**Nail Salon Management System**

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IS 436

Structured System Analysis and Design (04.8331)

Deliverable 2

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**Requirement Documentation**

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| **Functional Requirement** | **Requirements** |
| 1. Process Oriented | 1.1.) Ability for Customers to book appointments with nail tech by name, pay for the service, and purchase gift cards directly on the website.  1.2.) Ability for customer appointment to be assigned to a technician, with the time of appointment and estimated time of appointment  1.3.) Creation of a link between the web app and the database. This will allow the customers to access this site and create an account that will offer certain benefits.  1.4.) Using transaction information creates a customer reward system that will keep track of customer reward points and spending.  1.5) Employee clock-in/clock-out option.  Calculates salary for employees.  1.6.) Generates a table for employee schedules that can be accessed by employees and edited by the owner. |
| 2.) Information Oriented | 2.1.) Able to organize customer information name, age, address, etc. and will be able to keep track of customer transactions along with warranty information.  2.2.) Specify details relating to the business such as opening/closing times and the business address.  2.3.) Store hours worked by an employee for any given day recorded from clock-in/clock-out.  2.4.) Displays schedules created by the owner for employees to view.  2.5.) The system must retain customer history for 3 years.  2.6.) Be able to track inventory (what was ordered and how much of it) |

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| --- | --- |
| **Nonfunctional Requirement** | **Requirements** |
| 1. Operational | 1.1.) The system should be compatible with any web browser  1.2.) Should be able to run on android and iPhones |
| 1. Performance | 2.1.) The system should be available for use 24 hours per day, 365 days per year  2.2.) The system should update within 10 minutes of a change.  2.3.) The system must support 150 users from 8:30 a.m–5 p.m.; 50 users at all other times |
| 1. Security | 3.1.) Nail technicians/workers can only see their sales/assignments  3.2.) Only managers/owner can see each workers sales, assignments  3.3.) Only owner can approve new customization options  3.4.) Only the owner can edit and view employee schedules and payroll.  3.5.) System should have a firewall and all protection needed from viruses  3.6.) Customer account login is kept secure  3.7.) Employees have login IDs unique to them. |
| 1. Cultural and Political | 4.1.) Company buys all technology from hp  4.2.) Personal information is protected under the Privacy Law |

**Requirement Determination: Interviews**

Name of the interviewee: Ann Luong

The position of interviewee: Owner

Date and Time of interview: 10/16/2019 10 AM

Question:

1. **What your job responsibility?**

I’m responsible for managing staff, record sales, expenses, staff salary, and payment.

1. **What is your task at work?**

I usually record the employee’s clock in and clock out times, services, and tips earned by staff. I also help assign a nail technician with the walk-in customer and answer phone calls and book appointments with customers.

1. **How often do you use the current system?**

We used to use this system all of the time, however, due to the system becomes less and less reliable, we started to record service and payment by paper.

1. **Would you say the current system is competent enough to perform all necessary business tasks?**

Even when the system is fully functioning and not crashing, it still lacks many features that I believe are necessary for my business.

1. **What are some features that need to be improved?**

I think the recording service, payment, tip, commission features need to be improved the most since it is a very important piece of our businesses.

1. **What new features would make performing your job easier?**

I think the feature that helps customers to book appointments online would help my business since they don’t have to wait to get their service and get a better experience, they are most likely to return. Also, I would prefer to have a reward system to keep customer return for more services

1. **What are some troubles that you encounter at work?**

My nail shop can get very busy on the weekend, therefore some customers leave because they waited for a long time. Also, sometimes the staff forgot to write down the service they have done or misplaced their recorded paper, therefore it is difficult to make and track payment for them.

1. **What solution do you think that can fix your trouble at work?**

I think the solution for the customer leaving is by sending them gift cards and coupons so they will come back to the store next time. Also by having a system that my staff can record data and clock in clock out to calculate the payment will drastically solve the issue at work.

Name of the interviewee: Emily Vu

The position of interviewee: Nail Technician

Date and Time of interview: 10/16/2019 11 AM

Question:

1. **What your job responsibility?**

I’m responsible for providing nail service to the customer

1. **What is your task at work?**

I usually perform nail service for the customer, stock the nail supply, record my service, clean up equipment

1. **How often do you use the current system?**

I only use the system to print out the receipt, it has a record service function but if the system crash, the info will be gone.

