Team JLJ
Sprint Review and Retrospective 3
10/24/22

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Section 1. Project Description

Executive Summary

Within Section One of our report, we will include some foundational aspects of our proposed system such as the company background and current environment of the company, Problem Analysis (BPA, BPI, and BPR), Proposed System Objectives and Constraints, Expected Benefits, and the Initial Use Case and Context Diagrams.

Our client, Fresh Vibes, is a restaurant located in Greenville, NC that provides customers with healthy, plant-based alternatives gathered from local sources. The owner, Jessica Albea, has been using an abundance of different software currently to help operate her business' information systems. Ms. Albea is also the owner of two different stores which forces her to use her time sparingly which has led us to develop an automated online scheduling system for her employees. This proposed system has come from her need for a more compatible software in this specific area as she is not currently satisfied with her current situation and we would like to make a more efficient process that will require less of Ms. Albea's attention.

We aim to follow through on a BPI methodology that will allow us to improve the previous scheduling process. We are looking to achieve a working system that fulfills the user requirements our team and the client have put in place. Some obstacles that may hold us back from completing this system would be the project timing, our team's experience, and the budget for the system. But we expect to see this system provide benefits such as easy access of scheduling, improved time management, and improved usability for all its users. Our team looks to present a working system to Ms. Albea within the given period designated for our class this semester.

Company Background and Current Environment

Fresh vibes is a locally owned business in the food industry. Located in Greenville, NC, Fresh Vibes prides itself on enhancing the lives of their customers by supporting their health journey with their fresh, real food. As a locally owned business, the business stays busy as it is actively involved with its community whether it's through volunteering for events or actively speaking. They also support local farmers and small businesses in Eastern NC. They are a common sponsor of a large amount of ECU events adding to their long resume of giving back to the community. Fresh Vibes is a small business but with all of its active engagement, the founder, Jessica Albea, ensures her business meets its customers' needs. Ms. Albea's mission for Fresh Vibes is as follows, "To provide our community with REAL food, made of the freshest ingredients; to educate our community about the many benefits of living a whole food, plant-based lifestyle; to support our local farmers and other small businesses in Eastern North Carolina."

Ms. Albea is tasked with managing two separate brick and mortar locations, making it key that she creates efficient business processes for her employees. Ms. Albea uses multiple different software to operate her business. She currently uses WordPress for Fresh Vibes website, ChowNow for the app, Square for the POS, and Excel for scheduling workers. She has made us aware of the issues she has had with her scheduling system as she does not believe that her current situation is the most optimal solution.

Problem Analysis

When speaking with Ms. Albea, it has been made apparent that the only aspect of her business that looks to benefit the most from improvement would be through the current scheduling system she has in place. Ms. Albea has had issues with making schedules for her employees through her current setup and has requested for it to be modified to create more workplace efficiency. Due to these issues, Ms. Albea has had time taken away from other priorities leading to her not being able to stay focused on the main responsibilities that come with owning and operating two stores. We plan on developing the system within the WordPress software so that we can implement it within Fresh Vibes' current website created on WordPress as well. We have chosen to use a BPI methodology to develop our system in order to accomplish the issues discussed above.

Proposed System Objectives

The employee management system we are proposing aims to give employees and management the ability to securely view shift calendars, create new shifts for employees, approve or reject employee time-off requests, remind employees of schedule updates, and store employee as well as shift information. The system will also allow for employees' availability and time off requests to be viewed. This system will be developed through the WordPress software through a calendar plug-in and will help create a seamless integration process with Fresh Vibes' current website. This working system will be able to effectively allow Ms. Albea to create an effective working schedule for her employees and should be accessible by both management and all employees.

System Constraints

Group Scheduling/Project Timing

A major constraint that can be inhibiting in the development of this system is the ability for our group to put in a group effort consistently. As our group will be working within a variety of different schedules and each one of the members having different priorities. The project assigned to us also has a specific deadline in which we must have a functioning system by the end of the semester. This deadline could possibly inhibit our group's ability to develop the system completely, leading to an insufficient product for the client.

