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Requirements Specification Document

BreadDev Bakery Scheduling System For Group 8

InTouch Consulting (Group 1)

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Mar. 27, 2019

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Revision History

Table 1: Revision History

Name	Date	Reason for Changes	Version
Whole team	2019-01-29	Document Creation	RD 1.0.0
Whole team	2019-01-30	Document Outline Plan	RD 1.0.1
Whole team	2019-02-03	Document Drafting	RD 1.0.2
Whole team	2019-02-05	Document Final Edit	RD 1.0.3
Whole team	2019-02-07	Updated Changes from RD 1.1	RD 1.1.1
Whole team	2019-02-20	Updated Changes from RD 1.0 Feedback	RD 1.1.2
Whole team	2019-03-11	Add Specification Changes to Document	RSD 0.8
Whole team	2019-03-12	Final Editing and Compiling of Document	RSD 0.9
Whole team	2019-03-19	Updated Client Changes from RSD 0.9	RSD 1.0
Whole team	2019-03-26	Updated Changes from RSD 1.1	RSD 1.5
Whole team	2019-03-27	Updated Changes from RSD 1.0 Feedback and Final Editing	RSD 2.0

1 Introduction

1.1 Purpose

The purpose of this project is to develop the BreadDev Bakery Scheduling System to be used by BreadDev's bakery staff. In this document, InTouch outlines the BreadDev Bakery Scheduling System that will increase the efficiency of BreadDev's management staff by reducing the time spent on scheduling.

1.2 Project Scope

The scope of this project covers the process of developing a software system which benefits BreadDev and meets the objectives defined in their RFP [1]. The system must have a calendar based schedule which is accessible to all users. A management user can use the system to create and delete an account, add and delete a shift, view a shift, create and respond to a shift cover request, approve and decline a shift cover request, view and edit their profile, view a different user's profile, and create and view an announcement. A staff user can use the system to view a shift, create and respond to a shift cover request, view and edit their profile, view another user's profile, and view an announcement. Additionally, a user is notified when a shift they are scheduled for is changed, a shift cover request they are involved with is approved or declined, or an announcement is created. BreadDev believes that the BreadDev Bakery Scheduling System will help BreadDev achieve its goals of having clearer and quicker companywide communication [1].

1.3 Glossary of Terms

Table 2: Glossary of Terms

Alert	Warning generated from the system when invalid data is used as input.
DFD	Data flow diagram.
ER Diagram	Entity Relationship diagram.
Management Account	The account used by a management user.
Management User	A user who is a manager at BreadDev.

RD	Requirements document.
Shift Cover Request Response	A user responds to another user's shift cover request, indicating that they want to work the shift. A management user is notified when a user has responded to a shift cover request to approve or decline the response.
RFP	Request for proposal.
RSD	Requirements specification document.
Sequence Diagrams	A diagram of the order of operations described in a use case.
Shift	The period during which a staff member is scheduled to work.
Shift Cover Request	A user's request for someone else to cover a shift that the user is currently scheduled to work.
Staff Account	The account used by a staff user.
Staff User	A user who is a staff member at BreadDev including sales staff and bakery staff, but not including managers.
User	A general term used to specify either a management user or a staff user.
Weekly Summary (of Schedule)	A summary of the hours worked by each user during any selected week.

1.4 References

- [1] BreadDev. (2019). *Request for Proposal*. Victoria.
- [2] *Personal Information Protection Act*. (2003, 23 October). From BC Laws: http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_03063_01

1.5 Overview

This document contains the following: project description, system features, requirements, diagrams pertaining to the system including an ER diagram with a corresponding data dictionary for data attributes, data flow diagrams, a use case model, use cases scenarios with a sequence diagram and prototype mockups, test cases, and traceability matrices. The project description discusses the product perspective, primary features, user groups, operating environment, assumptions, and constraints of the system. The system features section examines calendar, management tools, announcements, notifications, and profile features. These sections go into detail about each one of these features and their respective functional requirements. The external interface requirements section analyzes the two interfaces that control the system. The non-functional requirements section focuses on software quality and security. The ER diagram explains the relationships between each entity in the system and its stored data. The accompanying data dictionary further explains how the data is used within the system, and lists the data field types. Each DFD explains the way data flows within the system and all the possible inputs and outputs. The use case model describes the flow of use cases for each type of user. Sequence diagrams for each use case describe the process of how the user interacts with the system. The prototype mockups are a possible implementation of the requirements for each use case scenario. The test cases describe the forward traceability for each requirement. The traceability matrices link each requirement to the corresponding test cases. The project requirements are divided into functional, non-functional, and external interface requirements.

2 Overall Description

2.1 Product Perspective

The BreadDev Bakery Scheduling System that will be developed is replacing a weekly schedule Excel spreadsheet and manual changes to shifts at the bakery. The implementation of the BreadDev Bakery Scheduling System will decrease time spent editing and arranging the weekly schedule Excel spreadsheet. The time taken to resolve both conflicting shifts and last-minute changes would also be reduced. All users will be able to monitor their own schedule from within and outside the bakery on multiple platforms. A management user will additionally be able to access the management tools from within and outside the bakery on multiple platforms.

2.2 Product Features

Each management user will have a management account, and each staff user will have a staff account. A management user can edit the schedule and has final acceptance on changes proposed by a user in both shift cover requests and responses. Changes to the schedule are automatically updated within 30 seconds. A staff account is primarily used to view the schedule; however, a staff user is also able to view announcements as well as create and respond to shift cover requests. No proprietary or specialized hardware is needed for this system, and the system will be developed such that improvements will be simple to add. The system's user interface will be developed such that it is intuitive for a non-technical user to use within one hour of initial introduction.

2.3 User Classes and Characteristics

2.3.1 Staff User

All non-managerial employees of BreadDev will have a staff user account. A staff user can choose which user's shifts to view on the schedule. A staff user can view another user's profile. In the event that a staff user needs to request a shift change, they can select one of their shifts and create a shift cover request. A staff user may have either 'baker' or 'sales' listed for their position. A user may optionally add a phone number to their own user profile that can be viewed by all users. A staff user is not able to export the weekly summary of the schedule, edit the weekly schedule, or view responses to other users' shift cover requests.

2.3.2 Management User

A management user has all the capabilities of a staff user account, in addition to those listed in this section. Each management user can create and delete both management and staff accounts, create and delete shifts, approve or decline shift cover request responses, and create announcements. Each management user is responsible for ensuring that a user is not overscheduled as defined by local labour laws as these labour laws are outside the scope of this system. A management user is responsible for altering the schedule should a user miss a shift or call in sick. A management user is also able to export a selected week's summary of the schedule.

2.4 Operating Environment

2.4.1 Hardware

The BreadDev Bakery Scheduling System supports computers that were made as early as 2008 and smartphones that were made as early as 2014. The current office computer uses Windows Vista, which must be supported. Any computers running Windows Vista or MacOS Sierra, and devices capable of running these operating systems or later versions are also supported by the BreadDev Bakery Scheduling System.

2.4.2 Software

The system is an application that is accessible on the following browsers at launch:

- Google Chrome version 72.0.3626 or later
- Mozilla Firefox version 65.0 or later
- Internet Explorer 11
- Microsoft edge version 40.15063 or later
- Safari version 12.0.2 or later

Mobile devices, PC's and tablets can use the system with one of the previously mentioned browsers.

2.5 Design and Implementation Constraints

2.5.1 Hardware Limitations

The scheduling system is accessible to all users on devices as outlined in 2.4.1. and 2.4.2. However, for systems not meeting the requirements set out in 2.4.1, the absolute minimum device supported needs at least 1GB of RAM, a 1.0 GHz CPU base clock speed, and Internet Connection Broadband with a minimum speed of 100KBps.

2.5.2 Technologies and Tools

The system is an application hosted on a cloud application service. The application is easy to update, change and maintain.

2.5.3 Security Considerations

There is no financial information stored within the system however, account security is a priority for all user accounts. Current and past shifts should not be changed by an account without management permissions. Furthermore, shifts should not be created by an account without management permissions.

2.6 Assumptions and Dependencies

Computer skill: This project assumes that each user has a basic proficiency with computers and that a non-technical person can operate the bakery scheduling system within one hour of initial introduction.

Internet connection: This project assumes the BreadDev Bakery Scheduling System has access to an internet connection meeting the minimum requirements described in 2.5.1 to be able to accommodate updates to the schedule within 30 seconds.

3 System Features

3.1 Calendar

3.1.1 Description and Priority

The calendar feature allows a user to view scheduled shifts for all users as well as for selected users. It also allows a user to create, view and respond to shift cover requests, and view the past year's schedule history. The calendar is the critical priority feature because it is how the scheduling system displays the schedules.

3.1.2 Functional Requirements

REQ-F-C-1: The calendar feature must be able to display the schedule of shifts

Rationale: The user must be able to view the schedule of shifts in order to know when they are scheduled to work.

Test Case(s): TC#001

REQ-F-C-2: A user must be able to respond to a shift cover request that was created by another user with the same position and that does not conflict with their schedule.

Rationale: A user must be able to respond to a shift cover request in order for a shift to be covered.

Test Case(s): TC#002, TC#003

REQ-F-C-3: A user must be able to create a shift cover request.

Rationale: A user must be able to create a shift cover request in order for a shift to be covered.

Test Case(s): TC#004, TC#005

REQ-F-C-4: A user must be able to view any shift cover request matching their position, given that they are not already scheduled during this shift.

Rationale: A shift cover request must be viewable in order for other users to respond.

Test Case(s): TC#006

REQ-F-C-5: Each staff user must be able to view selected users' shifts.

Rationale: A user needs to be able to view other users' shifts to know who is working when.

Test Case(s): TC#007, TC#008

REQ-F-C-6: A user must be able to view the past year's schedule history.

Rationale: Previous shifts must be stored for up to a year in order for statistics to be analyzed.

Test Case(s): TC#009

3.2 Management Tools

3.2.1 Description and Priority

Management tools allow a management user to add and delete a shift, add and delete one or more management or staff accounts, approve and decline shift cover request responses, and export a downloadable weekly summary. If a management user attempts to schedule a shift that would result in overtime, they will be alerted.

Management tools are of high priority because without it there are no means of adding users, which would render the system non-accessible.

3.2.2 Functional Requirements

REQ-F-MT-1: A management user must be able to add a shift.

Rationale: A management user must be able to add shifts in order for the users to know when they are scheduled to work.

Test Case(s): TC#010, TC#011

REQ-F-MT-2: A management user must be able to add a management account to the system.

Rationale: A management user must be able to add a management account in order for a new management user to access the system.

Test Case(s): TC#012, TC#013

REQ-F-MT-3: A management user must be able to add a staff account to the system.

Rationale: A management user must be able to add a staff account in order for a new staff user to access the system.

Test Case(s): TC#014, TC#015

REQ-F-MT-4: A management user must be able to approve a shift cover request response.

Rationale: A management user must approve a shift cover request response to enable the shift-covering functionality.

Test Case(s): TC#016, TC#017

REQ-F-MT-5: A management user must be able to delete a management account from the system.

Rationale: A management user must be able to delete a management account for a management user that is no longer employed with BreadDev.

Test Case(s): TC#018, TC#019

REQ-F-MT-6: A management user must be able to export a downloadable weekly summary of the schedule.

Rationale: A weekly summary export is needed for a management user to calculate payroll.

Test Case(s): TC#020

REQ-F-MT-7: A management user must be able to delete a shift.

Rationale: A management user must be able to delete a shift from the schedule in order to accurately change the schedule as needed.

Test Case(s): TC#021, TC#022

REQ-F-MT-8: A management user must be able to decline a shift cover request response.

Rationale: A management user must be able to decline a shift cover request response in order to have control over who can and cannot cover a shift.

Test Case(s): TC#023, TC#024

REQ-F-MT-9: A management user must be able to delete a staff account from the system.

Rationale: A management user must be able to delete an account for a user that is no longer employed at BreadDev.

Test Case(s): TC#025, TC#026

REQ-F-MT-10: A management user is alerted if trying to add a shift will result in overtime.

Rationale: A management user must be aware if they are about to schedule a staff member for overtime, as it requires additional consideration from that management user.

Test Case(s): TC#027

3.3 Announcements

3.3.1 Description and Priority

The announcements feature allows the system to store a list of all announcements. The announcements feature allows a user to view announcements which are posted by a management user. Announcements are of high priority because management users must be able to inform all users of upcoming changes.

3.3.2 Functional Requirements

REQ-F-A-1: A management user must be able to create announcements.

Rationale: A management user must be able to create an announcement in order to convey a message to all users.

Test Case(s): TC#028, TC#029

REQ-F-A-2: The system stores a list of all announcements.

Rationale: The system must be able to store a list of all announcements so that all users can view them after creation.

Test Case(s): TC#030

REQ-F-A-3: A user must be able to view all announcements.

Rationale: A user must be able to view an announcement to be informed of a management user's message.

Test Case(s): TC#031, TC#032

3.4 Notifications

3.4.1 Description and Priority

The notifications feature informs a user when their schedule has changed, a new shift cover request is created, or an announcement is created. Notifications are sent both in system as well as to each user's email. Opting-out of shift cover request notifications allows a user to not receive new shift cover request notifications, all other notifications are mandatory. When a new announcement is created, a user is notified by the notifications feature. The notifications feature uses the opt-out information to conditionally send notifications to users. Notifications are a medium priority feature for communication between the users and the system.

3.4.2 Functional Requirements

REQ-F-N-1: A user receives a notification if their shift is changed in the schedule.

Rationale: A user must receive a notification if their shift is changed in the schedule in order to be aware of these changes.

Test Case(s): TC#033, TC#034

REQ-F-N-2: A user receives a notification when their shift cover request, which has previously been responded to, has been approved or declined.

Rationale: A user must receive a notification when their shift cover request, which has previously been responded to, has been approved or declined in order to be aware of whether their shift has been covered or not.

Test Case(s): TC#035, TC#036

REQ-F-N-3: A user receives a notification when their shift cover request response is approved or declined.

Rationale: A user must receive a notification when their shift cover request response is approved or declined in order to be aware if the user is covering a shift or not.

Test Case(s): TC#037, TC#038

REQ-F-N-4: A user receives a notification when a new announcement is created.

Rationale: A user must receive a notification when a new announcement is created in order to be aware of the new announcement.

Test Case(s): TC#039, TC#040

REQ-F-N-5: A user receives a notification when their shift cover request has been responded to.

Rationale: A user must receive a notification when their shift cover request has been responded to in order to be aware of the response.

Test Case(s): TC#041, TC#042

REQ-F-N-6: A user receives a notification when a new shift cover request is created for their position, if they are not opted-out of shift cover request notifications.

Rationale: A user must receive a notification when a new shift cover request is created for their position in order to be aware of an available shift.

Test Case(s): TC#043, TC#044

REQ-F-N-7: A management user receives a notification when a staff user responds to a shift cover request.

Rationale: A management user must receive a notification when a staff user responds to a shift cover request in order to be aware of the response.

Test Case(s): TC#045, TC#046

3.5 Profile

3.5.1 Description and Priority

The profile feature allows a user to modify the profile associated with their account. The profile displays a user's opt-out status, their email, and optionally their phone number. Opting-out of shift cover request notifications is done from the profile feature. The profile feature is of low priority because the system can function without this feature.

3.5.2 Functional Requirements

REQ-F-P-1: A user must be able to edit the information on their profile.

Rationale: A user must be able to change their profile information if their personal information changes.

Test Case(s): TC#047

REQ-F-P-2: A user must be able to opt-out of shift cover request notifications in their profile.

Rationale: Opting-out of shift cover request notifications is needed in order for a user to reduce the amount of notifications received.

Test Case(s): TC#048

4 External Interface Requirements

4.1 User Interfaces

The system has a general user interface and a management user interface. The general user interface is used by each user to look at the schedule and create and respond to a shift cover request. The management user interface is used by a management user and has features outlined in the management tools feature (Section 3.2). This management user interface is not to be accessible by a staff user. The management user interface has the same functionality of the user interface, with the addition of management tools. This feature is of critical priority because without it, the user has no way to access the system.

REQ-EI-UI-1: A user interface exists for all users to access the features outlined in Calendar (Section 3.1), Announcements (Section 3.3), Notifications (Section 3.4), and Profile (Section 3.5) sections.

Rationale: A user interface is required for a user to view or manipulate information within the system.

Test Case(s): TC#049

REQ-EI-UI-2: A management user interface extending the user interface exists for a management user to interact with the management tools feature.

Rationale: A management user interface is required for a management user to make changes that a staff user cannot make.

Test Case(s): TC#050

5 Non-Functional Requirements

5.1 Software Quality Attributes

The software quality attributes require that the system contains accurate information, that it is accessible on any supported user device, that it displays updates within 30 seconds of a change, and that system maintenance is done during non-working hours.

REQ-NF-SQA-1: The BreadDev Bakery Scheduling System contains accurate information such as the shift time, date, position and corresponding user.

Rationale: The scheduling system must contain accurate information in order for the users to accurately know when they are scheduled.

Test Case(s): TC#051

REQ-NF-SQA-2: The BreadDev Bakery Scheduling System is accessible on any supported user device with a supported browser and a supported internet connection.

Rationale: The system must be accessible on any supported user device with a supported browser and a supported internet connection so that most users do not have to upgrade in order to use the system.

Test Case(s): TC#052

REQ-NF-SQA-3: The BreadDev Bakery Scheduling System displays updates within 30 seconds of scheduling changes having been made.

Rationale: Updates must be displayed 30 seconds after changes are made in order to maintain accurate and consistent scheduling information.

Test Case(s): TC#053

REQ-NF-SQA-4: System maintenance is done during the hours that BreadDev is closed.

Rationale: Doing maintenance during the hours that BreadDev is closed will help prevent interruptions in using the system during work hours.

Test Case(s): TC#054

5.2 Security Requirements

Each user of the BreadDev Bakery Scheduling System needs to log in with their unique email and their password. Only a management user should be able to use the management tools. Each user must be aware of the Personal Information Privacy Act [2] and their consent is required.

REQ-NF-SR-1: Each user must log in using their unique email and their password to gain access to the scheduling system.

Rationale: A user must have an account with a unique email and a password in order to log in for security purposes.

Test Case(s): TC#055, TC#056

REQ-NF-SR-2: Only a management account is granted access to the management tools.

Rationale: A staff user must not be able to edit shifts, add and delete accounts, export a summary, and approve/decline shift cover requests as these can affect the schedule and the security of the system.

Test Case(s): TC#057

REQ-NF-SR-3: While BreadDev is operating within British Columbia, it must comply under the Personal Information Privacy Act.

Rationale: Compliance to the Personal Information Privacy Act is required to legally operate in British Columbia.

Test Case(s): TC#058

6 ER Diagram

The Entity Relationship diagram below (Figure 1) shows the entities within the BreadDev Bakery Scheduling System and how they interact with each other. The diagram also includes the data fields of each entity.

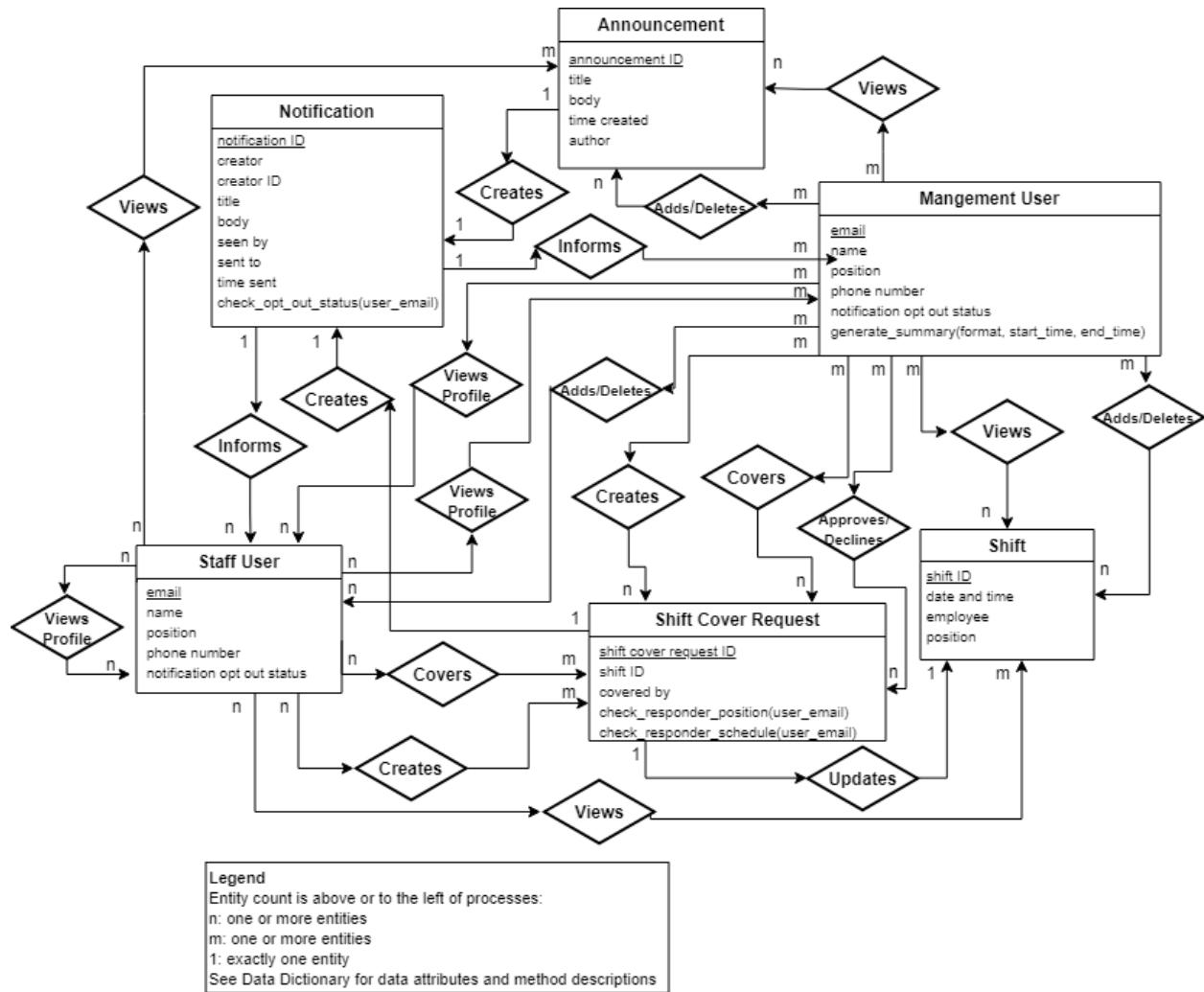


Figure 1: ER Diagram for BreadDev Bakery Scheduling System

6.1 Data Dictionary

The data dictionary below outlines the data attributes of each entity in the BreadDev Bakery Scheduling System and briefly explains their descriptions.

Table 3: Data Dictionary for ER Diagram

Entity	Data Attributes	Data Type	Description
Management User	<u>Email</u>	String	Manager user's email address for account sign in and receiving notifications.
Management User	Name	String	Manager user's name.
Management User	Position	String	Manager user's position that they manage at the bakery.
Management User	Phone Number	String	Manager user's phone number. This field can be left blank.
Management User	Notification Opt-Out Status	Boolean	Whether a management user has opted-out of email notifications or not. If true, they have opted-out of notifications. If false, they have not opted-out of notifications.

Management User	Generate_Summary(format, start_datetime, end_datetime)	Return type: file	A summary of hours worked by each employee in the selected week the summary is generated for. Format parameter is the file type that will be returned by the method. Start_datetime parameter is the first date and time that shifts are shown for. End_datetime parameter is the last date and time that shifts are shown for.
Staff User	<u>Email</u>	String	Staff user's email address for account sign in and receiving notifications.
Staff User	Name	String	Staff user's name.
Staff User	Position	String	Staff user's position at the bakery.
Staff User	Phone number	String	Staff user's phone number. This field can be left blank.
Staff User	Notification Opt-Out Status	Boolean	Whether a staff user has opted-out of email notifications or not. If true, they have opted-out of notifications. If false, they have not opted-out of notifications.
Shift	<u>Shift ID</u>	Integer	ID to represent a specific shift.
Shift	Date and Time	String	Date and time of scheduled shift.

Shift	Employee	String	Email corresponding to the user who is scheduled for the shift.
Shift	Position	String	The position of the shift.
Shift Cover Request	<u>Shift Cover Request ID</u>	Integer	ID to represent a specific shift cover request.
Shift Cover Request	Shift ID	Integer	ID corresponding to the specific shift that this shift cover request is for.
Shift Cover Request	Covered By	String	The email corresponding to the user that has accepted the shift cover request.
Shift Cover Request	Check_responder_position(User_email)	Return type: boolean	<p>Checks whether the position of user offering to cover the shift matches the position of the shift or not.</p> <p>If it returns true, positions match.</p> <p>If it returns false, positions don't match.</p> <p>User_email parameter is the email address of the user being checked.</p>
Shift Cover Request	Check_responder_schedule(User_email)	Return type: boolean	<p>Checks whether the responder to the shift cover request is scheduled for a conflicting shift or not.</p> <p>If it returns true, there is no time conflict.</p> <p>If it returns false, there is a time conflict.</p> <p>User_email parameter is the email address corresponding to the user being checked.</p>

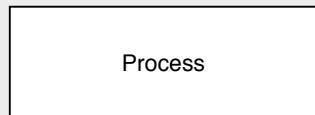
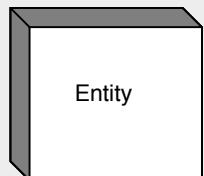
Announcement	<u>Announcement ID</u>	Integer	ID to represent a specific announcement.
Announcement	Title	String	Title text of the announcement.
Announcement	Body	String	Body text of the announcement
Announcement	Time Created	String	Date and time that the announcement was created.
Announcement	Author	String	Email corresponding to the user that created the announcement.
Notification	<u>Notification ID</u>	Integer	ID to represent a specific notification.
Notification	Creator	String	The entity that created the notification. Either an announcement or a shift cover request.
Notification	Creator ID	Integer	The ID of the entity that created the notification. Either an announcement ID or a shift cover request ID.
Notification	Title	String	Title text of the notification.
Notification	Body	String	Body text of the notification.
Notification	Seen By	List of user emails	A list of user emails corresponding to the users that have seen the message.
Notification	Sent To	List of user emails	A list of the users that a notification is sent to.
Notification	Time Sent	String	Date and time that the notification was sent.

Notification	Check_Opt_Out_Status(user_email)	Return type: boolean	<p>Checks the user's opt-out notification status.</p> <p>If it returns true, the user has opted-out.</p> <p>If it returns false, the user has not opted-out.</p> <p>User_email parameter is the email address of the user being checked.</p>
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7 Data Flow Diagrams

Data Flow Diagrams

DFD Legend



→ Data



DFD LEVEL 0

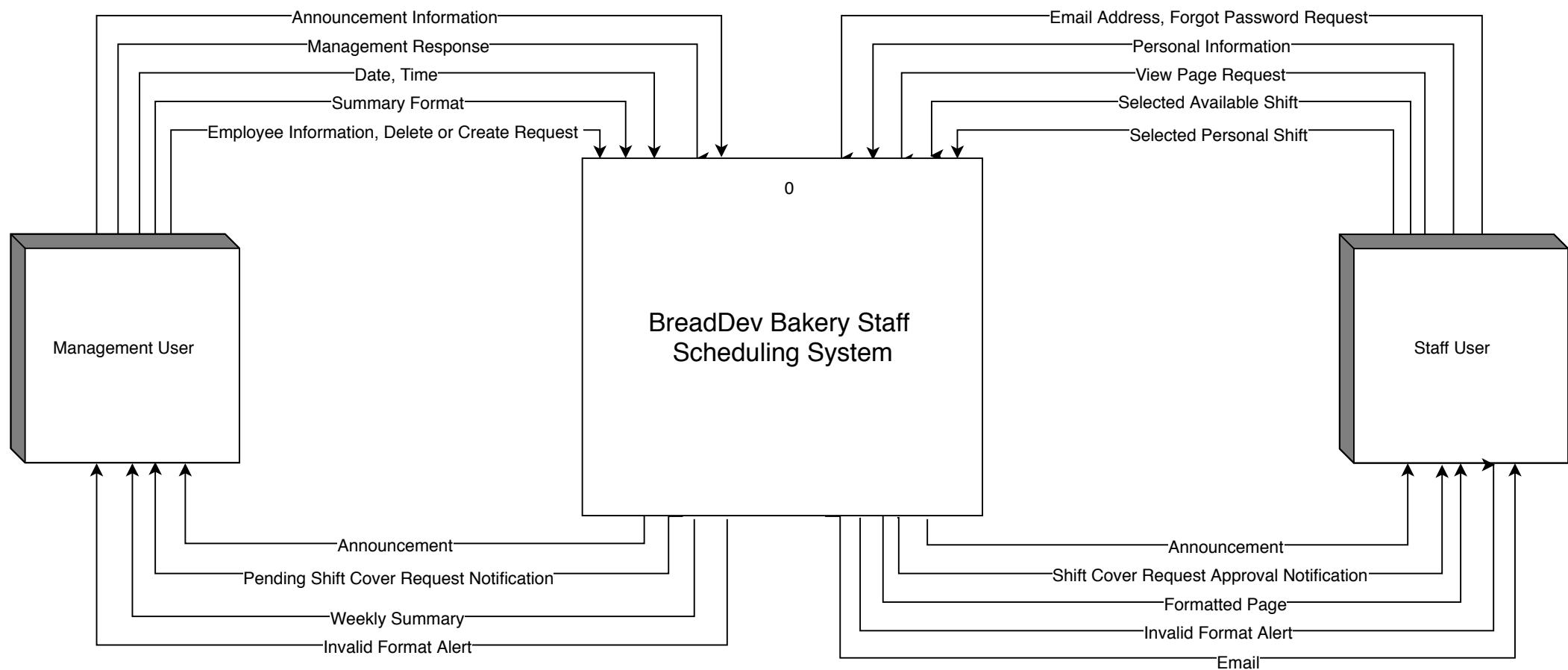


Figure 2: DFD Level 0 (Context Diagram) for BreadDev Bakery Scheduling System

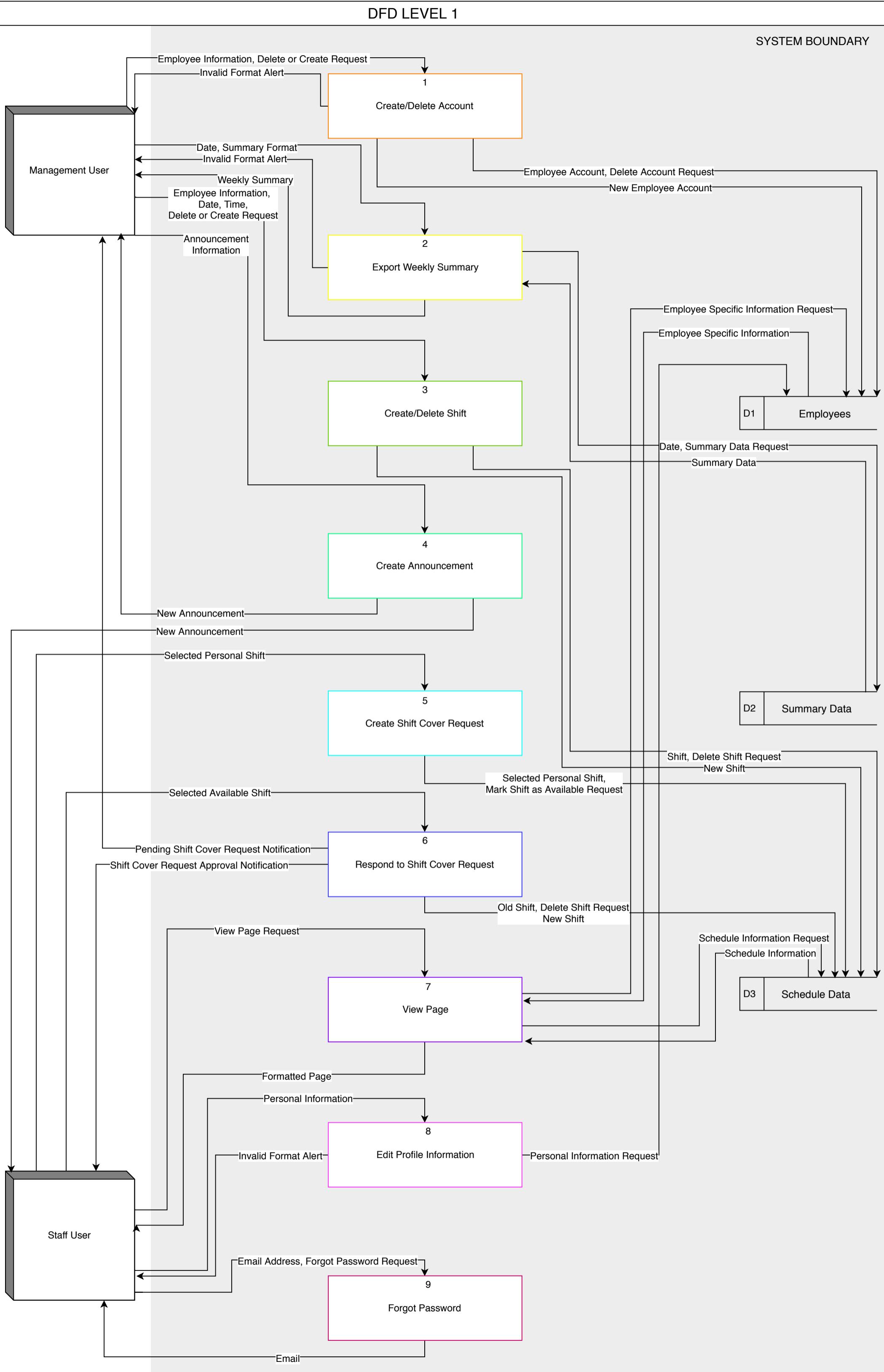
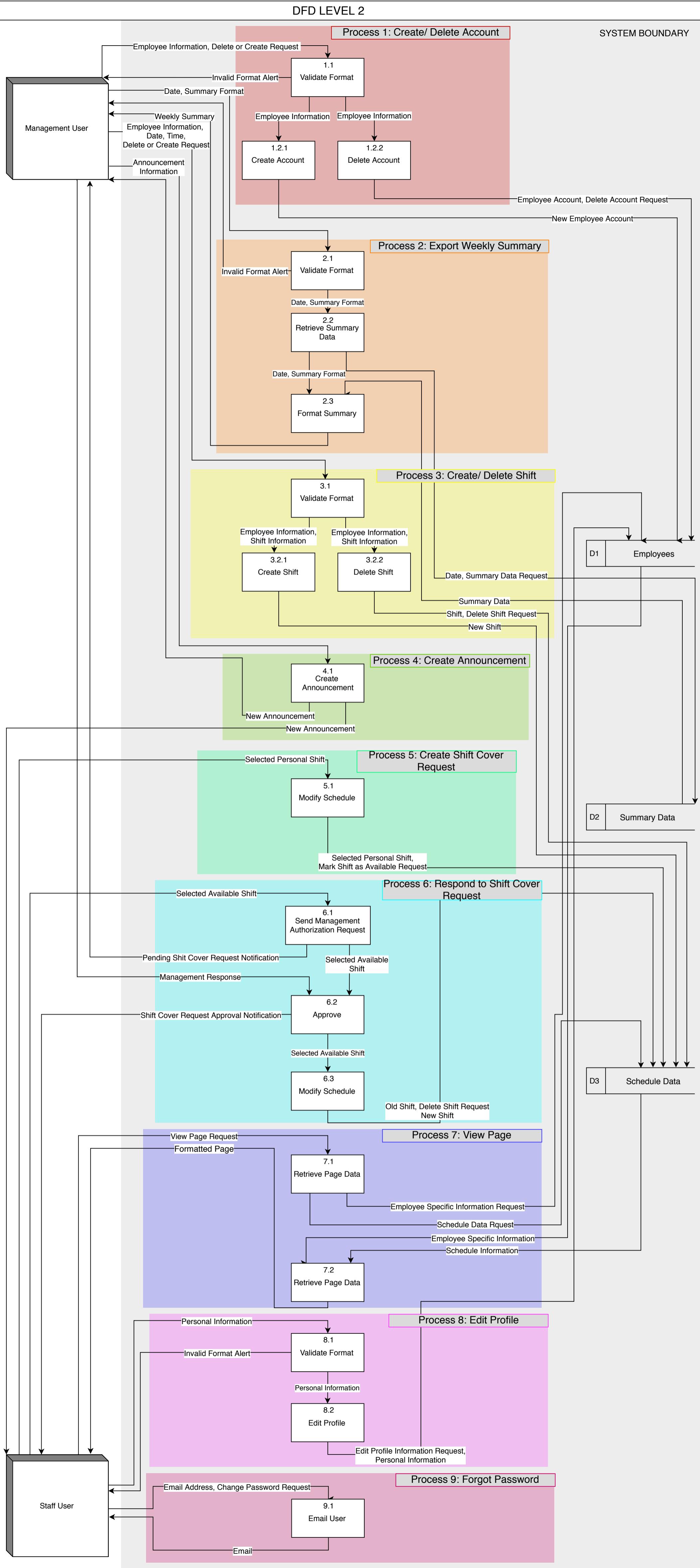


Figure 3: DFD Level 1 for BreadDev Bakery Scheduling System



8 Use Cases

8.1 Use Case Model

The following Use Case Model (Figure 5) represents the different use cases available for users within the BreadDev Bakery Scheduling System.

