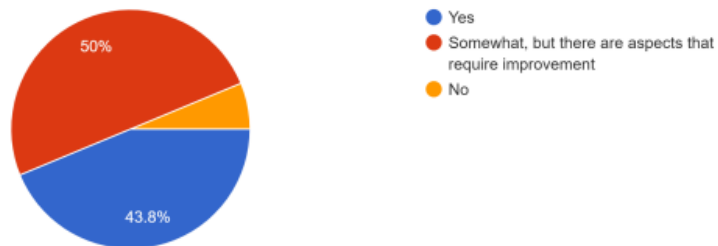


Diagram 13, showing whether respondents believe the stationery store properly manages their storage (based on the question asked in diagram 12).

If no, do you think a change in inventory management methods would ultimately increase the quality of service provided?

18 responses

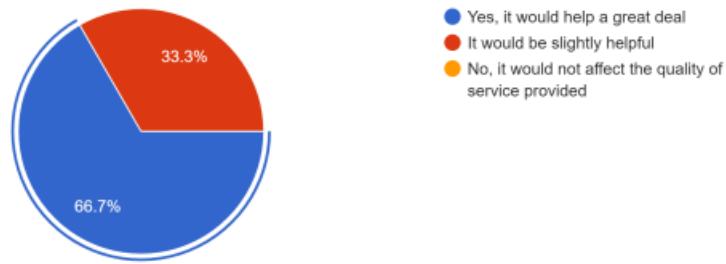


Diagram 14, showing how big of an impact changing inventory management method would have on the quality of service provided (based on the question asked in diagram 13).

Questionnaire Analysis

This questionnaire seeks to generate information regarding the performance of the HNC stationery store as per the experience of the students. It contains fifteen close ended questions.

These are the findings based on the 35 individual responses gathered. Based on question 1, out of the 33 responses, 60.6% said they had never asked for an item which was out of stock while the remaining 39.4% said they had. This reveals that there is an issue that needs to be addressed as more than a third of the respondents have experienced this issue. Question 9, 33.3% of participants have shown that they must wait for the employee to manually search through stock to find a specific item which is not very time friendly. Question 11 shows that 33.3% of participants said that they do experience long wait lines when purchasing an item at the HNC stationery store and 57.6% said they sometimes experience this issue.

From Question 13, it is seen that 50% of respondents think the stationery store manages their stock well but there are still areas that require improvement while 6.2% think that the stationery store does not properly manage their stock at all. Moreover, Question 14 shows that 66.7% of participants think that a change in inventory management methods would help the stationery store improve its quality of service and the remaining 33.3% said it would be slightly helpful.

Upon analyzing the questionnaire responses, it can be concluded that there is an efficiency issue as most of the issues experienced by the students while purchasing items at the HNC stationery store are derived from the lack of proper stock management methods which would result in slower transactions or even the inability to complete transactions.

Interview

Student Interview:

1. How satisfied are you with the services provided by the HNC stationery store? If satisfied: What are the factors that contribute to the service being good? If dissatisfied: What specific aspects of the service lead to you being dissatisfied with the service?

Purpose: To determine whether students are satisfied with the service provided by the stationery store using the current system.

2. Were you ever unable to complete a purchase due to issues with stock? If yes: What were the issues that led to you being unable to purchase an item?

If not: Were there any other issues related to the transaction when purchasing an item? Purpose: To determine if there were any stock related issues preventing the customers from purchasing items.

3. In relation to the stationery store, do you think a computerized system would have any advantages over the current manual system? If yes: Why do you think a computerized system would not help the business operations of the stationery store? If not: What advantages do you think a manual system would have over a computerized system?

Purpose: To determine if students think a computerized system would be more advantageous than a manual system and vice versa.

4. Were there any issues with the written receipt after purchasing a product? 33 If yes: What were these issues? If no/yes: Do you think a computerized pricing system would be more efficient, why?

Purpose: To examine whether students have experienced an issue with the written receipt and to determine if students thought a computerized pricing system would benefit the HNC stationery store and why.

