



## **Requirements Specification Document**

### ***BreadDev Bakery Scheduling System*** **For Group 8**

**InTouch Consulting (Group 1)**

---

**Andrew Polanyi, Ansh Shukla, Connor Schultz, Isaac Donaldson, Landon Marshall,  
Nicole Peverley, Possum Nuada, Ross Alexandra**

---

**Mar. 12, 2019**

## Table of Contents

<b>1.0 Introduction</b>	7
<b>1.1 Purpose</b>	7
<b>1.2 Project Scope</b>	7
<b>1.3 Glossary of Terms</b>	8
<b>1.4 References</b>	9
<b>1.5 Overview</b>	9
<b>2.0 Overall Description</b>	9
<b>2.1 Product Perspective</b>	9
<b>2.2 Product Features</b>	10
<b>2.3 User Classes and Characteristics</b>	10
<b>2.3.1 Staff User</b>	10
<b>2.3.2 Management User</b>	10
<b>2.4 Operating Environment</b>	11
<b>2.4.1. Hardware</b>	11
<b>2.4.2 Software</b>	11
<b>2.5 Design and Implementation Constraints</b>	11
<b>2.5.1 Hardware Limitations</b>	11
<b>2.5.2 Technologies and Tools</b>	11
<b>2.5.3 Security Considerations</b>	11
<b>2.6 Assumptions and Dependencies</b>	11
<b>3.0 System Features</b>	12
<b>3.1 Management Tools</b>	12
<b>3.1.1 Description and Priority</b>	12
<b>3.1.2 Functional Requirement</b>	12
<b>3.2 Calendar</b>	12
<b>3.2.1 Description and Priority</b>	12
<b>3.2.2 Functional Requirements</b>	13
<b>3.3 Profile</b>	13
<b>3.3.1 Description and Priority</b>	13
<b>3.3.2 Functional Requirements</b>	13
<b>3.4 Announcements</b>	13
<b>3.4.1 Description and Priority</b>	13

<b>3.4.2 Functional Requirements .....</b>	13
<b>3.5 Notifications .....</b>	14
<b>3.5.1 Description and Priority .....</b>	14
<b>3.5.2 Functional Requirements .....</b>	14
<b>4.0 External Interface Requirements.....</b>	14
<b>4.1 User Interfaces .....</b>	14
<b>5.1 Security Requirements.....</b>	15
<b>5.2 Software Quality Attributes.....</b>	15
<b>6.0 ER Diagram .....</b>	16
<b>6.1 Data Dictionary .....</b>	17
<b>7.0 Data Flow Diagrams.....</b>	22
<b>8.0 Use Cases.....</b>	26
<b>8.0.1 Use Case Model .....</b>	26
<b>8.1.0 UC-1: Create Account.....</b>	27
<b>8.1.1 UC-1: Create Account Sequence Diagram .....</b>	28
<b>8.1.2 UC-1: Create Account Mock Ups.....</b>	29
<b>8.2.0 UC-2: Delete Account .....</b>	31
<b>8.2.1 UC-2: Delete Account Sequence Diagram .....</b>	32
<b>8.2.2 UC-2: Delete Account Mock Up .....</b>	33
<b>8.3.0 UC-3: Export Summary .....</b>	35
<b>8.3.1 UC-3: Export Summary Sequence Diagram .....</b>	36
<b>8.3.2 UC-3: Export Summary Mock Ups .....</b>	37
<b>8.4.0 UC-4: Approve/Decline Shift Cover Request Response .....</b>	39
<b>8.4.1 UC-4: Approve/Decline Shift Cover Request Response Sequence Diagrams .....</b>	40
<b>8.4.2 UC-4: Approve/Decline Shift Cover Request Response Mock Ups .....</b>	41
<b>8.5.0 UC-5: Add Shift .....</b>	43
<b>8.5.1 UC-5: Add Shift Sequence Diagram .....</b>	44
<b>8.5.2 UC-5: Add Shift Sequence Mock Ups .....</b>	45
<b>8.6.0 UC-6: Delete Shift .....</b>	47
<b>8.6.1 UC-6: Delete Shift Sequence Diagram .....</b>	48
<b>8.6.2 UC-6: Delete Shift Mock Ups .....</b>	49
<b>8.7.0 UC-7: Create Announcement .....</b>	51
<b>8.7.1 UC-7: Create Announcement Sequence Diagram .....</b>	52