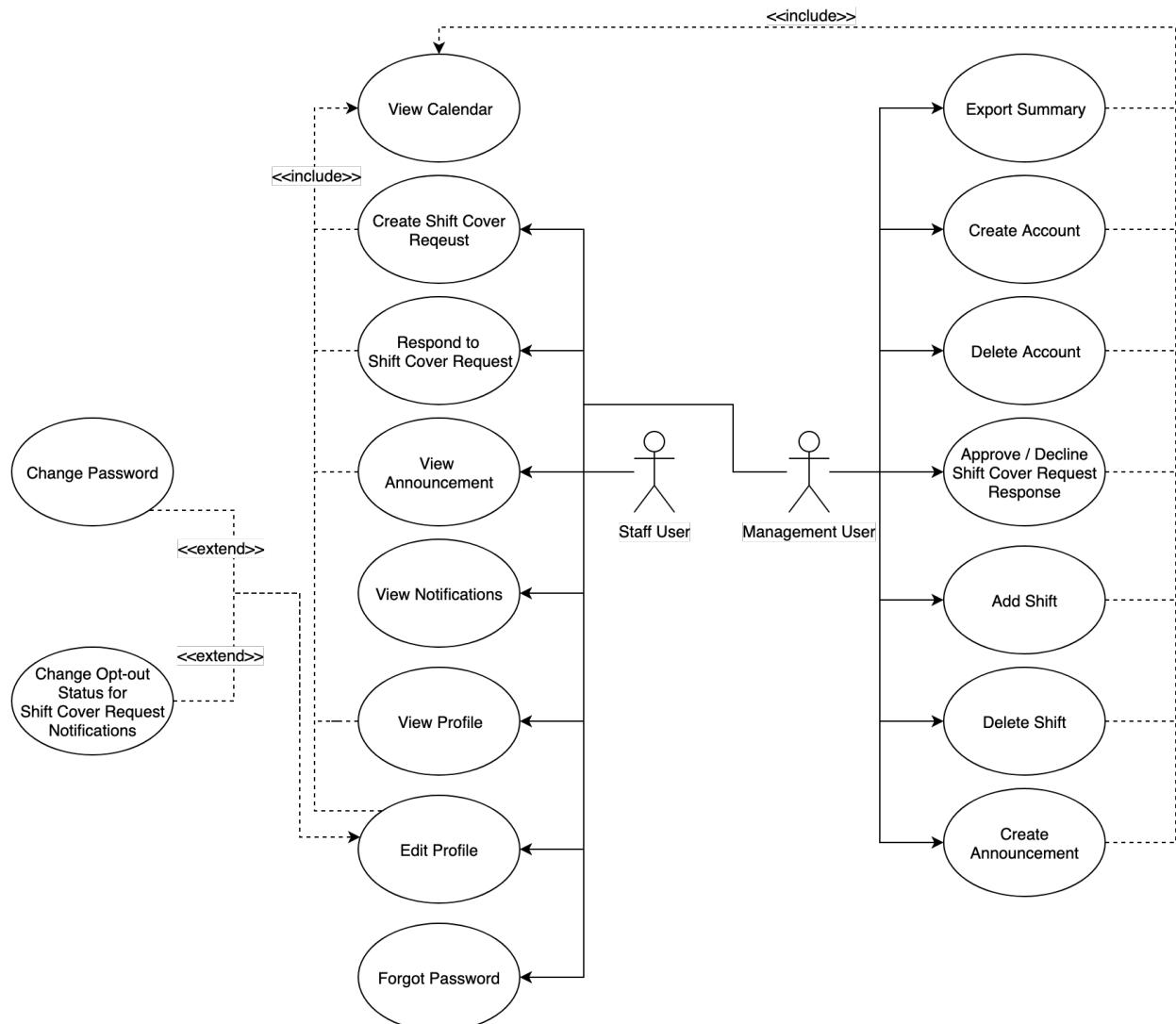


Figure 5: Use Case Model

8.2 UC-1: Create Account

This use case describes how a management user can create any type of account. The management user must be signed in, and have the new user's name, email, and position prepared for input. The management user proceeds to navigate to the management tools and selects to create a new account. The system prompts the management user to enter the new account's information. The management user inputs the corresponding information. Upon completion, the management user must confirm to create the account or cancel creating the account. If the management user confirms to create the account, the account will be created and added to the accounts list. If the management user cancels creating the account, an account will not be created. After the management user cancels creating the account, the UI that was displayed before the use case was started is displayed.

Table 4: Use Case 1 Create Account

Actor	Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User is viewing a page that displays the management tools• User has email, position, and name for new account
Steps	<ol style="list-style-type: none">1. User navigates to the management tools2. User selects to create an account3. The user is prompted to enter the new account's email, position and name4. User inputs the email, position, and name for new account5. User confirms to create the account
Success Conditions	<ul style="list-style-type: none">• An account with the correct information is created
Alternate Paths	4.a) User cancels creating the account – the user is returned to the UI that was displayed before the start of the use case

8.2.1 UC-1: Create Account Sequence Diagram

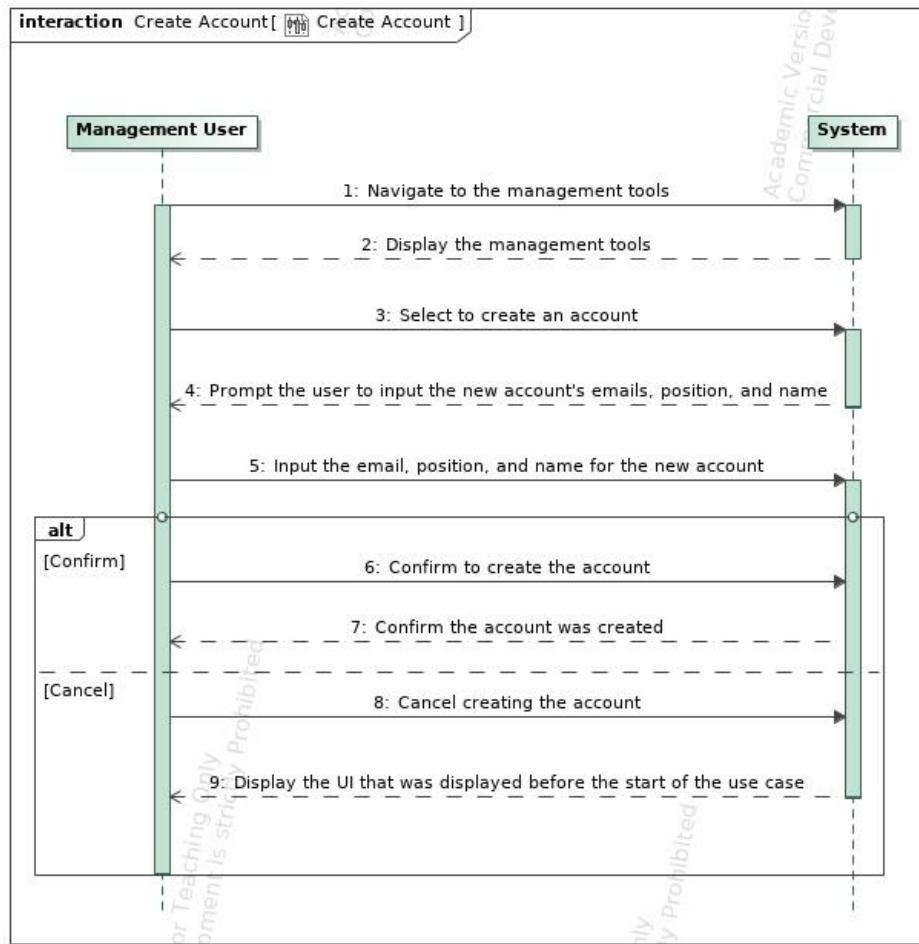
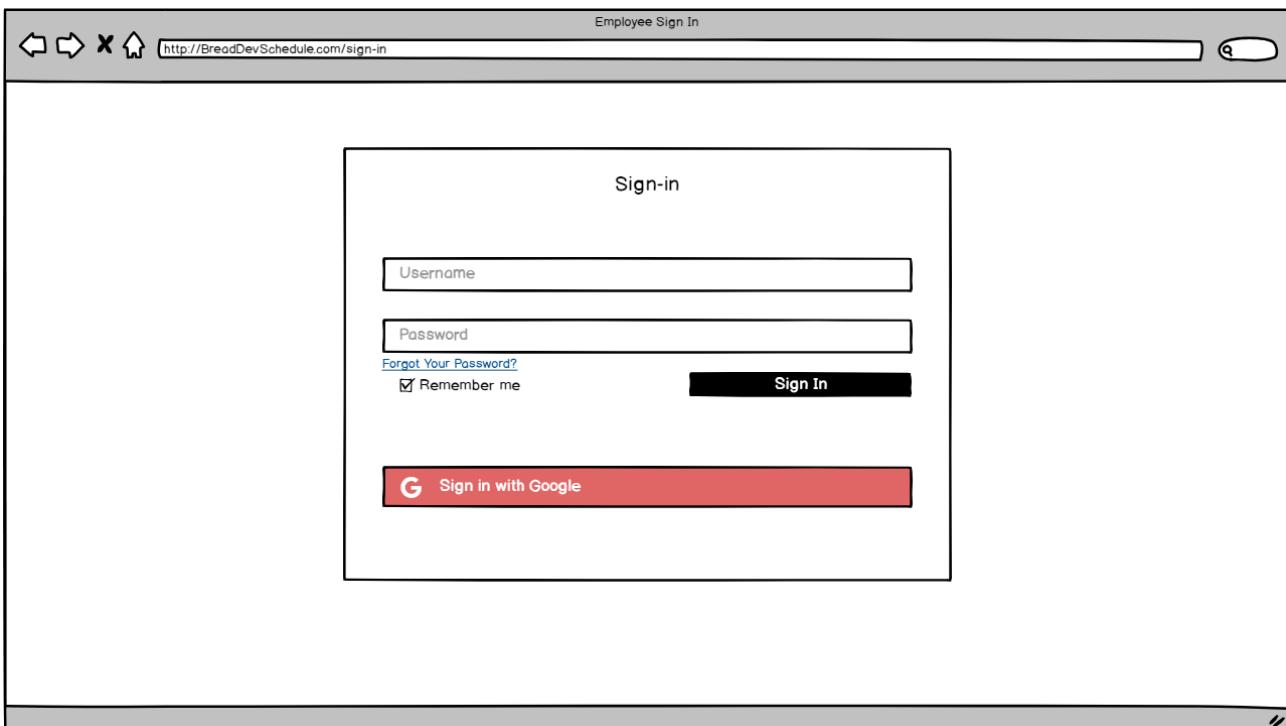


Figure 6: Create Account Sequence Diagram

8.2.2 UC-1: Create Account Mock Ups



The image shows a wireframe of a web browser window titled "Employee Sign In" with the URL "http://BreadDevSchedule.com/sign-in". The main content area is a "Sign-in" form. It contains two input fields: "Username" and "Password". Below the password field is a link "Forgot Your Password?". There is a checkbox labeled "Remember me" and a black "Sign In" button. At the bottom of the form is a red rectangular button with the text "G Sign in with Google". The browser interface includes standard navigation buttons (back, forward, search) and a status bar at the bottom.

Figure 7: Login Mock Up



Figure 8: Create Account Mock Up

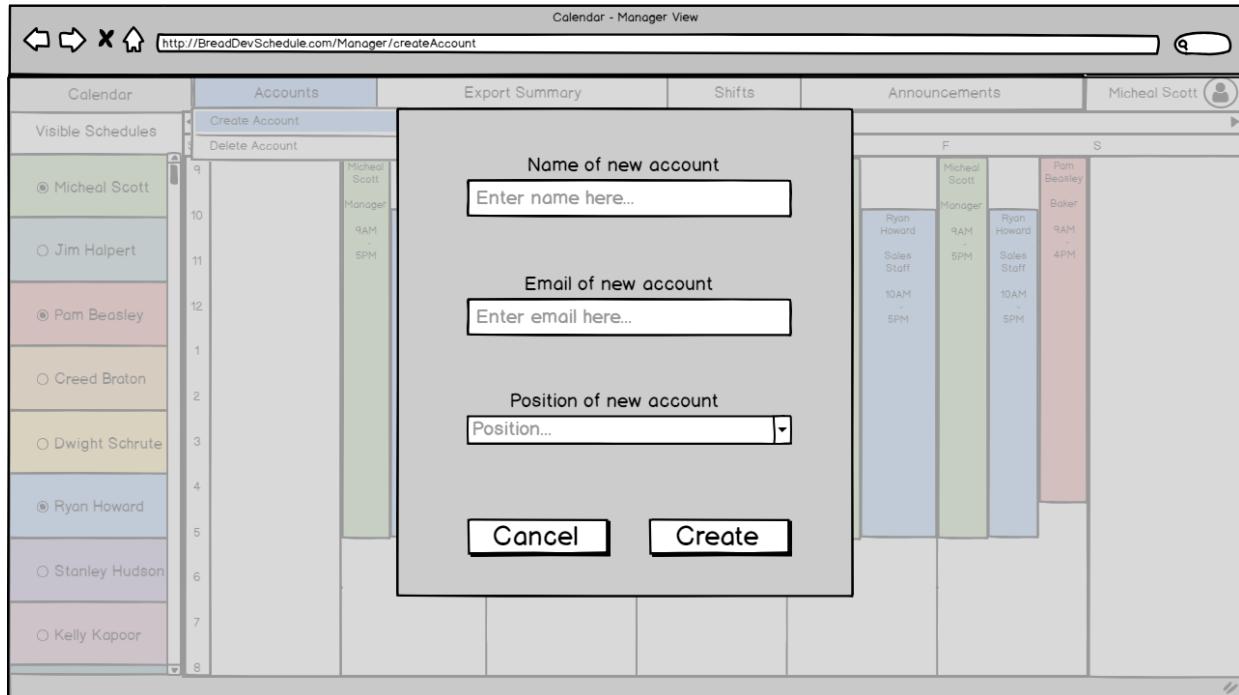


Figure 9: Create Account Input Box Mock Up

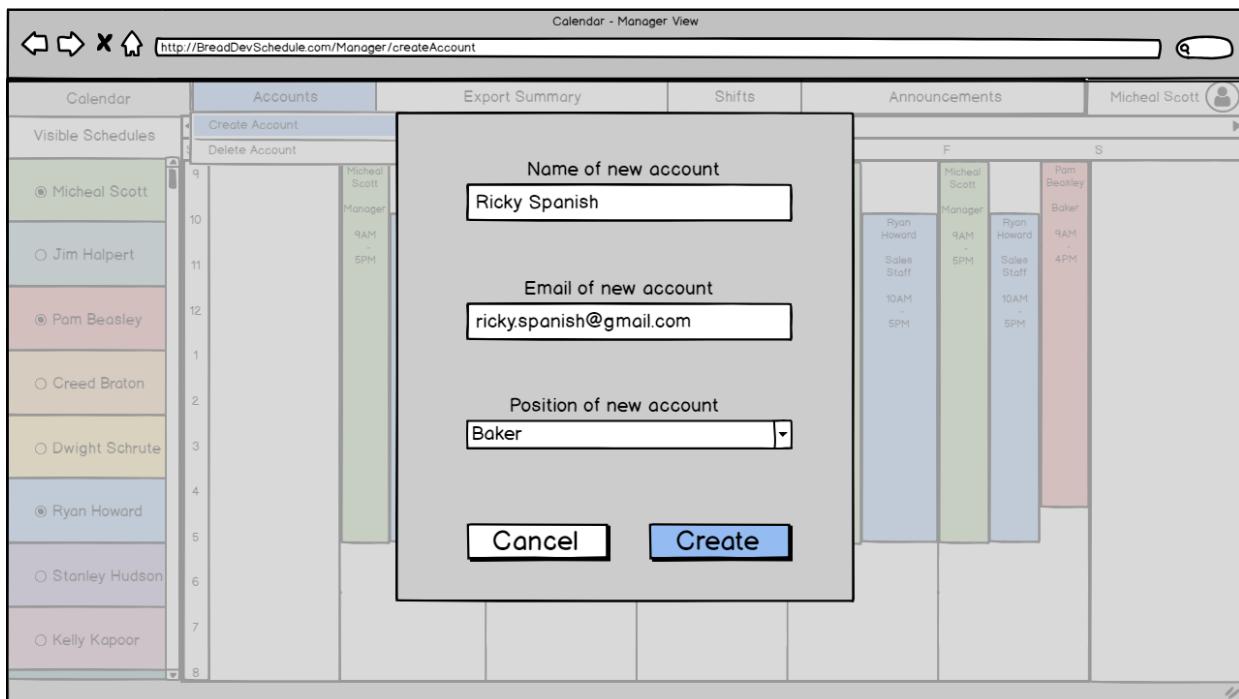


Figure 10: Create Account Example Mock Up



Figure 11: Account Creation Success Mock Up

8.3 UC-2: Delete Account

This use case describes how a management user can delete any type of account. The management user must be signed in to proceed. The management user navigates to the management tools and selects to delete an account. A list of all accounts is displayed to the management user. The management user selects an account to delete and then has the option to delete or cancel deleting the account. If the management user chooses to delete the account, then the selected account will be deleted. If the management user cancels deleting the account, the account will not be deleted. After the management user cancels deleting the account, the UI that was displayed before the use case was started is displayed.

Table 5: Use Case 2 Delete Account

Actor	Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User knows which account to delete
Steps	<ol style="list-style-type: none">1. User navigates to the management tools2. User selects to delete an account3. A list of all accounts is displayed to the user4. User selects an account to delete5. User deletes the selected account6. The user is prompted to confirm or cancel deleting the selected account7. User confirms to delete the account
Success Conditions	<ul style="list-style-type: none">• The selected account is deleted
Alternate Paths	6.a) User cancels deleting the account – the user is returned to the UI that was displayed before the start of the use case

8.3.1 UC-2: Delete Account Sequence Diagram

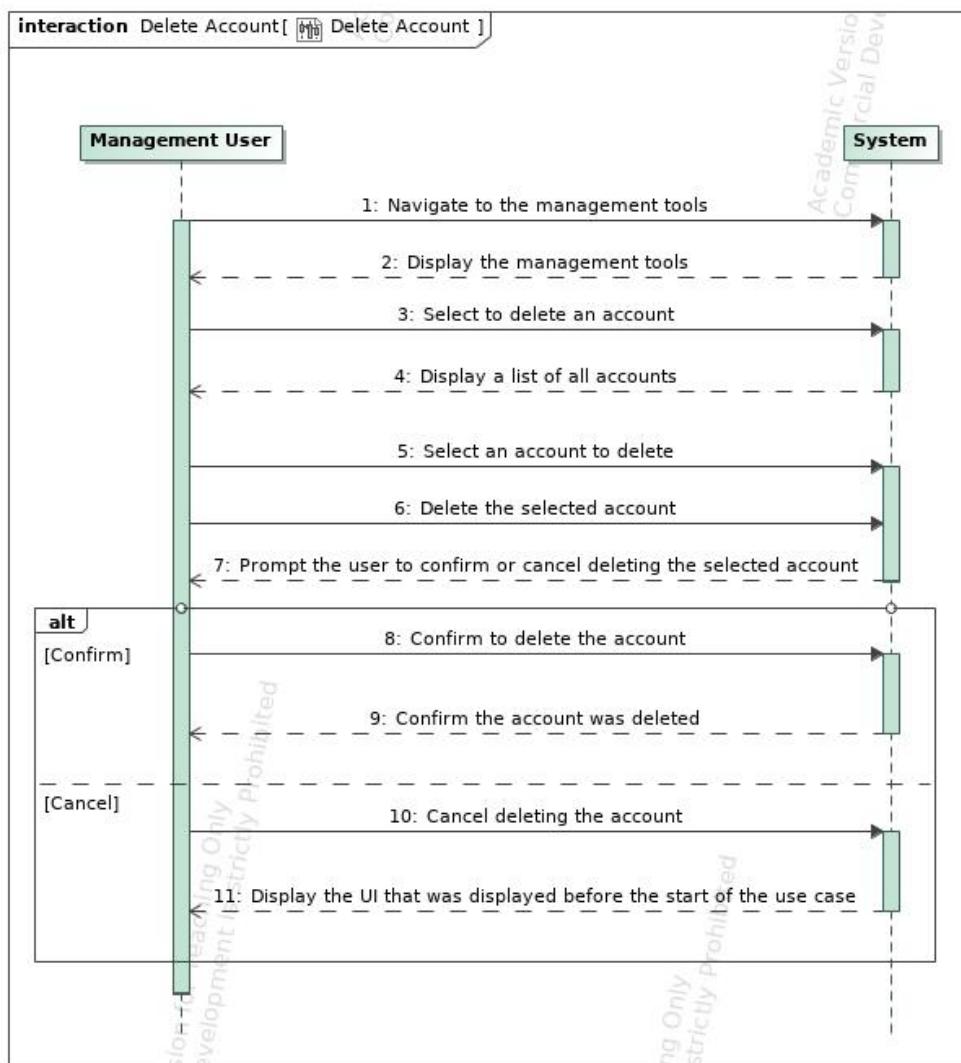


Figure 12: Delete Account Sequence Diagram

8.3.2 UC-2: Delete Account Mock Up

Figure 13: Delete Account Mock Up

NAME		POSITIONS	EMAILS
Domenic Shiflett		Manager*	domshif@hotmail.com
Tomas Vitti		Manager*	t.vitti@gmail.com
Vince Odonoghue		Manager*	vinodonoghue@shaw.ca
Warner Kizer		Manager*	warner.kizer@gmail.com
Jenna Fritch		Baker	jennafritch98@hotmail.com
Jonathan Wrinkle		Baker	wrinklethesprinkle@hotmail.com
Wanda Font		Baker	wanda.font.12@telus.net
Delsie Labella		Baker	delsielabella@gmail.com
Janie Torsiello		Baker	jorsiello@gmail.com
Joya Anger		Baker	joyanger@gmail.com
Lucille Barranco		Baker	lucibarri@hotmail.com
Tabitha Shepley		Baker	tabshepley.1995@gmail.com
Tisa Beveridge		Baker	teveridge123@gmail.com
Betsy Stimson		Sales Staff	bettystim@shaw.ca
Darron Mishler		Sales Staff	darron.mish@gmail.com
		Sales Staff	ingeweikel@hotmail.com

Figure 14: Account List Mock Up

Delete Account					
Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
NAME	POSITIONS		EMAILS		
Domenic Shiflett	Manager*			domshif@hotmail.com	
Tomas Vitti	Manager*			t.vitti@gmail.com	
Vince Odonoghue	Manager*			vinodonoghue@shaw.ca	
Warner Kizer	Manager*			warner.kizer@gmail.com	
Jenna Fritch	Baker, Sales Staff			jennafritch98@hotmail.com	
Jonathan Wrinkle	Baker, Sales Staff			wrinklethesprinkle@hotmail.com	
Wanda Font	Baker, Sales Staff			wanda.font.12@telus.net	
Delsie Labella	Baker			delsielabella@gmail.com	
Janie Torsiello	Baker			jorsiello@gmail.com	
Joya Anger	Baker			joyanger@gmail.com	
Lucille Barranco	Baker			lucibarri@hotmail.com	
Tabitha Shepley	Baker			tabshepley.1995@gmail.com	
Tisa Beveridge	Baker			teveridge123@gmail.com	
Betsy Stimson	Sales Staff			bettystim@shaw.ca	
Darron Mishler	Sales Staff			darron.mish@gmail.com	
Ingeborg Weikel	Sales Staff			ingeweikel@hotmail.com	
	Cancel		Delete		

Figure 15: Delete Account List Mock Up

Delete Account					
Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
NAME	POSITIONS		EMAILS		
Domenic Shiflett	Manager*			domshif@hotmail.com	
Tomas Vitti	Manager*			t.vitti@gmail.com	
Vince Odonoghue	Manager*			vinodonoghue@shaw.ca	
Warner Kizer				warner.kizer@gmail.com	
Jenna Fritch	Confirmation				
	Are you sure you want to delete this account:				
	Name: Jenna Fritch				
	Positions: Baker, Sales Staff				
	Email: jennafritch98@hotmail.com				
	<input type="button" value="No"/> <input type="button" value="Yes"/>				
	Baker			rinklethesprinkle@hotmail.com	
	Baker			anda.font.12@telus.net	
	Sales Staff			delsielabella@gmail.com	
	Sales Staff			jorsiello@gmail.com	
	Sales Staff			joyanger@gmail.com	
				lucibarri@hotmail.com	
				tabshepley.1995@gmail.com	
				teveridge123@gmail.com	
				bettystim@shaw.ca	
				darron.mish@gmail.com	
				ingeweikel@hotmail.com	
	Cancel		Delete		

Figure 16: Delete Account Confirmation Mock Up

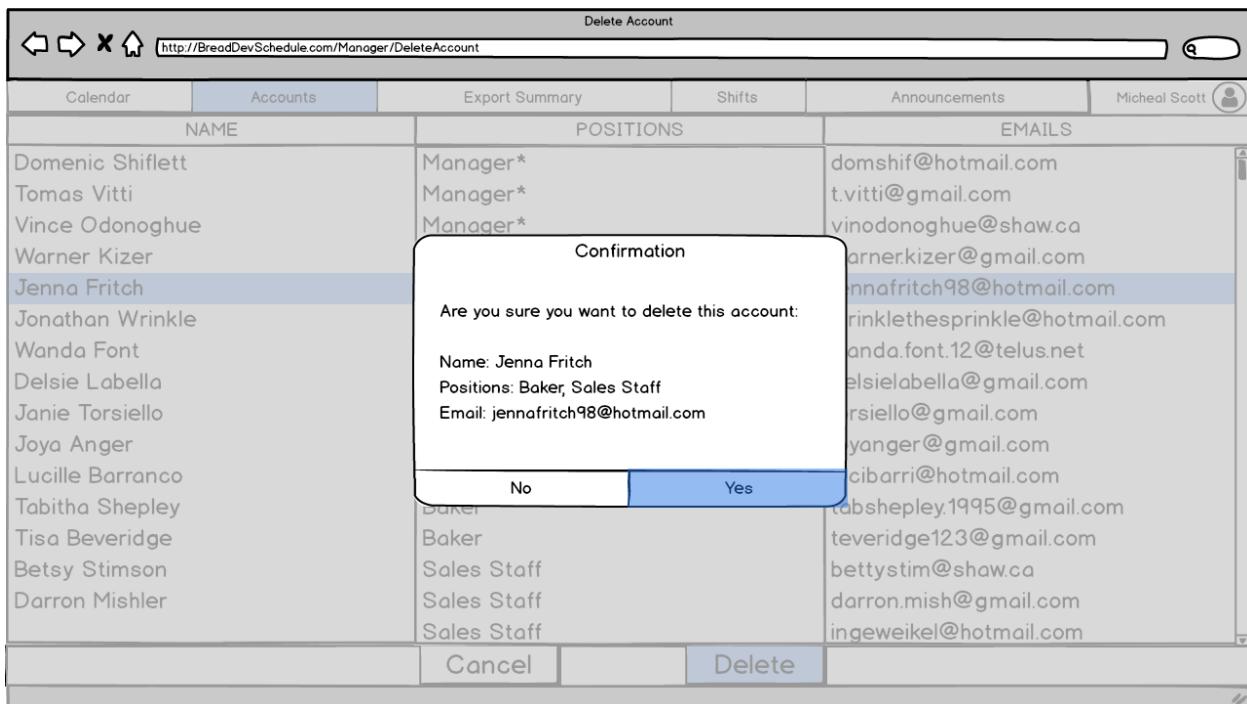


Figure 17: Selected Delete Account Confirmation Mock Up

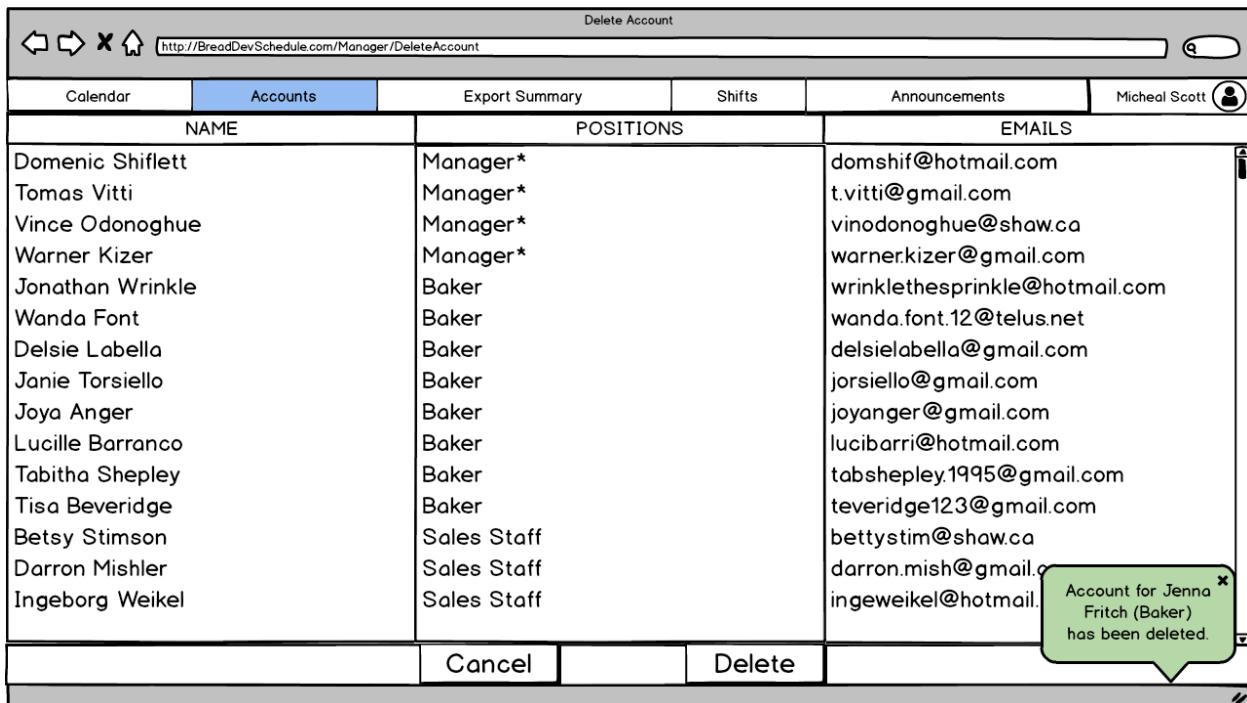


Figure 18: Account Deletion Success Mock Up

8.4 UC-3: Add Shift

This use case describes how a management user can add a new shift. The management user must be signed in to proceed. The management user navigates to the management tools and selects to add a shift. The management user is prompted to input the date and time, name of the user, and position of the shift. The management user inputs the shift date and time, name of the user, and position for the non-conflicting shift. If adding the shift would result in the selected user working overtime, the management user is alerted. The management user then has the option to add the shift or to cancel adding the shift. If the management user adds the shift the new shift will be created. If the management user cancels adding the shift, no new shift will be created. After the management user cancels adding the shift, the UI that was displayed before the use case was started is displayed.