1. **Would you say the current system is competent enough to perform all necessary business tasks?**

The current system is not competent enough, I wish it has the ability to track down an appointment for us, therefore it will be less confusing

1. **What are some features that need to be improved?**

I think we should improve the record service feature, therefore our payment is more clear and less confusing.

1. **What new features would make performing your job easier?**

I think we should have an appointment feature so we can do the service easier.

1. **What are some troubles that you encounter at work?**

Some trouble that I encounter at work are the warranty of the service, every service has a different warranty, it can confuse the customer and caused the customer to upset. Some other problems with the appointment, since the customer will make appoint through phone, some time we not sure what the service the customer will be getting, therefore it will cause overlap for the next appointment.

1. **What solution do you think that can fix your trouble at work?**

I think by having a website that lets customers track their warranty, along with making online appointments will solve this issue. Also, the appointment should let the customer pick their service online and provide estimated service time, it will be the best and reduce overlapping for next appointment

Name of the interviewee: Khanh Luong

The position of interviewee: Receptionist

Date and Time of interview: 10/16/2019 12 PM

Question:

1. **What your job responsibility?**

I’m responsible for providing customer service along with answering the phone for appointments.

1. **What is your task at work?**

I usually schedule appointments for customers with their preferred nail tech and assign walk-in customer with nail tech

1. **How often do you use the current system?**

I only use the system to print out the receipt, I barely use the system.

1. **Would you say the current system is competent enough to perform all necessary business tasks?**

I don’t think the current system is good enough, I wish it has more features to make my job easier.

1. **What are some features that need to be improved?**

The record service feature needs to be improved, it needs to be able to calculate the total salary for nail tech since they get paid by hourly, tip, and commission of their service.

1. **What new features would make performing your job easier?**

I think we should have an appointment feature so the customer can book an appointment online, therefore it will reduce mistakes.

1. **What are some troubles that you encounter at work?**

Some trouble that I encounter was appointment issue, for an example let's say a customer has an appointment with Emily at 10 but she doesn’t specify what service she will be doing and another customer wants to have an appoint with Emily at 10:30, so if the service is more than 30 min then we will have to make the second customer wait and it can make him/her upset.

1. **What solution do you think that can fix your trouble at work?**

So I think by having an online appointment system, that I can view and manage, we will reduce and avoid the wait time for the customer along with less confusion and better prepare for the service, since some services may take time to prep.

**Interview Summary**

After interviewing 3 people from Ann’s nail, we notice and noted some issues with the current system and some features that will benefit the business. Some necessary features need to have on the new system is the ability to record service from the nail tech, record clock in and clock out time, record tip and calculate the payment for employee. We also need a feature that let the customer book appointments online and displays schedule, therefore, it would be easier for the receptionist to manage customer. Lastly, we need to create a feature that lets customers track their reward along with their warranty information.

**As-is System Observation**

The current system that Ann’s Nail is using has many issues that needed to be addressed. The application is hosted by a very old server that takes a lot of space which is one of the complaints from the owner. The system is controlled by a mouse and keyboard, and the owner would prefer the new system to have a touch screen in order to save space. The system itself takes a very long time to boot up an estimate around 10 min. After using the system for around 1 hour, the system started to freeze causing mouse and keyboard to be unresponsive, the only way to get the system to work again is by rebooting the system. The application also experienced a crash every 20 min. The application has a very simple interface however, it doesn't look very attractive. The application only able to calculate the total and print receipt, it was lack of many features and a lack of customization.

**Questionnaire for Nail Salon management system**

Date: 10/15/2019

Purpose: The main objective of this questionnaire is to gather employee opinions and feedback

about the current system in order to clarify whether upgrading or creating a new system is the right decision while collecting additional feedback that was possibly missed from the interview phase.

Online Link: <https://docs.google.com/forms/d/e/1FAIpQLSfZ4qHT1CiXQaSqXA_5UNuTm7NxH5IMUFJl0H1Jsi7IukErpw/viewform?vc=0&c=0&w=1>

1. How long have you been working at this salon?
2. What is your job position and what are some tasks you are responsible for?
3. How would you rate the current system, from 1 to 5, 1 being terrible and 5 being very effective?

1 2 3 4 5

1. Describe the current system and your opinion/ comment about it.
2. What do you think the system should do?
3. What features would you prefer to have in the current system?
4. Does the current system help you do your job more effectively? 1 for Strongly disagree, 5 for Strongly agree.

