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| BOOKSTORE MANAGEMENT SYSTEM |
| Vision and Scope Document |
| SE104.N21 |

Ảnh có chứa màu xanh lam, Xanh điện, thiết kế

Mô tả được tạo tự động

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**Ho Chi Minh city, 6/2023**

**Record of change**

**\*A - Added M - Modified D – Deleted**

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**LECTURER’S COMMENTS**

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# BUSINESS REQUIREMENTS

## Background

Real needs of the project: In today's book market, there are countless genres and different book titles. With traditional management methods, bookstores face many difficulties in managing the quantity of books in stock, books sold, revenue, etc. This is a significant challenge for bookstores, especially large ones with multiple branches. Therefore, the development of software to assist in bookstore management is an essential requirement.

Current situation of the software development unit: Some bookstore units still manage their book inventory and revenue using Microsoft Excel. Using Excel for bookstore management is somewhat effective when dealing with a small number of book titles, typically less than 100. However, for large bookstores with a significant number of book titles, which can reach up to 1000, using Excel poses many issues.

Limitations of Microsoft Excel in bookstore management:

* + - * Difficulty in updating data.
      * Prone to errors when entering data.
      * Complexity in handling invoices.
      * Inability to be used simultaneously by multiple staff members.
      * Low data security and vulnerability to data loss.
      * Difficulty in managing large amounts of data.

## Business Opportunities

The bookstore industry has faced several challenges in recent years that have highlighted the need for a web-based management system to streamline operations and improve efficiency. One of the most significant issues is the limited availability of book information, which is typically only accessible in physical stores. This can be a major inconvenience for customers who prefer to browse and shop for books online. The lack of real-time data on book availability and sales can also lead to lost sales opportunities, as customers may be deterred by the uncertainty of whether a particular book is in stock.

Another challenge faced by bookstores is the management of book rentals and purchases. This process can be complex and time-consuming, with the potential for errors and inconsistencies. Traditional bookstores may have a limited selection of e-books available for rent, making it difficult to compete with online retailers who offer a wider range of options. Inefficient inventory management can further exacerbate these issues, as bookstores may struggle to keep track of stock levels and order new inventory in a timely manner.

In addition to these challenges, the lack of real-time data on sales and customer debt can hinder effective decision-making and planning. Bookstore owners and managers may struggle to identify trends and make informed decisions without accurate data on sales performance and customer purchasing habits. This can ultimately impact the overall revenue and profitability of the bookstore.

To address these challenges, a web-based management system can provide a centralized platform for managing various aspects of bookstore operations. The system can enable efficient processes for managing book rentals and purchases, supplier management, customer management, and generating reports on sales, inventory, and customer debt. With a web-based system, bookstores can provide customers with real-time access to book availability, rental options, and promotions, improving the overall customer experience and potentially increasing sales.

Overall, the implementation of a web-based management system can help bookstores to address these challenges and improve their overall performance and profitability. By providing a centralized platform for managing various aspects of operations, bookstores can streamline processes, improve data accuracy, and ultimately provide a better experience for customers.

## Business Objectives

BO-1: Streamline Operations and Information Management

* *Objective:* Develop an IT solution that enables efficient management of employee information, customer data, book inventory, supplier details, discount codes, book purchase, and book rental.
* *Scale:* Ease of accessing and updating relevant information.
* *Meter*: User feedback on system usability and effectiveness.
* *Goal:* Achieve a high level of system functionality and user satisfaction.

BO-2: Improve Sales Performance and Analysis

* *Objective*: Implement features that allow for comprehensive sales data collection and analysis, enabling managers to make informed decisions and identify sales trends.
* *Scale*: Accuracy and comprehensiveness of sales data.
* *Meter*: Increase in sales data accuracy and availability.
* *Goal*: Provide reliable and detailed sales statistics to support decision-making.

BO-3: Enhance Customer Support and Experience

* *Objective*: Develop tools and functionalities to assist users and customers in utilizing the system effectively, providing prompt and effective support.
* *Scale*: Customer satisfaction with the support provided.
* *Meter*: Feedback from users and customers regarding system support.
* *Goal*: Ensure a positive user experience and efficient customer support.

BO-4: Increase Efficiency and Cost Savings

* *Objective*: Enable automation and streamlined processes that reduce manual effort, minimize errors, and optimize resource utilization, leading to cost savings.
* *Scale*: Reduction in manual tasks and time spent on administrative activities.
* *Meter*: Measure the decrease in manual errors and resource usage.
* *Goal*: Improve operational efficiency and achieve cost savings.

BO-5: Facilitate Data Security and Privacy

* *Objective*: Implement robust security measures to protect sensitive information, ensuring data privacy for employees, customers, and suppliers.
* *Scale*: Compliance with industry standards and regulations.
* *Meter*: Regular security audits and vulnerability assessments.
* *Goal*: Maintain a secure and trusted system environment, ensuring data confidentiality and privacy.