Table 6: Use Case 3 Add Shift

Actor	Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User has the date and time, name of the user, and position for the new shift• User being scheduled does not have a time conflict
Steps	<ol style="list-style-type: none">1. User navigates to the management tools2. User selects to add a shift3. User is prompted to input the new shift's date and time, name of the user, and position4. User inputs the shift's date and time, name of the user, and position5. User confirms to add the shift
Success Conditions	<ul style="list-style-type: none">• The shift is added
Alternate Paths	<ol style="list-style-type: none">4. a) The user is notified that the shift will result in overtime – an alert appears5. a) User cancels adding the shift – the user is returned to the UI that was displayed before the start of the use case

8.4.1 UC-3: Add Shift Sequence Diagram

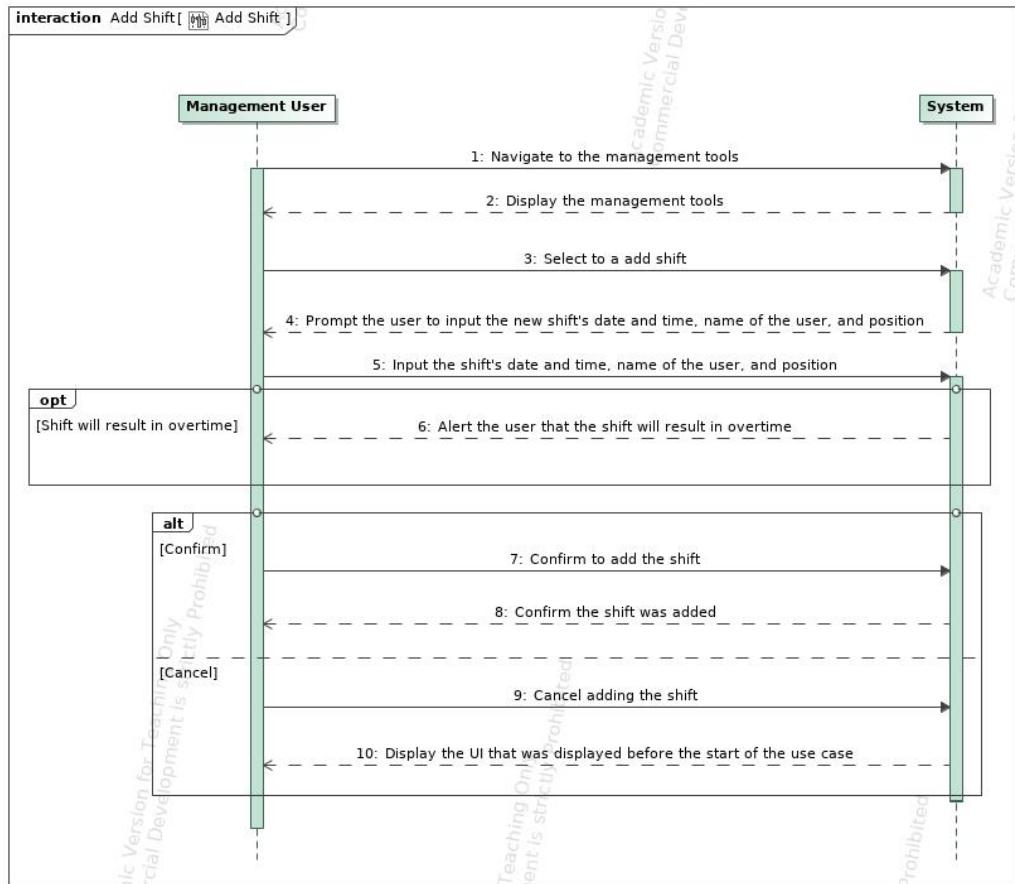


Figure 19: Add Shift Sequence Diagram

8.4.2 UC-3: Add Shift Sequence Mock Ups

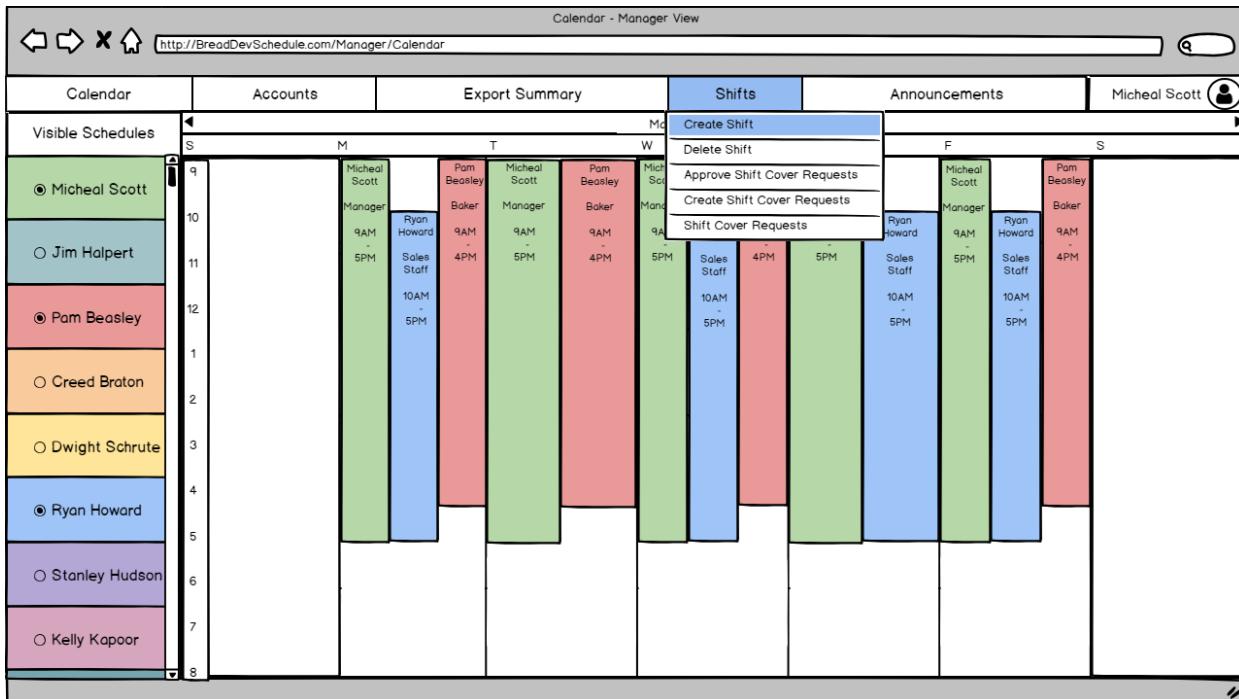


Figure 20: Add Shift Mock Up

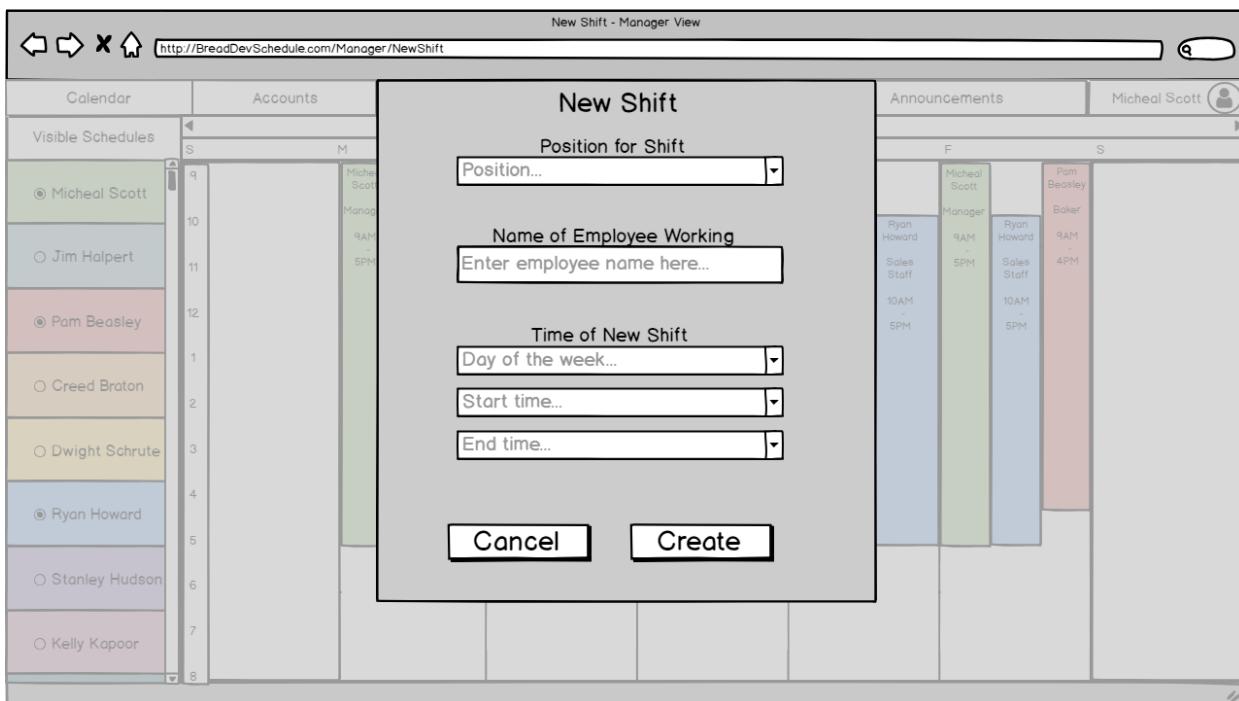


Figure 21: Add Shift Input Box Mock Up

New Shift - Manager View
<http://BreadDevSchedule.com/Manager/NewShift>

Calendar	Accounts	New Shift	Announcements	Micheal Scott
Visible Schedules	S M	Position for Shift <input type="text" value="Baker"/> Name of Employee Working <input type="text" value="Sandy Cheeks"/> Date and Time of New Shift <input type="text" value="Mon Mar. 4, 2019"/> <input type="text" value="9:00 AM"/> <input type="text" value="5:00 PM"/> <input type="button" value="Cancel"/> <input type="button" value="Create"/>	F S	Micheal Scott Manager Ryan Howard Sales Staff 9AM - 5PM 10AM - 5PM Pam Beasley Baker Ryan Howard Sales Staff 9AM - 4PM 10AM - 5PM
① Micheal Scott				
○ Jim Halpert				
② Pam Beasley				
○ Creed Bratton				
○ Dwight Schrute				
③ Ryan Howard				
○ Stanley Hudson				
○ Kelly Kapoor				

Figure 22: Add Shift Example Input Mock Up

New Shift - Manager View
<http://BreadDevSchedule.com/Manager/NewShift>

Calendar	Accounts	New Shift	Announcements	Micheal Scott
Visible Schedules	S M	Position for Shift <input type="text" value="Baker"/> Name of Employee Working <input type="text" value="Sandy Cheeks"/> Time of New Shift <input type="text" value="Mon Mar. 4, 2019"/> <input type="text" value="9:00 AM"/> <input type="text" value="5:00 PM"/> <div style="border: 2px solid red; padding: 2px; display: inline-block;"> ⚠ Selected shift will result in overtime </div> <input type="button" value="Cancel"/> <input type="button" value="Create"/>	F S	Micheal Scott Manager Ryan Howard Sales Staff 9AM - 5PM 10AM - 5PM Pam Beasley Baker Ryan Howard Sales Staff 9AM - 4PM 10AM - 5PM
① Micheal Scott				
○ Jim Halpert				
② Pam Beasley				
○ Creed Bratton				
○ Dwight Schrute				
③ Ryan Howard				
○ Stanley Hudson				
○ Kelly Kapoor				

Figure 23: Overtime Alert Mock Up

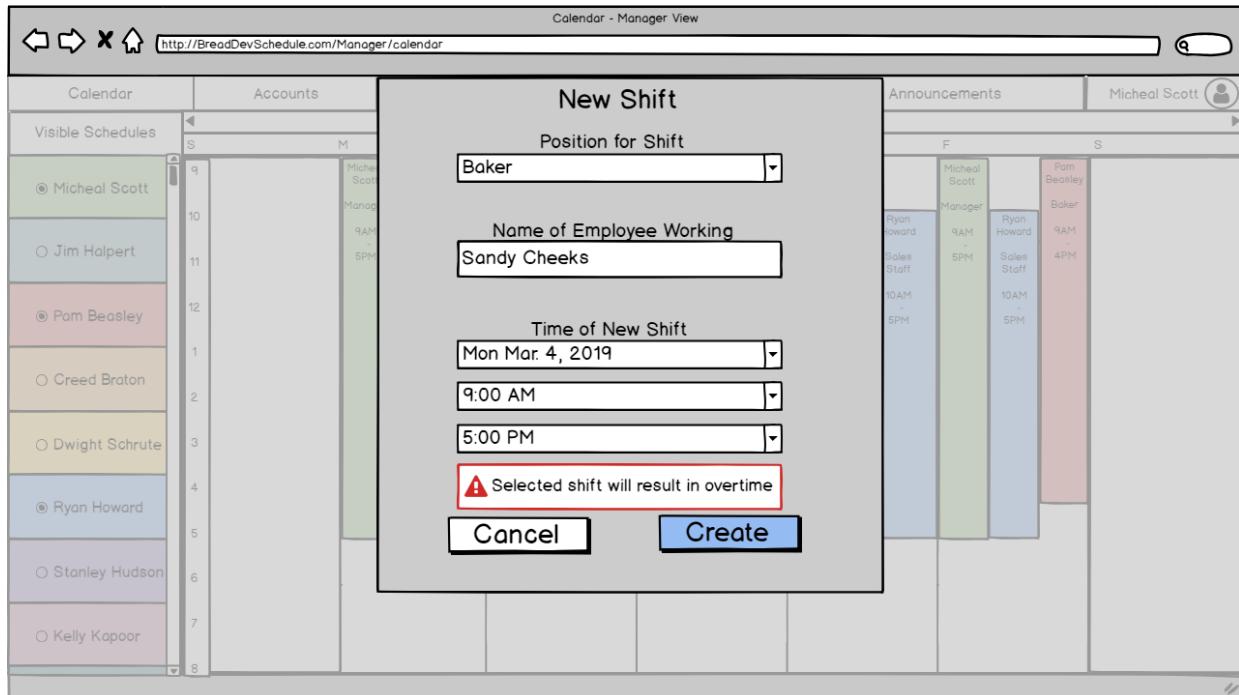


Figure 24: Create After Alert Mock Up

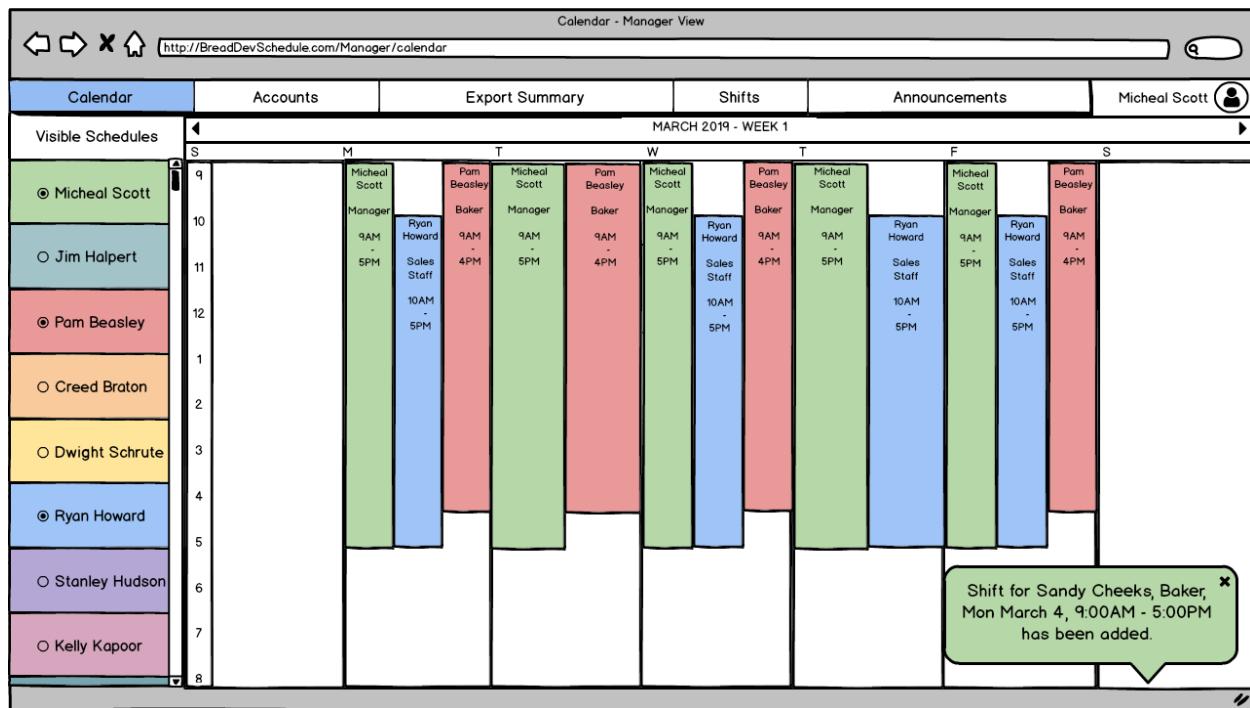


Figure 25: Shift Creation Success Mock Up

8.5 UC-4: Delete Shift

This use case describes how a management user can delete a shift. The management user must be signed in to proceed. The management user navigates to the management tools. The management user selects to delete a shift and then a list of all shifts is displayed to the management user. The management user can then select to delete a specific shift. The management user is then prompted to confirm or cancel deleting the shift. If the management user confirms deleting the shift, the shift is deleted. If the management user selects to cancel deleting the shift, the shift is not deleted. After the management user cancels deleting the shift, the UI that was displayed before the use case was started is displayed.

Table 7: Use Case 4 Delete Shift

Actor	Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User knows which shift to delete
Steps	<ol style="list-style-type: none">1. User navigates to the management tools2. User selects to delete a shift3. A list of all shifts is displayed to the user4. User deletes a shift5. The user is prompted to confirm or cancel deleting the shift6. User confirms to delete the shift
Success Conditions	<ul style="list-style-type: none">• The shift is deleted
Alternate Paths	6. a) User cancels deleting the shift – the user is returned to the UI that was displayed before the start of the use case and the shift is not deleted

8.5.1 UC-4: Delete Shift Sequence Diagram

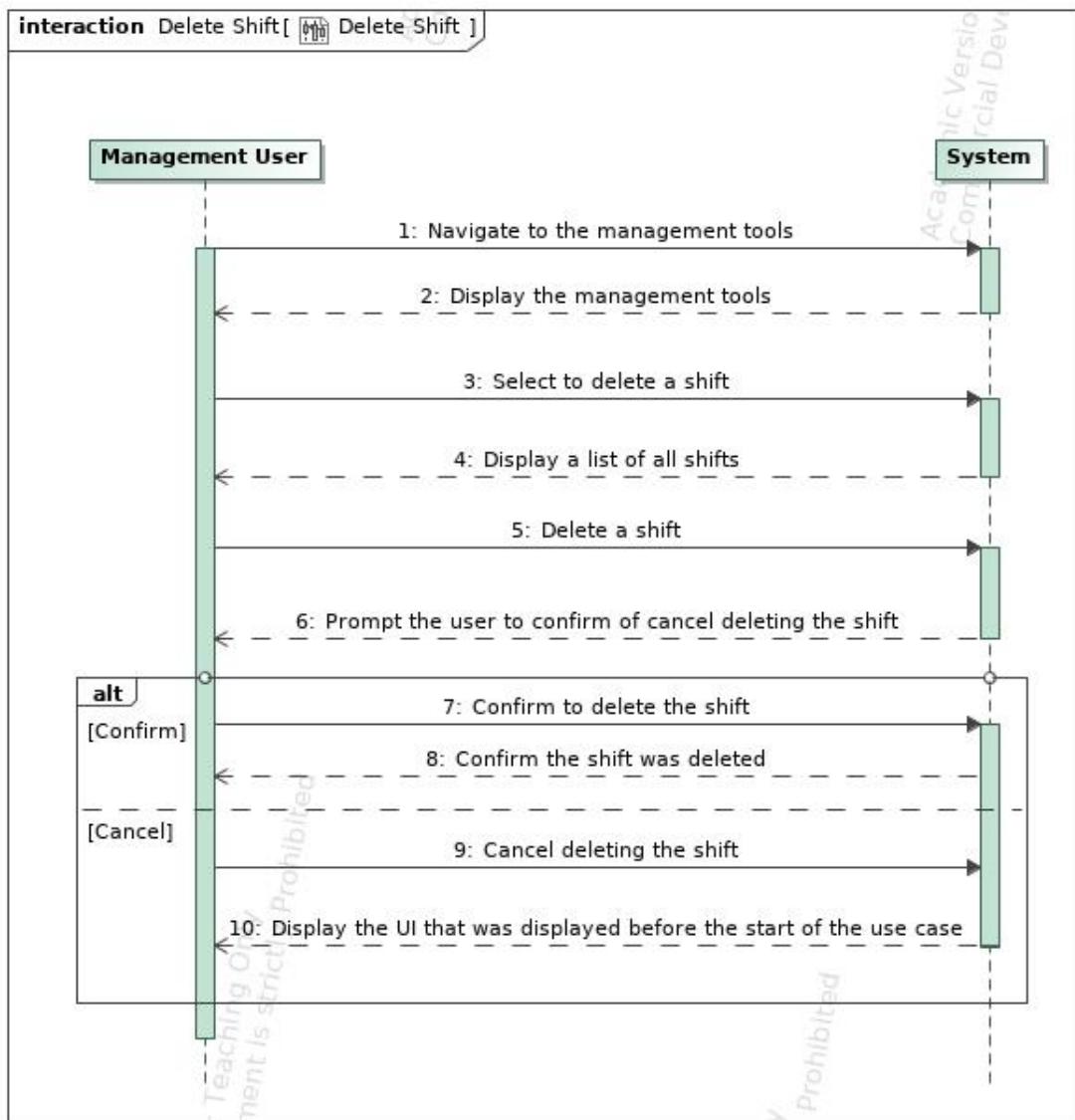


Figure 26: Delete Shift Sequence Diagram

8.5.2 UC-4: Delete Shift Mock Ups

Calendar - Manager View
http://BreadDevSchedule.com/Manager/calendar

Visible Schedules

	S	M	T	W	Th	F	S
① Micheal Scott		Micheal Scott Manager 9AM - 5PM	Pam Beasley Baker 9AM - 4PM	Micheal Scott Manager 9AM - 5PM	Pam Beasley Baker 9AM - 4PM	Ryan Howard Sales Staff 10AM - 5PM	Micheal Scott Manager 9AM - 5PM
② Jim Halpert		Ryan Howard Sales Staff 10AM - 5PM					Ryan Howard Sales Staff 10AM - 5PM
③ Pam Beasley							Pam Beasley Baker 9AM - 4PM
④ Creed Bratton							
⑤ Dwight Schrute							
⑥ Ryan Howard							
⑦ Stanley Hudson							
⑧ Kelly Kapoor							

Figure 27: Delete Shift Mock Up

Shift Requests
http://BreadDevSchedule.com/ScheduleView/ShiftRequests

Position	Day	Shift Time	Employee	Option
Baker	Mon Mar 4, 2019	9:30AM - 1:00PM	Jonathan Wrinkle	Delete Shift
Baker	Mon Mar 4, 2019	9:30AM - 5:00PM	Tomas Vitti	Delete Shift
Baker	Tues Mar 5, 2019	9:30AM - 1:00PM	Vince Odonoghue	Delete Shift
Baker	Wed Mar 6, 2019	9:30AM - 1:00PM	Vince Odonoghue	Delete Shift
Sales Staff	Thurs Mar 7, 2019	9:30AM - 5:00PM	Delsie Labello	Delete Shift

Figure 28: Delete Shift List Mock Up

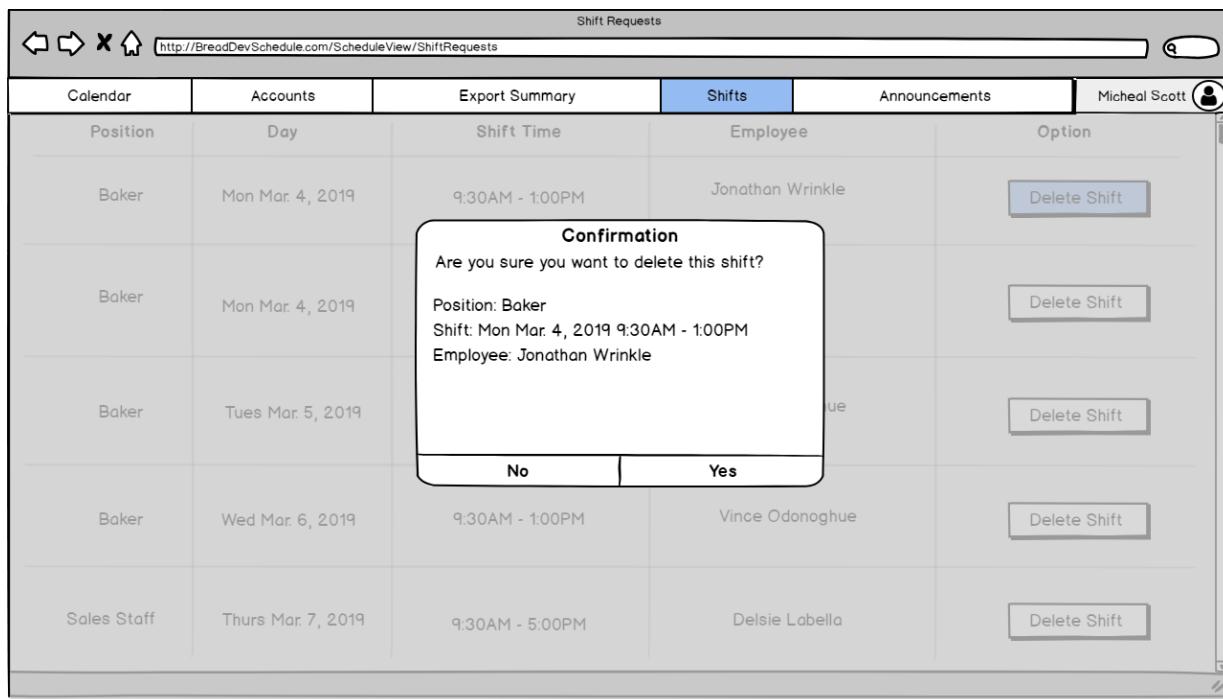


Figure 29: Delete Shift Confirmation Mock Up

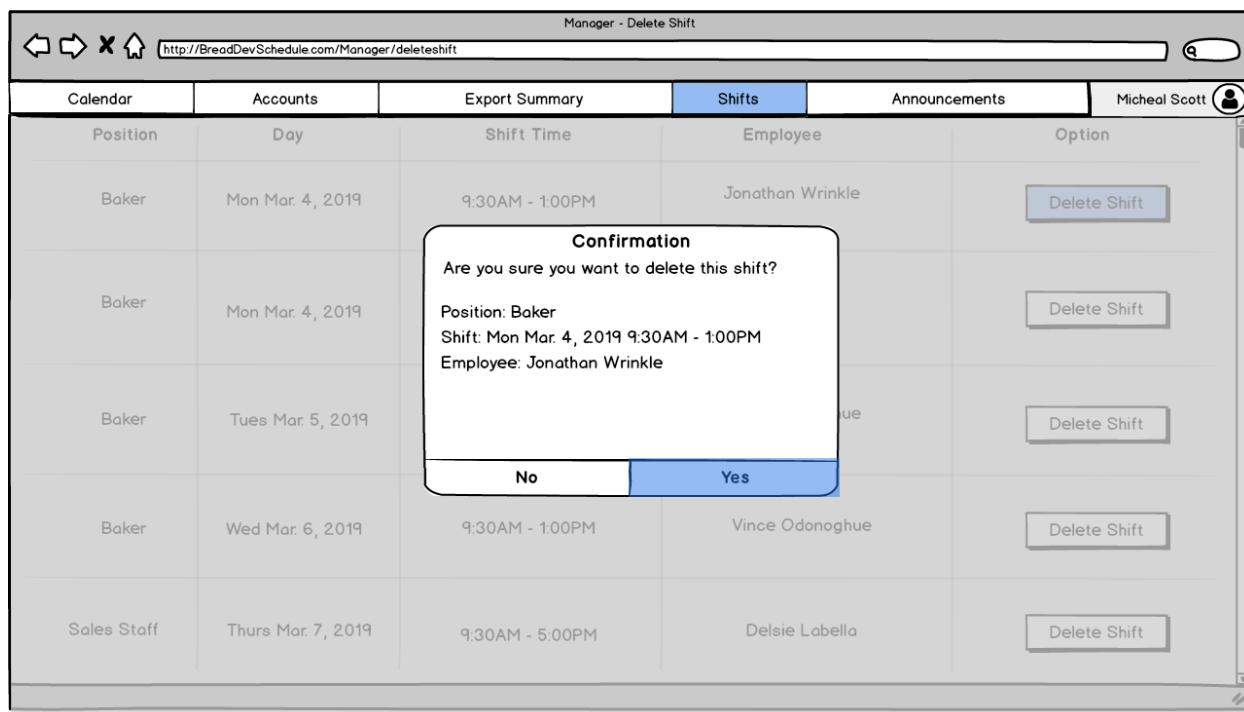


Figure 30: Selecting to Confirm Deleting Shift Mock Up

Manager - Delete Shift				
Calendar	Accounts	Export Summary	Shifts	Announcements
Position	Day	Shift Time	Employee	Option
Baker	Mon Mar. 4, 2019	9:30AM - 5:00PM	Tomas Vitti	<button>Delete Shift</button>
Baker	Tues Mar. 5, 2019	9:30AM - 1:00PM	Vince Odonoghue	<button>Delete Shift</button>
Baker	Wed Mar. 6, 2019	9:30AM - 1:00PM	Vince Odonoghue	<button>Delete Shift</button>
Sales Staff	Thurs Mar. 7, 2019	9:30AM - 5:00PM	Delsie Labelia	<button>Delete Shift</button>
Sales Staff	Thurs Mar. 7, 2019	9:30AM - 5:00PM	Pheobe Buffet	<div style="background-color: #c8f7e4; padding: 5px; border-radius: 10px;"> Shift for Jonathan Wrinkle, Baker, Mon March 4, 9:30AM - 1PM has been deleted. </div>

Figure 31: Delete Shift Success Mock Up

8.6 UC-5: View Calendar

This use case describes how a user can view the system calendar. The user signs in and the calendar is opened by default. If the user is already signed in and not viewing the calendar, the user can still view the calendar by navigating to the calendar. The user then has the option of selecting which user(s)'s shifts to view on the calendar.