<b>8.7.2 UC-7: Create Announcement Mock Ups .....</b>	53
<b>8.8.0 UC-8: View Calendar.....</b>	54
<b>8.8.1 UC-8: View Calendar Sequence Diagram.....</b>	55
<b>8.8.2 UC-8: View Calendar Mock Ups.....</b>	56
<b>8.9.0 UC-9: Create Shift Cover Request .....</b>	57
<b>8.9.1 UC-9: Create Shift Cover Request Sequence Diagram .....</b>	58
<b>8.9.2 UC-9: Create Shift Cover Request Mock Ups .....</b>	59
<b>8.10.0 UC-10: Respond to Shift Cover Request .....</b>	61
<b>8.10.1 UC-10: Respond to Shift Cover Request Sequence Diagram .....</b>	62
<b>8.10.2 UC-10: Respond to Shift Cover Request Mock Ups .....</b>	63
<b>8.11.0 UC-11: View Announcement .....</b>	64
<b>8.11.1 UC-11: View Announcement Sequence Diagram .....</b>	65
<b>8.11.2 UC-11: View Announcement Mock Ups .....</b>	66
<b>8.12.0 UC-12: Edit Profile.....</b>	66
<b>8.12.1 UC-12: Edit Profile Sequence Diagram .....</b>	67
<b>8.12.2 UC-12: Edit Profile Mock Ups.....</b>	68
<b>8.13.0 UC-13: View Profile .....</b>	69
<b>8.13.1 UC-13: View Profile Sequence Diagram .....</b>	70
<b>8.13.2 UC-13: View Profile Mock Ups .....</b>	71
<b>8.14.0 UC-14: Opt-out of Shift Cover Request Notifications .....</b>	72
<b>8.14.1 UC-14: Opt-out of Shift Cover Request Notifications Sequence Diagram</b>	73
<b>8.14.2 UC-14: Opt-out of Shift Cover Request Notifications Mock Ups .....</b>	74
<b>8.15.0 UC-15: View Notifications .....</b>	74
<b>8.15.1 UC-14: View Notifications Sequence Diagram .....</b>	75
<b>8.15.2 UC-15: View Notifications Mock Ups .....</b>	76
<b>8.16.0 UC-16: Forgot Password .....</b>	78
<b>8.16.1 UC-16: Forgot Password Sequence Diagram .....</b>	79
<b>8.16.2 UC-16: Forgot Password Mock Ups .....</b>	80
<b>8.17.0 UC-17: Change Password .....</b>	82
<b>8.17.1 UC-17: Change Password Sequence Diagram .....</b>	83
<b>8.17.2 UC-17: Change Password Mock Ups .....</b>	84
<b>9.0 Other Requirements .....</b>	85
<b>Appendix: Issues List.....</b>	85