5. Would you recommend a student to use the HNC stationery store as opposed to any other stationery store? If yes: What advantages does the HNC stationery store have over other stationery stores? If not: What key factors contribute to the HNC stationery store falling short?

Purpose: To determine whether students favor purchasing goods at the HNC stationery store or an outside stationery store and what led to the final decision.

Sample Interview Answers:

Email from student 1:

Question 1: I am somewhat satisfied with it. It is not bad but at the same time, it could improve.

Sub question: I do go to the stationery store often and from my experience I would say their main problem is keeping track of how many items they actually have in each category.

Question2: A few times yes.

Sub question: I remember going to buy a correction pen, but I had to wait almost 5 minutes for the worker to search through the inventory only to come back and say they don't have any. It was kind of frustrating wasting time like that especially during exam period when you're cramped on time.

Question3: Quite a few actually. Computerized systems, especially in this type of business when you are constantly selling and purchasing products, would almost always be better.

Sub question: Take for instance the same situation with the correction pen, if they were using a computerized system, it would allow them to give the student a faster response as to whether or not they have that specific item in stock.

Question4: Yes but they do differ based on who's the person issuing it.

Sub question: From what I have observed, there are many receipts to be written each day and only two employees in the stationery store. The receipts do tend to be hard to read as they must write quickly at times.

Question 5: I would recommend an outside stationery store.

Sub question: Our stationery store, first of all, while it does have a wide range of items on sale, there are only two employees, and it seems like there's no proper system in place to help them keep better track of the items on sale. Additionally, they have to handwrite their receipts which are sometimes illegible or take long to be done up.

Email from student 2:

1. No, I am not completely satisfied with the service as the service is not delivered in a timely manner.

2. No, I was always able to complete my purchases however, there were issues relating to the receipt.

3. I think the computerized system would help the business be more efficient and organised in recording their sales as it would take less time to search in a database than to physically search for items.

4. Yes, the receipt did not have the correct price of the item purchased. Additionally, I think a computerized system is more efficient because all the information recorded would be more accurate and it would take less time to search for items in stock.

5. No, I think the school's stationery store does not have many items in stock and the recording system may not be reliable since the employees themselves seem unsure of what they do or do not have in stock.

Notes written from interview with student 3:

Student 3

Q1. The service provided by the HLC stationary store is cheap although I sometimes have trouble getting the items I want. It is convenient to have a stationary store in the skt so you don't have to wait until after school to purchase items you need.

Q2. Yes, on one occasion trying to purchase a cheap HP highlighter, they said they had it in stock + I organised my money only for them to come back a few minutes later and say they actually didn't have it.

Q3. A computerised system would be better as it would allow the operations of the business to run faster + more accurately less room for error.

Q4. Yes, there were a few issues I was unable to read the amt written bc handwriting was illegible + numbers were overlapping.

Q5. Yes, Laurusclon ^{may} be some exceptions it's convenient bc it's right in the skt so you don't need to worry about finding time after school to make an outside purchase if you can purchase ALL merch. However they are a little disorganised. (regarding how much / what items they have in stock/on sale)

Notes written from interview with student 4:

Student 4

Q1: I am satisfied with the overall service provided by the ANC stationary store although there may be some minor issues that could improve the service good as it is more convenient than waiting to purchase an item after school that I am in need of while I am currently in school.

Q2: Yes I was unable to complete a purchase due to the item being out of stock but I was able to purchase that same item a few weeks later.

Q3: A computerized system would help the stationary store as it would reduce the amount of physical documents the employees had to store. This would also clear up cabinet space. Additionally it would make keeping record of ~~sales~~ ^{sales} and purchases a lot easier.

Q4: I have not experienced any issues with the receipt, however I do see the possibilities of errors arising.

Q5: The ANC stationary would be better for purchasing items when you are in school and really need that specific item but the outside stationary stores would provide the same items at a cheaper price.