1 2 3 4 5

1. Would you prefer using a mouse and keyboard or a touch screen or both?
2. Would you prefer to have the system running on a tablet, laptop and/or computer monitor?
3. Additional Feedback?

**Questionnaire result Summary**

The questionnaire was distributed on 10/15/2019 at 7 AM. The questionnaire was distributed to 8 nail technicians and 2 receptionists and as of writing this, only 5 of them have responded. For question 3, there were 3 responses with a rating of 1 and 2 responses of 2 for the current system. For question 4, all responses have something related to the system crashing and freezing, 3 responses mention about lack of features. For question 5, some responses stating that it should do inventory tracking as well as responses mentioning it should also manage employees . For question 6, 2 people mentioned the ability to keep track of clock in and clock out time, 3 responses mention it should have the ability to calculate and record salary, commission, and tip for the employee. For question 7, we received mostly low responses. For question 8, most of the responses checked both options. For question 9, we received mostly responses for monitor and tablet or both.

**Document Collected**

A text file that contains crash logs of the As-is system was collected during the observation of the As-is system.

**Use Cases**

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| --- | --- | --- | --- |
| Use-case ID: | UC-1 | | |
| Use-case Name: | Creation of User Account | | |
| Created By: | Spencer and Asad | Last Updated By | Spencer |
| Date Created: | 10/16/2016 | Date Last Updated | 10/17/2019 |
| Actor: | Customer or Employee | | |
| Description: | Creation of a user account for use to store records, generate invoices, and track reward points. The customer information is entered and assigned a unique ID after validation if they do not already have an account. | | |
| Preconditions: | 1. Customer Doesn’t have an Account | | |
| Postconditions: | 1. Account Number is shown    1. Either from the newly created account or the located existing account. | | |
| Priority: | High | | |
| Frequency of Use: | Very Frequent | | |
| Normal Course of Events: | 1.0 Request the creation of a new account  1. Enter customer information (Name, Address, and Phone Number).  2. Validate information and check for prior records.   1. If an account is located return the original account number to the user.   3. Create new account if no pre-existing accounts are located. | | |
| Alternative Courses: |  | | |
| Exceptions: | E1) Account already exists (Occurs on Step 2)   1. Upon locating that the customer has an existing account return the account number for the original account to the customer. | | |
| Includes: |  | | |
| Special Requirements: | None | | |
| Assumptions: |  | | |
| Notes and Issues: | We want the customer to be able to create an account on their own via the company website or by having an associate create it for them either in the store or over the phone. This will allow the business to run more effectively and allow the customer to have better access to the salon’s services | | |

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| --- | --- | --- | --- |
| Use-case ID: | UC-2 | | |
| Use-case Name: | Book an appointment | | |
| Created By: | Asad and Spencer | Last Updated By | Spencer |
| Date Created: | 10/16/2016 | Date Last Updated | 10/17/2019 |
| Actor: | Customer or Employee | | |
| Description: | Set an appointment before reaching the store or you can set an appointment. Also able to pick our favorite employee to get your nails done | | |
| Preconditions: |  | | |
| Post conditions: | 1. Confirmation of appointment, or lack thereof, is given.    1. Includes date, time, and employee. | | |
| Priority: | High | | |
| Frequency of Use: | Very Frequent | | |
| Normal Course of Events: | 1.0 create an appointment  1. Select your date and time and enter Account Number   1. If they do not have an account number offer them the ability to create an account while booking the appointment - See Use Case 1   2. Validate employee availability  a.If no employees are available for client please ask them to select another date and time  3. Enter the desired procedure  4. Validate that there is enough time to perform the service and that proper inventory exists.   1. If there isn’t enough time or inventory recommend another time.   5. Return confirmation that the appointment is scheduled and give a confirmation number. | | |
| Alternative Courses: |  | | |
| Exceptions: | E1) No account number for the customer (Occurs at step 1)   1. Customer is missing an account number 2. Offer the option to sign up and create an account at the same time with additional information 3. If declined, provide the availability to reserve using alternative information without storing rewards points.   E2) No Employees available during the desired time (Happens at step 2)   1. Determine why no employees are available. 2. Check the hours and ensure the store is open.    1. If Store is closed return the hours the salon is open 3. Check if all employees have been booked    1. Return a message offering other times available   E3) Not enough time for a desired procedure (Occurs at step 4)   1. Check the average length of the procedure and ensure there is enough time prior to closing and next appointment. 2. If there is not enough time then inform the customer and suggest a more appropriate time and let the customer know the length of the service | | |
| Includes: |  | | |
| Special Requirements: |  | | |
| Assumptions: | An account number is recommended for benefits, but not required as alternative methods of identification would be allowed. | | |
| Notes and Issues: |  | | |