## List of Figures

Figure 1: ER Diagram for BreadDev Bakery Scheduling System .....	16
Figure 2: DFD Level 0(Context Diagram) for BreadDev Bakery Scheduling System ...	23
Figure 3: DFD Level 1 for BreadDev Bakery Scheduling System .....	24
Figure 4: DFD Level 2 for BreadDev Bakery Scheduling System .....	25
Figure 5: Use Case Model .....	26
Figure 6: Create Account Sequence Diagram .....	28
Figure 7: Login Mock Up .....	29
Figure 8: Create Account Mock Up .....	29
Figure 9: Create Account Input Box Mock Up .....	30
Figure 10: Create Account Example Mock Up .....	30
Figure 11: Delete Account Sequence Diagram .....	32
Figure 12: Delete Account Mock Up .....	33
Figure 13: Delete Account List Mock Up .....	33
Figure 14: Delete Account Confirmation Mock Up .....	34
Figure 15: Export Summary Sequence Diagram .....	36
Figure 16: Export Summary Mock Up .....	37
Figure 17: Export Summary Input Box Mock Up .....	37
Figure 18: Export Summary Box Mock Up .....	38
Figure 19: Approve/Decline Shift Cover Request Response Sequence Diagram .....	40
Figure 20: Shift Cover Request Response Mock Up .....	41
Figure 21: Shift Cover Request Approve/Decline Mock Up .....	41
Figure 22: Shift Cover Request Approval Confirmation Mock Up .....	42
Figure 23: Add Shift Sequence Diagram .....	44
Figure 24: Add Shift Mock Up .....	44
Figure 25: Add Shift Input Box Mock Up .....	45
Figure 26: Add Shift Example Input Mock Up .....	46
Figure 27: Overtime Warning Mock Up .....	45
Figure 28: Delete Shift Sequence Diagram .....	47
Figure 29: Delete Shift Mock Up .....	48
Figure 30: Delete Shift List Mock Up .....	48
Figure 31: Delete Shift Confirmation Mock Up .....	49
Figure 32: Create Announcement Sequence Diagram .....	51
Figure 33: Create Announcement Mock Up .....	52
Figure 34: Create Announcement Blank Mock Up .....	52
Figure 35: Create Announcement Input Example Mock Up .....	53
Figure 36: View Calendar Sequence Diagram .....	54
Figure 37: Management User View Calendar Mock Up .....	55
Figure 38: Staff User View Calendar Mock Up .....	55
Figure 39: Create Shift Cover Request Sequence Diagram .....	56
Figure 40: Create Shift Cover Request Mock Up .....	58
Figure 41: Shift Cover Request Input Mock Up .....	58
Figure 42: Create Shift Cover Request Example Mock Up .....	59
Figure 43: Respond to Shift Cover Request Sequence Diagram .....	61
Figure 44: Respond to Shift Cover Request Mock Up .....	62

Figure 45: Shift Request List for Response Mock Up .....	62
Figure 46: Shift Cover Request Response Confirmation Mock Up .....	63
Figure 47: View Announcement Sequence Diagram .....	64
Figure 48: View Announcement Mock Up .....	65
Figure 49: Edit Profile Sequence Diagram .....	66
Figure 50: Profile View Mock Up .....	67
Figure 51: Edit Profile Mock Up .....	67
Figure 52: Changed Profile Mock Up .....	68
Figure 53: View Profile Sequence Diagram .....	69
Figure 54: View Profile Mock Up .....	70
Figure 55: View Another User's Profile Mock Up .....	70
Figure 56: Opt-out of Shift Cover Request Notifications Sequence Diagram .....	72
Figure 57: Opt-out of Shift Cover Request Notifications Mock Ups .....	73
Figure 58: View Notifications Sequence Diagram .....	74
Figure 59: Notification Badge Mock Up .....	75
Figure 60: View Notification Mock Up .....	76
Figure 61: View Specific Notification Mock Up .....	76
Figure 62: Forgot Password Sequence Diagram .....	78
Figure 63: Forgot Password from Login Mock Up .....	79
Figure 64: Forgot Password Input Box Mock Up .....	79
Figure 65: Forgot Password Example Mock Up .....	80
Figure 66: Forgot Password Waiting Mock Up .....	80
Figure 67: Change Password Sequence Diagram .....	82
Figure 68: Change Password from Profile Mock Up .....	83
Figure 69: Change Password Input Mock Up .....	83

## List of Tables

Table 1 Data Dictionary for ER Diagram .....	17
Table 2: Use Case 1 Create Account .....	27
Table 3 Use Case 3 Export Summary .....	35
Table 4: Use Case 4 Approve/Decline Shift Cover Request Response .....	39
Table 5: Use Case 5 Add Shift .....	43
Table 6: Use Case 6 Delete Shift .....	47
Table 7: Use Case 7 Create Announcement .....	51
Table 8: Use Case 8 View Calendar .....	54
Table 9: Use Case 9 Create Shift Cover Request .....	57
Table 10: Use Case 10 Respond to Shift Cover Request .....	61
Table 11: Use Case 11 View Announcement .....	64
Table 12: Use Case 12 View Announcement .....	66
Table 13: Use Case 13 View Profile .....	69
Table 14: Use Case 14 Opt-out of Shift Cover Request Notifications .....	72
Table 15: Use Case 15 View Notifications .....	74
Table 16: Use Case 16 Forgot Password .....	78
Table 17: Use Case 17 Change Password .....	82

## 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

## 1.0 Introduction

### 1.1 Purpose

The purpose of this project is to develop the BreadDev Bakery Scheduling System to be used by everyone working at BreadDev's bakery. In this document, InTouch outlines a BreadDev Baker Scheduling System that increases the efficiency of BreadDev's management staff by reducing the time they spend on scheduling. The required information for developing the BreadDev Bakery Scheduling System can be found in the following document, Requirements Specification Document (RSD 0.9).

