Jahtawi Holness ID# 2295363 Deliverable 1

Course: 420-942-VA\_Application Development 1 (Desktop)

Vanier College Instructor: Kawser Wazed nafi

Project Title - “ReNu Global”

➢ Health and Wellness Spa Management System”

The Health and Wellness Spa Management System is a software designed to help a Spa owner to manage their business more efficiently and provide better customer service. This software can help customers easily book online or walk-in appointments and fill the available time slots accordingly. Customers can see all the services (and possibly merchandise, products/ membership options) provided by the Spa. The Health and Wellness Spa Management System can be adjusted to address the specific needs of individual Spas, and they can be accessed via a desktop, laptop, or mobile device (with a browser’s “View as Desktop site/ Request Desktop version” option).

Project Scope

➢ Features

1. Appointment Scheduling: In this feature, customer will be able to book an appointment Online or in person. They can select the services they want and they will be able to select the staff member that they are comfortable with. The feature should include options to reschedule or cancel appointments. Also send appointment reminder to customers. Spa owner will be able to mange the appointments.
2. Services: In this feature customers will be able to see all the services such as laser hair removal, eyebrow threading, waxing, electric shave, straight razor shave, Hair wash, Hair cut, facial, massage, steam/ sauna cleanse, nail clipping and care etc. offered at the Spa. There will also be detailed information about the services (details, with possibly price, approximate duration and suggested frequency).
3. Customer management: This feature will allow the Spa owner to keep track of customer history and their preferences. Based on the profile data, the owner can send targeted marketing campaigns to customers. The system will store all the customer information such as name, contact details, preferred services, appointment history (and possibly membership/ reward status). With this, the owner will be able to improve the service and make adjustment according to customers need.
4. Staff management: The staff management feature will allow Spa owner to manage and track their staff schedule, attendance and commissions (maybe even complaints/ reviews from customers and co-workers).
5. Inventory management: This feature will allow Spa owner to keep manage merchandise/ inventory levels, set up automatic reordering and regenerate purchase orders.
6. Payment process: The payment process feature will allow the Spa to accept the payments easily and securely. The customers will have the choice to pay for their services online or in person, with different payment methods options (cash, debit, credit, maybe also through a digital wallet such as Apple Pay, Samsung Pay etc).
7. Notification: This feature will send customer notifications as appointment confirmations or reminders 24 hours prior to the appointment, and may also be used to for promotions or special offers.
8. Reporting: The reporting feature will allow the Spa owner to generate various reports such as sales, customer trends, service frequency, staff specialty in services offered, popularity/ success of certain promotions or time slots for certain services (to optimize staff scheduling and well as best cost and time to offer products/ services) and inventory level. It will also help the owner to study and identify loses for future prevention.
9. Feedback: This feature will allow customers to write feedback about their experience at the Spa, and the Spa owner will be able to implement changes and improvements in their customer relationships.
10. Contact Us: This feature will store all the information about the Spa such as, phone number, email address and location. A map may be included that can help customers with navigation.
11. Marketing: If not already included in the Contact Us feature, this feature will redirect the public to the social media pages of the business – such as Instagram, Facebook, Linkedin.

➢ End users

The 4 primary end-users and their use of the Spa management system are:

1. Spa Owner - manage the daily operations i.e. schedule appointments, mange employees, track the product and merchandise inventory, and monitor financial reports.
2. Spa employees - manage the inventory, check employee work/ leave schedule, and read feedback from the customers.
3. Customers - book appointments, make payments, receive reminders, and view available services.
4. Suppliers - gauge their inventory, track their deliveries, and update their product price.

➢ Integration of the End users with the project (user stories)

As a Spa owner, I want the ability to easily schedule appointments for clients so that staff and resources can be managed more effectively. I should also be able to manage my inventory and generate reports.

As a Spa employee, I want to check my work schedule and my leave, as well as any appointment assigned to me. I also want to see a customer’s service history and feedback, so I can provide an improved personalized service to each customer.

As a customer, I want to be able to easily book appointments from the available time slots. I want to stay informed and up to date by receiving reminders about my appointments and special offers from the Spa. I want to be able to see all the Spa’s services, and to have payment options online or in person.

As a supplier, I want to be able to manage my inventory and track my deliveries so that I can be able to provide timely and accurate products at the Spa.