## Success Metrics

SM-1: User Adoption

* *Metric*: Percentage of employees who actively use the A system for managing their tasks and responsibilities within 6 months following the initial release.
* *Target*: 75% of employees regularly utilize the A system.

SM-2: User Satisfaction

* *Metric*: Average rating on the quarterly user satisfaction survey for the A system.
* *Target:*
* Increase the average rating by 0.5 on a scale of 1 to 6 from the baseline rating within 3 months following the initial release.
* Further increase the average rating by 1.0 within 12 months.

## Vision Statement

For bookstores that aim to modernize their operations and enhance customer experiences, the Web-Based Bookstore Management System is a comprehensive online platform that will centralize and automate various aspects of bookstore operations. The system will provide real-time access to book information, streamline book rentals and purchases, enable efficient inventory management, and generate valuable reports on sales, inventory, and customer debt. By leveraging the power of the web, the system will transform traditional bookstores into technologically advanced hubs, offering customers a seamless online browsing and shopping experience while optimizing operational efficiency and increasing profitability.

## Business Risks

1. The transition to a web-based management system may face resistance from bookstore employees who are unfamiliar with the technology or resistant to change. This could potentially lead to delays in system adoption and inadequate utilization of system features. (Probability = 0.4; Impact = 5)
2. Technical challenges and system compatibility issues may arise during the integration of the Web-Based Bookstore Management System with existing bookstore infrastructure, such as point-of-sale systems or inventory management tools. These challenges could result in disruptions to bookstore operations and additional implementation costs. (Probability = 0.3; Impact = 7)
3. Insufficient customer awareness and promotion of the new online platform may limit the initial uptake of the Web-Based Bookstore Management System, resulting in lower-than-expected customer engagement and potential missed revenue opportunities. (Probability = 0.5; Impact = 4)

## Business Assumptions and Dependencies

1. Adequate training and support will be provided to bookstore employees to ensure a smooth transition to the new Web-Based Bookstore Management System. This assumes that employees will be receptive to learning new technologies and adapting their workflows accordingly.
2. Reliable internet connectivity will be available at the bookstore premises and to customers accessing the online platform. This assumption is crucial for the seamless functioning of the web-based system and uninterrupted access to book information, online browsing, and transactions.
3. Integration with existing bookstore systems, such as point-of-sale, inventory management, and accounting systems, will be achievable with minimal disruption. This assumption relies on the cooperation of vendors or service providers involved in the integration process.
4. Adequate marketing and promotional efforts will be undertaken to raise awareness and drive customer adoption of the Web-Based Bookstore Management System. This assumption assumes the availability of resources and effective marketing strategies to reach and engage the target audience.

# SCOPE AND LIMITATIONS



## Major Features

FE-1: Manage Book which users can Add/Delete/Update/Search Book

FE-2: Manage Book purchase which users can Create Order, Pay Debt, Search Order

FE-3: Manage Book rental which users can Create Order, Confirm return, Search Order

FE-4: Manage Customer which users can Add/Delete/Update/Search Customer information

FE-5: Manage Discount code which users can Add/Delete/Update/Search Discount code

FE-6: Manage Supplier which users can Add/Delete/Update/Search Supplier

FE-7: Statistics which users can Visualize the revenue data (Total revenue, new customers, Amount of books sold) and Download report for Inventory and Customer’s Debt

Ảnh có chứa biểu đồ, văn bản, hàng, Kế hoạch

Mô tả được tạo tự độngFE-8: Manage User which users can Add/Update/Delete/Search User of the system

Figure 1. Features Tree for Bookstore Management System

## Scope of Initial and Subsequence Releases

|  |  |  |
| --- | --- | --- |
| **Feature** | **Release 1** | **Release 2** |
| Login | Website on laptop | May updated for many other platforms |
| Manage regulation | Only manage given rules (minimun import, maximun debt,…) | Can manage and create any rules for the system |
| Manage Book | Fully implemented | Fully implemented |
| Manage Book purchase | Fully implemented | May implement e-banking when purchase |
| Manage Book rental | Fully implemented | May implement e-banking when purchase |
| Manage Customer | Fully implemented | Fully implemented |
| Manage Discount code | Fully implemented | Fully implemented |
| Manage Supplier | Fully implemented | Fully implemented |
| Statistics | Fully implemented | Fully implemented |
| Manage User | Fully implemented | Fully implemented |

## Limitations and Exclusions

LI1- The COS shall be used only for the BookAHolic Bookstore in Ho Chi Minh city (for trial)