Team Experience

Another constraint that could prevent our team from working effectively on this system will be the lack of experience not only in the software, WordPress, but also lacking in the use of the agile methodology. This inexperience may create a learning curve in which our team, as a whole, must spend more time researching to full capabilities of the software we intend to use as well as the full process within the agile methodology.

Budget

Our team must work within a budget that is very low as the client does not expect to spend any money on developing this system since the previous did not cost much either. Our team must be able to find reliable tools that are cost-effective which also may negatively correlate to the quality of the finished product due to this lack of funding. More cost-effective tools must be researched in order to make the most of this system when it comes to fulfilling the business' need at a low price.

Expected Benefits
Easy Access for Management and Employees
With the development of this system, both managers and their employees will be able to access their work schedules quickly and with little difficulty. As the software we will use for this system will save users at least 5 minutes each sitting to access the system due to it being held on an online webpage rather than a shared document.

Improved Time Management Capabilities
This system will provide Fresh Vibes with a tool which will help organize and keep all employee schedules up to date and accurate to ensure that all of those within the office are kept in the loop. This system will also make it easier for managers to see openings throughout the day, where they can call team or individual employee meetings.

Improved Usability
The functions used within our system will also be simple making it easy for anyone to use in the business compared to the previous setup which can be confusing to those with no training. This system will save each user at least $100 a year as there will be no necessary cost for training in the software we are planning to use, and it does not require a membership subscription.
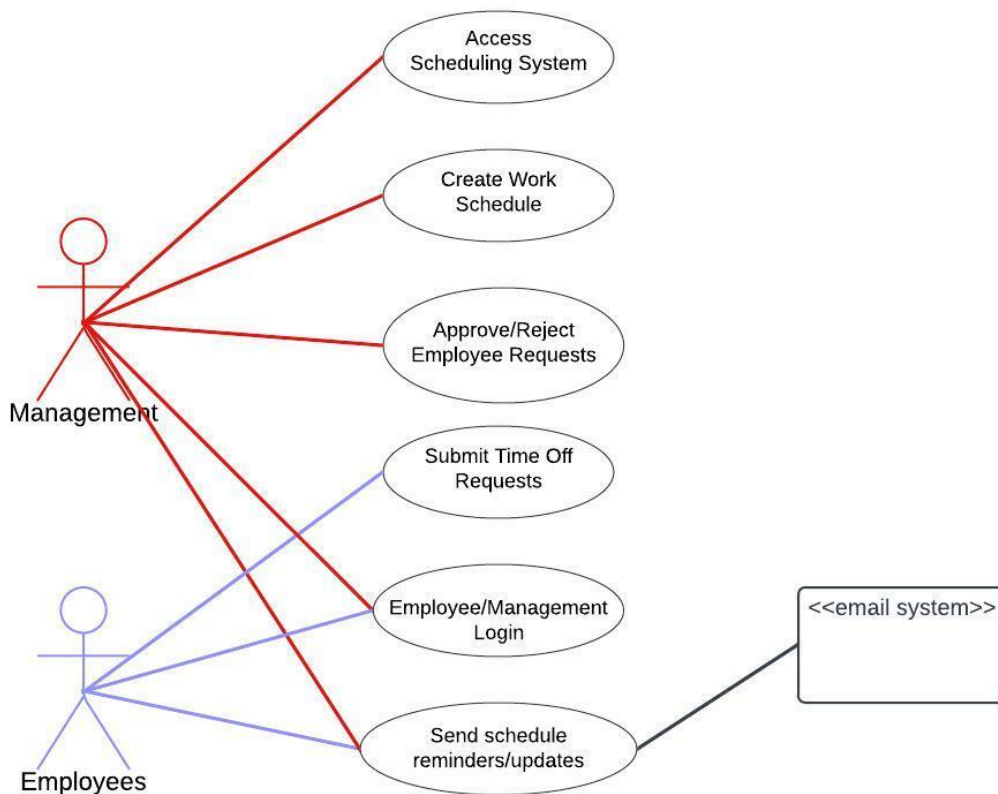
Context Diagram
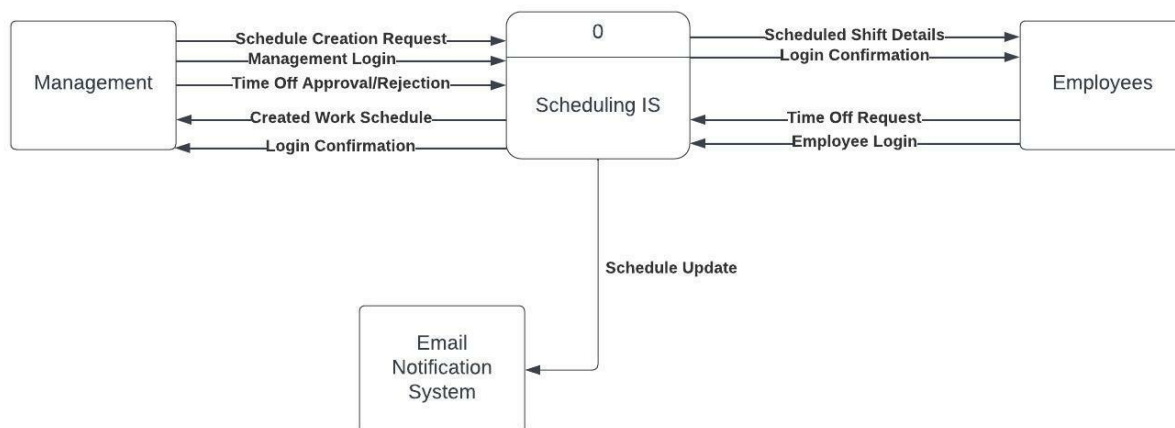
Section 2. Analysis