Email from student 5:

1. As a student I am satisfied with the services offered by the stationary store. If I ever find I am missing materials that I need to use during the day, I can check if they have it in stock which they most likely would. I also like how the stationary store doubles as the bursar, so I can also go there to pay school fees or buy jackets, or a form 6 badge if I were to lose mine. All in all, it is a very convenient service offered by the school.
2. Yes, there were a select few times where they ran out of certain materials like highlighters and coloured pencils and I was unable to make a purchase. I would return the next week or so and they would have them.
3. I think a computerized system would be greatly advantageous over the current manual system in place. This is because if there is an influx of receipts being written, such as when there was registration for form 6 and fees were being paid, it would take an unbearably large amount of time to write them causing a backlog.
4. No, I did not have any issues with receipts so far. However I can see how issues would arise such as transcription errors which would naturally occur as there are humans writing an abundance of receipts per day. A computerized receipt system would be much more efficient in preparing these receipts quickly and more accurately.
5. Yes, I would recommend a student uses the HNC stationary store as opposed to other stores because it is much more convenient and has mostly everything students need, and it directly supports the school with its earnings.

Interview Analysis

This analysis is based on a sample of five questionnaire responses from the patrons of the HNC Stationery Store. The responses from question 1 suggests that while the stationery store does offer convenience, there are still minor issues that lessen the quality of service provided such issues with stock and receipts. From question 2 it can be concluded that most students weren't able to complete their purchases as the items were either out of stock, or not being sold at all. However as stated by student 4, they were able to come back, and purchase said item a few weeks later. Upon analyzing question 3, it was found that all participants agreed that a computerized system would be more beneficial to the stationery store than a manual system. Student 5 has stated that the stationery store also doubles as a bursar's office and thus there would be an abundance of paper receipts in the office which would take up a lot of space. By implementing a computerized system, this reduces the number of physical documents by allowing the employees to store data related to inventory on the database as required. This would also lead to an increase in speed as the employees would simply have to search through the database to find a specific item and its corresponding details instead of having to do so manually. The responses from question 4 reveal that the patrons of the stationery store often experience issues with the receipts provided by the stationery store. Student 2 states that there were incorrect values written on the receipt while student 3 said that the handwriting was illegible, and the numbers were overlapping. Finally, question 5 shows that most students think that the HNC stationery does have an advantage over outside stores in terms of convenience as the items are available in the school. It is also worth noting that HNC branded items can be purchased in the stationery store as well and cannot be offered anywhere else. However, the main issue that puts the HNC stationery store at a disadvantage is their flawed stock recording methods which negatively affects their ability to complete transactions

Documentation

Document 1:

No: 1908

Official Receipt

HOLY NAME CONVENT
2 Queen's Park East, Port of Spain, Trinidad
Phone: 623 8168 Email: hncprincipal@gmail.com

Date: 22/1/2022

Student name: [Redacted]

Received from: [Redacted]

Of: 26

For: 4R 2021/2022 s/c + 1 Badge + 2 masks

The Sum of: Twelve hundred and eighty five ⁰⁰/_{xx}

☐ Cheque ☒ Cash ☐ Credit Card

\$ 1285 ⁰⁰/_{xx}

Authorised Signature: [Signature]

Documentation Analysis

From the sample document presented, the following issues have been discovered:

1. There is no computerized system in place- This decreases efficiency as it would take longer to handwrite a receipt than to print one. It would also take longer for employees to locate documents pertaining to previous transactions as they would have to go through physical documents.
2. The risk of inaccurate data- Compared to machines, humans are more prone to making errors and as such, there may be instances where incorrect values or names were written on the receipts.
3. Illegible Writing- Especially during busy days where there are a lot of customers, the employee writing the receipt may have to do so at a quicker pace and this can affect the readability of their handwriting. As shown in the sample document, the handwriting can be considered hard to read by some people.

Observation

Observation	Day 1	Day 2	Day 3	Day 4	Day 4
Number of students in the line at 12am	5	11	3	9	5
Average time taken to complete all transaction (minute)	11	17	5	14	8
Number of students seen walking out with receipts and/or items purchased	4	8	3	7	5

Observation Analysis

Based on the observation checklist, the stationery store, on most days (with Day 3 and day 5 being the exceptions), was not able to complete their transactions at all and/or in a timely manner as shown by the length of time taken to complete all sales and by the number of students seen exiting the store with the purchased goods and/or receipts.