# BUSINESS CONTEXT



## Situation survey/ Survey of the current situation.

* + 1. Interview

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **General survey** | | | | |
| System: Book Store  Creator: Nguyen Nhat Long Phi | | | Created date: 20/04/2023 | |
| Ord. | Topic | Requirement | Start | End |
| 1. | Book management | To get detailed information about book storage, distribution,  and valuation processes. | 20/04/2023 | 20/04/2023 |
| 2. | Discount code management | Understand the proposed process and apply  the use of promotional events  in the store. | 20/04/2023 | 20/04/2023 |
| 3. | Customer management | To get detailed information about customers for better services and experience. | 20/04/2023 | 20/04/2023 |
| 4. | Analysis | Process of making inventory reports, debt reports and sales statistics, book sold, new customers from the database | 20/04/2023 | 20/04/2023 |
| 5. | Physical status | Physical equipment such as seats, rooms, cash registers, … | 20/04/2023 | 20/04/2023 |

**Table 1.Survey Strategy**

|  |  |
| --- | --- |
| **Survey forms**  System: Book Store | |
| Interviewee: Nguyen Van A | Interviewer: Nguyen Anh Thu |
| Place: Book Store | Start: 8:00 am 20/04/2023  End: 11:30 am 20/04/2023 |
| Target: Collect and understand working process of book store. | |
| Details of the interview:  Introduction  Overview about current system  Survey plan:   * Topic 1: Book management * Topic 2: Discount code management * Topic 3: Customer management * Topic 4: Analysis * Topic 5:Physical status | Estimated time:  5 mins  15 mins  1 hour |
| General Observe |  |
| Unexpected occurrence |  |

**Table 2 Survey form**

|  |  |  |
| --- | --- | --- |
| Interviewee: Nguyen Van A | | Date: 20/04/2023 |
| Questions | | Records |
| Topic 1 | 1. How will the book categorization be carried out? | According to each genre: novels, foreign books, reference books,... |
| 2. What information is stored in the books? | The information stored in the book system includes: Book Code, Book Title, Date of Entry, Genre, Author, Quantity Imported, Purchase Price, Selling Price, Supplier. |
| 3. How do you manage the book procurement and sales? | I usually have a separate notebook to keep track of the quantity of books purchased and sold. This process takes quite a lot of time, so I would like to have a system to manage it. |
| 4. How is the inventory management plan for the bookstore's goods import and export? | Goods Import:  It is necessary to have an understanding of the inventory quantity.  Plan the import of goods on a monthly, quarterly, and yearly basis.  Refer to market prices by requesting price quotes from various suppliers.  Select products that are of good quality, affordable, and profitable for the store.  Goods Export:  The warehouse personnel must maintain clear and documented records when goods are exported, including the recipient's signature.  Regularly conduct inventory checks to prevent pest infestation and ensure an accurate count of the goods in stock. |
| Topic 2 | 1. Besides the form of discount promotion for members, are there any other promotions? | In addition to periodic discount codes given to each group of customers by month, the store also offers discount codes according to holidays. |
| 2. How many discount codes can be applied to 1 order? | For each order, customers are only allowed to use one discount code on the total invoice value. |
| Topic 3 | 1. How is customer segmentation done? | Customers will be classified and prioritized based on their spending as follows:  Gold: above 3,000,000 VND  Silver: above 1,000,000 VND and below 3,000,000 VND  Bronze: below 1,000,000 VND |
| 2. Can customers who are new and have not registered their information still use the services of the store? | For customers who have not previously had any transactions with the system, when creating a new transaction, if their information is not found, the system will display the option to add a new customer. After that, the staff will record the information of the new customer and proceed with the purchasing process. |
| Topic 4 | 1. Do you spend a lot of time checking the daily, weekly, and monthly sales figures? | It takes a long time because the old system I'm using doesn't support statistics. I have to calculate on Excel, but the process is quite slow. |
| 2. Please let me know what kind of statistics you need? | I hope the system will have the following statistics:  Revenue statistics for the bookstore by specific time periods.  Statistics on the number of new customers per month.  Statistics on the number of books sold.  Statistics on customer debts. |
| 3. How long is the time frame for each type of statistic? | The debt amount of customers will be periodically calculated on a monthly basis, and for specific time frames as provided by the manager, if needed for reporting purposes. |
| 4. How are the statistics displayed? (graphs, charts,...) | I think inventory and debt reports will be displayed in the bookstore's format. Revenue statistics, as well as the number of new customers, will be presented in a line graph format for easier tracking. |
| Topic 5 | 1. How is the regular inspection of the store's equipment carried out? | The inspection of the store's equipment such as bookshelves, tables, chairs, computers, etc., will be conducted by us on a monthly and quarterly basis according to a planned schedule. This is done to ensure that all equipment is always in good working condition and safe for customers. |
| 2. How will system issues be handled when they occur? | If the management system encounters any issues, it is necessary to address them promptly to ensure uninterrupted business operations and convenient shopping experiences for customers. |
| 3. What kind of hardware does a computer system have? | Currently, the bookstore system is equipped with a server and a computer system dedicated to the staff. |

**Table 3 Questions and Records**

* + 1. Survey of the organization/ Current organizational situation

**Figure 2 Current organizational situation**

* + 1. Survey of business processes, major activities
       1. Sale Department

**The book management Operations**: involves purchasing and acquiring books from suppliers and distributing them to customers to serve the bookstore's business. It includes the processes of book procurement and supplier management.

