**Nail Salon Management System**

**Deliverable 2: Analysis Phase**

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IS 436

Structured System Analysis and Design (04.8331)

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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. |
| 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.) The system must retain customer history for 3 years.  2.4.) 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.) System should have a firewall and all protection needed from viruses.  3.5.) Customer account login is kept secure. |
| 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 10:00 AM

Questions:

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 10:45 AM

Questions:

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

Questions:

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**

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**

|  |  |  |  |
| --- | --- | --- | --- |
| 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 | | |

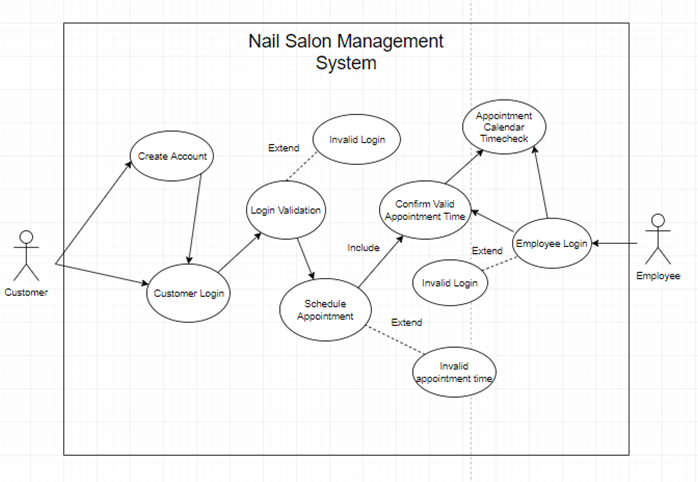
|  |  |  |  |
| --- | --- | --- | --- |
| Use-case ID: | UC-2 | | |
| Use-case Name: | Book an appointment | | |
| Created By: | Asad and Spencer | Last Updated By | Spencer |
| Date Created: | 10/16/2016 | Date Last Updated | 10/17/2019 |
| Actor: | Customer or Employee | | |
| Description: | Set an 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: | Account Log In and Authorization | | |
| Created By: | Spencer and Thomas | Last Updated By | Spencer |
| Date Created: | 10/16/2016 | Date Last Updated | 10/17/2019 |
| Actor: | Customer or Employee | | |
| Description: | Use Case for account log in and validation. Will provide access to the appropriate functions based on the account type. | | |
| Preconditions: | 1. The user, either the employee or the customer, already has an account. | | |
| Post conditions: | 1. The user will be logged in and have access to their account’s roles upon successful login | | |
| Priority: | High | | |
| Frequency of Use: | Very Frequent | | |
| Normal Course of Events: | 1.0) Account Log in and Validation   1. From main page, select the option to log in. 2. Display a prompt for logging in with account and password. 3. User enters their account information 4. Validate that correct account information was entered    1. If incorrect information was entered display a notification which includes the option to recover or create an account and return to step 1 5. Once validated, display a success message and access to the functions based on their roles. | | |
| Alternative Courses: | AC1) Doesn’t have an Account (Occurs at Step 2 and 4)   1. If the user goes to login and they do not have an account they can select an option to create an account. | | |
| Exceptions: | EC1) Incorrect Account Information Entered (Occurs at step 4)   1. Incorrect information is entered 2. Error message is displayed which contains the option to recover an account or create an account. 3. Upon acknowledging the error message they are returned to step 1 and prompted to log in again. | | |
| Includes: |  | | |
| Special Requirements: |  | | |
| Assumptions: | 1. The user has an account 2. The same login portal will be used for both employees and customers | | |
| Notes and Issues: | The users need to log in to the system in order to see information specific to them. Employees will be able to see all of their appointments and clients. Customers will be able to see their account information, historic appointments / services, and upcoming appointments. | | |

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| --- | --- | --- | --- |
| Use-case ID: | UC-4 | | |
| Use-case Name: | Account Inquiry | | |
| Created By: | Spencer and Thomas | Last Updated By | Spencer |
| Date Created: | 10/16/2016 | Date Last Updated | 10/17/2019 |
| Actor: | Customer or Employee | | |
| Description: | Use Case for account log in and validation. Will provide access to the appropriate functions based on the account type. | | |
| Preconditions: | 1. The user has an account 2. The user has logged in through use case UC\_3 | | |
| Post conditions: |  | | |
| Priority: | High | | |
| Frequency of Use: | Very Frequent | | |
| Normal Course of Events: | 1.0) Account Inquiry   1. Upon logging in to the account, click on the option “Appointments” 2. A Calendar will pull up that will display all of the appropriate appointments.    1. For employees this will show all of their past and upcoming appointments with customer information and selected service.    2. For customers this will show their past and future appointments with service and employee who performed the service 3. The calendar would be displayed in a month to month view but could be changed to weekly. | | |
| Alternative Courses: | AC1) Employee View (Occurs at step 2)   1. An employee logging in will see much more information on their calendar.    1. They would see all of the appointments, past or present, on their schedule 2. Each day would display the number of appointments broken up by service type. 3. They can change their view by clicking on a week and bring up a larger view of each day.    1. In this view, the information displayed would contain the customer information, service time, and time frame for each appointment.   AC2) Customer View (Occurs at step 2)   1. A customer logging in would see a month at a time 2. On days they have appointments it would show the time, service, confirmation number, and employee with whom they have an appointment. 3. They can change their view to a weekly view as well but the same information is displayed. | | |
| Exceptions: |  | | |
| Includes: |  | | |
| Special Requirements: |  | | |
| Assumptions: | 1. The user must have an account. 2. The employees need access to more information on a day to day basis in order to perform their job proficiently. | | |
| Notes and Issues: | The employees need to see and have access to a larger amount of information. The functionality of being able to restrict the view to just a week, in order for them to see more specific information in a readable and accessible, was designed with the employees in mind. However, if the same log in portal is used and the same function for checking the appoints is used for both employees and customers there isn’t a reason why it can’t be given to both parties. The information shown would be different.  The customer can use this feature to request a specific employee, or avoid an employee, if they liked or disliked a past appointment | | |