Final Analysis

Through thorough analysis of data collected using various methods, it is evident that the stationery store is facing an efficiency issue. This issue has several consequences that have been shown to negatively affect the productivity of the business. Both the interviews as well as the questionnaires showed that the customers are experiencing issues related to their transactions such as shortages in stock, the lengthy amount of time taken to write up a receipt, illegible handwriting and even incorrect information presented on those receipts due to subsidiary errors. From the review of documents, it is also clear that there is currently no digitized way of storing information which would also increase the risk of inaccurate data being written. The observations also support the fact that there is an issue related to the amount of time taken to complete transactions.

Identification and Justification of Information Technology Tools

Microsoft Word:

Microsoft Word is a word processing software which allows users to create, edit, and print documents. This tool was utilized within this project to create/manipulate tables, check spelling and word counts, create headers, footers, page numbers, and a table to contents as well as format text and the other contents of the document

Microsoft Excel:

Microsoft Excel is a spreadsheet software that features graphing tools, pivot tables, and calculation capabilities. This was utilized in this project to assist in the creation of charts, graphs, tables and figures. It was also used to manipulate observation, interview and questionnaire data.

Microsoft Access:

Microsoft Access is a database management system that combines the relational access database engine with software development tools. It was used throughout this project to create forms by allowing for easier data entry into the database, reports by allowing for the creation of ready-made reports, tables and queries which allow for searching and filtering.

Computer:

The use of computers will enhance speed of access and will allow for the large storage of information in an organized fashion. This will reduce the risk of having too many files and will enhance the speed and efficiency of the stationery store

Assessment of the implications of the solutions

Security

A username and password should be implemented to ensure only authorized personnel are allowed to enter information in the database. However, if personnel don't remember the security measures, they would always be locked out of the system. Therefore, an administration password should be implemented to avoid this problem.

Mobile Device Usage/ Infrastructure

Since this software is created using Microsoft Access, therefore can only be accessed on a computer with a windows operating system. This can be difficult for staff to update any information via a mobile device. This school does have multiple windows bases laptops and computers to allow the database to be networked as a valid option for maintenance. Since laptops and computers are required, the school can collect refurbished devices from the government or run a fundraiser to purchase the necessary components needed for this network.

User Training

The staff would have difficulties learning how to use the databases since they can become very complex and offer a wide variety of features. However, this would benefit them in the long run as IT skills are becoming more and more essential as technology progresses. MS Access databases can become very complicated and therefore a professional IT specialist may be required. The training program would take longer due to complex features and functions, but an IT specialist would be able to convey the training content effectively. An IT specialist would also need to have a computer that is connected to the internet so they can access the back end of the database to update the information.

Data Storage and Backup

The stationery store would be acquiring an abundance of data and therefore they would need a relatively large storage capacity to accommodate said data. An offsite or cloud-based storage system can be used to backup data in the event of a man made or non-man-made disaster.

Disaster recovery

In the event of a natural disaster, a durable secondary storage medium such as a flash-drive with the most up to date copy of the application should be stored in both a fireproof and waterproof cabinet to ensure information loss does not occur.

Malware

Since this application would be implemented on computers and laptops in a network, the interconnected devices may experience malware targeted to an individual device or to the network. Anti-Virus software should be installed on each device to protect the system from catching viruses, which allows the system to crash and cost the school more money to repair. Also avoid the file from being corrupted which can cause information loss. An enable Firewall can block hackers from getting into the system and gaining access to the file. Unauthorized access will not be allowed.

Data Collection

The employees would have to constantly add, edit and delete data. Therefore, the application on each of the networked computers and laptops should be back upped after a user interacts with the

system to ensure the data is up to date and does not experience a delay in operations for the stationery store.