### 1.2 Project Scope

The scope of this project covers the process of developing a software system which benefits BreadDev and meets the objectives from their RFP [1]. The system must have a calendar scheduling system which is accessible to all users. A management user can use the system to add and delete shifts, view shifts, create and respond to shift cover requests, approve and decline shift cover requests, view and edit their profile, view other user's profiles and create and view announcements. A staff user can use the system to view shifts, create and respond to shift cover requests, view and edit their

profile as well as view other user's profiles, and view announcements. Additionally, a user is notified when their own specific shift is changed, a shift cover request they are involved with is approved or declined, or an announcement is created. BreadDev believes that a BreadDev Bakery Scheduling System can help achieve their goals of having clearer and quicker companywide communications [1].

### 1.3 Glossary of Terms

<b>User</b>	A general term used to specify either a management user or a staff user.
<b>DFD</b>	Data flow diagram.
<b>ER Diagram</b>	Entity Relationship diagram.
<b>Management Account</b>	The account used by a management user.
<b>Management User</b>	A user who is a manager at BreadDev.
<b>RD</b>	Requirements document.
<b>Respond to Shift Cover Request</b>	A user responds to another user's shift cover request, indicating that they are able to work the shift. A management user is notified when a user has responded to a shift cover request to approve or decline.
<b>RFP</b>	Request for proposal.
<b>RSD</b>	Requirements specification document.
<b>Sequence Diagrams</b>	Diagram displaying the order of operations occurring in a use case.
<b>Shift</b>	The period of time during which a staff member is scheduled to work.
<b>Shift Cover Request</b>	A user's request for someone else to cover a shift that the user is currently scheduled to work.
<b>Staff Account</b>	The account used by a staff user.

<b>Staff User</b>	A user who is regular staff member at BreadDev (including sales staff and bakery staff) excluding managers.
<b>Weekly Summary of Schedule</b>	A summary of the hours work 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](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_03063_01)

## 1.5 Overview

This document contains the project description, system features, the project's requirements, diagrams pertaining to the system including an ER diagram with a corresponding data dictionary for data attributes, DFD 0, DFD 1, DFD 2, a use case model, sequence diagrams for each use case, as well as prototype mockups for each use case scenario. The project description discusses the primary features, user groups, operating environment, assumptions, and constraints of the system. The project requirements are divided into functional requirements, and external interface requirements. The overall description section outlines the project and its features. The system features section examines management tools, calendar, profile, announcements, and notifications features; this section goes into detail about each one of these features and their respective functional requirements. The external interface requirements section analyzes the various interfaces that control the system. The non-functional requirements section focuses on security and software quality. The ER diagram explains the relationships between each entity in the system and the data stored in each entity. 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 of the possible inputs and outputs. The use case model describes the use cases available for each type of user. Sequence diagrams for each use case describe the order of events and how the user interacts with the system. The prototype mockups are a possible implementation of the requirements for each use case scenario defined.

# 2.0 Overall Description

## 2.1 Product Perspective

The BreadDev Bakery Scheduling System that will be developed is replacing an Excel weekly schedule and manual changes to shifts at the bakery. The implementation of the BreadDev Bakery Scheduling System will decrease time spent editing and arranging the

schedule. The time taken to resolve a conflicting shift or a last minute change should also be reduced. A user will be able to monitor their own schedule from within and outside the office on multiple platforms. A management user will additionally be able to manage the schedule from within and outside the office on multiple platforms.