➢ A Spa management system will cover following areas:

1. Appointment scheduling: a calendar view for scheduling appointments and managing the availability of time slots and staff. It can also send appointment reminders to customers vis SMS or email.
2. Customer management: to maintain a database of customer profiles, service history, and preferences. It can also send personalized promotions to customers.
3. Staff management: to manage staff leave, track their attendance, and monitor their performance.
4. Inventory management: track the product and merchandise stock levels, set conditions for reorder points, and generate purchase orders.
5. Reporting: generate various reports such as revenue, expenses, staff productivity, service demand, and customer satisfaction. These reports can help Spa owner to make data-driven decisions while they improve their business.
6. Marketing: create and manage marketing campaigns, track their performance, and generate reports. It can also integrate with social media platforms and email marketing tools.
7. Payments: securely manage customer transactions and process their payments.

Project Users, Actors, Vendors, Actuators

* Project users/Beneficiaries
  + The primary user of the project is a Spa owner who needs to manage various elements of their business including staff, inventory, clients and promotion.
* Actors/Third-party Companies
  + Payment processors can benefit from the project by offering or integrating their services for online transactions made through the Spa management system.
* Software development companies can provide expertise and support for developing the project, as well as providing software frameworks, tools and libraries.
* Marketing agencies can use the project to create and manage branding/ promotional campaigns for the Spa, and benefit from the data generated by the system.
* Digital Cloud service providers can offer virtual infrastructure and services for hosting and deploying the project.
* Vendors
  + Hardware vendors can provide electronic equipment and devices required to house and run the project, i.e. servers, routers, and switches.
  + Software vendors can provide applications that integrate compatibly with the project – this could be in the form of customer relationship management software and database/ content management systems.
* Actuators
  + Servers are responsible for running all of the software-related components as well as managing the data within the project.
  + Databases store all relevant information related to group of data such as staff, appointments, inventory, suppliers and customers.
  + APIs enable communication between the multiple aspects of the project components, like the programming of the back-end server and the functionality or even design of the front-end graphical user interface.

Project Properties

* Functionality: The system should provide the essential functionality to manage different aspects of the Spa business, including appointment scheduling, staff management, inventory tracking, payment processing, and reporting.
* Usability: The system should be simple to navigate and user-friendly for Spa owners, employees, and customers.
* Security: The system should offer the needed security to protect private or sensitive data, including employee records, customer information, financials, and inventory.
* Scalability: The system should be scalable and able to handle an increasing number of users and data should the business and its needs expand.
* Performance: The system should be reliable and highly responsive (barely noticeable input lag/ loading times).
* Integration: The system should be able to easily integrate with third-party services and tools from payment processors, marketing platforms, and inventory management systems.
* Customization: The system should be flexible/ customizable to meet the unique needs of different Spas with regard to branding, membership/ loyalty rewards, pricing, and service offering.
* Maintenance: The system should be easy to backup, restore and maintain with regular updates and security patches being provided (maybe pushed to the system in the background or outside of the Spa’s operating hours).
* Cost-effectiveness: The system should be an essential component to the business, providing a great return on investment for Spa owners, with different pricing models, various payment options and transparent billing practices.

➢ Programming languages, platforms and applications that may be used

* Front-end Framework ➢ GUI in C# using MS Visual Studio Community 2022: 17.5.5
* Back-end Framework ➢ .NET Framework: 6.0 and (as a part of its ecosystem) WPF: 6.0.2

➢ LINQ C# to integrate query capabilities directly into the C# language

* Database Management System connection ➢ REST API: 2022-09-01

➢ ADO for SQL server: 6.0

* Front-End visualization ➢ Design in XAML programming language using Visual Studio
* Version Control Integration ➢ Repo at <https://github.com/JahtawiHolness/ReNu-Global.git>

➢ GitBash: 2.39.1.windows.1

Plan Details

➢ Front-End Development (Week 1 through 4)

* Week 1-2: Develop the user interface using the predetermined framework (XAML)
* Week 1-2: Implement a responsive design and user-friendly interface.
* Week 3-4: Implement all the needed features including appointment booking, inventory management, employee scheduling, customer management, payment process, services, feedback, contact us, etc.

➢ Back-End Development (Week 5 through 6)

* Develop the back-end server-side API and logic with the predetermined framework (C#, WPF, REST API, APO, LINQ C#)
* Integrate with the front-end interface.
* Implement user authorization and authentication functionality.
* Implement necessary data retrieval methods and storage (create, update, delete records etc.).

➢ Testing, Debugging and Deployment (Week 7 through 8)

* Perform integration testing of the entire system to identify and resolve any issues found.
* Prepare the application for deployment into the production environment.
* Configure any necessary server-side services and components.