We want the customer to be able to book an appointment online, over the phone, or in person. They are free to select the date, time, and employee from a list of available employees.

|  |  |  |  |
| --- | --- | --- | --- |
| Use-case ID: | UC-3 | | |
| Use-case Name: | Restocking Inventory | | |
| Created By: | Spencer and Asad | Last Updated By | Spencer |
| Date Created: | 10/16/2019 | Date Last Updated | 10/16/2019 |
| Actor: | Employee | | |
| Description: | Maintain an inventory of the products for use by store associates or for sale. When inventory is low, place an order with the supplier for the product. | | |
| Preconditions: | 1. Employee credentials must be validated. | | |
| Post conditions: | 1. A restocking order is started and may remain open / pending or finalized, and submitted for order. | | |
| Priority: | Medium | | |
| Frequency of Use: | Weekly | | |
| Normal Course of Events: | 1.0 Initiate a restocking order  1. Open the Inventory Management Section  2. Create a new Inventory Order  3. Enter the item number and desired quantity   1. Repeat as necessary until order is completed   4. Finalize the order and submit to suppliers - include date | | |
| Alternative Courses: | 1.0 Inventory Inquiry  1. Open up the inventory Order  2. Find the desired product and quantity   1. Validate that the item was ordered   3. Return order date and expected delivery date | | |
| Exceptions: | E1) Item Not ordered (Happens on Alternative Course 1 step 2)   1. If the item wasn’t ordered create a new inventory order and add the item to the order form in the quantity desired. 2. Keep the order open for the next restocking order. | | |
| Includes: |  | | |
| Special Requirements: |  | | |
| Assumptions: | Supplies and Inventory are ordered from one supplier. | | |
| Notes and Issues: | If inventory is supplied from multiple suppliers the information would have to be broken up and sent to different provides. In this case the supplier information would have to be stored for each item used and stocked in the salon. | | |
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| --- | --- | --- | --- |
| Use-case ID: | UC\_4 | | |
| Use-case Name: | Create Transaction | | |
| Created By: | Spencer | Last Updated By | Spencer |
| Date Created: | 10/16/2019 | Date Last Updated | 10/16/2019 |
| Actor: | Employee | | |
| Description: | Upon completion of a service, or once the customer has finished selecting all the products they would like to purchase, this process is used to create a transaction, create an invoice, and update the rewards system. | | |
| Preconditions: | 1. The Employee is authenticated by logging in. 2. The transaction must have at least one good or service | | |
| Post conditions: | 1. An invoice is generated. 2. The inventory, if a product was sold, will be tracked. | | |
| Priority: | High | | |
| Frequency of Use: | Very Frequent | | |
| Normal Course of Events: | 1.0 Open up a new Sales Transaction  1. Pull up the customer by their account number.   1. If the customer doesn’t have an account number offer to create an account 2. If the customer doesn’t want to use an account this field can be left blank.   2. Enter the items and or services the customer is purchasing.  3. If the customer used their account number pull up the eligible rewards information.   1. The customer may use the rewards system or save it for later.   4. Generate the invoice total, after any applicable discounts.  5. Collect payment and update the rewards information   1. Rewards information should be updated by removing any rewards used and new points / rewards should be added. | | |
| Alternative Courses: |  | | |
| Exceptions: | E1) Customer Doesn’t have an account (Occurs at step 1)   1. The employee can create an account for the customer to enroll them in the rewards system.    1. Fill In the Customer Information (See UC\_1) 2. If the customer doesn’t want an Account a generic account will automatically be used.   E2) Customer has a reward benefit they would like to use (Occurs at step 3)   1. With the customer’s account number entered, the eligible reward(s) applicable to their current purchase will be displayed. 2. The reward(s) may or may not be used at the customer’s discretion.    1. The applicable rewards would automatically be used unless specified. | | |
| Includes: |  | | |
| Special Requirements: |  | | |
| Assumptions: | A customer account is not necessary for invoicing and billing the customers.  A customer with an account would prefer to use their rewards if eligible, but may opt out to save them. | | |
| Notes and Issues: |  | | |

**Use Case Diagram:**