Table 8: Use Case 5 View Calendar

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in
Steps	<ol style="list-style-type: none">1. User navigates to the calendar2. User selects user(s)
Success Conditions	<ul style="list-style-type: none">• The calendar is displayed to the user with selected user(s)'s schedule(s)
Alternate Paths	

8.6.1 UC-5: View Calendar Sequence Diagram

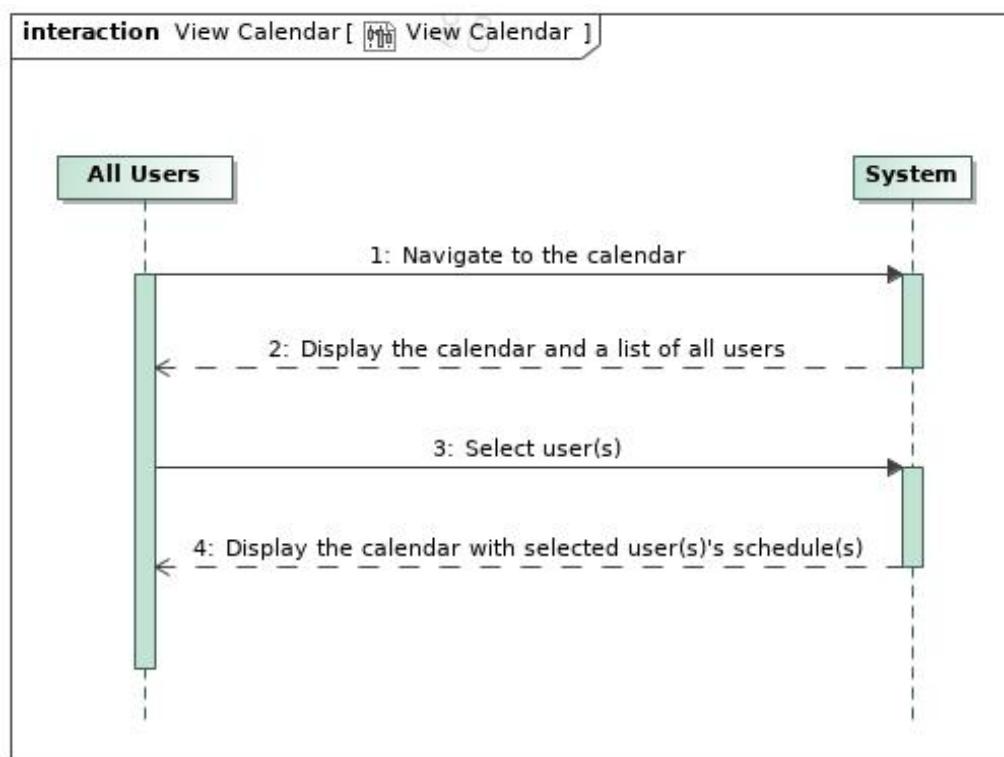


Figure 32: View Calendar Sequence Diagram

8.6.2 UC-5: View Calendar Mock Ups

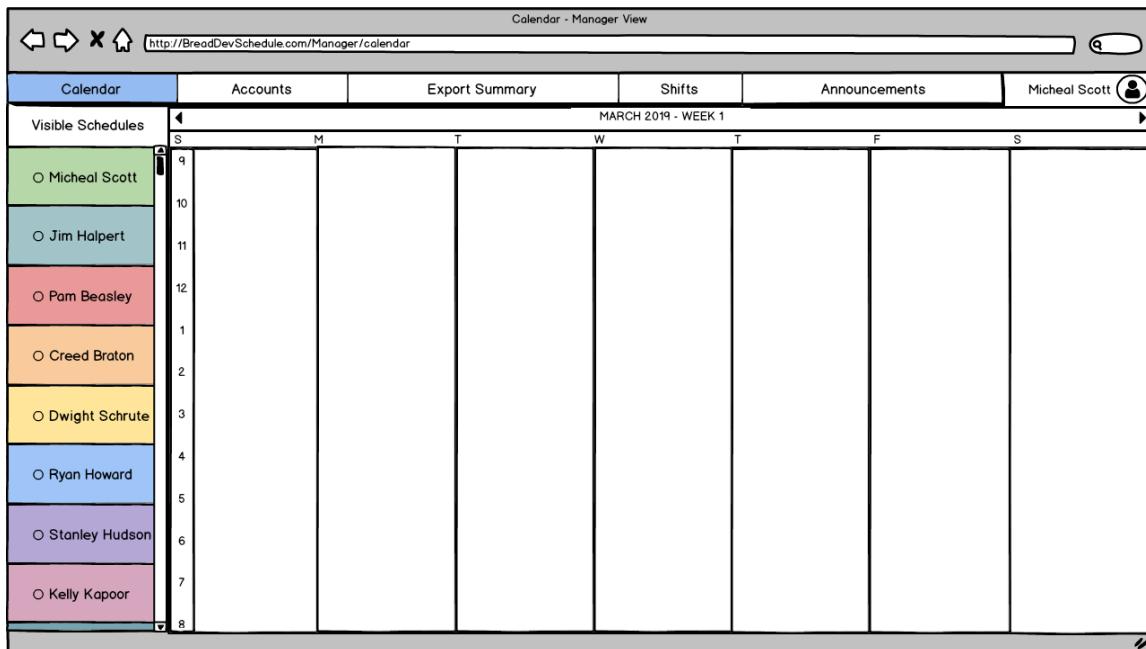


Figure 33: Blank Management User Calendar Mock Up



Figure 34: Management User View Calendar Mock Up

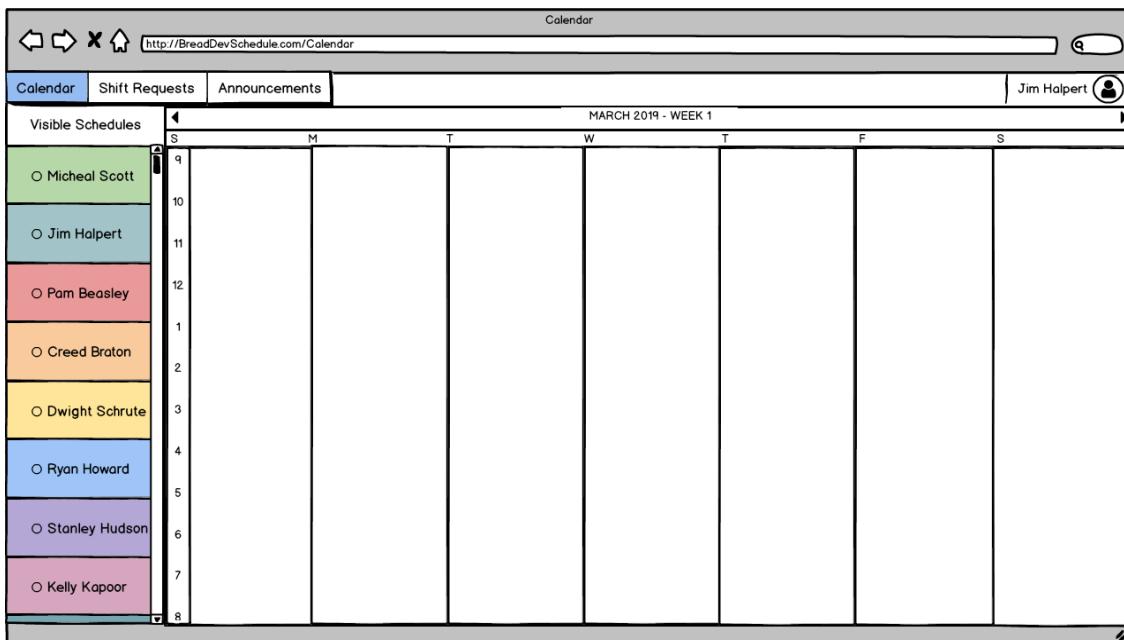


Figure 35: Blank Staff User Calendar Mock Up

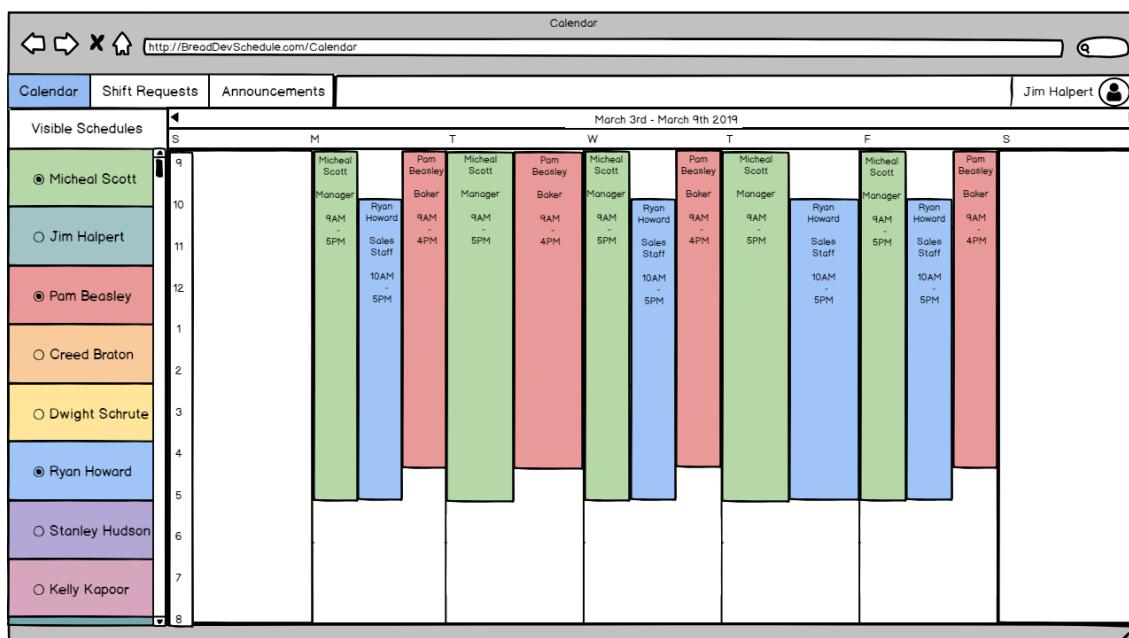


Figure 36: Staff User View Calendar Mock Up

8.7 UC-6: Export Summary

This use case describes how a management user can export a weekly summary. The management user must be signed in to proceed. The management user navigates to the management tools and selects to export a summary. The management user is then prompted to choose which format to export the summary as. After selecting the export format, the management user is prompted to choose which week to export and to input the file name. The management user inputs the week and name. The management user can then export the summary or cancel exporting the summary. If the management user selects to export and the information has been entered correctly, then the summary will be exported in the selected format with the specified name. If the management user selects to cancel exporting the summary, the summary will not be exported. After the management user cancels exporting the summary, the UI that was displayed before the use case was started is displayed.

Table 9: Use Case 6 Export Summary

Actor	Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User has a week to export• User has a format to export as• User has a file name to input
Steps	<ol style="list-style-type: none">1. User navigates to the management tools2. User selects to export a summary3. The user is prompted to select an export format4. User selects an export format5. The user is prompted to input the summary week and the file name6. User inputs the summary week and the file name7. User confirms to export the summary
Success Conditions	<ul style="list-style-type: none">• The summary is exported
Alternate Paths	7.a) User selects to cancel exporting the summary – the user is returned to the UI that was displayed before the start of the use case and the summary is not exported

8.7.1 UC-6: Export Summary Sequence Diagram

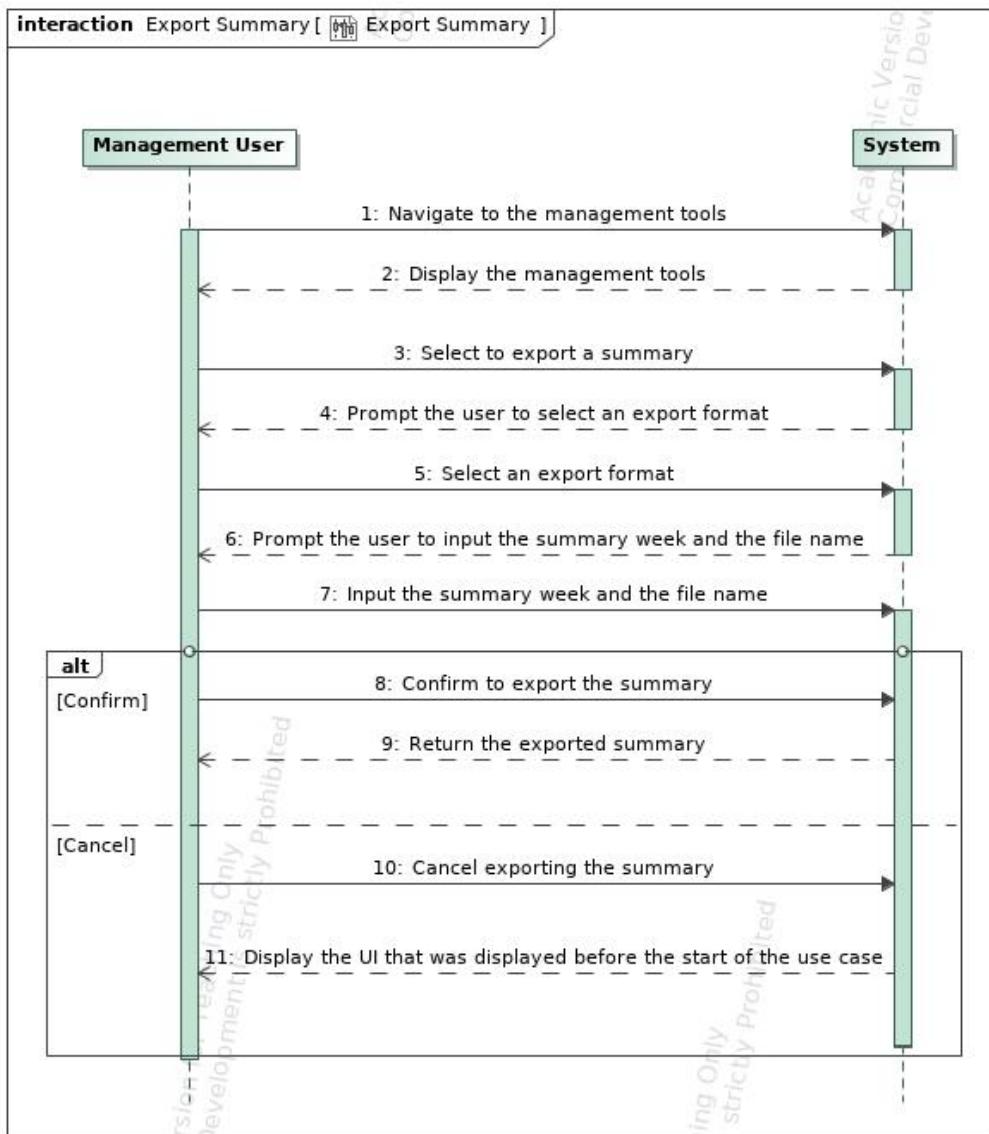


Figure 37: Export Summary Sequence Diagram

8.7.2 UC-6: Export Summary Mock Ups

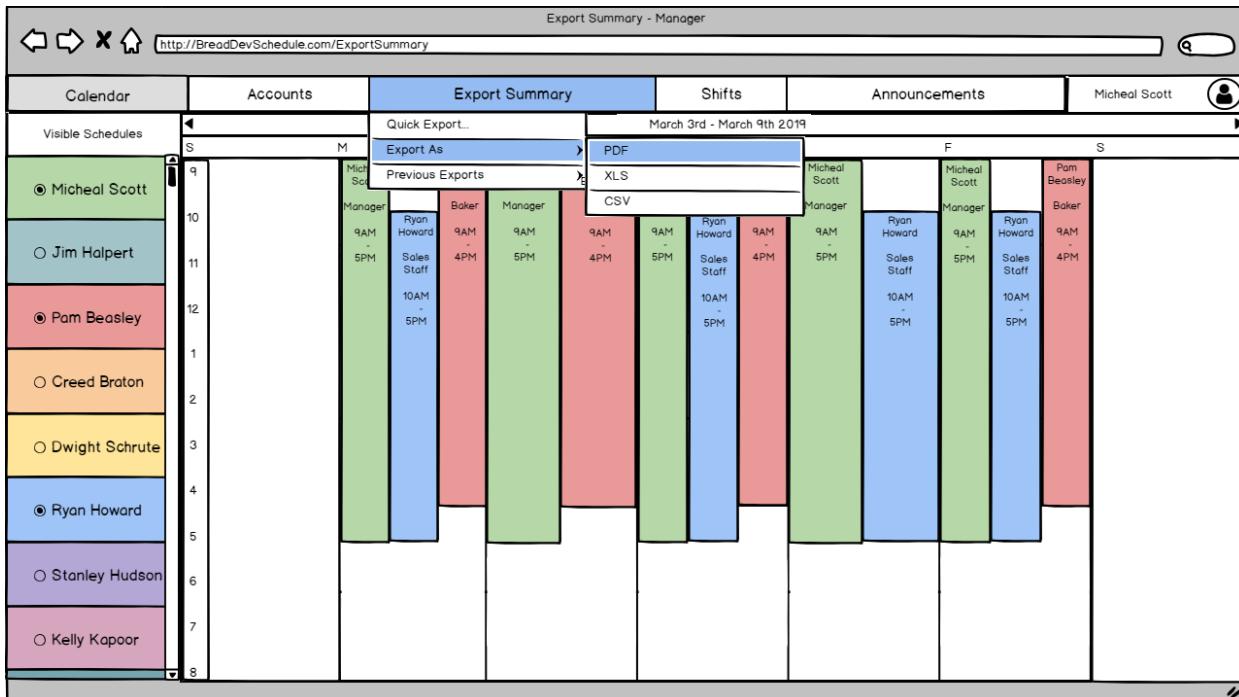


Figure 38: Export Summary Mock Up

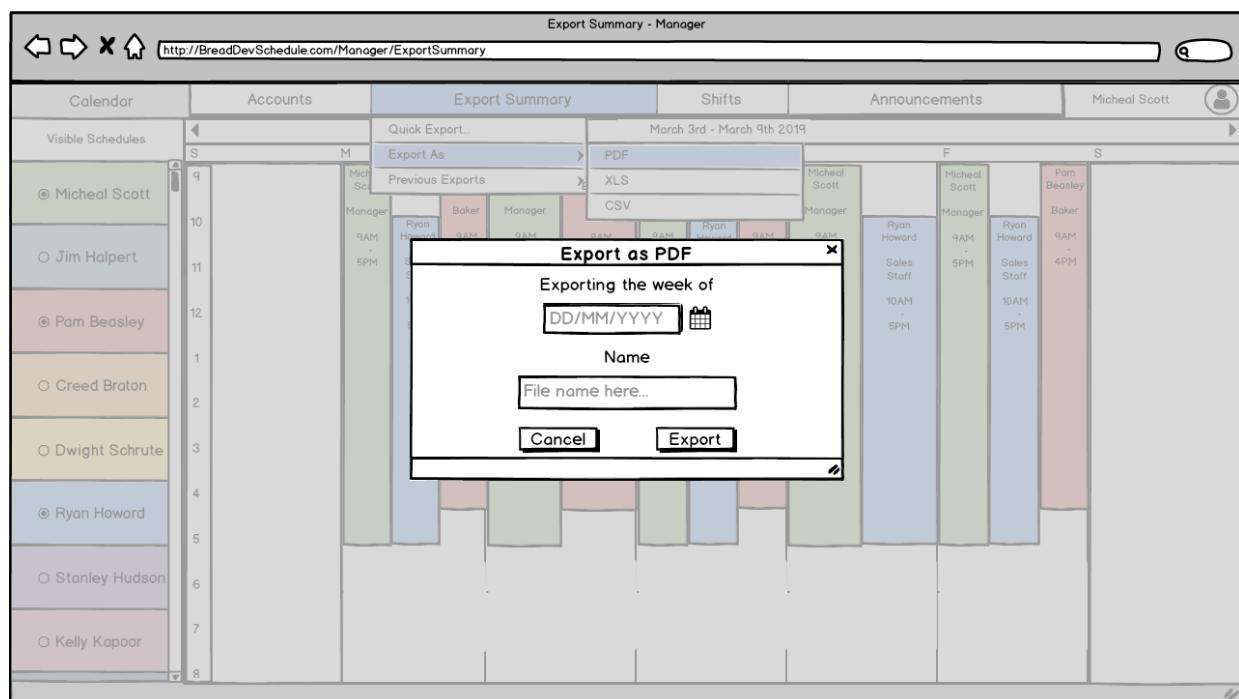


Figure 39: Export Summary Input Box Mock Up

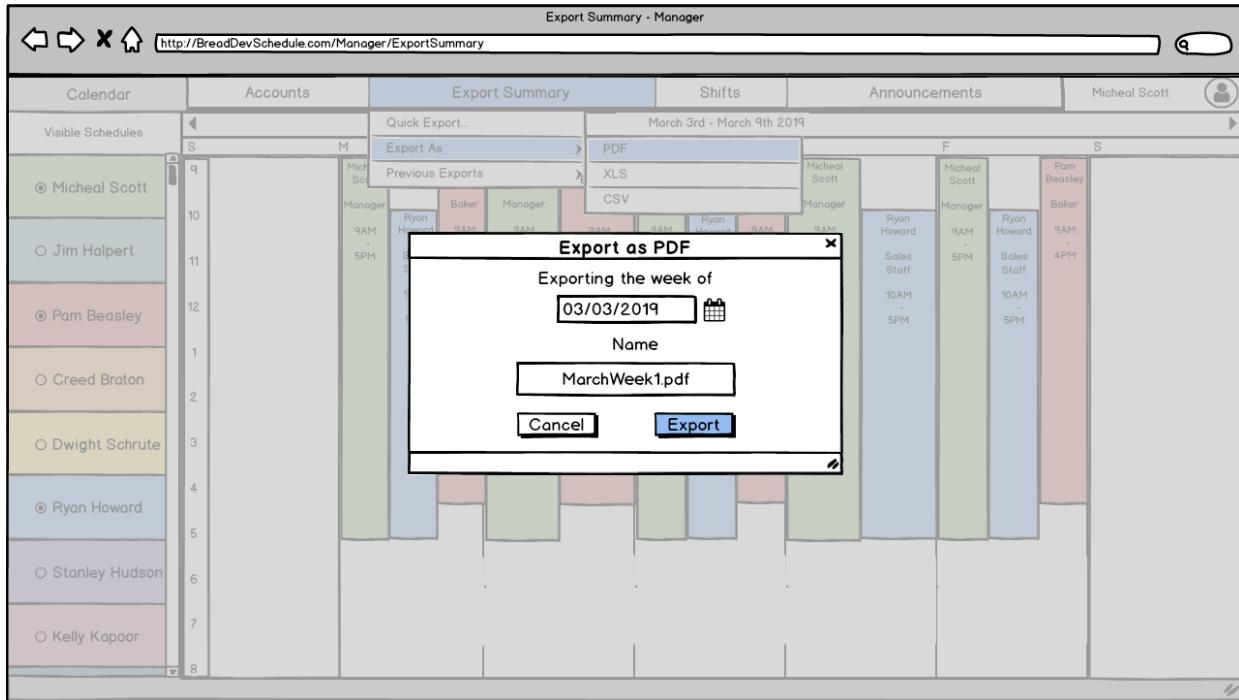


Figure 40: Export Summary Box Mock Up

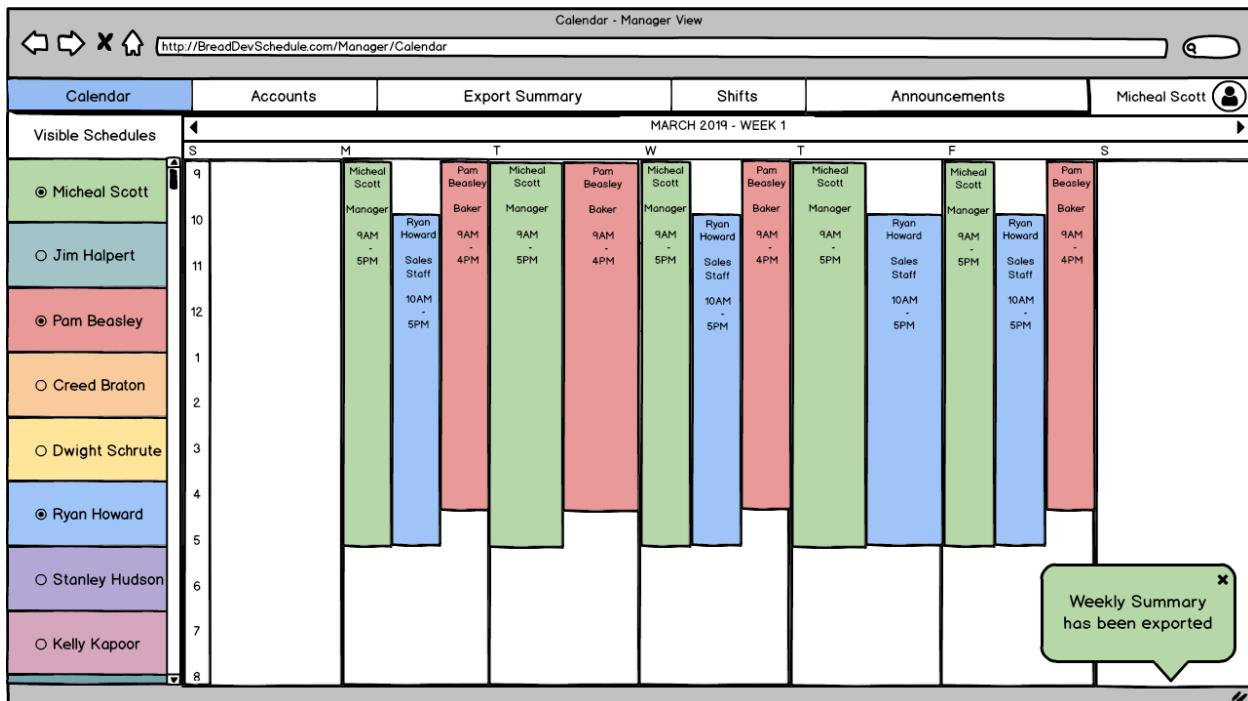


Figure 41: Weekly Summary Export Success Mock Up

8.8 UC-7: Create Shift Cover Request

This use case describes how a user can create a shift cover request. The user must be signed in to proceed. The user selects to create a shift cover request. The user is prompted to select one of their own shifts. The user selects the shift they would like to have covered and has the option to confirm or cancel creating the shift cover request. If the user confirms creating the shift cover request, the shift cover request is created. Users with the same position as the shift and that have not opted-out of shift cover request notifications are notified that a new shift cover request was created. If the user cancels creating the shift cover request, no shift cover request is created. After the user cancels creating a shift cover request, the UI that was displayed before the use case was started is displayed.

Table 10: Use Case 7 Create Shift Cover Request

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User has shift they want covered
Steps	<ol style="list-style-type: none">1. User selects to create a shift cover request2. The user is prompted to select one of their own shifts3. User selects one of their shifts4. User confirms to create a shift cover request
Success Conditions	<ul style="list-style-type: none">• The shift cover request is created• A notification is created and sent to users of the same position as the shift that have not opted-out of shift cover request notifications
Alternate Paths	4.a) User cancels creating a shift cover request – the user is returned to the UI that was displayed before the start of the use case

8.8.1 UC-7: Create Shift Cover Request Sequence Diagram

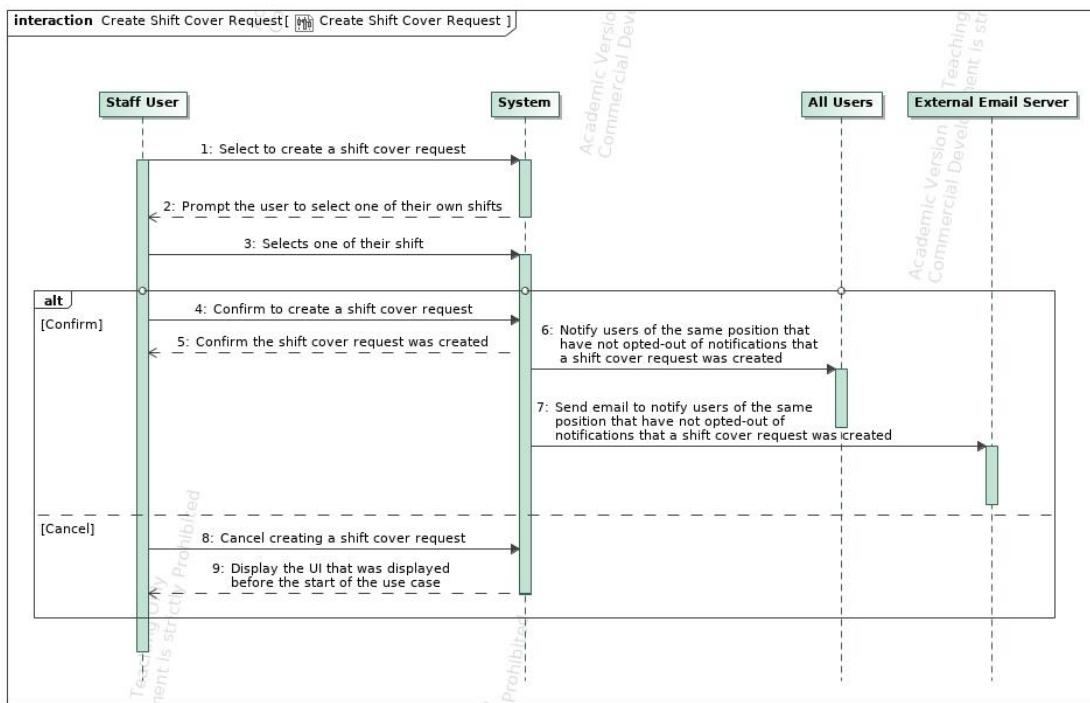


Figure 42: Create Shift Cover Request Sequence Diagram

8.8.2 UC-7: Create Shift Cover Request Mock Ups

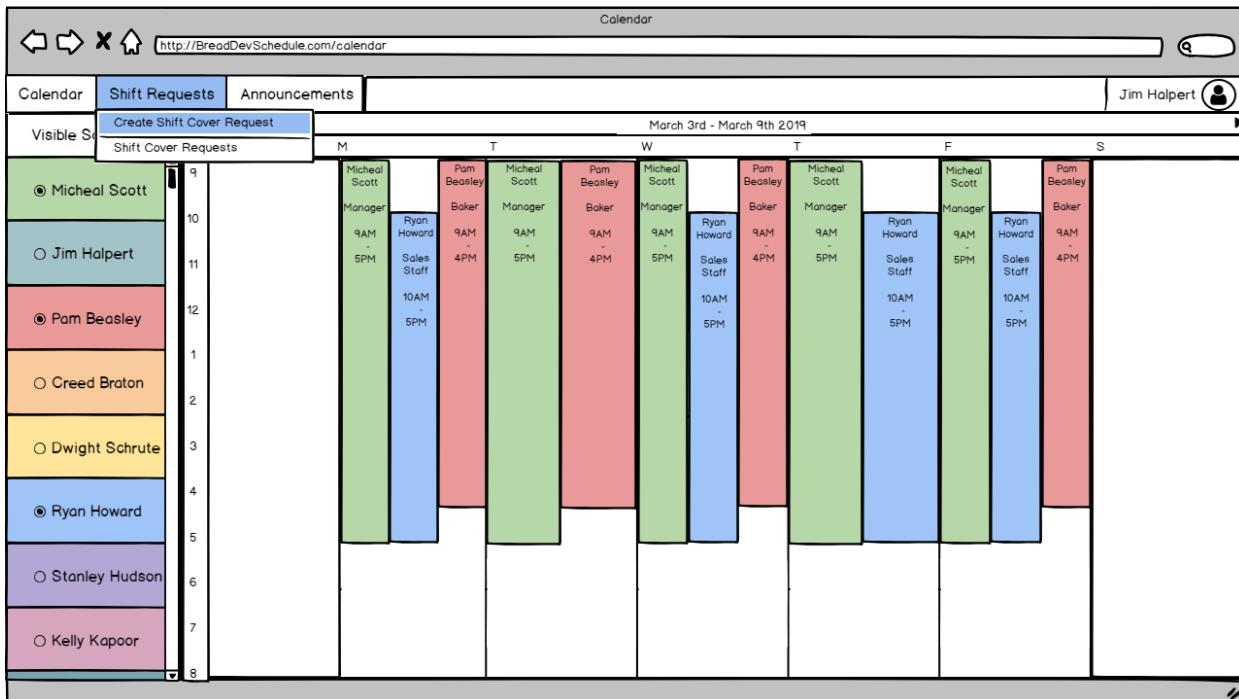


Figure 43: Create Shift Cover Request Mock Up

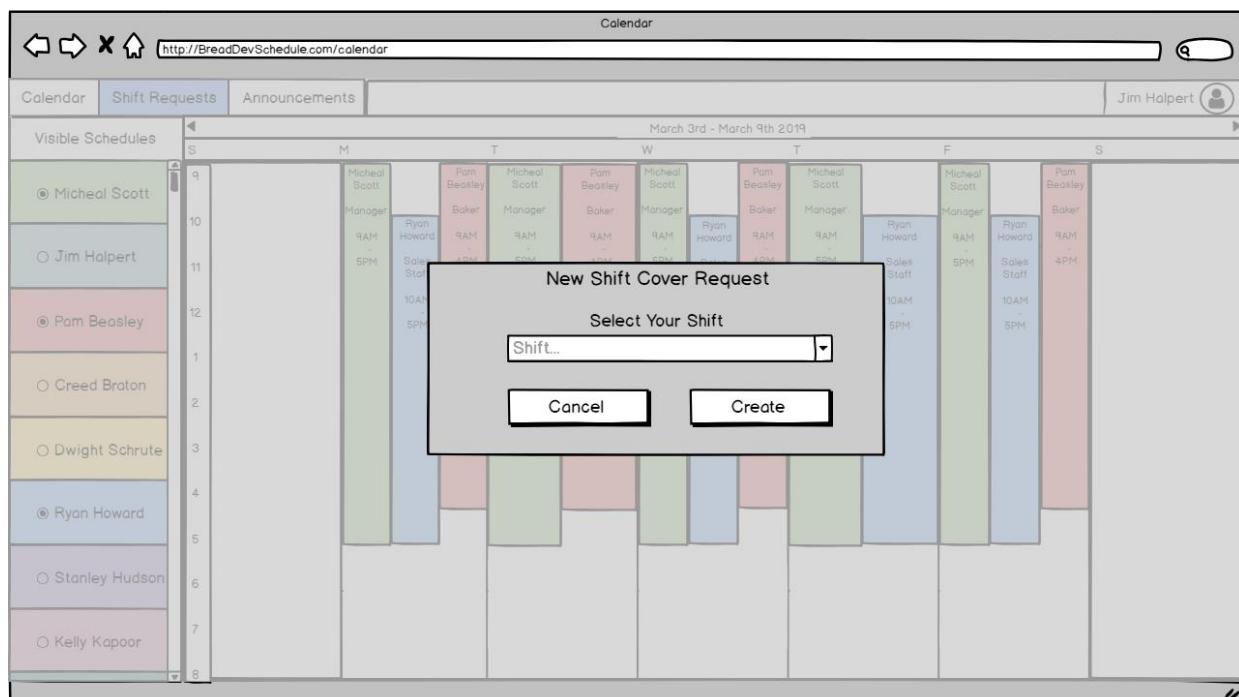


Figure 44: Shift Cover Request Input Mock Up

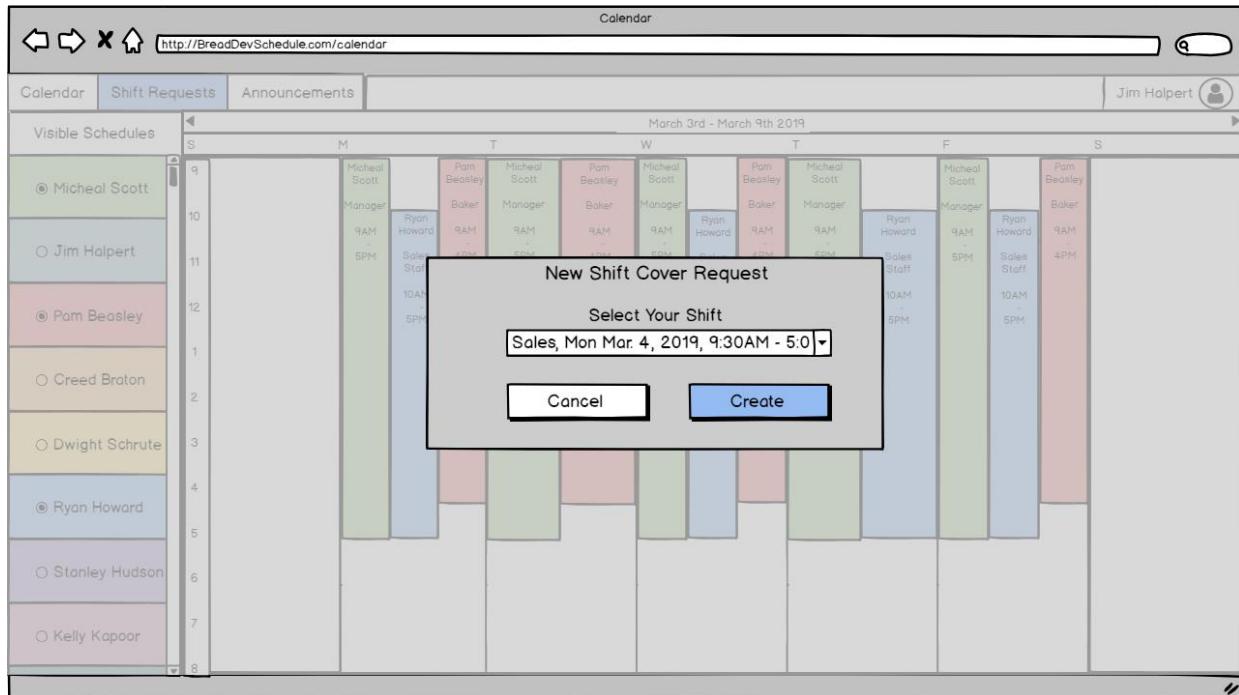


Figure 45: Create Shift Cover Request Example Mock Up



Figure 46: Create Shift Success Mock Up

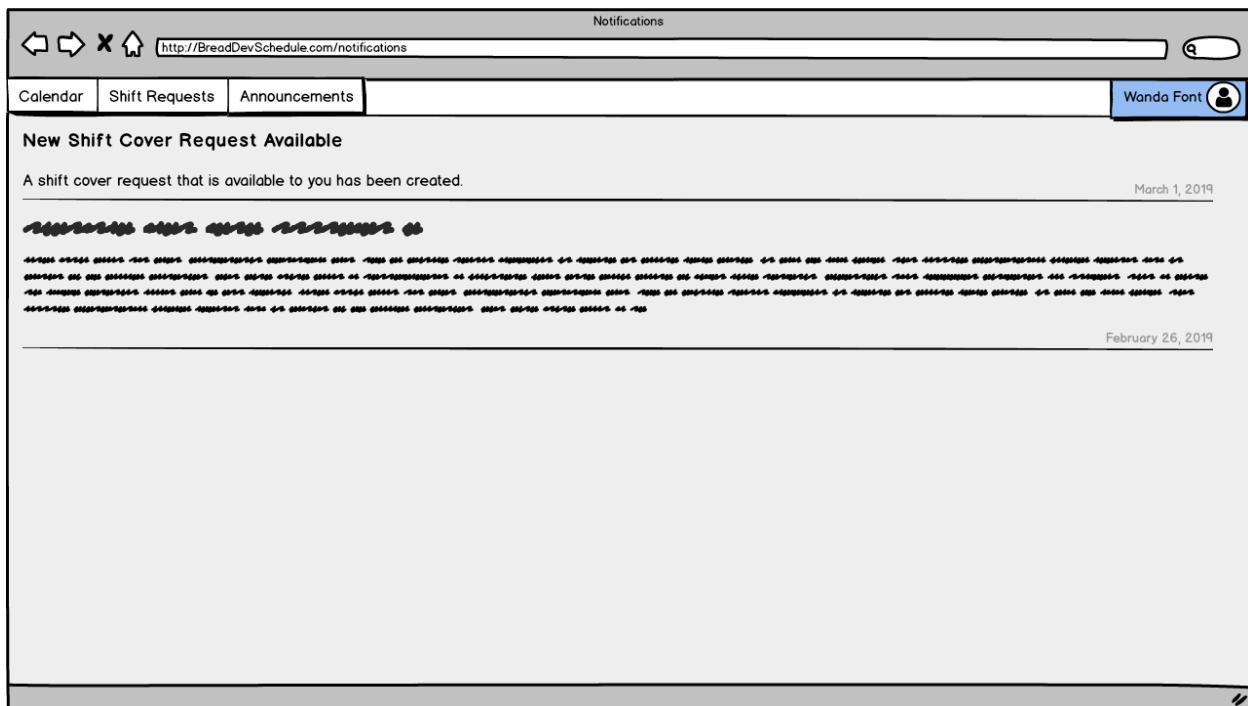


Figure 47: New Shift Cover Request Notification Mock Up

8.9 UC-8: Respond to Shift Cover Request

This use case describes how a user can respond to a shift cover request. The user must be signed in to proceed. The user selects to view shift cover request. A list of shift cover requests that are for the same position as the user and have no time conflicts with the user's schedule is displayed to the user. The user can then select to respond to a shift cover request. After the user has selected to respond to a shift cover request, the user is prompted to confirm or cancel responding to the shift cover request. When a user responds to a shift cover request, each management user and the requester are notified.