Implementation of the Solution

The Holy Name Stationery Store can improve its Bursar Ordering System by installing a computerized database management system. This will allow the processing and handling of student information more accurately and efficiently while decreasing the risk of information redundancy and inconsistency. This will therefore increase the speed of operation and effectiveness.

Human Computer Interface



The login Screen for the database

Username: HNC_bursar2023

Password: ScH00L_finances



This is an image of the Main Menu for the Bursar Ordering System that will give the user a choice to choose different options to navigate the system.

Order

Order ID: 2 Date: 10/09/2022

Clerk ID: 51 Clerk Name: Kayla Hervey

Student ID: 23 Student Name: Ruby Harrison

First Name	Last Name	productID	Product Name	Amount Purchased	Cost
Ruby	Harrison	2	PENCIL	2	\$8.00

Record: 1 of 1

Add New Order Submit

This is a screenshot of the Order Form where users can view information about all the orders in the database and also add and submit a new order into the system.

Student

Student ID:

First Name: Penelope

Last Name: Santiago

Student Class: 1 East

orderID	clerkID	Date
(New)	0	

Record: 1 of 1

Add New Record Submit

This is a screenshot of the Student Form, that allows user to view the personal information of all the student registered in the system but also add a new student record.

Manufacturer Supply System

Brand ID:

Brand Name: NATRAJ

productID	Name	Inventory	Cost
2	PENCIL	56	\$8.00
6	BALL PEN	37	\$11.00
20	ERASER FOR PENCIL	37	\$4.00
21	ERASER FOR PENCIL	24	\$5.00
23	USE THROW PEN	42	\$8.00
29	SHARPENER	25	\$8.00
(New)		0	\$0.00

Record: 1 of 6 | No Filter | Search

This is a screenshot of the Manufacturer Supply form, where users can view all the products and their respective brand information and add new products to the system.



When a user selects the search student order option, the system prompts the user to enter the student's ID to view their report.

Student Order Report					
Student ID	Product Name	Manufacturer Name	Cost	Amount	Total
17	USE THROW PEN	NATRAJ	\$8.00	1	\$8.00
Total Bill					\$8.00



When the user selects the Class report option, The system prompts the user to enter Students' Form Class, where a report on all the student order from their respective form class will appear.

Class Order Report					
Student Id	Product Name	Manufacturer Name	Cost	Amount Purchased	Total
6	TECHNO TIP PEN	CELLO	\$9.00	5	\$45.00
11	WHITE CORRECTION FLUID PEN	KENT	\$10.00	1	\$10.00
21	WHITEBOARD MARKER	LUXOR	\$12.00	4	\$48.00
Tuesday, 2 May 2023			Page 1 of 1		

Example- 1 West

Clerk Transaction Details			
Clerk ID	Clerk Name	Date	Order ID
52	Freya Mason	10/02/2023	58
		10/02/2023	57
		10/02/2023	56
		15/01/2023	40
		15/01/2023	41
		15/01/2023	39
		15/01/2023	42
		19/11/2022	37
		19/11/2022	36
		13/10/2022	26
		13/10/2022	25
		13/09/2022	6
		13/09/2022	9
		13/09/2022	7
		13/09/2022	8
55	Jacob Finn	22/01/2023	52
		22/01/2023	51
		22/01/2023	50
		30/10/2022	30
		30/10/2022	29
		30/09/2022	22
		30/09/2022	21
		30/09/2022	20
		30/09/2022	19

When the user selects the clerk report option in the main menu, a report summarizing all the transaction details from all the clerks in the system.

Appendix

Clerk Table

clerkID	fName	lName	contact
51	Kayla	Hervey	1-868-781-0695
52	Freya	Mason	1-868-627-3627
53	Sofia	Jacobs	1-868-622-8410
54	Millie	Reuben	1-868-652-9463
55	Jacob	Finn	1-868-652-9114

Manufacturer Table

brandID	name
1	NATRAJ
2	KENT
3	LUXOR
4	LINC
5	CELLO
6	ACHIEVER
7	STAR
8	PREMIER
9	AEROLINE/TRISON
10	ODDY
11	LOTUS
12	APSARA
13	STADLER
14	CAMLIN
15	REYNOLD
16	PARKER
17	UNIBALL EYE
19	MCINTOSH