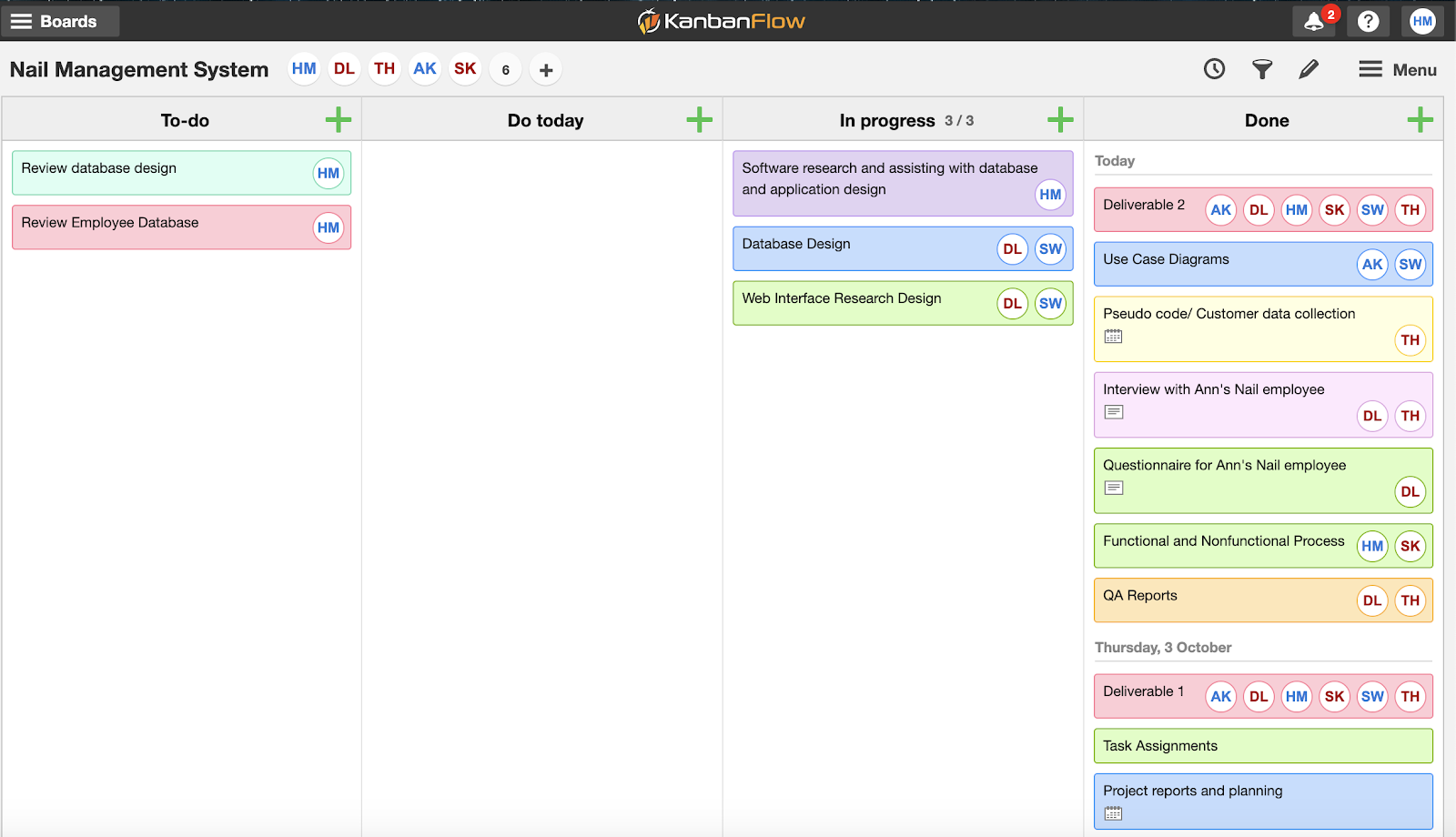
**Use Case Diagram:**



**Project Plan/Schedule**

[**https://docs.google.com/document/d/1Owjt50Xtawyx\_Te3HQvHNAYKMkcUb33WCkKpcJg5zqM/edit?ts=5da8fbc3**](https://docs.google.com/document/d/1Owjt50Xtawyx_Te3HQvHNAYKMkcUb33WCkKpcJg5zqM/edit?ts=5da8fbc3)

**KanbanFlow**

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