Table 11: Use Case 8 Respond to Shift Cover Request

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• Another user has created a shift cover request• User does not have a time conflict with the shift• User is the same position as an existing shift cover request
Steps	<ol style="list-style-type: none">1. User navigates to shift cover requests2. A list of all shift cover requests for the same position as the user is displayed to the user3. User selects to respond to a shift cover request4. The user is prompted to confirm or cancel responding to the shift cover request5. User confirms to respond to the shift cover request
Success Conditions	<ul style="list-style-type: none">• The shift cover request response is created• Each management user and the requester are notified that the shift cover request response has been created
Alternate Paths	5.a) User cancels responding to the shift cover request – the user is returned to the UI that was displayed before the start of the use case

8.9.1 UC-8: Respond to Shift Cover Request Sequence Diagram

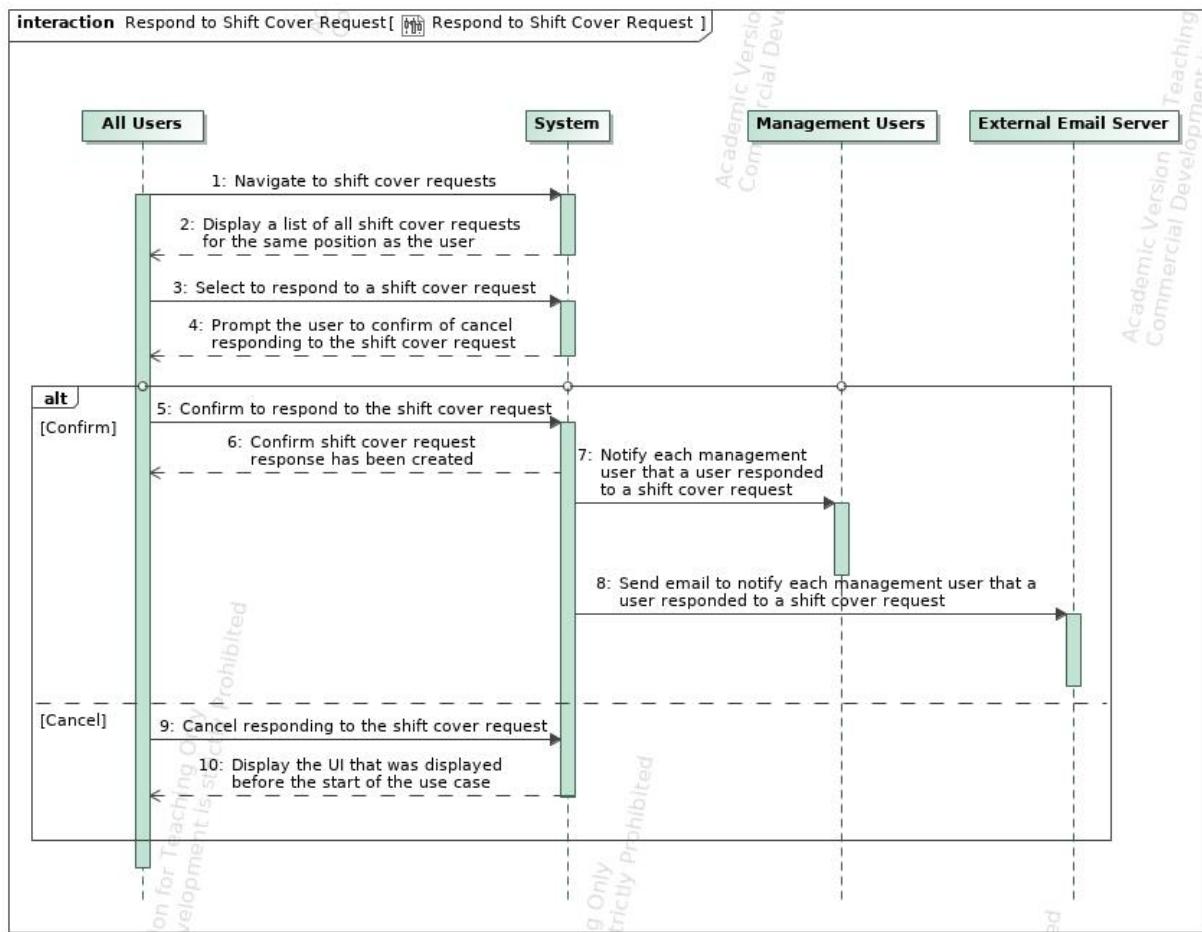


Figure 48: Respond to Shift Cover Request Sequence Diagram

8.9.2 UC-8: Respond to Shift Cover Request Mock Ups

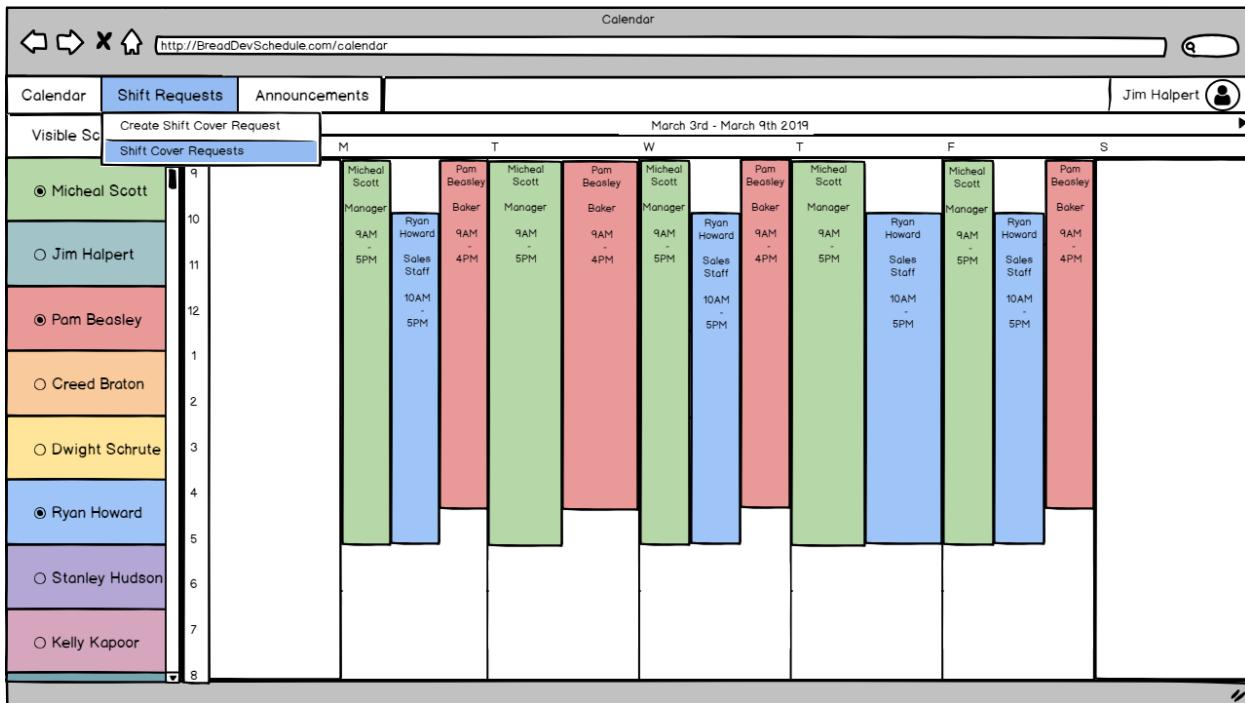


Figure 49: Respond to Shift Cover Request Mock Up

Shift Cover Requests				
Position	Day	Shift Time	Requester	Option
Baker	Mon Mar. 4, 2019	9:30AM - 1:00PM	Tomas Vitti	<button>Accept</button>
Sales	Mon Mar. 4, 2019	9:30AM - 5:00PM	Betsy Stimson	<button>Accept</button>
Baker	Tues Mar. 5, 2019	9:30AM - 1:00PM	Jonathan Wrinkle	<button>Accept</button>
Baker	Wed Mar. 6, 2019	9:30AM - 1:00PM	Vince Odonoghue	<button>Accept</button>
Sales Staff	Thurs Mar. 7, 2019	9:30AM - 5:00PM	Delsie Labello	<button>Accept</button>

Figure 50: Shift Request List for Response Mock Up

Shift Cover Requests				
Calendar	Shift Requests	Announcements		Jim Halpert 
Position	Day	Shift Time	Requester	Option
Baker	Mon Mar. 4, 2019	9:30AM - 1:00PM	Tomas Vitti	<button>Accept</button>
Sales	Mon Mar. 4, 2019			<button>Accept</button>
Baker	Tues Mar. 5, 2019			<button>Accept</button>
Baker	Wed Mar. 6, 2019	9:30AM - 1:00PM	Vince Odonoghue	<button>Accept</button>
Sales Staff	Thurs Mar. 7, 2019	9:30AM - 5:00PM	Delsie Labello	<button>Accept</button>

Figure 51: Shift Cover Request Response Confirmation Mock Up

Shift Cover Requests				
Calendar	Shift Requests	Announcements		Jim Halpert 
Position	Day	Shift Time	Requester	Option
Baker	Mon Mar. 4, 2019	9:30AM - 1:00PM	Tomas Vitti	<button>Accept</button>
Sales	Mon Mar. 4, 2019			<button>Accept</button>
Baker	Tues Mar. 5, 2019			<button>Accept</button>
Baker	Wed Mar. 6, 2019	9:30AM - 1:00PM	Vince Odonoghue	<button>Accept</button>
Sales Staff	Thurs Mar. 7, 2019	9:30AM - 5:00PM	Delsie Labello	<button>Accept</button>

Figure 52: Taking Shift Confirmation Mock Up

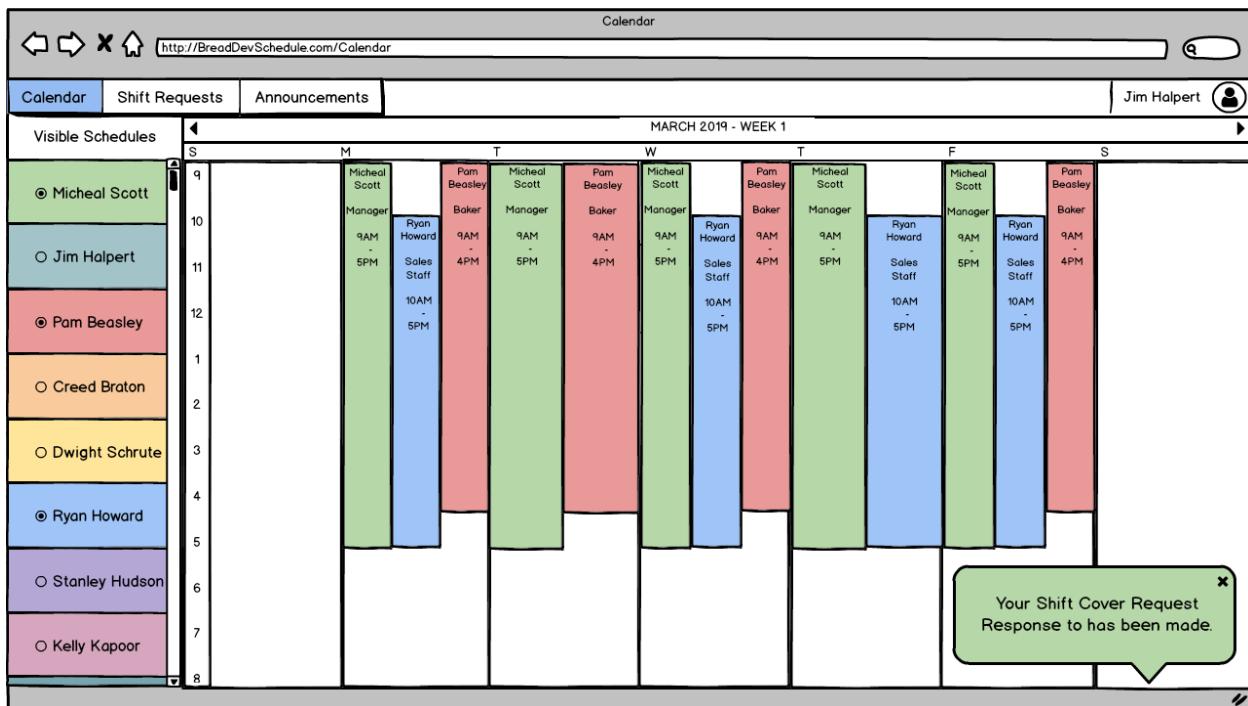


Figure 53: Shift Cover Request Response Success Mock Up

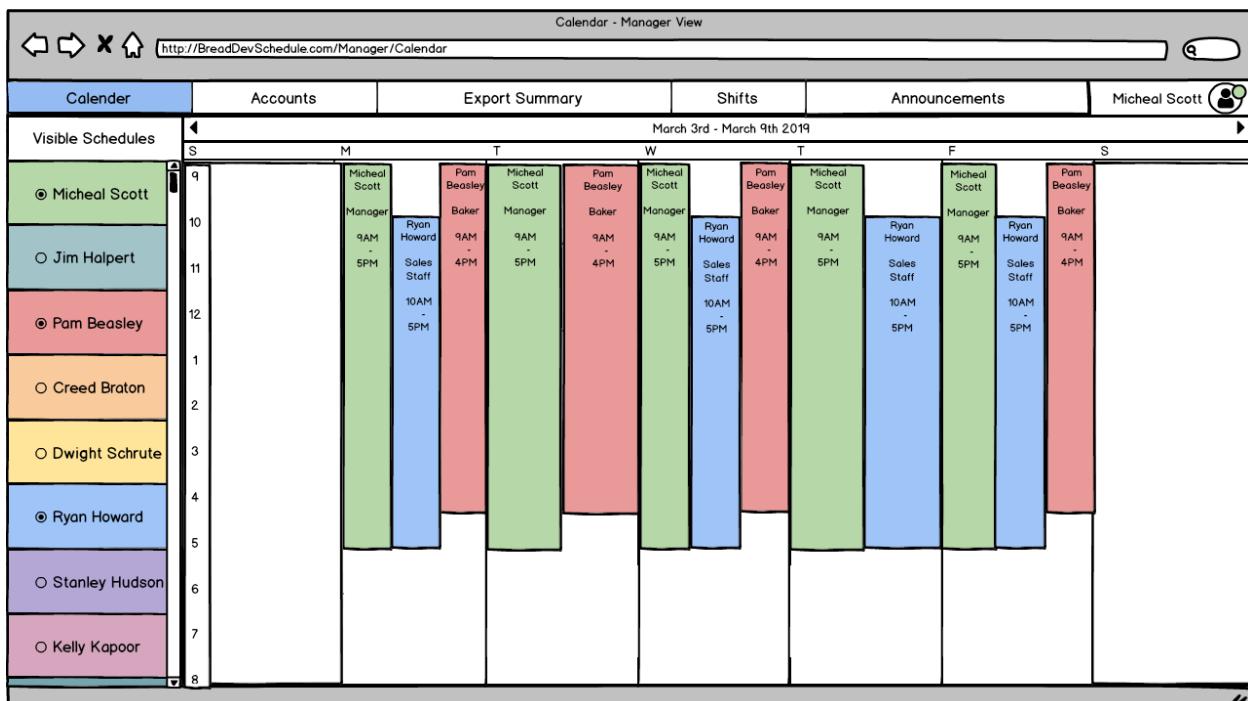


Figure 54: Management User Receives Notification of Shift Cover Request Response Mock Up

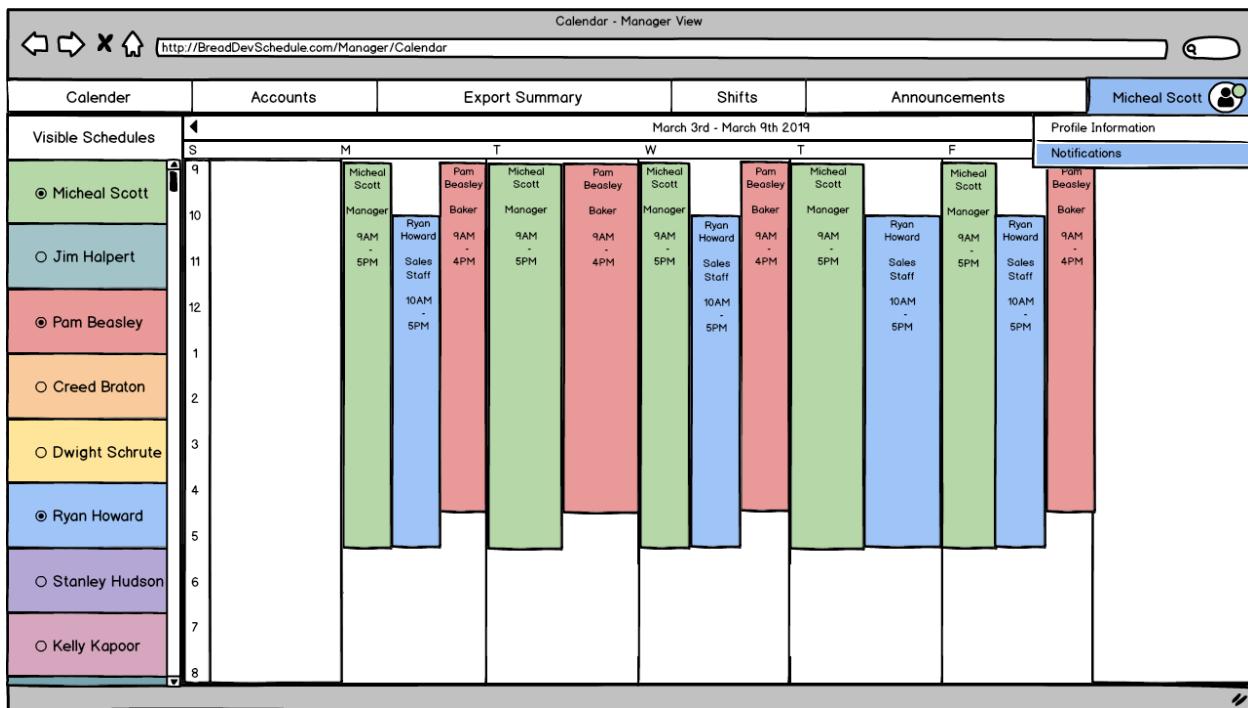


Figure 55: Management User Viewing Shift Cover Request Response Notification Mock Up

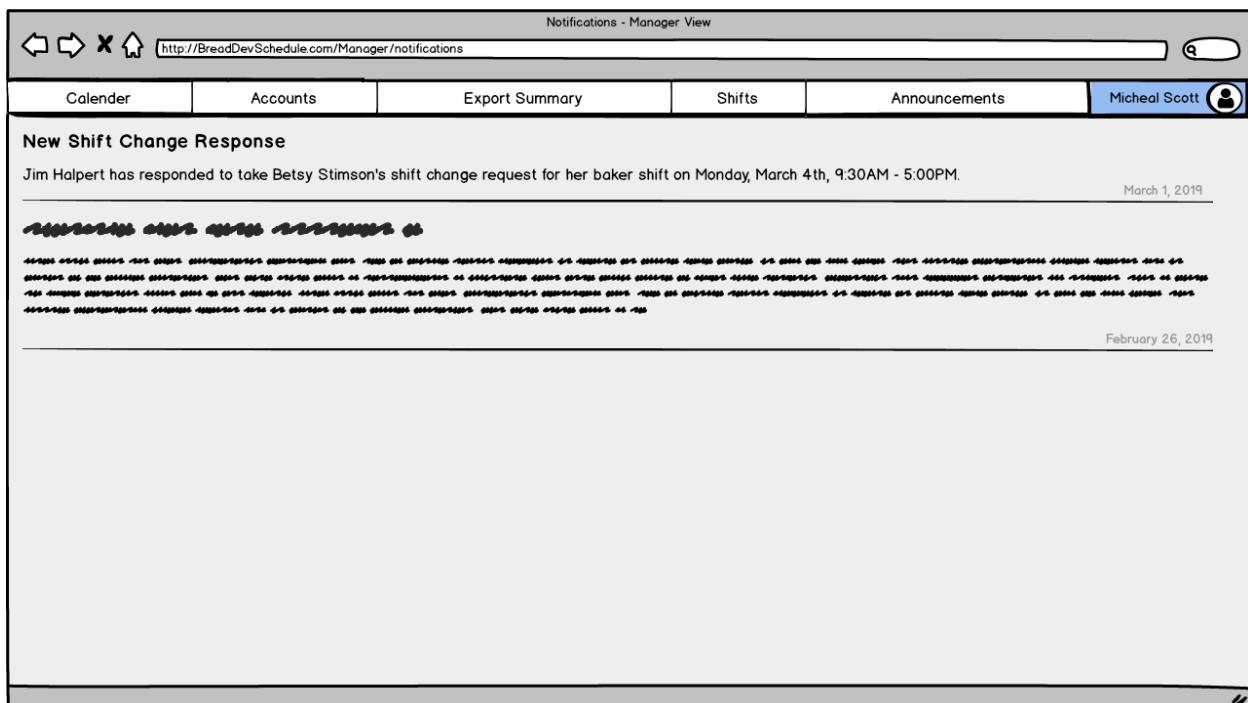


Figure 56: New Shift Cover Request Response Notification for Management User

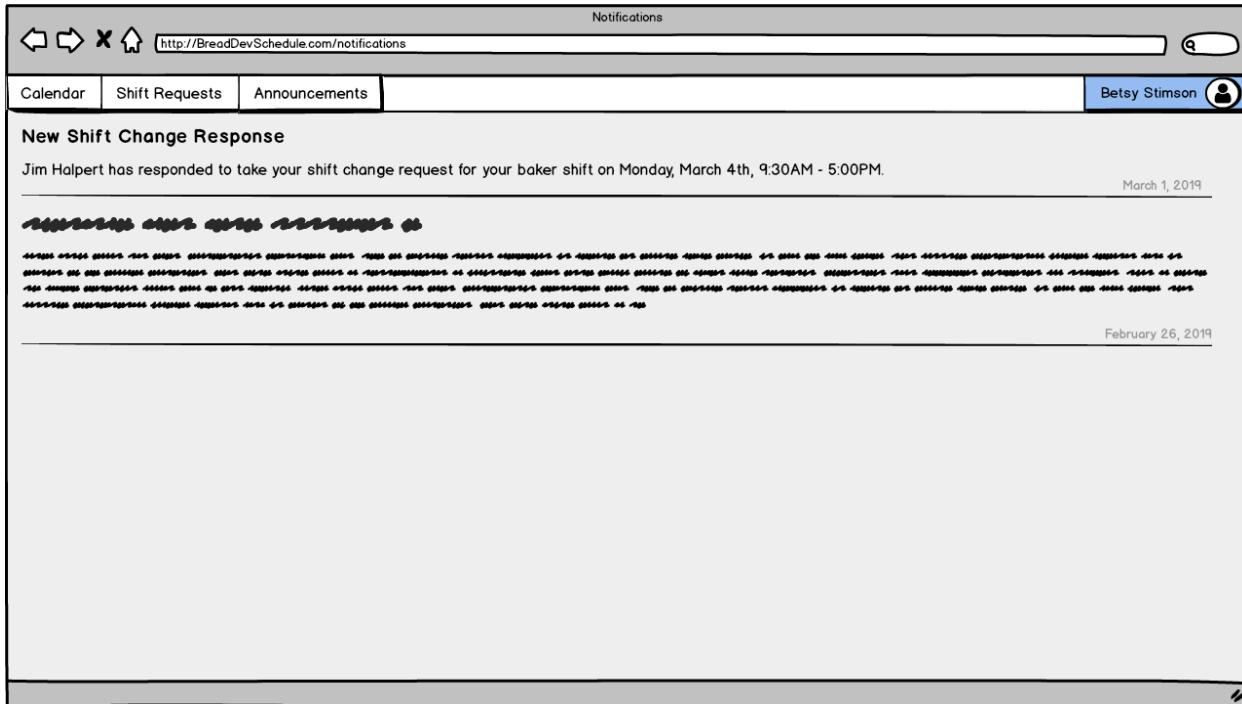


Figure 57: New Shift Cover Request Response Notification for Requester

8.10 UC-9: Approve/Decline Shift Cover Request Response

This use case describes how a management user can approve or decline a shift cover request response. The management user must be signed in and a shift cover request response must have been created. The management user can then navigate to the management tools and select to view the shift cover request responses. The management user can either approve or decline a shift cover request response. The management user is then prompted to confirm or cancel their decision. Whether the response is approved or declined, both the requester and the responder will be notified of the decision. If the shift cover request response is approved, the responder will have the shift added to their schedule and the shift cover requester will have the shift deleted from their schedule. Both the shift cover request requester and responder will be notified of their respective shift changes. Upon approval of a shift cover request response, all other shift cover request responses for the same shift will be deleted. If a shift cover request response is declined, there will be no changes to the schedule and only the declined shift cover response will be deleted.

Table 12: Use Case 9 Approve/Decline Shift Cover Request Response

Actor	Management User
Preconditions	<ul style="list-style-type: none"> • User has an account • User is logged in • A shift cover request response has been created
Steps	<ol style="list-style-type: none"> 1. User navigates to the management tools 2. User selects to view shift cover request responses 3. A list of all shift cover request responses is displayed to the user 4. User approves a shift cover request response 5. The user is prompted to confirm or cancel their decision 6. User confirms to approve the shift cover request response
Success Conditions	<p>If the shift cover request response was approved:</p> <ul style="list-style-type: none"> • The shift is assigned to the user who responded to the approved shift cover request and the user is notified of the shift change • The shift is no longer assigned to the user who created the shift cover request and the user is notified of the shift change • The shift cover request is deleted • All other shift cover request responses for the shift cover request are deleted and each responder is notified that their shift cover request response was declined <p>If the shift cover request was declined:</p> <ul style="list-style-type: none"> • The shift is still assigned to the user who created the shift cover request • The shift cover request responder is notified that their shift cover request response was declined • The shift cover request requester is notified that a shift cover request response was declined • The shift cover request is not deleted • The declined shift cover request response is deleted
Alternate Paths	<ol style="list-style-type: none"> 4. a) User declines a shift cover request response – read success condition for if the shift cover request response was declined 6. a) User cancels approving/declining the shift cover request response – the user is returned to the UI that was displayed before the start of the use case and there are no changes to the shift cover request response

8.10.1 UC-9: Approve/Decline Shift Cover Request Response Sequence Diagrams

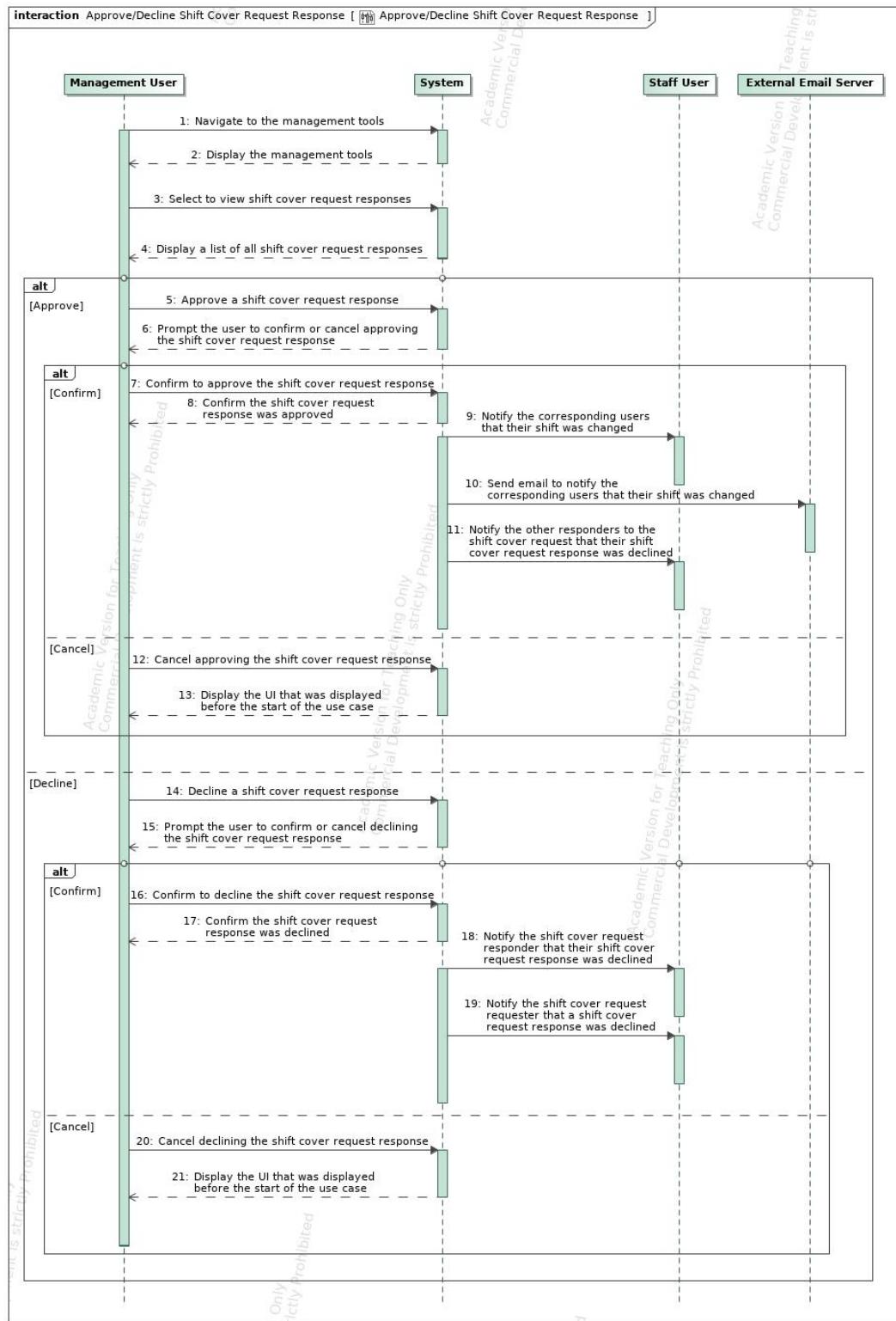


Figure 58: Approve/Decline Shift Cover Request Response Sequence Diagram

8.10.2 UC-9: Approve/Decline Shift Cover Request Response Mock Ups

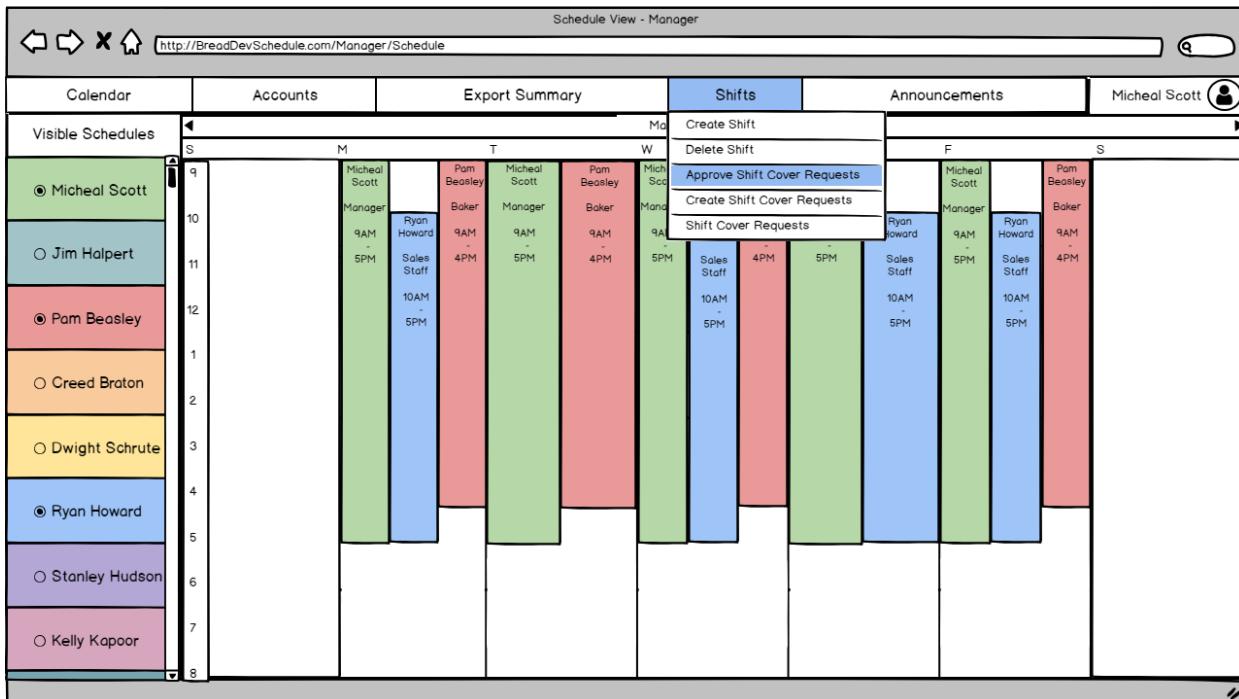


Figure 59: Shift Cover Request Response Mock Up

Shift Requests					
Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
Position	Shift Time	Request Creator	Responder	Pending	
Baker	Mon Mar. 4, 2019 9:30AM - 1:00PM	Delsie Labella	Wanda Font Jenna Fritch	<button>Decline</button> <button>Approve</button> <button>Decline</button> <button>Approve</button>	
Sales	Mon Mar. 4, 2019 10:30AM - 5:30PM	Betsy Stimson	N/A	N/A	
Baker	Tues Mar. 5, 2019 9:30AM - 1:00PM	Jonathan Wrinkle	N/A	N/A	
Sales	Wed Mar. 6, 2019 9:30AM - 1:00PM	Wanda Font	Jonathan Wrinkle	<button>Decline</button> <button>Approve</button>	
Sales	Thurs Mar. 7, 2019 9:00AM - 5:00PM	Darron Mishler	Betsy Stimson	<button>Decline</button> <button>Approve</button>	

Figure 60: Shift Cover Request Approve/Decline Mock Up

Shift Requests					
Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
Position	Shift Time	Request Creator	Responder	Pending	
Baker	Mon Mar. 4, 2019 9:30AM - 1:00PM	Delsie Labella	Wanda Font Jenna Fritch	<button>Decline</button> <button>Approve</button>	<button>Decline</button> <button>Approve</button>
Sales	Mon Mar. 4, 2019 10:30AM - 5:30PM		N/A	N/A	
Baker	Tues Mar. 5, 2019 9:30AM - 1:00PM		N/A	N/A	
Sales	Wed Mar. 6, 2019 9:30AM - 1:00PM	Wanda Font	Jonathan Wrinkle	<button>Decline</button> <button>Approve</button>	<button>Decline</button> <button>Approve</button>
Sales	Thurs Mar. 7, 2019 9:00AM - 5:00PM	Darron Mishler	Betsy Stimson	<button>Decline</button> <button>Approve</button>	<button>Decline</button> <button>Approve</button>

Figure 61: Shift Cover Request Approval Confirmation Mock Up

Shift Requests - Manager View					
Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
Position	Shift Time	Request Creator	Responder	Pending	
Baker	Mon Mar. 4, 2019 9:30AM - 1:00PM	Delsie Labella	Wanda Font Jenna Fritch	<button>Decline</button> <button>Approve</button>	<button>Decline</button> <button>Approve</button>
Sales	Mon Mar. 4, 2019 10:30AM - 5:30PM		N/A	N/A	
Baker	Tues Mar. 5, 2019 9:30AM - 1:00PM		N/A	N/A	
Sales	Wed Mar. 6, 2019 9:30AM - 1:00PM	Wanda Font	Jonathan Wrinkle	<button>Decline</button> <button>Approve</button>	<button>Decline</button> <button>Approve</button>
Sales	Thurs Mar. 7, 2019 9:00AM - 5:00PM	Darron Mishler	Betsy Stimson	<button>Decline</button> <button>Approve</button>	<button>Decline</button> <button>Approve</button>

Figure 62: Selected Confirmation of Approval Mock Up

Shift Requests - Manager View
<http://BreadDevSchedule.com/ScheduleView/Manager/ShiftRequests>

Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
Position	Shift Time	Request Creator	Responder	Pending	
Sales	Mon Mar. 4, 2019 10:30AM - 5:30PM	Betsy Stimson	N/A	N/A	
Baker	Tues Mar. 5, 2019 9:30AM - 1:00PM	Jonathan Wrinkle	N/A	N/A	
Sales	Wed Mar. 6, 2019 9:30AM - 1:00PM	Wanda Font	Jonathan Wrinkle	<button>Decline</button> <button>Approve</button>	
Sales	Thurs Mar. 7, 2019 9:00AM - 5:00PM	Darron Mishler	Betsy Stimson	<button>Decline</button> <button>Approve</button>	
Baker	Tues Mar. 12, 2019 9:30AM - 1:00PM	Monica Gellar	N/A	<div style="border: 1px solid green; padding: 5px;"> Wanda Font has been approved to take Delsie Labella's Shift (Baker, Mon March 4, 9:30AM - 1PM) </div>	

Figure 63: Shift Cover Request Approval Success Mock Up

Notifications
<http://BreadDevSchedule.com/notifications>

Calendar Shift Requests Announcements Delsie Labella

New Shift Cover Request Update

Your shift cover request for the baker shift on Monday March 4th from 9:30AM - 1:00PM has been approved by Michael Scott.