Product Table

productID	Name	BrandID	Inventory	Cost
1	PENCIL	12	34	\$7.00
2	PENCIL	1	56	\$8.00
3	CLUTCH PENCIL	13	12	\$5.00
4	PENCIL	14	47	\$2.00
5	BALL PEN	15	16	\$10.00
6	BALL PEN	1	37	\$11.00
7	BALL PEN	5	27	\$10.00
8	PILOT PEN	5	54	\$10.00
9	ADD GEL PEN	3	75	\$11.00
10	GEL PEN	6	35	\$8.00
11	TECHNO TIP PEN	5	13	\$9.00
12	ROLLER PEN	5	16	\$9.00
13	ROLLER REFILL	16	45	\$10.00
14	MICRO TIP PEN	16	13	\$8.00
15	PERMANENT MARKER	17	35	\$13.00
16	WHITEBOARD MARKER	3	75	\$12.00
17	SKETCH PEN	3	18	\$7.00
18	OHP MARKER	3	46	\$10.00
19	CELLO BUTTER FLOW PEN	3	19	\$9.00
20	ERASER FOR PENCIL	1	37	\$4.00
21	ERASER FOR PENCIL	1	24	\$5.00
22	WHITE CORRECTION FLUID PEN	2	27	\$10.00
23	USE THROW PEN	1	42	\$8.00
24	HIGHLIGHTER	3	24	\$11.00
25	UNIBALL EYE PEN	4	26	\$11.00
26	CELLO GEL PEN	5	28	\$10.00
27	ADD GEL PEN	6	14	\$9.00
28	PLASTIC SCALE	7	19	\$15.00
29	SHARPENER	1	25	\$8.00
30	TAPE DISPENSER-SMALL	8	20	\$14.00
31	WRITING PAD SMALL	9	32	\$9.00
32	WRITING PAD MEDIUM	9	43	\$12.00
33	WRITING PAD BIG	9	52	\$15.00
34	POST IT PAD 3X4	10	51	\$8.00
35	POST IT PAD 3X3	10	51	\$6.00
36	POST IT PAD 2X3	10	32	\$5.00
37	POST IT PAD 1.5X1	10	43	\$4.00
38	SPIRAL PAD COLOUR A4	11	33	\$10.00
39	CONFERENCE PAD	11	22	\$11.00
41	HOLY NAME SUPPORTER T-SHIRT	19	35	\$70.00
42	HOLY NAME PE T-SHIRT (RED)	19	20	\$70.00
43	HOLY NAME PE T-SHIRT (DARK	19	25	\$70.00
44	HOLY NAME PE T-SHIRT (GREEN	19	17	\$70.00
45	HOLY NAME PE T-SHIRT (LIGHT	19	31	\$70.00
46	HOLY NAME PROUD MOTHER T-	19	50	\$80.00
47	HOLY NAME PROUD FATHER T-	19	55	\$80.00

Order Table

orderID	studID	clerkID	Date
2	23	51	9/10/2022
4	25	51	9/10/2022
5	10	51	9/10/2022
6	20	52	9/13/2022
7	16	52	9/13/2022
8	30	52	9/13/2022
9	15	52	9/13/2022
10	48	53	9/15/2022
11	19	53	9/15/2022
12	29	53	9/15/2022
13	14	53	9/15/2022
14	33	51	9/16/2022
15	7	54	9/21/2022
16	11	54	9/21/2022
17	9	54	9/21/2022
18	21	54	9/21/2022
19	13	55	9/30/2022
20	45	55	9/30/2022
21	3	55	9/30/2022
22	8	55	9/30/2022
23	12	53	10/7/2022
24	31	53	10/7/2022
25	33	52	10/13/2022
26	29	52	10/13/2022
27	4	51	10/21/2022
28	5	51	10/21/2022
29	6	55	10/30/2022
30	13	55	10/30/2022
31	32	54	11/1/2022
32	14	54	11/1/2022
33	17	54	11/1/2022
34	29	53	11/11/2022
35	19	53	11/11/2022
36	16	52	11/19/2022
37	18	52	11/19/2022
38	12	51	1/9/2023
39	22	52	1/15/2023
40	34	52	1/15/2023
41	47	52	1/15/2023
42	24	52	1/15/2023
43	26	54	1/20/2023
44	37	54	1/20/2023
45	36	54	1/20/2023
46	27	53	1/21/2023
47	28	53	1/21/2023
48	51	53	1/21/2023
49	44	53	1/21/2023
50	35	55	1/22/2023
51	38	55	1/22/2023
52	41	55	1/22/2023
53	39	51	2/1/2023
54	40	51	2/1/2023
55	43	51	2/1/2023
56	42	52	2/10/2023
57	45	52	2/10/2023
58	46	52	2/10/2023
59	48	54	2/21/2023
60	49	54	2/21/2023
61	50	54	2/21/2023