## **2.2 Product Features**

Each user has either a management user account or a staff user account. A management user account has the ability to edit the schedule and has final acceptance on changes proposed by a user, including shift cover request responses. Changes to the schedule are automatically updated in real time. A staff user account is primarily used to view the schedule, however a staff user is also able to create and respond to shift cover requests and view announcements. No proprietary or specialized hardware is needed for this system, and the system will be developed such that improvements will be simple to add after initial implementation. The system's user interface will be developed such that it is intuitive for a non-technical person to easily understand and use within one hour of initial introduction.

## **2.3 User Classes and Characteristics**

### **2.3.1 Staff User**

The majority of system users will have a staff user account. A staff user is able to choose between viewing the entire week's schedule of selected staff and management users' shifts or switch to a personal schedule of only their own shifts. A staff user is able to view another user's profile. Should a staff user need to request a shift change, they are able to select one of their shifts and create a shift cover request. A staff user may have one of 'baker' or 'sales' for their position. A staff user is not able to export the weekly summary of the schedule, edit the schedule, or view responses to shift cover requests. A user may optionally add a phone number to their own user profile that can be viewed by all other users.

### **2.3.2 Management User**

A management user has all of the features of a staff user account, in addition to those listed in this section. Each management user has the ability to create and delete shifts and users, approve or decline shift cover request responses, and create announcements. Conflicts that may occur due to shift cover requests must be resolved manually by a management user for the corresponding shift position. 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 weekly summary of the schedule.

## **2.4 Operating Environment**

### **2.4.1. Hardware**

The BreadDev Bakery Scheduling System supports computers that were made as early 2008 and smartphones that were made as early as 2014. The current office computer uses Windows Vista, which must be supported. Any computers running versions of Windows as early as Windows Vista or MacOS as early as Sierra, and all devices capable of running these Windows or Mac operating systems 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 and Safari version 12.0.2 or later. Mobile devices, PC's and tablets are able to 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 older and less powerful 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 a minimum of 1GB of RAM, a minimum 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 not any financial information stored within the system however, account security is a priority for management user and staff user accounts. The schedule should not be changed by an account without permission.

## **2.6 Assumptions and Dependencies**

Computer skill: This project assumes that each user has 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 real-time updates to the schedule within 30 seconds.

## **3.0 System Features**

### **3.1 Management Tools**

#### **3.1.1 Description and Priority**

Management tools allow a management user to manage the aspects outlined in this section. This feature is of high priority because without it there is no means of adding users which would render the system non-accessible.

#### **3.1.2 Functional Requirement**

**REQ-F-MT-1:** A management user is able to add shifts

**REQ-F-MT-2:** A management user is able to delete shifts.

**REQ-F-MT-3:** A management user is alerted if trying to add a shift will result in overtime.

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

**REQ-F-MT-5:** A management user is able to decline a shift cover request response.

**REQ-F-MT-6:** A management user is able to add a user to the system.

**REQ-F-MT-7:** A management user is able to delete a user from the system.

**REQ-F-MT-8:** A management user is able to export a weekly summary of the schedule (see glossary.)

### **3.2 Calendar**

#### **3.2.1 Description and Priority**

The calendar feature allows a user to view scheduled shifts, create shift cover requests, and respond to shift cover requests. A management user is responsible for adding a new week's schedule. When a certain user's own shift has changed, the user is notified by the notifications feature. When a new shift cover request is created, each user that has not opted-out of shift cover request notifications is notified by the notifications feature. The calendar is a high priority feature because it is the basis of the entire scheduling system.

### **3.2.2 Functional Requirements**

**REQ-F-C-1:** The calendar displays the schedule as entered by a management user.

**REQ-F-C-2:** Each staff user has the option to view a selected user's shifts, or only their own shifts, and can switch between views.

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

**REQ-F-C-4:** A user is able to view any shift cover request.

**REQ-F-C-5:** A user is able to respond to a shift cover request created by another user.

**REQ-F-C-6:** The past year's schedule history is stored.

## **3.3 Profile**

### **3.3.1 Description and Priority**

The profile feature allows a user to modify the profile associated with their account. This is of low priority because the system could function normally without this feature.