March 1, 2019

February 26, 2019

Figure 64: Shift Cover Requester Notification of Approval Mock Up

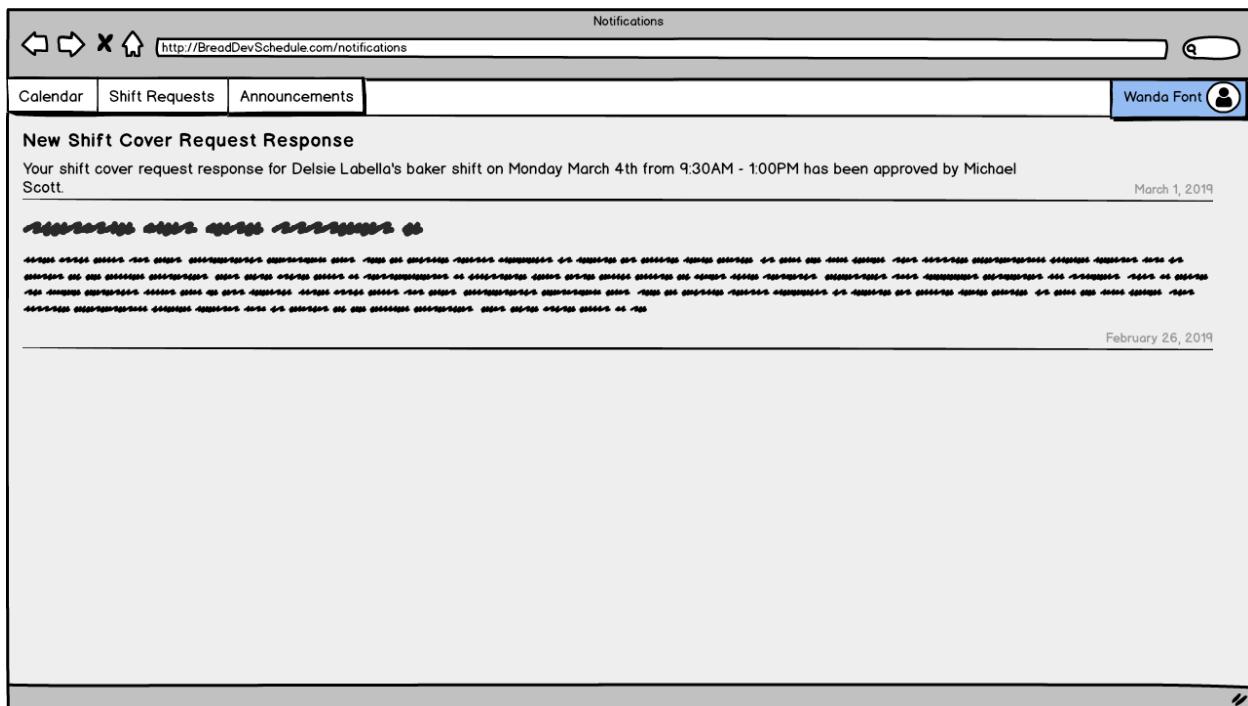


Figure 65: Shift Cover Request Responder Notification of Approval Mock Up

8.11 UC-10: Create Announcement

This use case describes how a management user can create a new announcement. The management user must be signed in to proceed. The management user navigates to the management tools and selects to create an announcement. The management user is prompted to input the title and body for the announcement. After inputting the title and body for the announcement, the management user has the option to either create or cancel creating the announcement. If the management user confirms to create the announcement, the announcement will be created, and all users will be notified. If the management user cancels creating the announcement, no announcement will be created and the UI that was displayed before the use case was started is displayed.

Table 13: Use Case 10 Create Announcement

Actor	Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User has an announcement to create
Steps	<ol style="list-style-type: none">1. User navigates to the management tools2. User selects to create an announcement3. User is prompted to input the announcement title and body4. User inputs the announcement title and body5. User confirms to create the announcement
Success Conditions	<ul style="list-style-type: none">• The announcement is created• A notification is created and sent to all users
Alternate Paths	5. a) User cancels creating the announcement – the user is returned to the UI that was displayed before the start of the use case and the announcement is not created

8.11.1 UC-10: Create Announcement Sequence Diagram

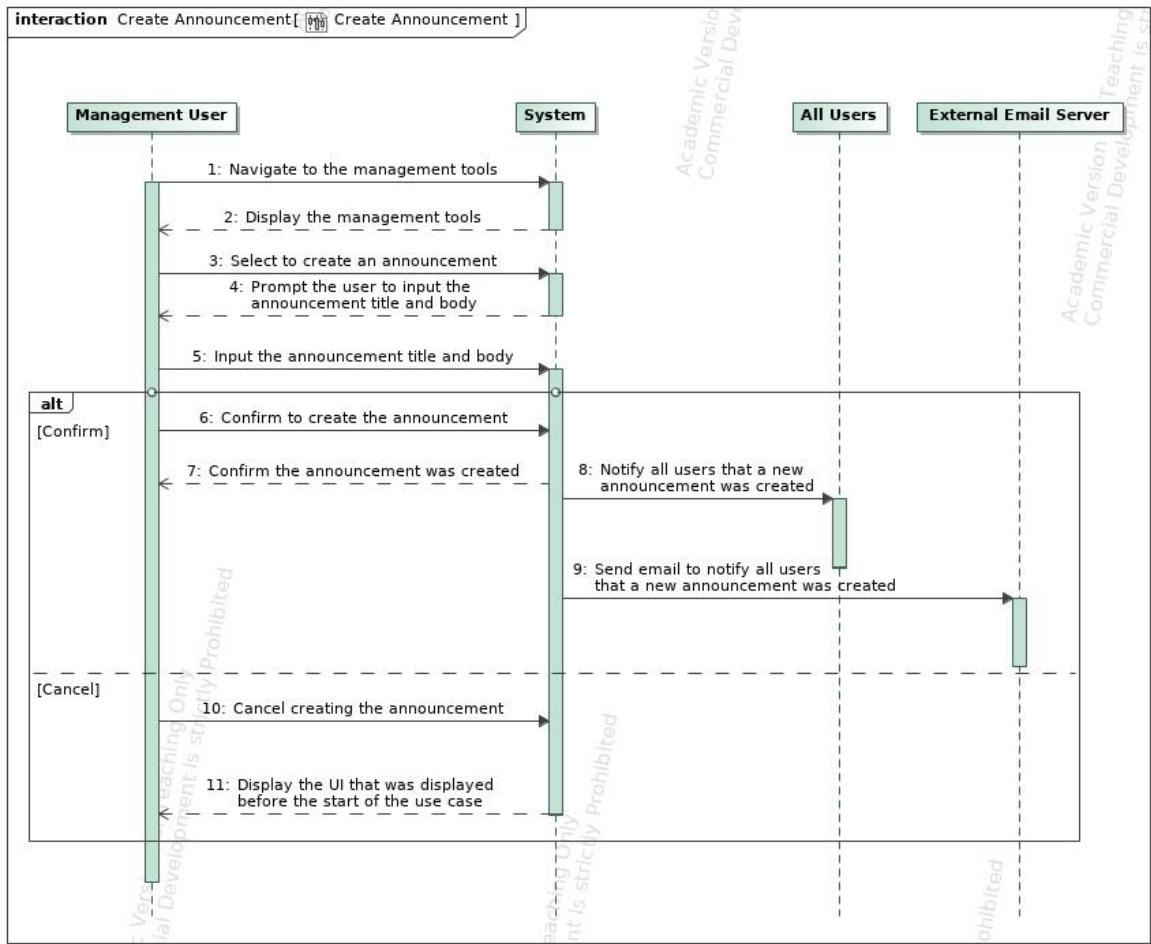


Figure 66: Create Announcement Sequence Diagram

8.11.2 UC-10: Create Announcement Mock Ups

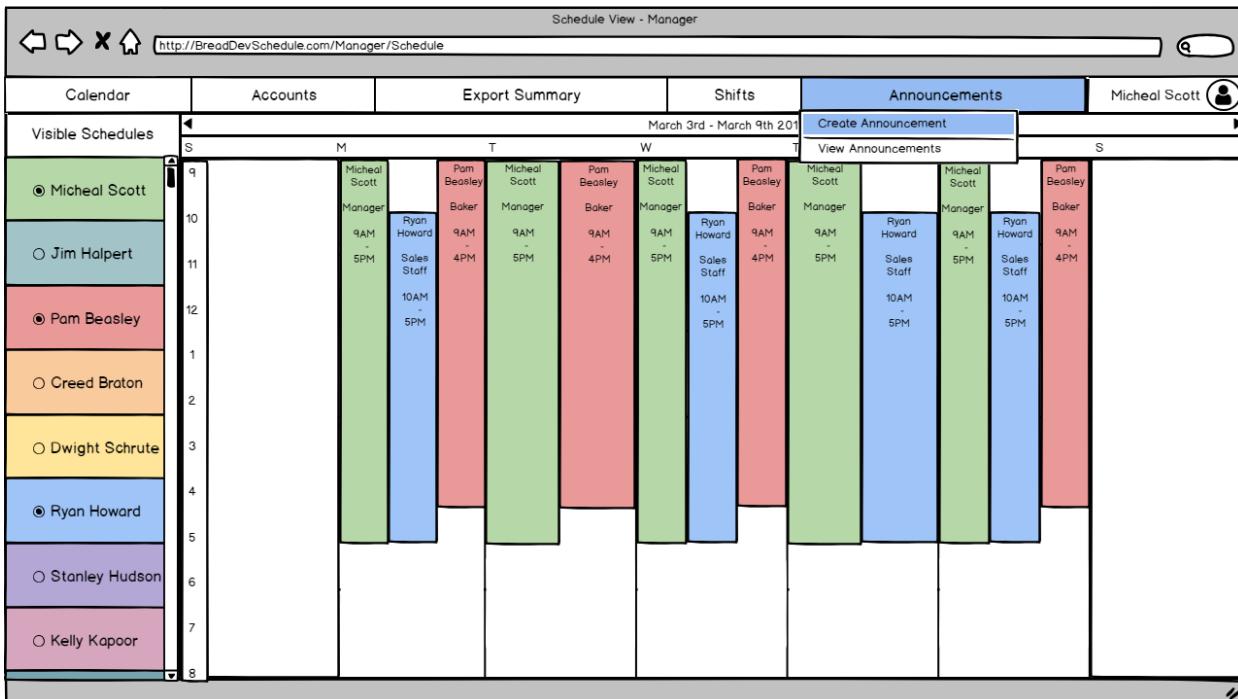


Figure 67: Create Announcement Mock Up

The screenshot shows the 'Create Announcement' form. It includes fields for 'Subject' (placeholder: Enter your subject line here...) and 'Announcement' (placeholder: Enter your announcement here...). A note at the bottom left of the announcement area states: 'The creator of the announcement is automatically added when you hit create'. At the bottom right are 'Cancel' and 'Create' buttons.

Figure 68: Create Announcement Blank Mock Up

Create Announcement

<http://BreadDevSchedule.com/ScheduleView/Manager/CreateAnnouncement>

Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
----------	----------	----------------	--------	---------------	---------------

Create Announcement

Subject: Bagel Ketchup Day 2019

Announcement:

ATTENTION ALL EMPLOYEES: Tomorrow is ketchup day. Please top all bagels with ketchup. Thank you. - Micheal Scott

Cancel Create

Figure 69: Create Announcement Input Example Mock Up



Figure 70: Create Announcement Success Mock Up

8.12 UC-11: View Announcement

This use case describes how a user can view an announcement. The user must be signed in to proceed. The user selects to view announcements. A list of all announcements, sorted by most recent creation date, is displayed to the user.

Table 14: Use Case 11 View Announcement

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• An announcement exists
Steps	<ol style="list-style-type: none">1. User navigates to announcements2. A list of all announcements is displayed to the user
Success Conditions	<ul style="list-style-type: none">• The user can view all announcements
Alternate Paths	

8.12.1 UC-11: View Announcement Sequence Diagram

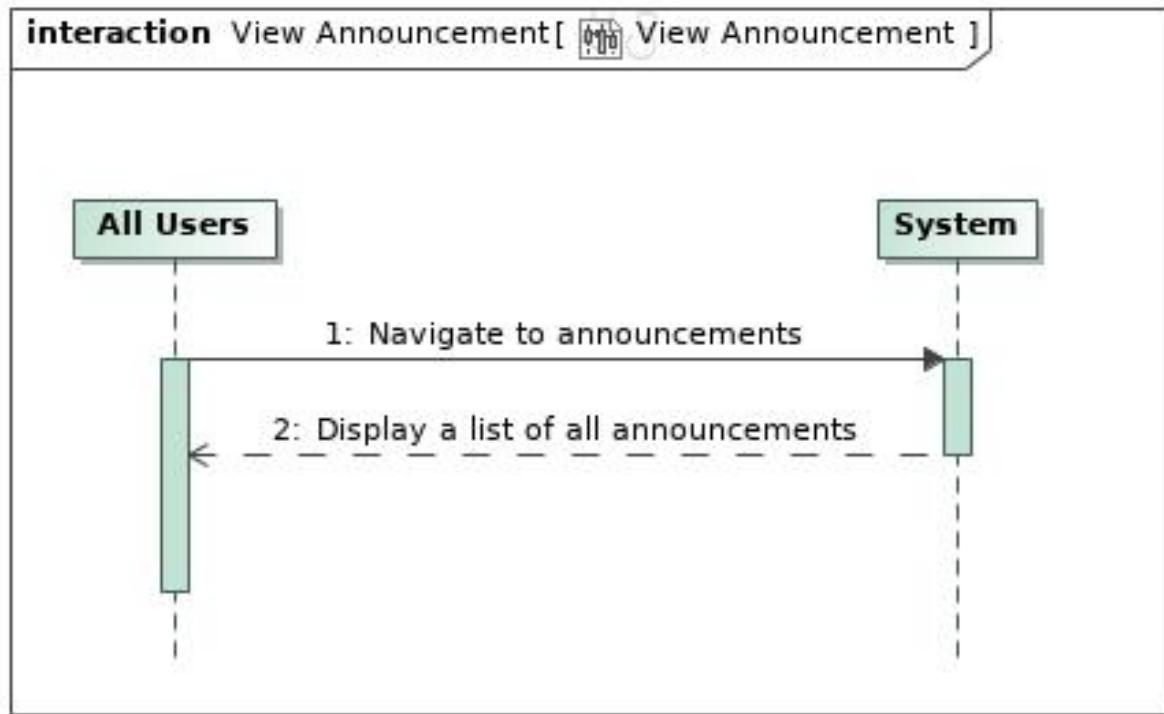


Figure 71: View Announcement Sequence Diagram

8.12.2 UC-11: View Announcement Mock Ups



Figure 72: Select to View Announcement Mock Up



Figure 73: View Announcement Mock Up

8.13 UC-12: View Notifications

This use case describes how a user can view notifications. The user must be signed in to proceed. The user navigates to notifications. A list of notifications, sorted by most recent creation date, is displayed to the user.

Table 15: Use Case 12 View Notifications

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">User has an accountUser is logged inA notification exists for the user
Steps	<ol style="list-style-type: none">User navigates to notificationsA list of notifications is displayed to the user
Success Conditions	<ul style="list-style-type: none">The user can view their notifications
Alternate Paths	

8.13.1 UC-12: View Notifications Sequence Diagram

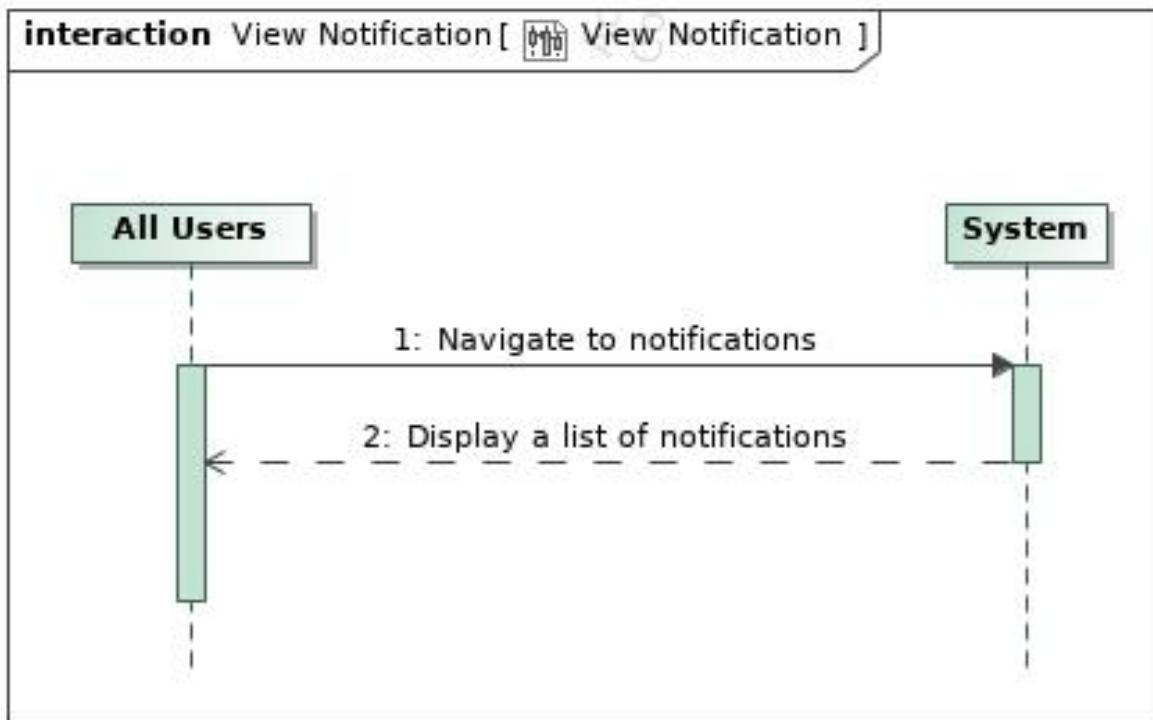


Figure 74: View Notifications Sequence Diagram

8.13.2 UC-12: View Notifications Mock Ups

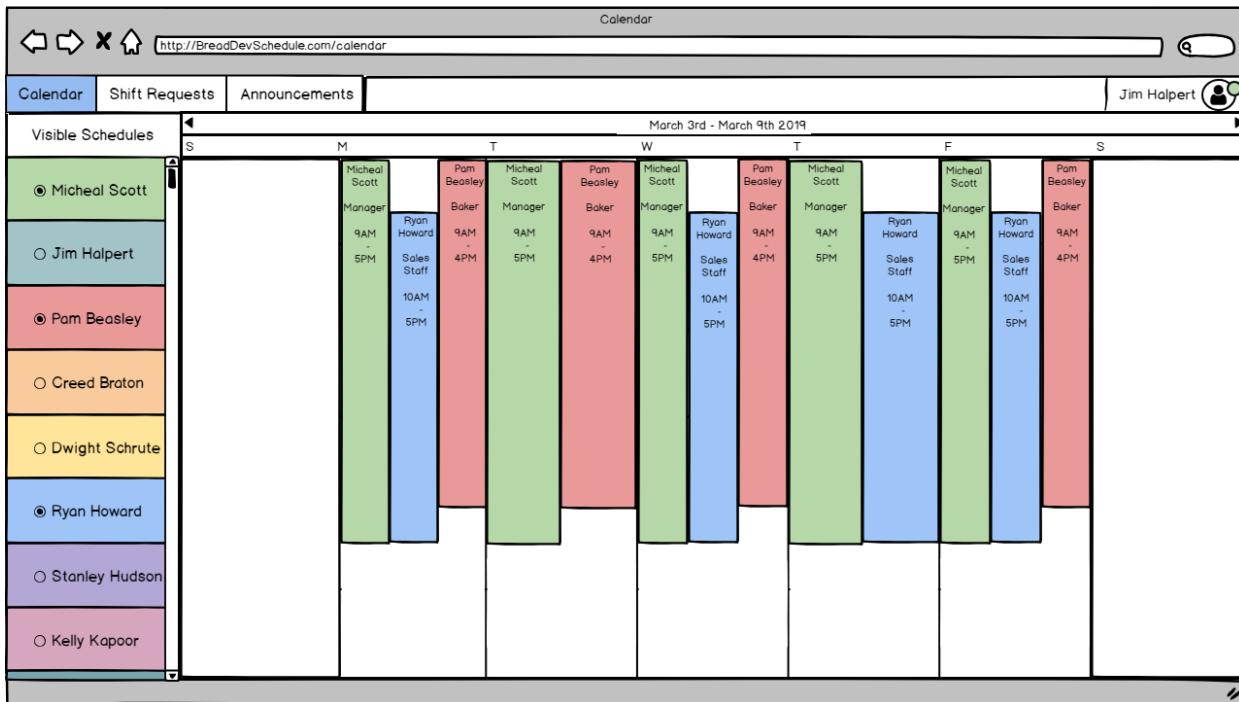


Figure 75: Notification Badge Mock Up

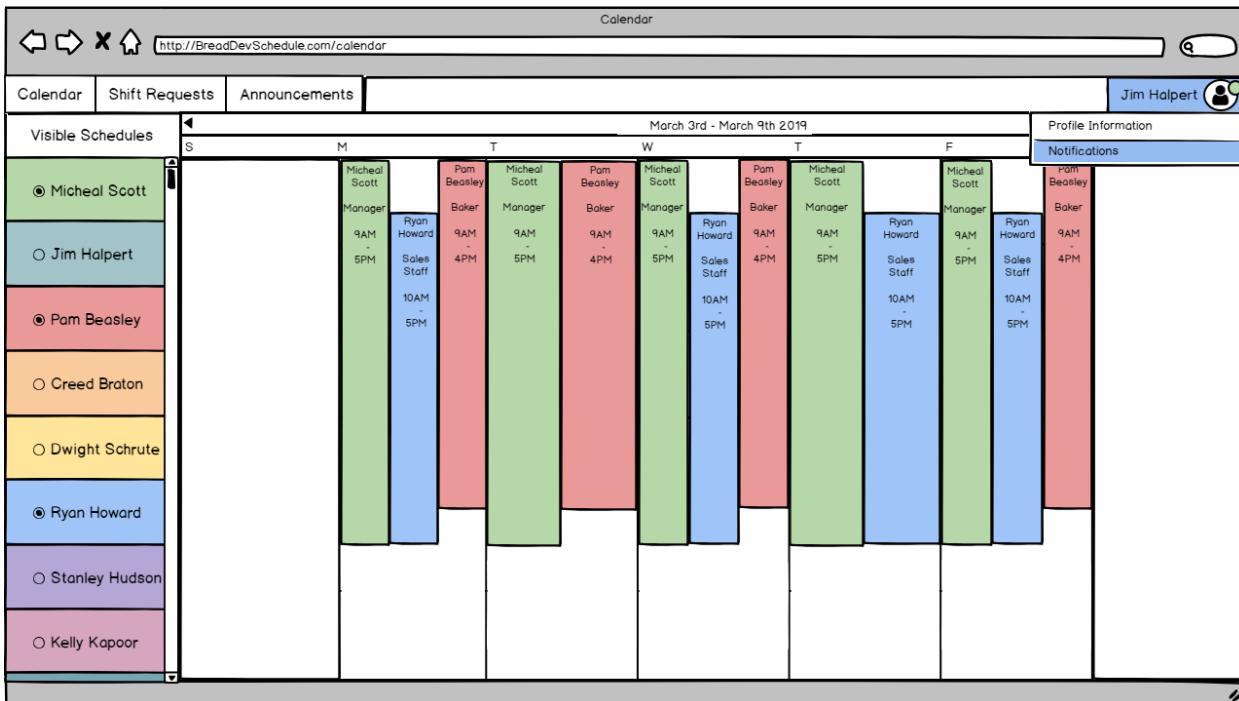


Figure 76: View Notification Mock Up

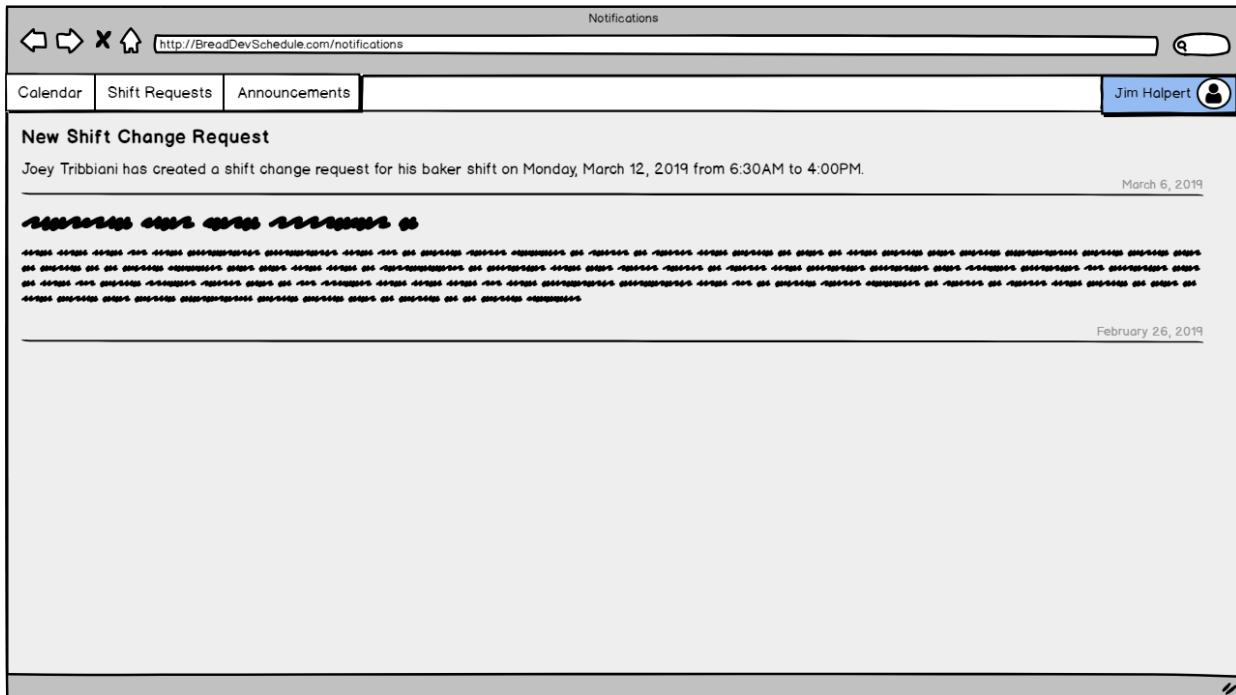


Figure 77: View Specific Notification Mock Up

8.14UC-13: View Profile

This use case describes how a user can view another user's profile. The user must be signed in to proceed. The user navigates to the calendar and a list of all users is displayed to the user. The user selects another user and then the selected user's profile is displayed.

Table 16: Use Case 13 View Profile

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none"> • User has an account • User is logged in • There exists a profile to view
Steps	<ol style="list-style-type: none"> 1. User navigates to the calendar 2. A list of all users is displayed to the user 3. User selects another user
Success Conditions	<ul style="list-style-type: none"> • The selected user's profile is displayed to user
Alternate Paths	

8.14.1 UC-13: View Profile Sequence Diagram

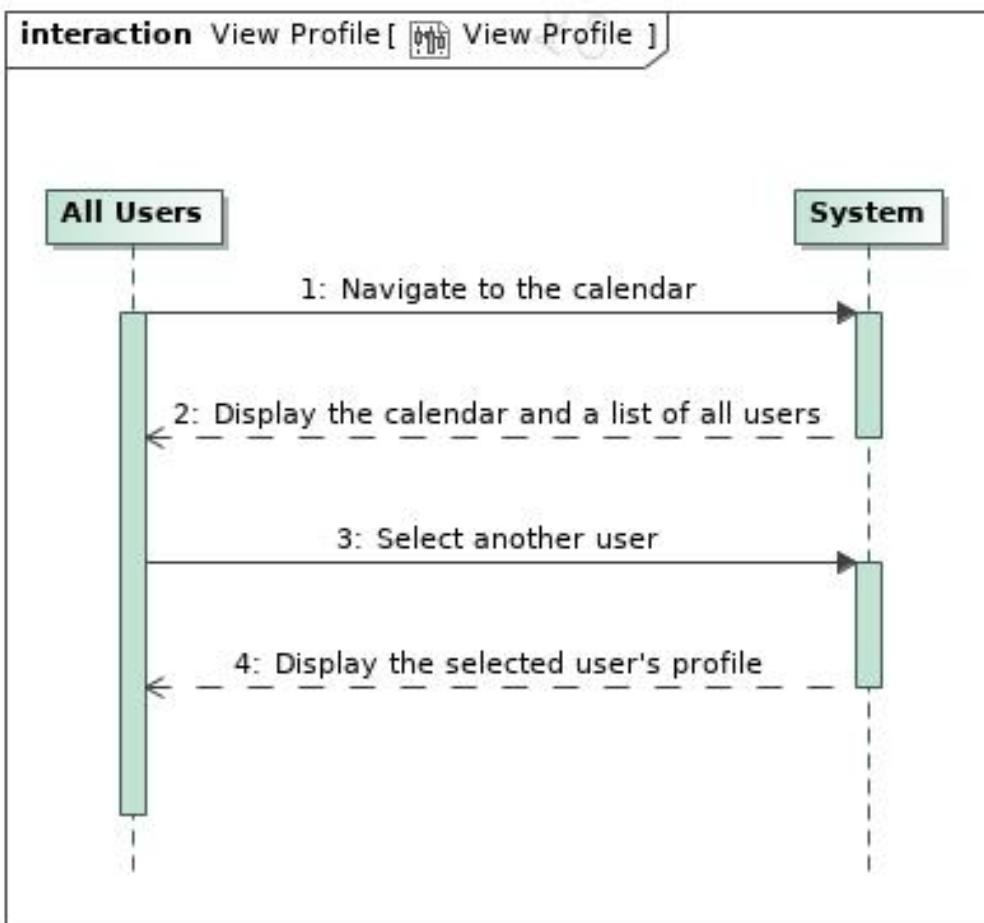


Figure 78: View Profile Sequence Diagram

8.14.2 UC-13: View Profile Mock Ups

This mock-up shows a calendar interface for March 3rd - March 9th, 2019. The left sidebar lists 'Visible Schedules' for eight employees: Micheal Scott, Jim Halpert, Pam Beasley, Creed Bratton, Dwight Schrute, Ryan Howard, Stanley Hudson, and Kelly Kapoor. Each employee has a colored box representing their availability. The main calendar grid shows shifts for each day from Monday to Sunday. A tooltip 'View Profile Information' is shown over the grid for the week of March 3rd.