Executive Summary

In this section, our team reviewed and updated our previously created context diagram to ensure that all data flow was correctly portraying the proper flow of data between entities. Our team also re-evaluated our use case diagram to ensure that the actors involved were correct and that there weren't overlapping use cases. We found that there was another use case to add involving a login process within the system where both employees and management were portrayed as actors.

Our team then identified the different supplemental system specifications regarding the operational, performance, security, political, and cultural requirements allowing us to continue to establish the conditions this proposed system must fit. Our team used these requirements to develop a standard in which we want the system to run in order to best fulfill our client's needs. As, a lot of our performance and operational requirements include specific capabilities that will help with user accessibility due to the system being run through an online web browser. Our team also identified key security requirements that will help keep our employee's information safe. Lastly, we identified one cultural and political requirement which involves the federal protection of online employee information as those not included in the system's users should not be able to access personal information of employees online.

Use Case Diagram

Supplement Specifications (Non-Functional Requirements)

Operational	The system will be supported by web browsers such as Chrome, Firefox, Microsoft Edge, and Safari
	The system must be accessible by any personal devices that have a stable internet connection including tablets, phones, and laptops
	The system must be able to communicate with E-mail systems to send notifications to employees and management
Performance	The system will update employee schedules continuously over a 24-hour period
	The system should load all pages within 30 seconds of any user interaction
	The system should support at least 15 users at one time
	All functions within the system will be reached within 3 clicks for easier user access
Security	Each individual account will have their own login information
	Management and employees will have separate logins and verification
	Only management will be able to access complete view of all employees created schedules
	Employees will not be able to view or access other employee schedules
Cultural	None
Political	Personal employee information is protected by the Employee Online Privacy Act

Section 3. Design

Executive Summary

In this section, our team will present several different design elements such as the system's DFD package, hardware and software requirements, navigation diagram, and the IPO chart with standard naming conventions afterwards.

First off, we have our systems DFD package featuring the updated context diagram, the level 0 diagram, and the level 1 diagram. Each diagram breaks down the data flow and processes within our system a little bit further than the previous. Our team identifies 4 main process and two different data stores in our level 0 diagram which is shown below. Our team has also developed one level 1 diagram for our first process of the system, which is the management and employee login process.

Next, our team identifies the hardware and software requirements that are necessary for the user to access the system and have a reasonable user experience as well. The team's hardware requirements mostly consist of having a personal device that has internet capabilities to access the site. As for software specifications, we have identified several basic requirements that users must be able to fulfill to access the site properly.