### **3.3.2 Functional Requirements**

**REQ-F-P-1:** A user is able to optionally add a phone number to their profile.

**REQ-F-P-2:** A user is able to opt-out of notifications in their profile.

## **3.4 Announcements**

### **3.4.1 Description and Priority**

The announcements feature allows a user to view announcements which are posted by a management user. When a new announcement is created, a user is notified by the notifications feature. Announcements are of high priority because management users need a way of informing staff users.

### **3.4.2 Functional Requirements**

**REQ-F-A-1:** A management user is able to create announcements containing a message that is posted to an announcement list.

**REQ-F-A-2:** A user is able to view all announcements.

## **3.5 Notifications**

### **3.5.1 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 received by email as well as in the system. Opting-out of shift cover request notifications allows a user to not receive new shift cover request notifications, all other notifications are mandatory. Opting-out of shift cover request notifications is done from the profile feature. The notifications feature uses the opt-out information to conditionally send notifications to users who have not opted-out of new shift cover request notifications. Notifications are a high priority feature for communication between the users and the system.

### **3.5.2 Functional Requirements**

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

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

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

**REQ-F-N-4:** A user receives a notification when a new shift cover request is created for their position and they are not opted-out of notifications.

**REQ-F-N-5:** A user receives a notification when a new announcement is created.

**REQ-F-N-6:** A manager for the scheduled position receives a notification when a staff user responds to a shift cover request to approve or decline.

## **4.0 External Interface Requirements**

### **4.1 User Interfaces**

The system has two different user interfaces. One interface is to be used with a management account and has an interface for scheduling and exporting the weekly summary of the schedule; this unique interface is not to be accessible by a staff user. The other interface is used by each staff account and is a simple interface that allows the ability to look at the schedule and create and respond to a shift cover request. The management interface has the same functionality of the staff user interface, with the addition of the management scheduling interface.

## 5.0 Non-Functional Requirements

### 5.1 Security Requirements

Each user of the BreadDev Bakery Scheduling System needs to enter personal information, such as their email and name, into the new scheduling system for user account creation. Each user must be aware of the Personal Information Privacy Act [2] and their consent is required. See act for more details.

**REQ-NF-SR-1:** While BreadDev is operating within British Columbia, it must comply under the Personal Information Privacy Act.

**REQ-NF-SR-2:** Each user must log in using a unique email and password to gain access to the scheduling system.

**REQ-NF-SR-3:** Only a management account is granted access to management tools.

### 5.2 Software Quality Attributes

**REQ-NF-SQA-1:** The BreadDev Bakery Scheduling System displays updates as soon as scheduling changes are made.

**REQ-NF-SQA-2:** System maintenance is done during the hours that BreadDev is closed.

**REQ-NF-SQA-3:** The BreadDev Bakery Scheduling System contains accurate information such as the shift time, date, position and corresponding user.

**REQ-NF-SQA-4:** The BreadDev Bakery Scheduling System is accessible on any user device with a supported browser and an internet connection.