* *Book Procurement Process:* 
  + Enter book information and store it in the database
  + After books are acquired, their information is stored in the management system.
  + The information includes:
* *Supplier Management Process* 
  + Enter supplier information and store it in the database
  + After suppliers are acquired, their information is stored in the management system.
  + The information includes:

**Sales and Rental Operations**: This involves serving customers who come to buy or rent books and is essential to maintain the bookstore's activities. It consists of the book selling process and the book rental process.

* *Book Selling and Rental Process:* 
  + Customers visit the bookstore and are greeted by staff
  + Staff members provide book recommendations based on customer requirements and preferences. If the customer decides to purchase or rent a book, the staff will retrieve the book and hand it to the customer.
  + Subsequently, the staff will calculate the total amount and provide the customer with payment information.
  + The customer makes the payment and receives a receipt.

**Marketing Operations**: This is the task of devising strategies to attract new customers and promotional programs to serve customer benefits. It also involves approaching and interacting with customers to build and maintain customer relationships, create value, and drive sales. It includes the following processes:

* *Promotional Planning Process:* 
  + Update events, trends, and develop promotions.
  + Communicate information to the pricing department, customer care department, and other departments involved in the promotional events.
* *Other Processes.*

**Customer Care Operations**: This task aims to establish and maintain good relationships with customers, ensuring customer satisfaction and loyalty. It also involves notifying and helping customers stay updated on new information from the bookstore, especially promotional events. It includes the following processes:

* *Customer Management Process:* 
  + Store customer information: Only registered members' information is stored and managed. Address inquiries, provide advice, make recommendations, and conduct customer surveys.
  + Implement events proposed by the Marketing department. Handle complaints.
* *Other Processes.*
  + - 1. Planning/Finance Department

**Statistical Operations**: This involves generating reports based on data to support the Sales Department in monitoring the activities of the bookstore. It includes processes such as inventory statistics (quantity on hand), debt statistics (customer debts), revenue statistics (books sold, revenue, new customers), and other related processes.

* *Inventory Statistics:*
  + Retrieve information on the quantity of books purchased and sold from the management system.
  + Calculate the inventory quantity and update the database in the management system.
* *Debt Statistics:*
  + Retrieve information on sales invoices and customer details from the management system.
  + Calculate customer debts and perform statistics, updating the database in the management system.
* *Revenue Statistics* *(Books sold, revenue, new customers):*
  + Retrieve information on the quantity of books sold, the number of customers, and new customers from the sales management system.
  + Calculate and display the total income of the bookstore.
  + Perform revenue statistics based on daily, monthly, and periodic intervals, and update the database.
* Other processes.
  + - 1. Human Resources Department

**Employee Management Operations**: This helps the department head monitor the activities of all employees in the bookstore. It includes processes such as employee information management, employee activity management, and other related processes.

* *Account Management Process:*
  + Administer the system for registering employee accounts in the bookstore management software.
  + Registration information includes usernames, passwords, email addresses, and personal information of employees.
  + System administration assigns access rights to each employee account, defining different roles, such as staff, manager, or bookstore support staff.
    - 1. Technical Department

**Equipment Management Operations**: This involves providing technical support for the operational processes of the bookstore and managing the bookstore's equipment to prevent damage or loss. It includes processes such as equipment information management and other related processes.

* *Management of Equipment in the Bookstore*: This process involves entering, storing, and managing information about the equipment in the management system. It includes details such as equipment type, equipment name, condition, security code, and other equipment specifications.
* *Other processes.*

## Project Priorities

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Constraint** | **Driver** | **Degree of Freedom** |
| Features | All features scheduled for release 1.0 must be fully operational |  |  |
| Quality | 95% of user acceptance tests must pass; all security tests must pass |  |  |
| Schedule |  |  | Release 1 planned to be available at June 07, 2023 release 2 will be in the future; overrun of up to 2 weeks acceptable without sponsor review |
| Cost |  |  | Budget overrun up to 15% accept able without sponsor review |
| Staff |  | Team size is 1 BA, 2 developers, and 1 UI/UX designer; additional developer and half-time tester available if necessary |  |

## Deployment considerations

The web server software will need to be upgraded to the latest version. Apps will have to be developed for iOS and Android smartphones and tablets as part of the second release.