Moving onto the navigation diagram, here is where our team has developed a diagram that gives users a clear path to find any function on the site. Some of these functions may not be accessible due to having separate logins between management and employees but that is identified in the diagram. Our team included Fresh Vibes' website tabs as well as the one we plan to add which will hopefully be included in the main site for Fresh Vibes.
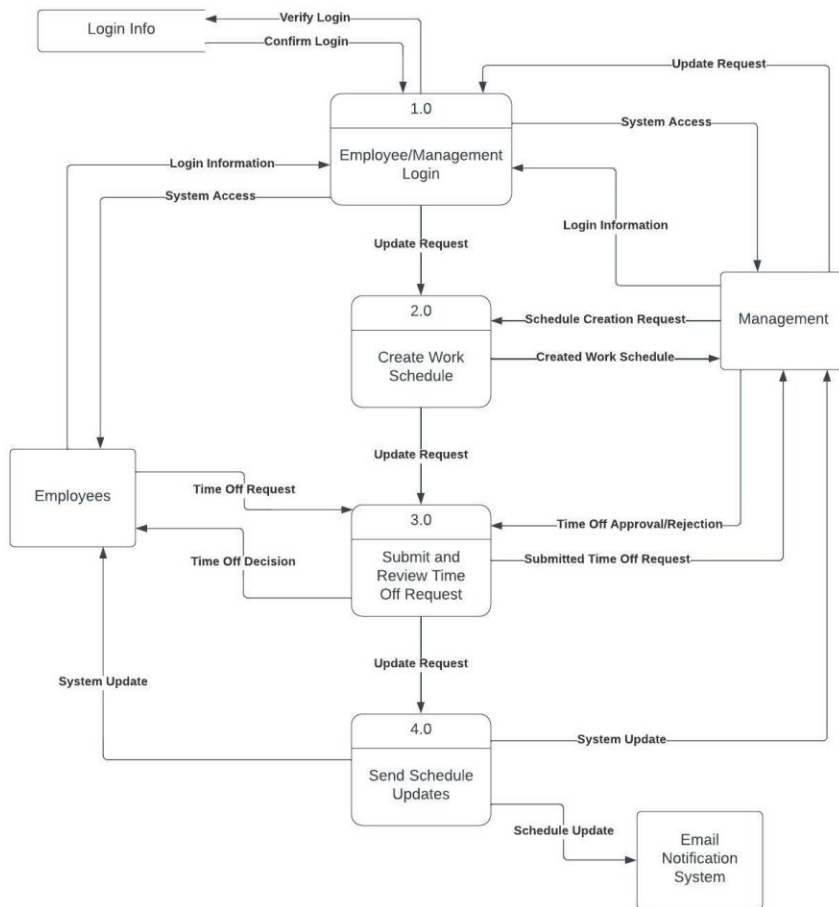
Lastly, we move on to developing the IPO chart which documents the inputs, processes, and outputs regarding the programming aspect of our system. Our team evaluated the forms in which decisions will be made, and the system processes that are necessary to fulfill the form's function.
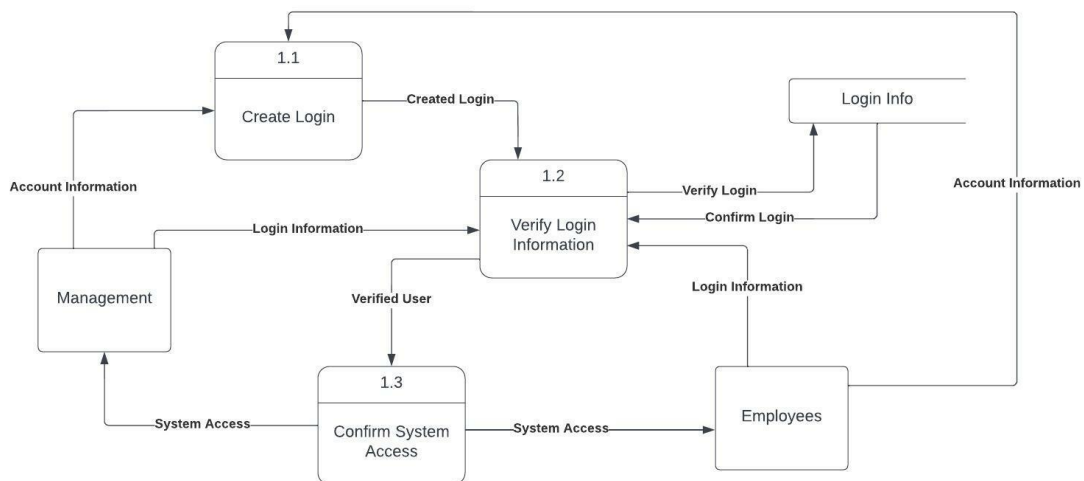
DFD Package
Context Diagram
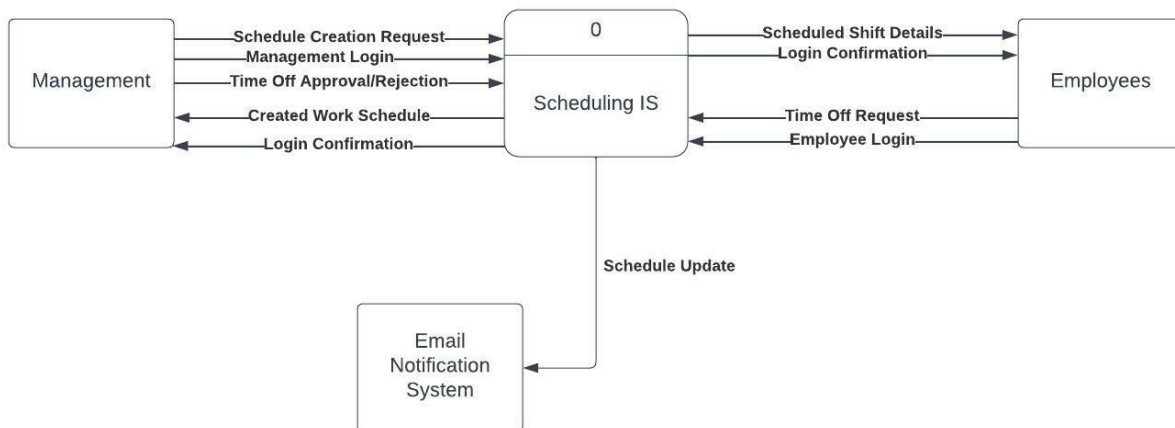
Level 0 DFD Diagram