## 6.0 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.

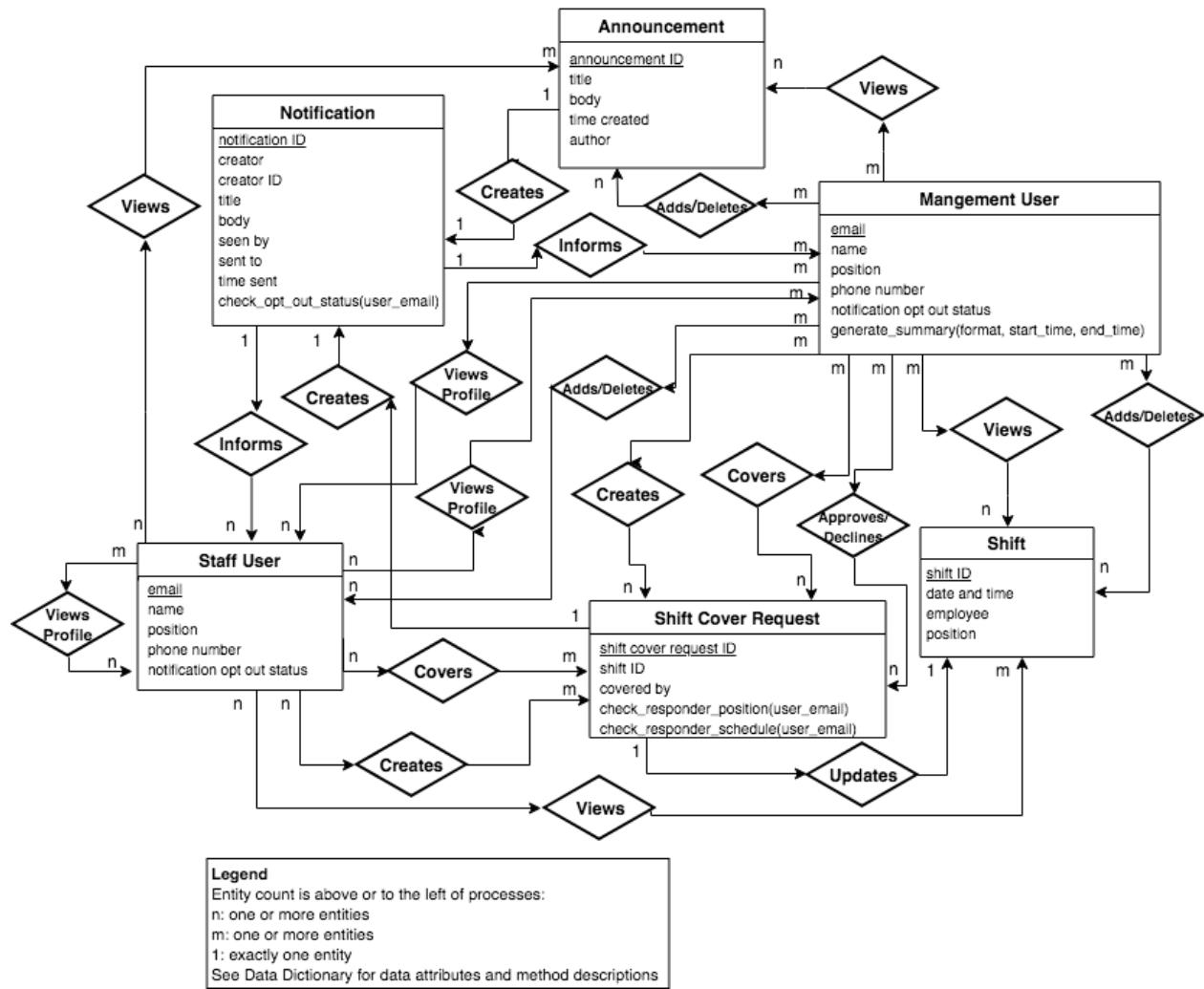


Figure 1: ER Diagram for BreadDev Bakery Scheduling System

## 6.1 Data Dictionary

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

Table 1 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	User is manager of this position 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 or not a management user has opted out of email notifications.  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 all employees in the week it 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 or not a staff user has opted out of email notifications.  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 of 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 covered the shift cover request.

Shift Cover Request	<code>Check_responder_position( User_email )</code>	Return type: boolean	<p>Checks whether the position of user offering to cover the shift matches the position of the shift.</p> <p>If true, positions match.</p> <p>If false, positions don't match.</p> <p>User_email parameter is the email address of the user being checked.</p>
Shift Cover Request	<code>Check_responder_schedule( User_email )</code>	Return type: boolean	<p>Checks whether the responder to the shift cover request is scheduled for a conflicting shift.</p> <p>If true, there is no time conflict.</p> <p>If false, there is a time conflict.</p> <p>User_email parameter is the email address of the user being checked.</p>
Announcement	<u>Announcement ID</u>	Integer	ID to represent a specific announcement.
Announcement	Time Created	String	Date and time that the announcement was created.

Announcement	Author	String	Email of the user that created the announcement.
Announcement	Title	String	Title text of the announcement.
Announcement	Body	String	Body text of the announcement.
Notification	<u>Notification ID</u>	Integer	ID to represent a specific notification.
Notification	Title	String	Title text of the notification.
Notification	Body	String	Body text of the 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	Sent To	List of user emails	A list of the users that this notifications is sent to.