Figure 79: View Profile Mock Up

This mock-up shows the same calendar interface as Figure 79, but with a detailed profile view for Creed Burton. The tooltip 'View Profile Information' is now expanded, displaying a large circular icon of Creed Burton's profile, his name, title (Baker), phone number ((250) 123 - 4567), and email (creedthoughts@creedthoughts.com). The rest of the calendar grid and sidebar are visible but appear dimmed or grayed out.

Figure 80: View Another User's Profile Mock Up

8.15UC-14: Edit Profile

This use case describes how a user can edit their profile information. The user must be signed in to proceed. The user navigates to their profile. The user's profile is displayed and then the user selects to edit their profile information. The user is prompted to edit their profile information. The user edits their profile information and after editing, the user has the option to either save their changes or cancel editing. If the user saves, the edited profile information will be saved. If the user cancels, the edited profile information will not be saved, and the user will be returned to a read-only version of their profile.

Table 17: Use Case 14 Edit Profile

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in• User has profile information to edit
Steps	<ol style="list-style-type: none">1. User navigates to their profile2. User selects to edit their profile information3. The user is prompted to edit their profile information4. User edits their profile information5. User saves their edited profile information
Success Conditions	<ul style="list-style-type: none">• The user's edited profile information is saved
Alternate Paths	5.a) User cancels editing profile information – the user is returned to a read-only version of their profile

8.15.1 UC-14: Edit Profile Sequence Diagram

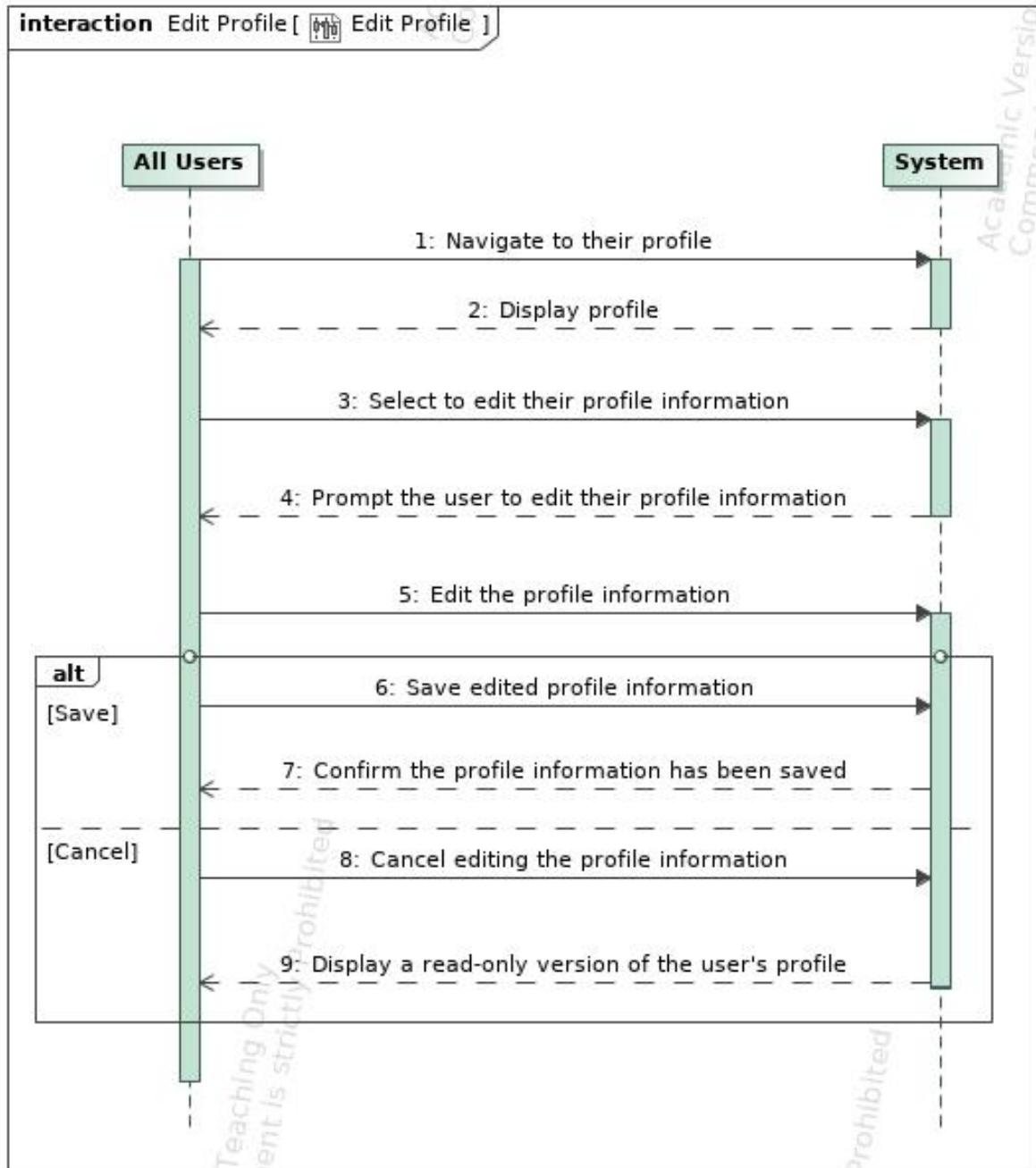


Figure 81: Edit Profile Sequence Diagram

8.15.2 UC-14: Edit Profile Mock Ups

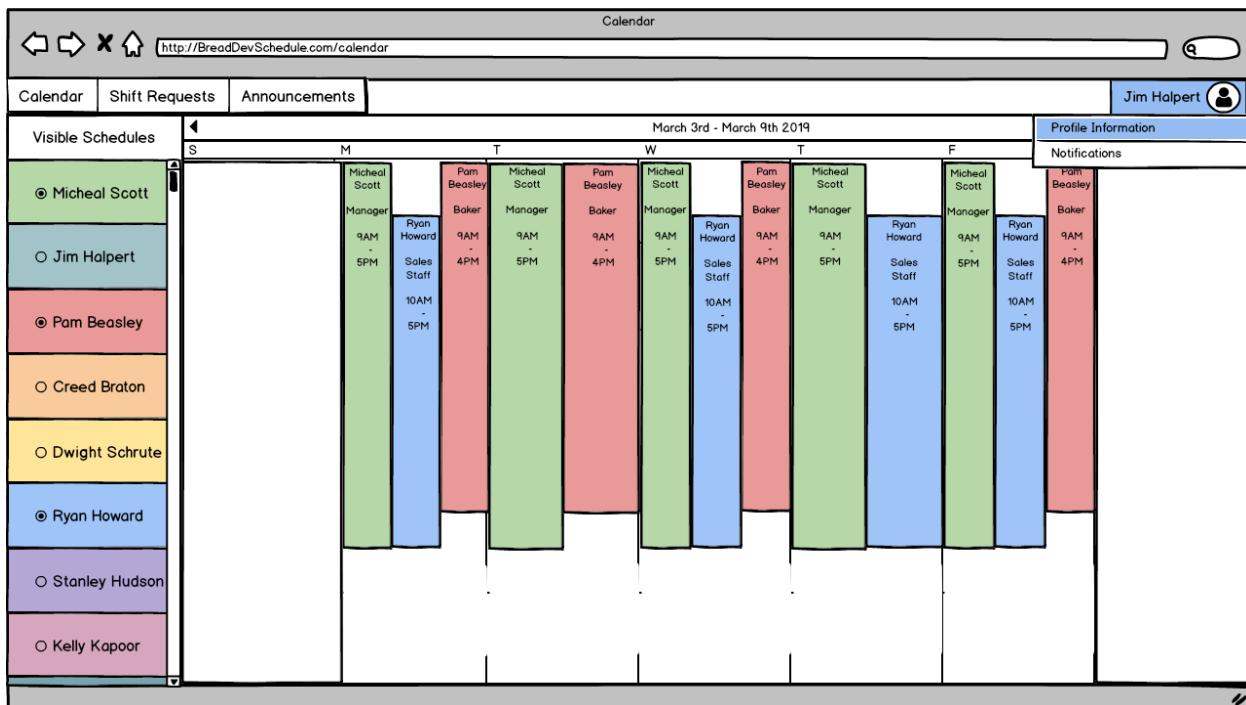


Figure 82: Profile Information View Mock Up

Profile

<http://BreadDevSchedule.com/Profile/firstname.lastname>

Calendar Shift Requests Announcements Jim Halpert

 Jim Halpert Sales Staff	Contact Information
	Phone Number (250) 123 - 4567 Email email@address.com
Shift Request Notifications Opted-Out No	
Change Password Update Information	

Figure 83: Profile View Mock Up

Profile

http://BreadDevSchedule.com/Profile/firstname.lastname/edit

Calendar	Shift Requests	Announcements	Jim Halpert 
 Jim Halpert Sales Staff Change Password	<p>Contact Information</p> <p>Phone Number <input type="text" value="(250) 987 - 6543"/></p> <p>Email <input type="text" value="address@email.ca"/></p> <p>Shift Request Notifications</p> <p>Opted-Out <input checked="" type="checkbox"/></p> <p>Save Cancel</p>		

Figure 84: Edit Profile Mock Up

Profile

http://BreadDevSchedule.com/Profile/firstname.lastname

Calendar	Shift Requests	Announcements	Jim Halpert 
 Jim Halpert Sales Staff Change Password	<p>Contact Information</p> <p>Phone Number <input type="text" value="(250) 987 - 6543"/></p> <p>Email <input type="text" value="address@email.ca"/></p> <p>Shift Request Notifications</p> <p>Opted-Out <input type="checkbox"/> Yes</p> <p>Update Information</p>		

Figure 85: Changed Profile Mock Up

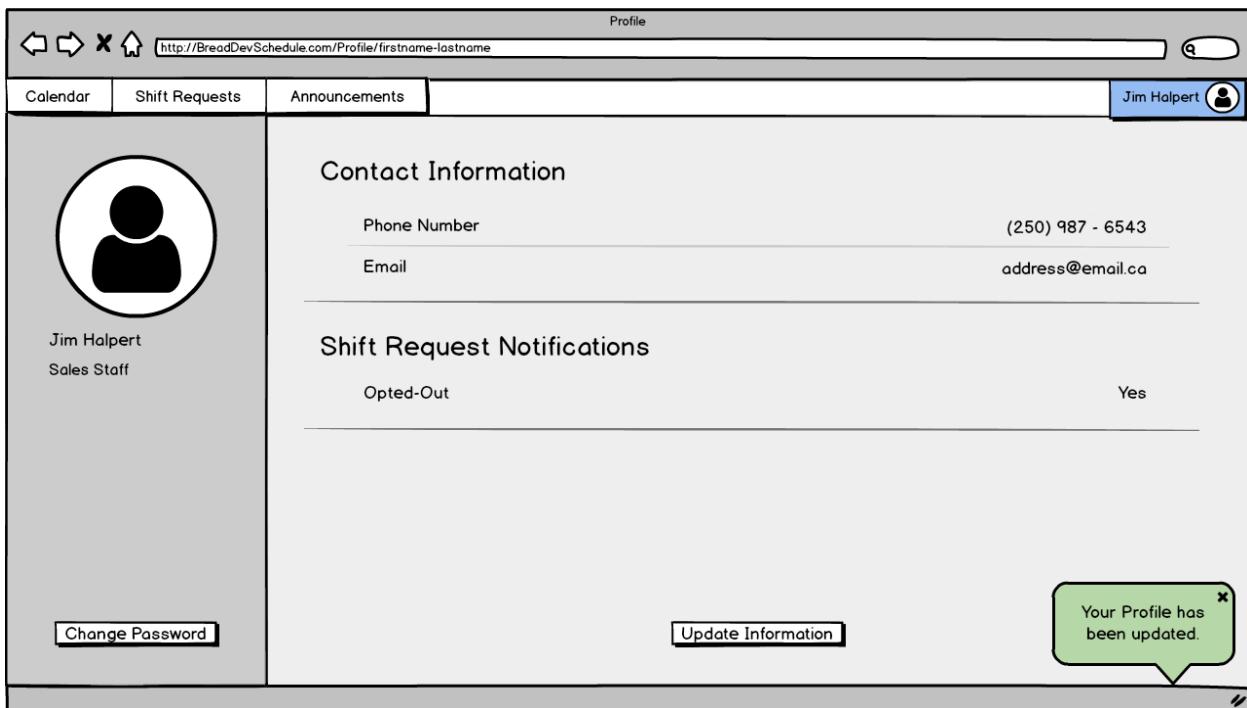


Figure 86: Profile Updated Mock up

UC-15: Change Opt-out Status for Shift Cover Request Notifications

This use case extends Edit Profile. This use case describes how a user can change opt-out status for shift cover request notifications. The user must be signed in to proceed. The user navigates to their profile and then selects to edit their profile information. The user selects to change opt-out status for shift cover request notifications. The user then has the option to save or cancel editing their profile information. If the user saves, then the opt-out status information will be saved. If the user cancels, then the opt-out status information will not be saved, and the user will be returned to a read-only version of their profile.

Table 18: Use Case 15 Change Opt-out Status for Shift Cover Request Notifications

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none"> • User has an account • User is logged in • User has not already opted-out of notifications
Steps	<ol style="list-style-type: none"> 1. User navigates to their profile 2. User selects to edit their profile information 3. User selects to change their opt-out status for shift cover request notifications 4. User saves their opt-out status for shift cover request notifications
Success Conditions	<ul style="list-style-type: none"> • The user's profile reflects that the user has changed their opt-out status for shift cover request notifications
Alternate Paths	<p>4.a) User cancels editing their opt-out status for shift cover request notifications – the user is returned to a read-only version of their profile and their opt-out status for shift cover request notifications is not changed</p>

8.15.3 UC-15: Change Opt-out Status for Shift Cover Request Notifications Sequence Diagram

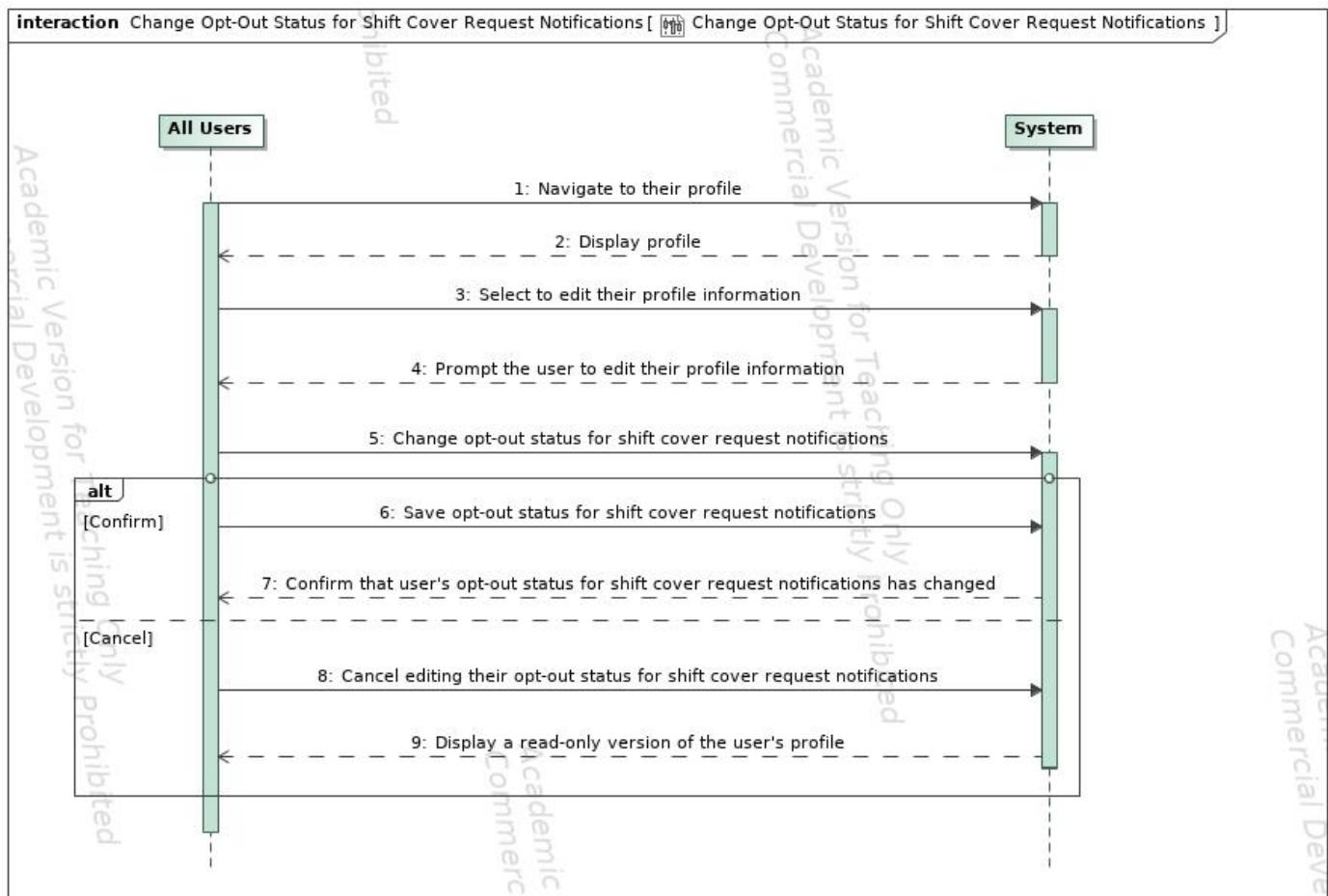


Figure 87: Change Opt-out Status for Shift Cover Request Notifications Sequence Diagram

8.15.4 UC-15: Change Opt-out Status for Shift Cover Request Notifications Mock Ups

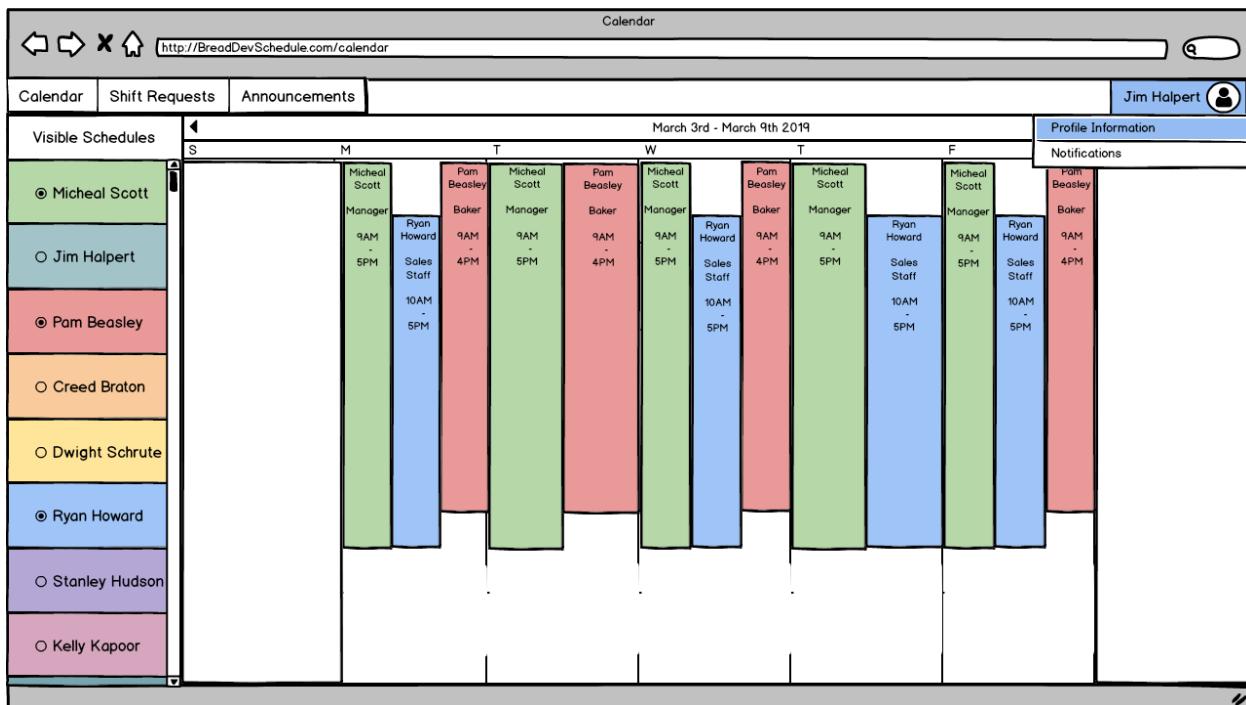


Figure 88: View Profile Information for Opt-Out Status Mock Up

The screenshot shows a user profile edit page. At the top, there's a header with navigation icons and a URL bar showing <http://BreadDevSchedule.com/Profile/firstname.lastname>. Below the header is a navigation bar with tabs: Calendar, Shift Requests, Announcements, and a user profile for Jim Halpert. The left side of the page features a large circular profile picture placeholder. Below the picture, the employee's name (Jim Halpert) and role (Sales Staff) are listed. The right side of the page contains two main sections: "Contact Information" and "Shift Request Notifications". The "Contact Information" section includes fields for "Phone Number" (250) 123 - 4567) and "Email" (email@address.com). The "Shift Request Notifications" section includes a "Opted-Out" checkbox which is checked, and a "No" label next to it. At the bottom of the page are two buttons: "Change Password" on the left and "Update Information" on the right.

Figure 89: Change Opt-out Status for Shift Cover Request Notifications Mock Up

Profile

http://BreadDevSchedule.com/Profile/firstname.lastname/edit

Calendar Shift Requests Announcements Jim Halpert



Jim Halpert
Sales Staff

Contact Information

Phone Number (250) 123 - 4567

Email email@address.com

Shift Request Notifications

Opted-Out

Change Password Save Cancel

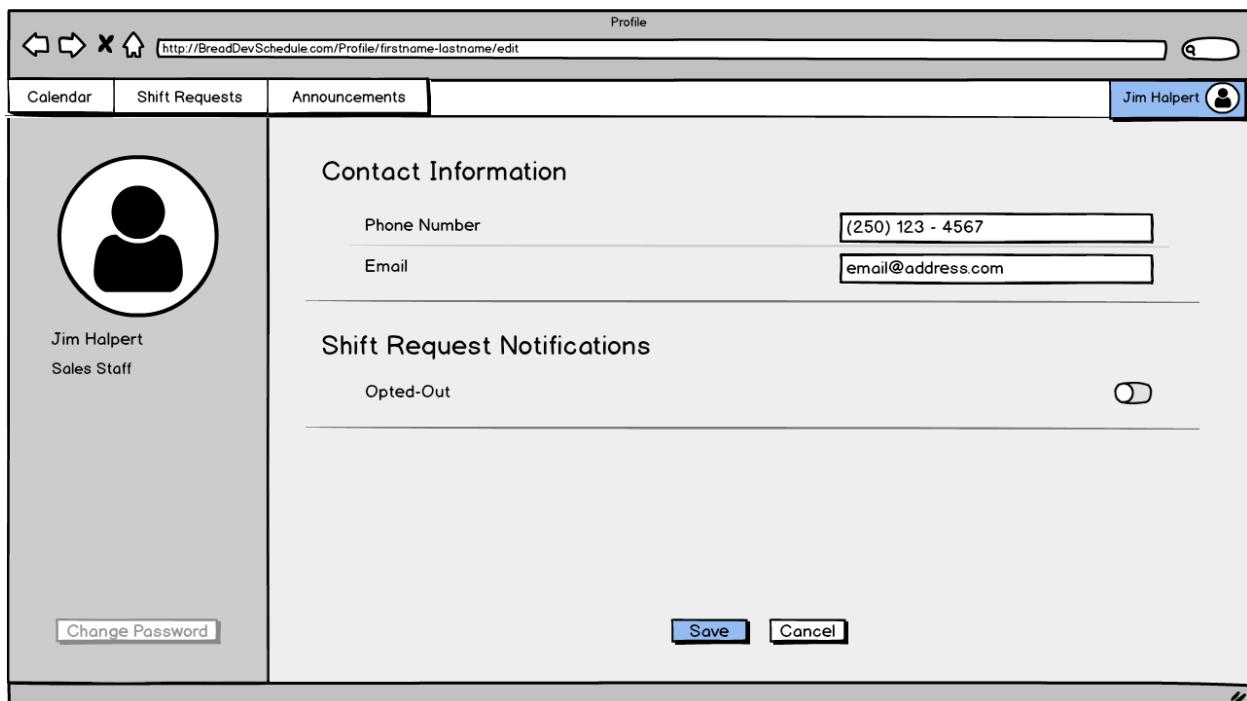


Figure 90: Change Opt-out Status for Shift Cover Request Notifications Default Mock Up

Profile

http://BreadDevSchedule.com/Profile/firstname.lastname/edit

Calendar Shift Requests Announcements Jim Halpert



Jim Halpert
Sales Staff

Contact Information

Phone Number (250) 987 - 6543

Email address@email.ca

Shift Request Notifications

Opted-Out

Change Password Save Cancel

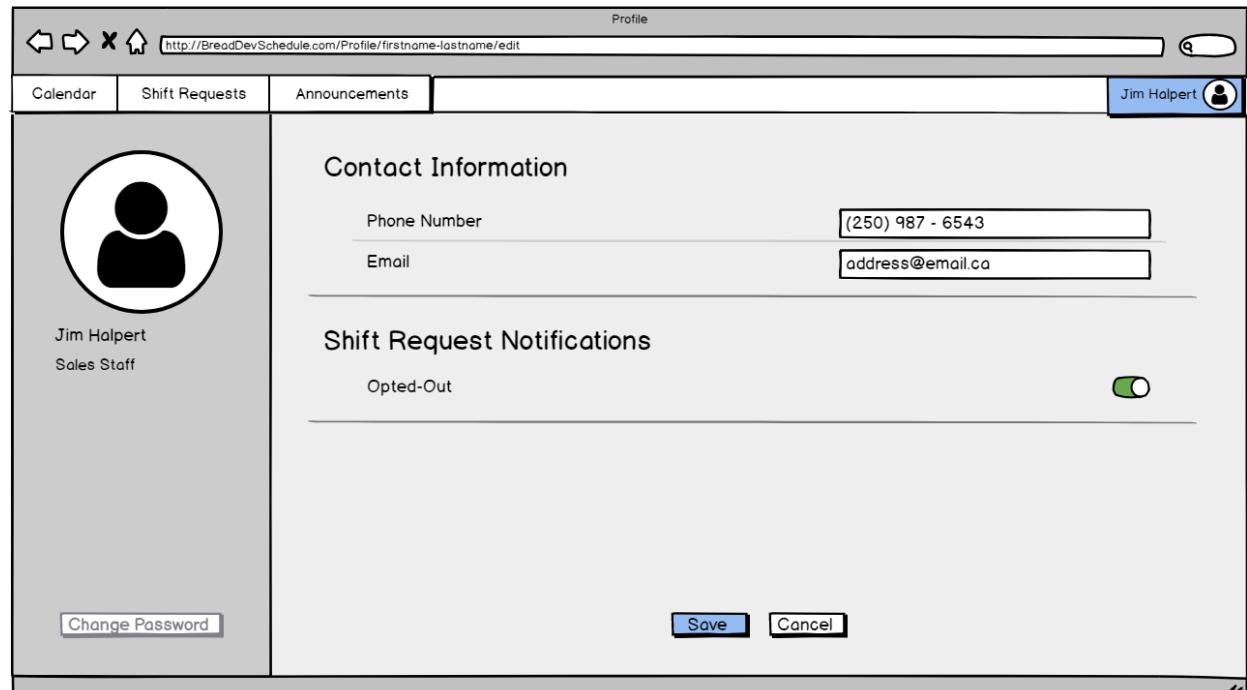


Figure 91: Change Opt-out Status for Shift Cover Request Notifications Changed Mock Up

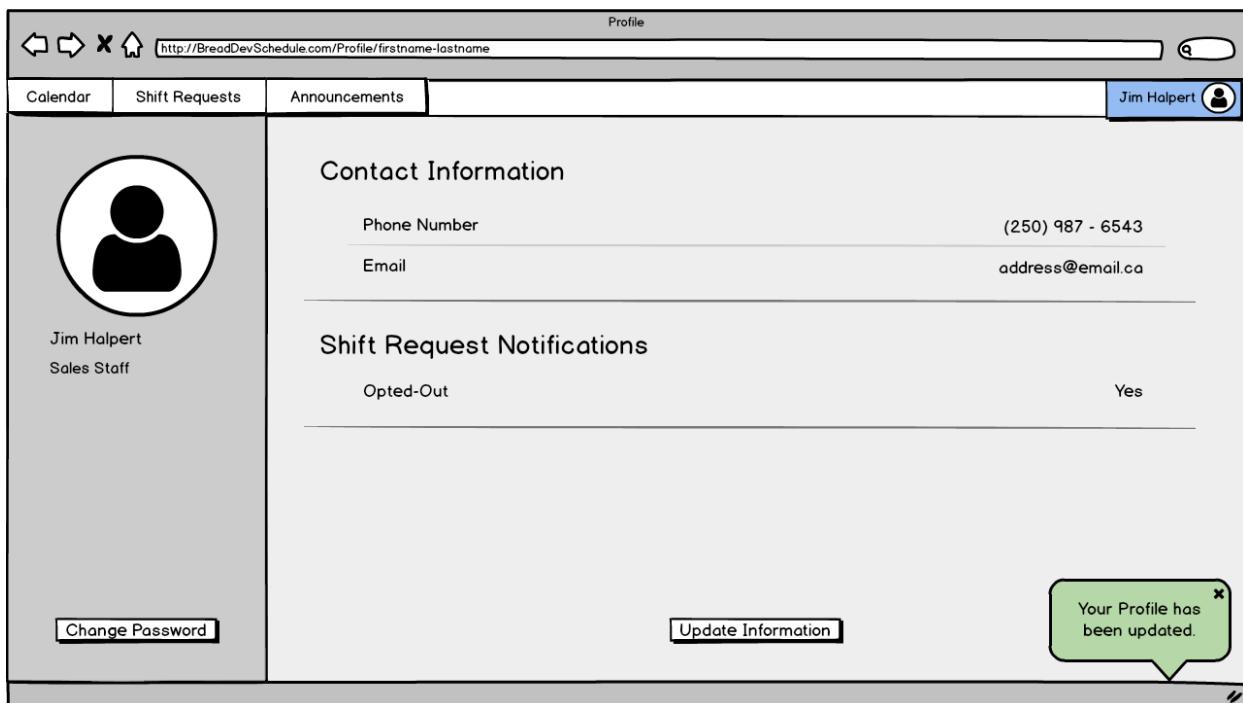


Figure 92: Change Opt-out Status for Shift Cover Request Notifications Mock Ups

8.16 UC-16: Change Password

This use case extends Edit Profile. This use case describes how a user can change their password. The user must be signed in to proceed. The user navigates to their profile and then selects to change their password. The user is prompted to input their current password and a new password. The user inputs their current password and a new password and then has the option to confirm or cancel changing their password. If the user confirms to change their password, their password will be changed. If the user cancels, their password will remain unchanged, and the user will be returned to a read-only version of their profile.