Level 1 DFD
Process 1: Employee/Management Login
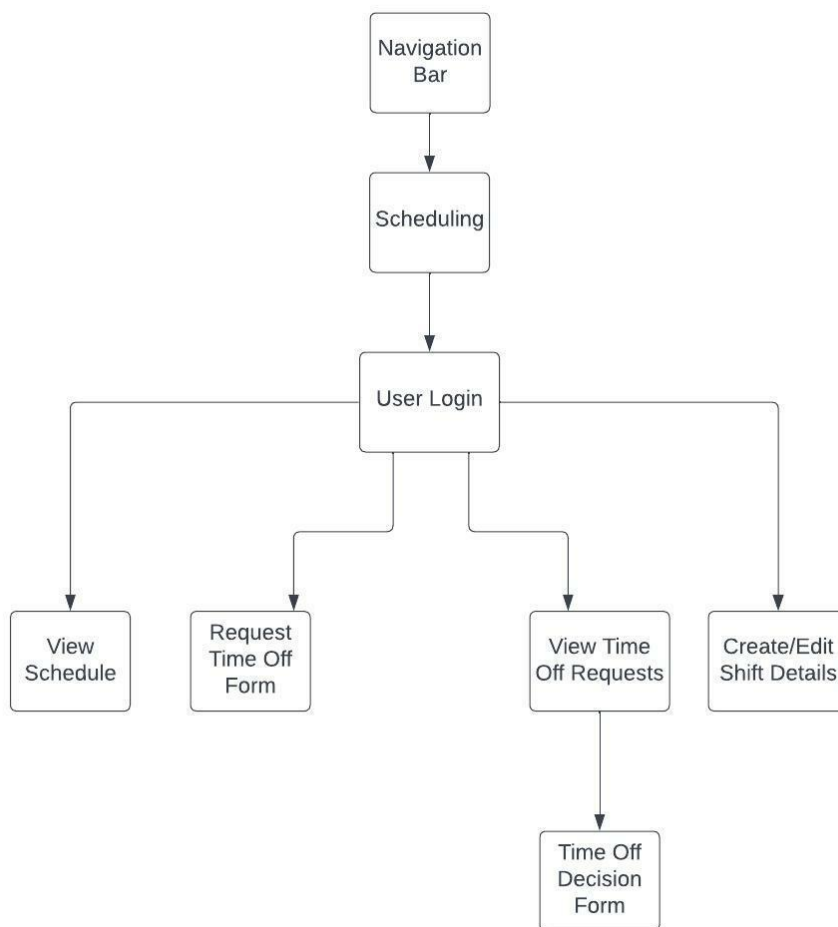
Hardware and Software Requirements
Hardware Requirements
Access to personal devices such as a computer, laptop, tablet, or mobile phone with internet capabilities
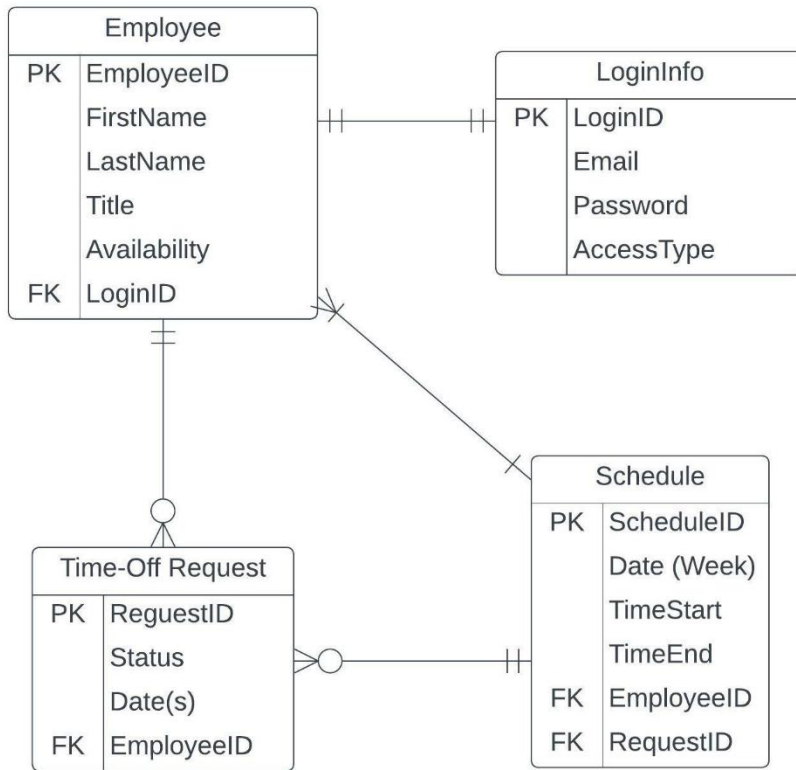Personal devices connected to routed wireless network to access internet services

Software Requirements
Running Windows, Apple, or Linux operating system through personal devices
Internet browsing capabilities such as Firefox, Google Chrome, Microsoft Edge, or Safari

Navigation Diagram

Initial Entity Relationship Diagram

IPO Chart

Input	Processes	Output
User enters personal information User enters account password	Create user account in Login Info data store IF: Password does not meet criteria THEN: Display message "Password does not fulfill criteria. Please try another password." ELSE: Create user account	User account created
User enters username User enters password	System verifies login information with data stores IF: Information matches THEN: Grant system access ELSE: Display message "Username or password is incorrect. Please try again."	User logs in to system
Manager selects employee assigned, date and time for work shift	IF: Selected date, time and employee are available THEN: Work shift is scheduled and assigned to employee ELSE: The requested shift is denied, and the user is notified to try a different date	New work shift is created
Employee inputs date and reasoning for requested time off form	IF: Date and reasoning text box are filled in correctly THEN: The time off request form is submitted for review ELSE: The user must fill out the form again correctly and completely	Employee schedules time off
Management evaluates time off requests and enters decision of approval/rejection	IF: The request is approved THEN: A notification is sent to the employee ELSE: The request is rejected and the employee will be notified	Time off decision is made and employee is notified