Student Table

studID	fName	lName	class
1	Penelope	Santiago	1 East
2	Mason	Parker	2 Central
3	Paisley	Alexander	3 East
4	Rosie	Peyton	4 Central
5	Megan	Piper	5 West
6	Jessica	Phoenix	1 West
7	Fiona	Patrick	2 Central
8	Stella	Peter	3 West
9	Katie	Matthew	4 West
10	Kyle	Hudson	5 East
11	Kai	Francisco	1 West
12	Kayla	Braxton	2 Central
13	Keira	Hector	3 East
14	Ava	Kian	4 West
15	Kaiden	Fernando	5 East
16	Kayden	Benjamin	1 Central
17	Jack	Samuel	2 Central
18	Sebastian	Braxton	3 East
19	Mia	Scarlett	4 East
20	Freya	Easton	5 West
21	Faith	Hervey	1 West
22	Mack	Hunter	2 West
23	Ruby	Harrison	3 Central
24	Hayden	James	4 West
25	Anthoy	James	5 Central
26	Jamie	Bennett	2 East
27	Avery	Riley	2 West
28	Rebecca	Mason	3 Central
29	Millie	Barrett	4 East
30	Sofia	Ezra	5 West
31	Finn	Hendrix	Upper 6 2
32	Elias	Ryan	Upper 6 1
33	Asher	Joshua	Lower 6 2
34	Reuben	Jacobs	Lower 6 1
35	Maisie	Holden	Upper 6 2
36	Eli	Finley	3 East
37	Amelia	Felix	1 Central
38	Even	Henry	Upper 6 1
39	Sawyer	Emmeth	Upper 6 2
40	Max	Everett	Lower 6 2
41	Ethan	Rory	Lower 6 2
42	Anthony	Hayden	Upper 6 2
43	Abigail	Rhys	Upper 6 1
44	Brandon	Hayes	Upper 6 1
45	Ezekiel	Jayden	1 Central
46	Elijah	Brayden	2 East
47	Haiden	Bentley	4 West
48	Beau	Harrison	5 Central
49	Jake	Mason	2 East
50	Jake	Hunter	3 Central
51	Josie	Spray	4 West

Invoice Table

orderID ▼	productID ▼	num_purchas ▼
2	2	2
4	2	12
5	5	3
6	15	5
7	19	2
8	20	1
9	13	4
10	20	1
11	4	12
12	20	1
13	21	1
14	15	2
15	5	2
16	22	1
17	16	2
18	16	4
19	12	2
20	21	2
21	4	6
22	6	5
23	22	1
24	22	3
25	23	3
26	7	5
27	17	2
28	18	6
29	11	5
30	9	1
31	3	2
32	3	4
33	23	1
34	24	3
35	25	4
36	8	8
37	26	2
38	27	2
39	17	5
40	10	3
41	18	3
42	29	1
43	30	1
44	31	3
45	24	2
46	25	2
47	32	2
48	28	7
49	14	1
50	24	2
51	1	12
52	33	2
53	34	5
54	29	1
55	28	5
56	36	4
57	35	6
61	1	6