Table 19: Use Case 16 Change Password

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User is logged in
Steps	<ol style="list-style-type: none">1. User navigates to their profile2. User selects to change their password3. The user is prompted to input their current password and a new password4. User inputs their new password and a new password5. User confirms to change their password
Success Conditions	<ul style="list-style-type: none">• The user's password has been changed
Alternate Paths	5.a) User cancels changing their password – the user is returned to a read-only version of their profile and their password is not changed

8.16.1 UC-16: Change Password Sequence Diagram

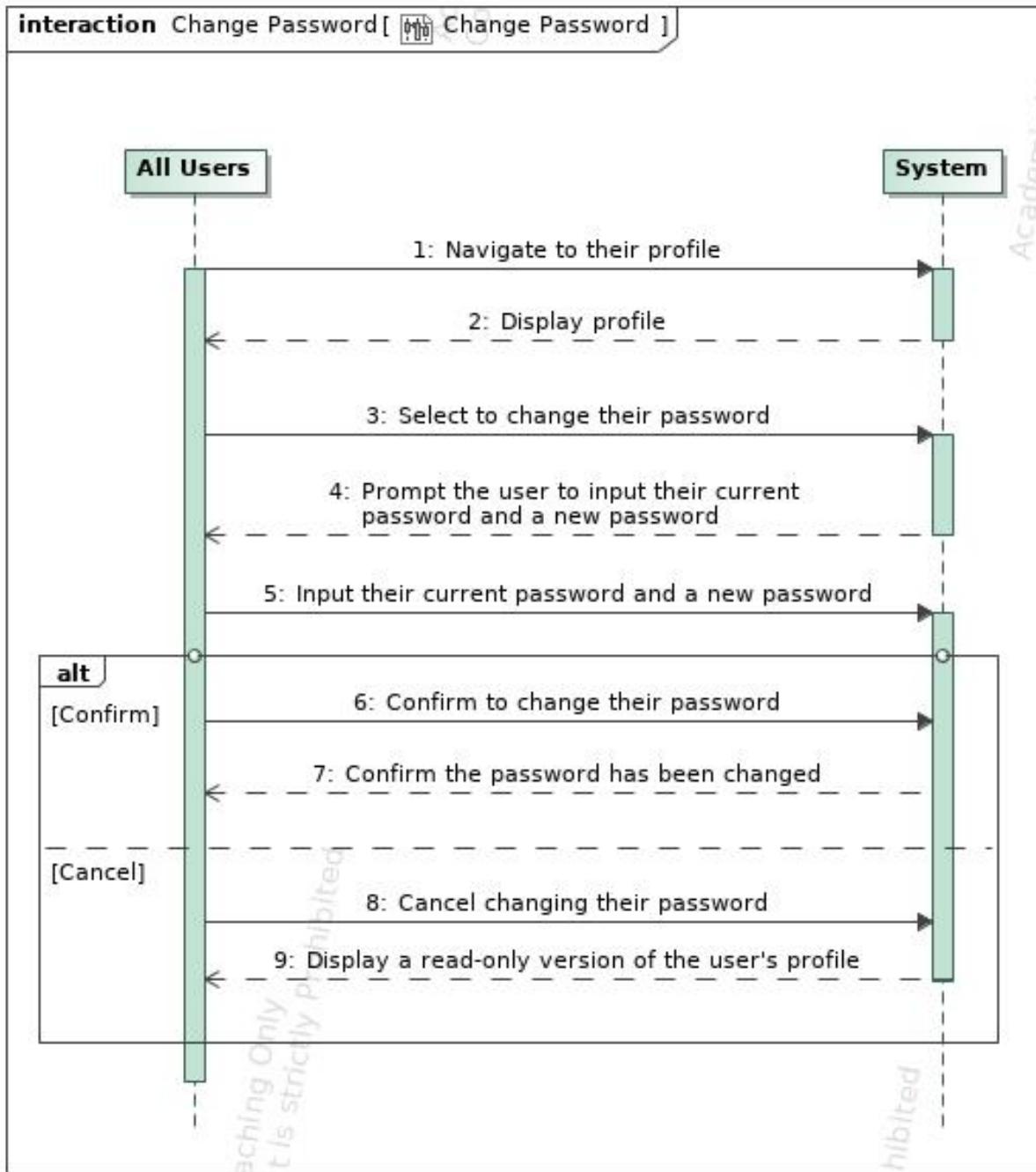


Figure 93: Change Password Sequence Diagram

8.16.2 UC-16: Change Password Mock Ups

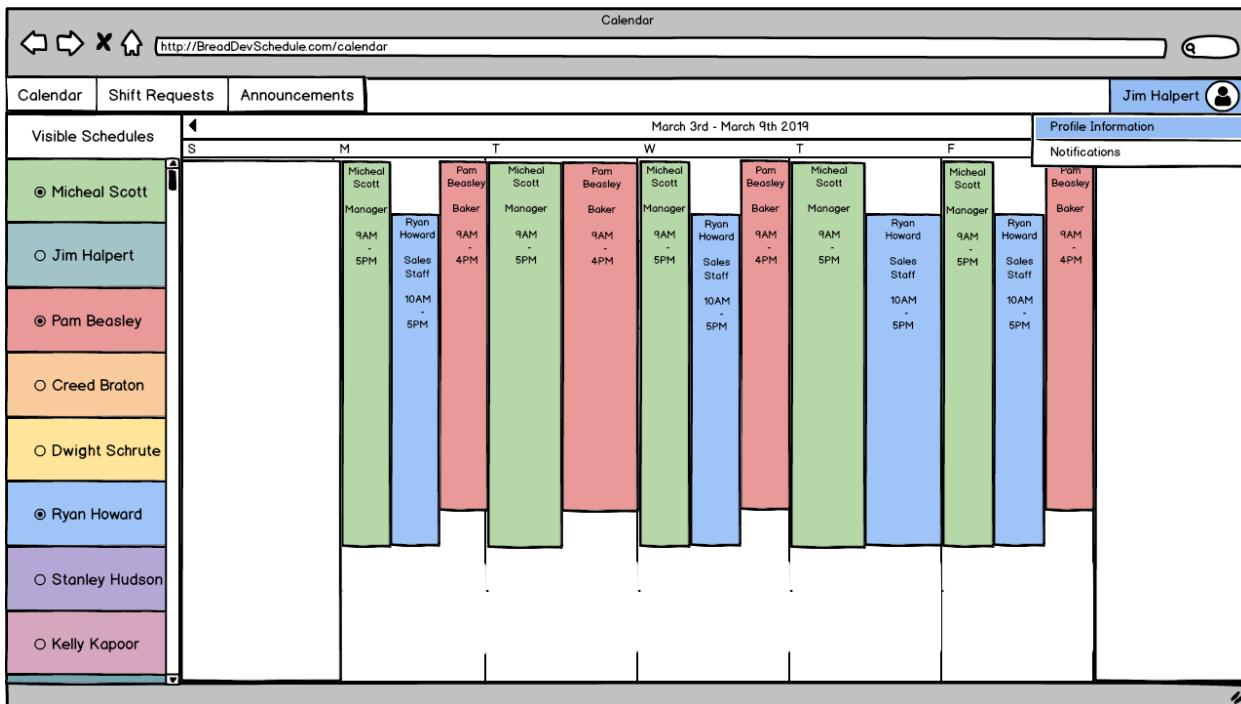


Figure 94: View Profile to Change Password Mock Up

The screenshot shows a web-based profile page for Jim Halpert. The top navigation bar includes back, forward, search, and user profile icons. The URL is <http://BreadDevSchedule.com/Profile/firstname.lastname>. The main content area is titled "Profile". On the left, there is a large circular placeholder for a profile picture, followed by the name "Jim Halpert" and the title "Sales Staff". On the right, there are two main sections: "Contact Information" and "Shift Request Notifications". The "Contact Information" section contains fields for "Phone Number" (250) 987 - 6543 and "Email" address@email.ca. The "Shift Request Notifications" section contains a toggle switch labeled "Opted-Out" (which is currently off) and another labeled "Yes". At the bottom, there are two buttons: "Change Password" on the left and "Update Information" on the right.

Figure 95: Change Password from Profile Mock Up

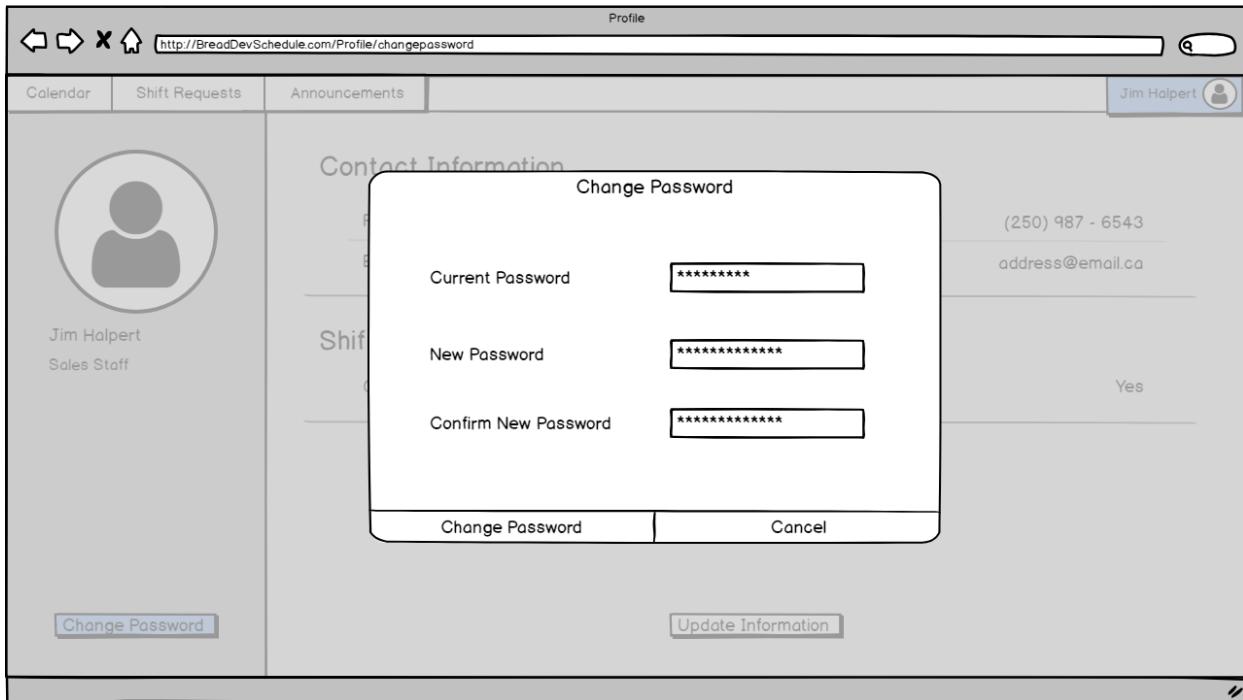


Figure 96: Change Password Input Mock Up

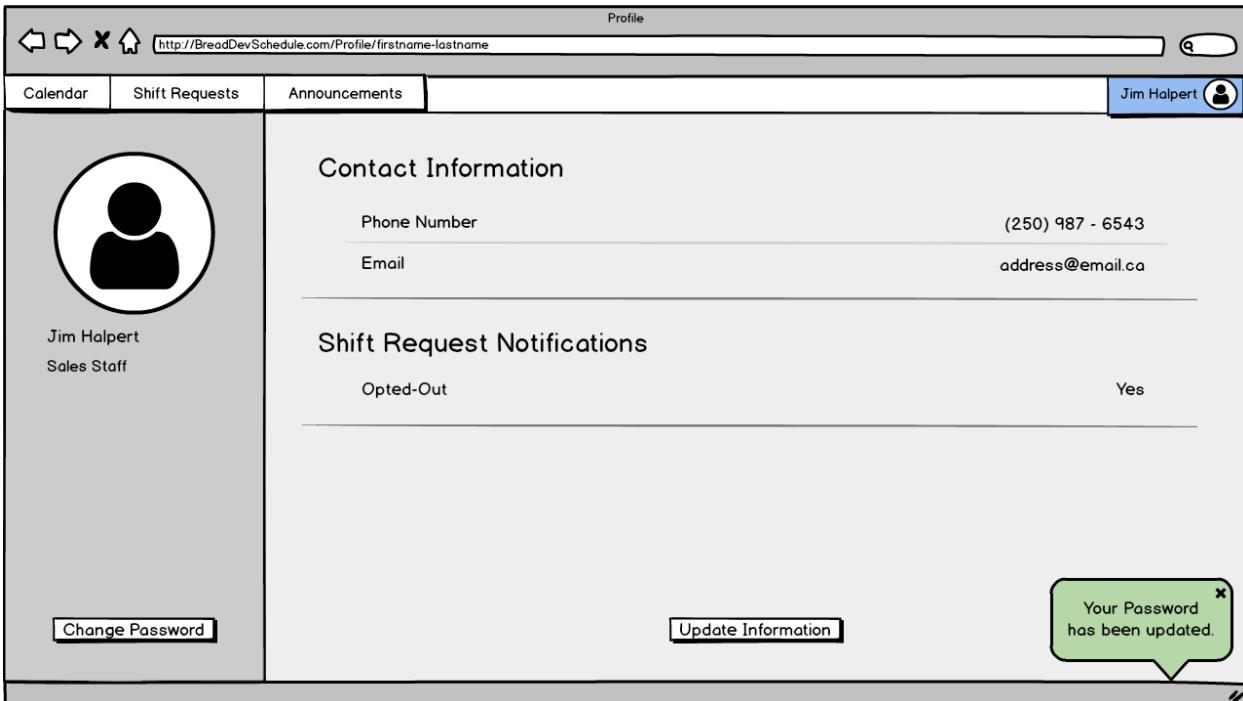


Figure 97: Changed Password Success Mock Up

8.17 UC-17: Forgot Password

This use case describes how a user can change their forgotten password when the user is not signed in. Without being signed in, the user navigates to the system sign in and selects to change their forgotten password. The user is then prompted to input the email for their account. The user inputs the email for their account and then has the option to send a change forgotten password email or cancel. If the user selects to send a change forgotten password email, the user will be sent an email with a link to reset their password. The user can then open the change forgotten password email using their email service and select the change forgotten password link. The user is redirected to the system where their password may be changed. The user is prompted to input a new password. The user inputs a new password and then has the option to confirm or cancel changing their password. If the user confirms to change their password, the password will be changed. If the user cancels, the password will remain unchanged.

Table 20: Use Case 17 Forgot Password

Actor	Staff or Management User
Preconditions	<ul style="list-style-type: none">• User has an account• User has a valid email address that corresponds to an existing account
Steps	<ol style="list-style-type: none">1. User navigates to the system sign in2. User selects to change their forgotten password3. User is prompted to input their email address4. User inputs their email address5. User confirms their email address to send a change forgotten password email6. User receives the change forgotten password email7. User selects from email to change forgotten password8. User is prompted to input a new password9. User inputs a new password10. User confirms their new password
Success Conditions	<ul style="list-style-type: none">• The user's password has been changed
Alternate Paths	<ul style="list-style-type: none">5.a) User enters an email that does not match an email in the system – user is alerted to enter a valid email5.b) User cancels – the user is returned to sign in and no email is sent10.a) User cancels – the user is returned to sign in and the password is not changed

8.17.1 UC-17: Forgot Password Sequence Diagram

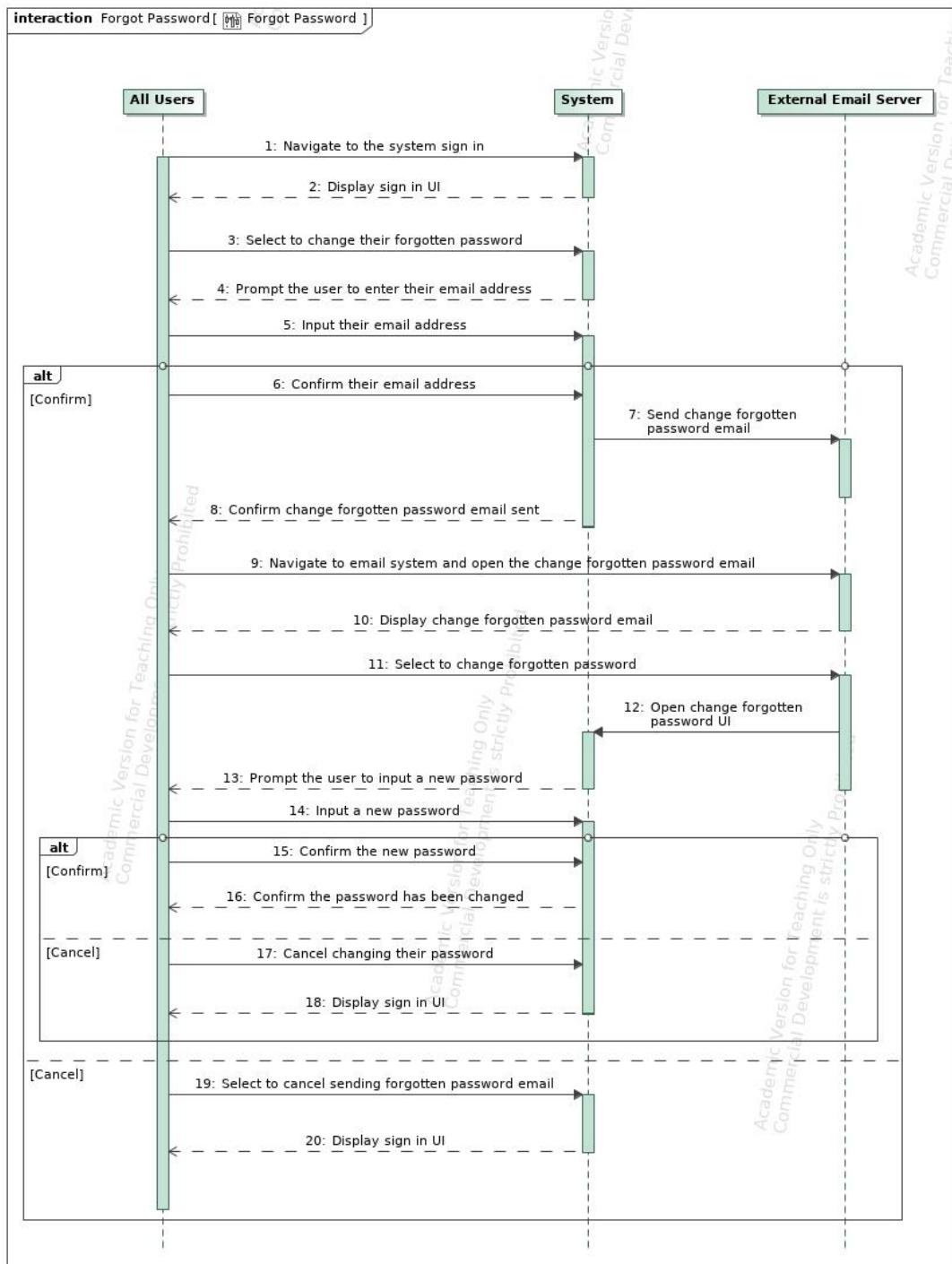


Figure 98: Forgot Password Sequence Diagram

8.17.2 UC-17: Forgot Password Mock Ups

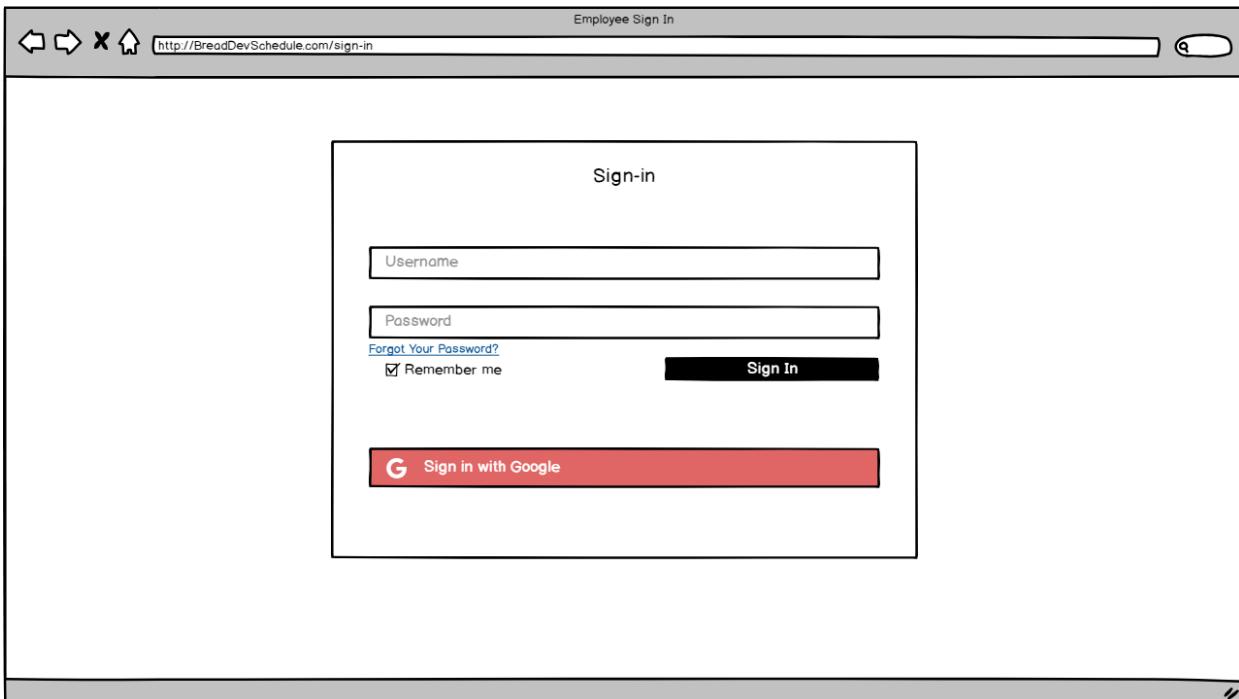


Figure 99: Forgot Password from Login Mock Up

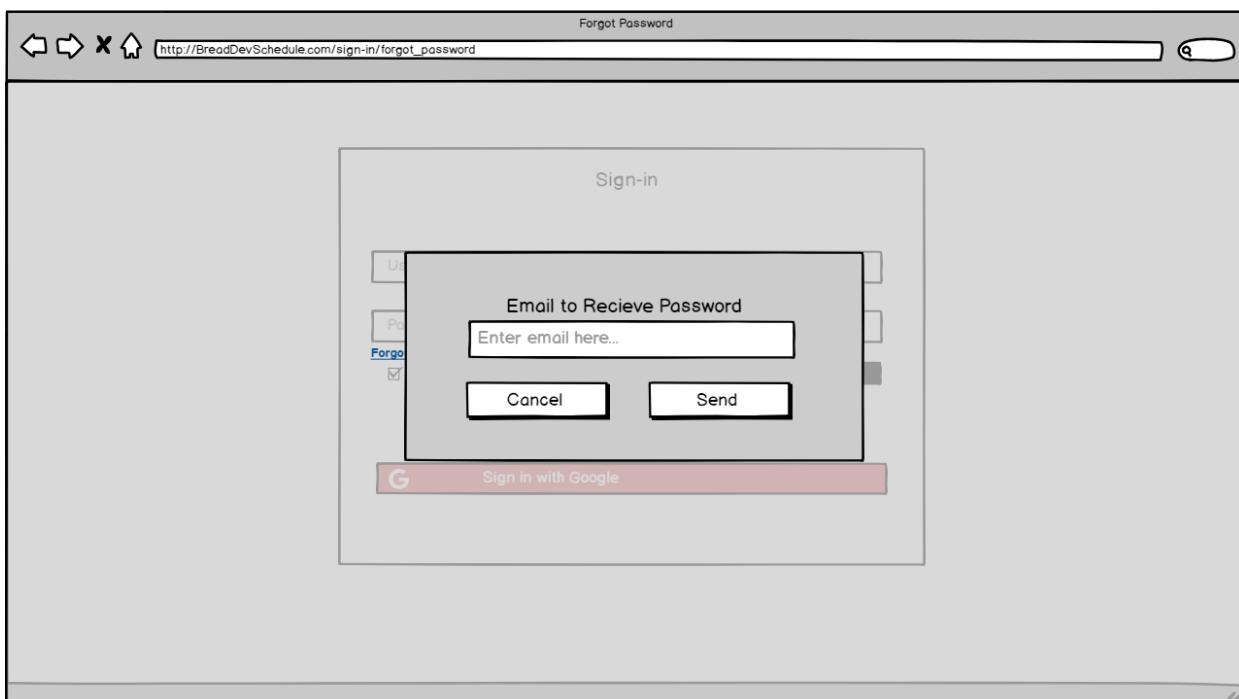


Figure 100: Forgot Password Input Box Mock Up

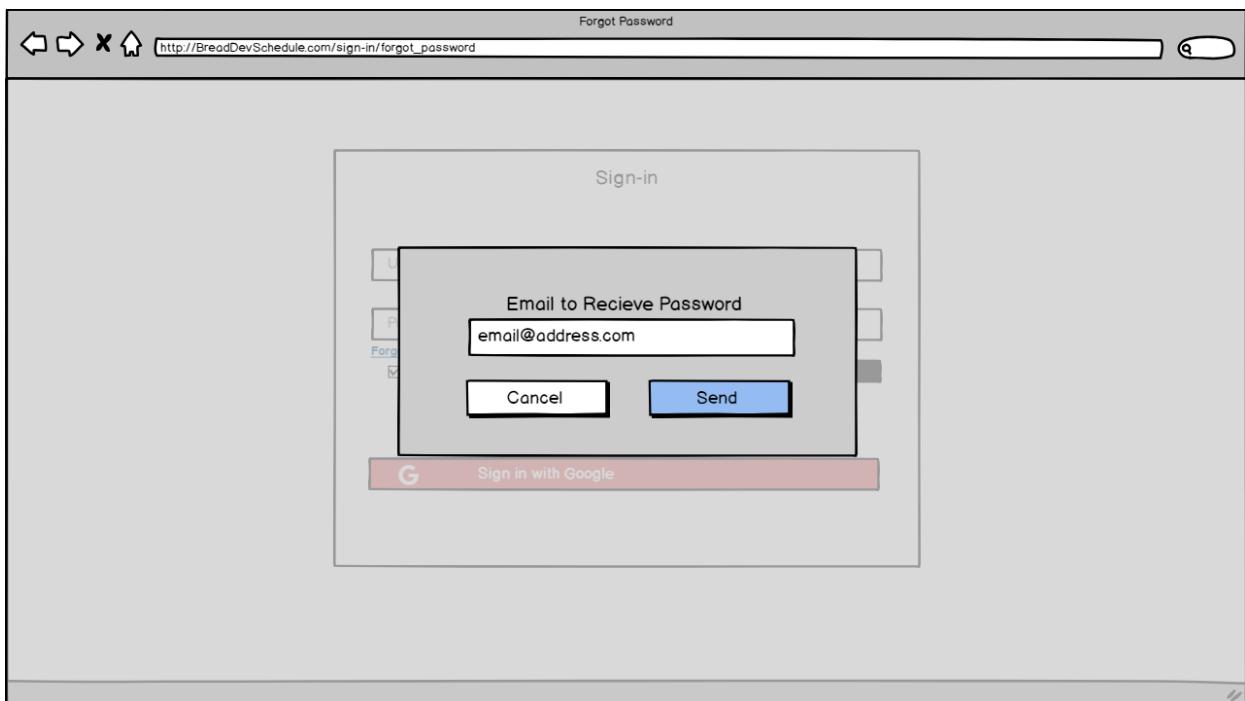


Figure 101: Forgot Password Example Mock Up

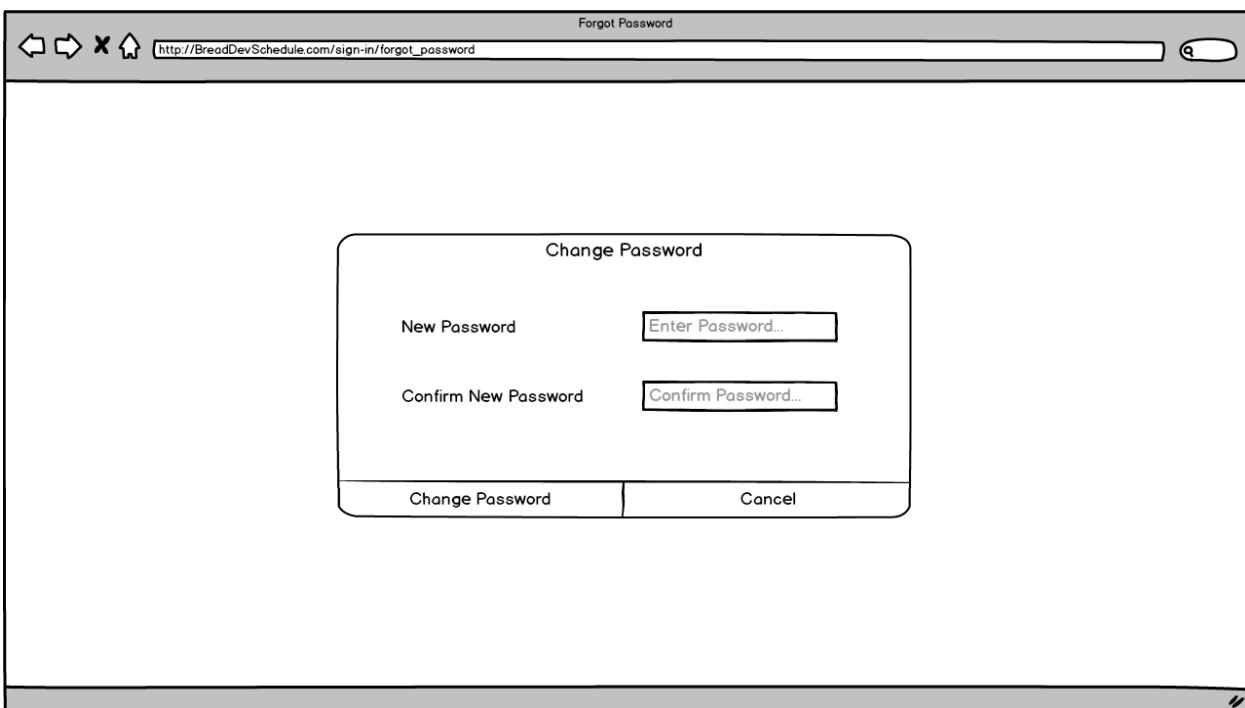


Figure 102: Forgot Password Input Mock Up

Forgot Password

http://BreadDevSchedule.com/sign-in/forgot_password

Change Password

New Password

Confirm New Password

Change Password Cancel

Figure 103: Forgotten Password Changed Mock Up



Figure 104: Forgotten Password Changed Success Mock Up

9 Traceability Matrix and Test Cases

9.1 Test Cases

- TC#001:** Verify that the calendar feature displays the schedule of shifts created by management users.
- TC#002:** Verify that a user is able to respond to a shift cover request that they can see that was created by another user.
- TC#003:** Verify that a user is able to respond to multiple shift cover requests that they can see that were created by multiple other users.
- TC#004:** Verify that a user can create a shift cover request.
- TC#005:** Verify that a user can create multiple shift cover requests.
- TC#006:** Verify that a user can view any shift cover request matching their position.
- TC#007:** Verify that a user can view selected users' shifts.
- TC#008:** Verify that a user can select and deselect which users' shifts to view.
- TC#009:** Verify that a user can view a history of shifts for the previous year.
- TC#010:** Verify that a management user is able to add a shift.
- TC#011:** Verify that a management user is able to add multiple shifts.
- TC#012:** Verify that a management user is able to add a management account to the system.
- TC#013:** Verify that a management user is able to add multiple management accounts to the system.
- TC#014:** Verify that a management user is able to add a staff account to the system.
- TC#015:** Verify that a management user is able to add multiple staff accounts to the system.
- TC#016:** Verify that a management user is able to approve a shift cover request response.
- TC#017:** Verify that a management user is able to approve multiple shift cover request responses.
- TC#018:** Verify that a management user is able to delete a management account from the system.
- TC#019:** Verify that a management user is able to delete multiple management accounts from the system.
- TC#020:** Verify that a management user is able to export a weekly summary of the schedule.
- TC#021:** Verify that a management user is able to delete a shift.
- TC#022:** Verify that a management user is able to delete multiple shifts.
- TC#023:** Verify that a management user is able to decline a shift cover request response.
- TC#024:** Verify that a management user is able to decline multiple shift cover request responses.
- TC#025:** Verify that a management user is able to delete a staff account from the system.
- TC#026:** Verify that a management user is able to delete multiple staff accounts from the system.

- TC#027:** Verify that adding a shift that would result in overtime creates an alert.
- TC#028:** Verify that a management user is able to create an announcement.
- TC#029:** Verify that a management user is able to create multiple announcements.
- TC#030:** Verify that the system stores a list of all announcements.
- TC#031:** Verify that a user is able to view an announcement.
- TC#032:** Verify that a user is able to view multiple announcements.
- TC#033:** Verify that a user receives a notification if their shift is changed in the schedule.
- TC#034:** Verify that a user receives multiple notifications if multiple of their shifts are changed in the schedule.
- TC#035:** Verify that a user receives a notification when their shift cover request, which has previously been responded to, has been approved or declined.
- TC#036:** Verify that a user receives multiple notifications when multiple of their shift cover request, which has previously been responded to, has been approved or declined.
- TC#037:** Verify that a user receives a notification when their shift cover request response is approved or declined.
- TC#038:** Verify that a user receives multiple notifications when multiple of their shift cover request responses are approved or declined.
- TC#039:** Verify that a user receives a notification when a new announcement is created.
- TC#040:** Verify that a user receives multiple notifications when multiple announcements are created.
- TC#041:** Verify that a user receives a notification when their shift cover request has been responded to.
- TC#042:** Verify that a user receives multiple notifications when multiple of their shift cover requests have been responded to.
- TC#043:** Verify that a user receives a notification when a new shift cover request is created for their position, if they are not opted-out of shift cover request notifications.
- TC#044:** Verify that a user receives multiple notifications when multiple new shift cover requests are created for their position, if they are not opted-out of shift cover request notifications.
- TC#045:** Verify that a management user receives a notification when a staff user responds to a shift cover request.
- TC#046:** Verify that a management user receives multiple notifications when multiple staff users respond to multiple shift cover requests.
- TC#047:** Verify that a user is able to edit the information on their profile.
- TC#048:** Verify that a user is able to opt-out of all shift cover request notifications in their profile.
- TC#049:** Verify that a user interface exists for all users to view the calendar, create and respond to a shift cover request, and view a profile.
- TC#050:** Verify that a management user interface extending the user interface exists for a management user to interact with the management tools feature.
- TC#051:** Verify that each user is able to log in using their unique email and their password to gain access to the scheduling system.

TC#052: Verify that only a management account is granted access to the management tools.

TC#053: Verify that the schedule updates within 30 seconds of updating the calendar.

TC#054: Verify that maintenance is not being done to the system during the store's operating hours.

TC#055: Verify that a user can login to the account associated with their unique email and their password.

TC#056: Verify that a user can't login to an account with the wrong password.

TC#057: Verify that a staff user doesn't have access to the management tools.

TC#058: Verify that the system is not violating any of the Personal Information Privacy Act.

9.2 Traceability Matrices

Table 21: Calendar Matrix

Feature 3.1: Calendar	REQ-F-C- 1	REQ-F-C- 2	REQ-F-C- 3	REQ-F-C- 4	REQ-F-C- 5	REQ-F-C- 6
TC#001	X					
TC#002		X				
TC#003		X				
TC#004			X			
TC#005			X			
TC#006				X		
TC#007					X	
TC#008					X	
TC#009						X

Table 22: Management Tools Matrix

Feature 3.2: Management tools	REQ- F- MT-1	REQ- F- MT-2	REQ- F- MT-3	REQ- F- MT-4	REQ- F- MT-5	REQ- F- MT-6	REQ- F- MT-7	REQ- F- MT-8	REQ- F- MT-9	REQ- F- MT-10
TC#010	X									
TC#011	X									
TC#012		X								
TC#013		X								
TC#014			X							
TC#015			X							
TC#016				X						
TC#017				X						
TC#018					X					
TC#019					X					
TC#020						X				
TC#021							X			
TC#022							X			
TC#023								X		
TC#024								X		
TC#025									X	
TC#026									X	
TC#027										X

Table 23: Announcements Matrix

Features 3.3: Announcements	REQ-F-A-1	REQ-F-A-2	REQ-F-A-3
TC#026	X		
TC#027	X		
TC#028		X	
TC#031			X
TC#032			X

Table 24: Notifications Matrix

Features 3.4: Notifications	REQ-F- N-1	REQ-F- N-2	REQ-F- N-3	REQ-F- N-4	REQ-F- N-5	REQ-F- N-6	REQ-F- N-7
TC#033	X						
TC#034	X						
TC#035		X					
TC#036		X					
TC#037			X				
TC#038			X				
TC#039				X			
TC#040				X			
TC#041					X		
TC#042					X		
TC#043						X	
TC#044						X	
TC#045							X
TC#046							X

Table 25: Profile Matrix

Features 3.5: Profile	REQ-F-P-1	REQ-F-P-1
TC#047	X	
TC#048		X

Table 26: UI Matrix

Features 4.1: UI	REQ-EI-UI-1	REQ-EI-UI-2
TC#049	X	
TC#050		X

Table 27: Software Quality Assurance Matrix

Features 5.1: Software Quality Assurance	REQ-NF-SQA-1	REQ-NF-SQA-2	REQ-NF-SQA-3	REQ-NF-SQA-4
TC#051	X			
TC#052		X		
TC#053			X	
TC#054				X

Table 28: Security Requirements Matrix

Features 5.2: Security Requirements	REQ-NF-SR-1	REQ-NF-SR-2	REQ-NF-SR-3
TC#055	X		
TC#056	X		
TC#057		X	
TC#058			X

10 Other Requirements

There are no additional requirements at this time.

Appendix: Issues List

There are currently no issues that have not been addressed.