Notification	Seen By	List of user emails	A list of user emails corresponding to the users that have seen the message.
Notification	Time Sent	String	Date and time 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>

## 7.0 Data Flow Diagrams

# Data Flow Diagram Level 0

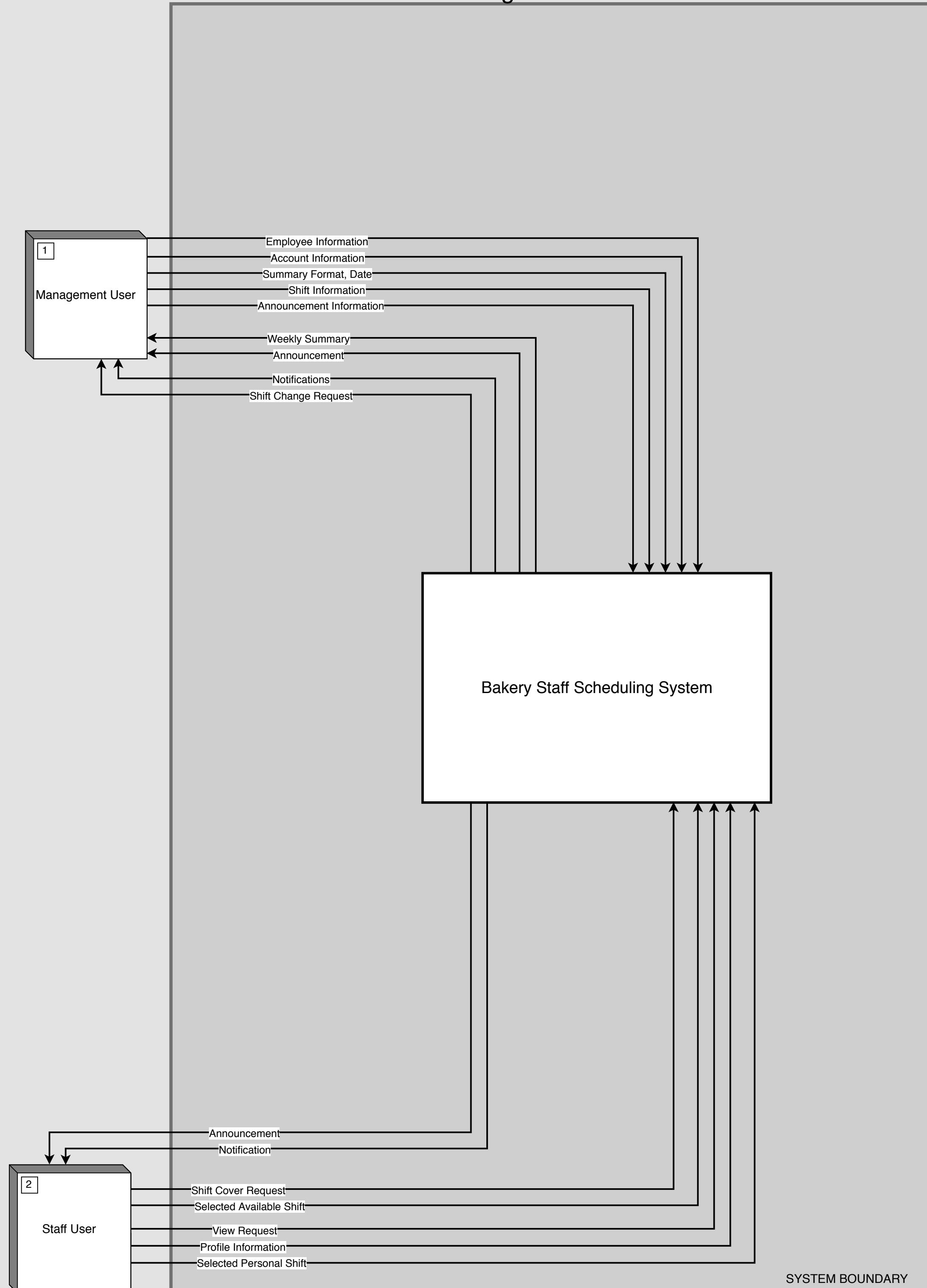


Figure 2: DFD Level 0 (Context Diagram) for BreadDev Bakery Scheduling System

# Data Flow Diagram Level 1

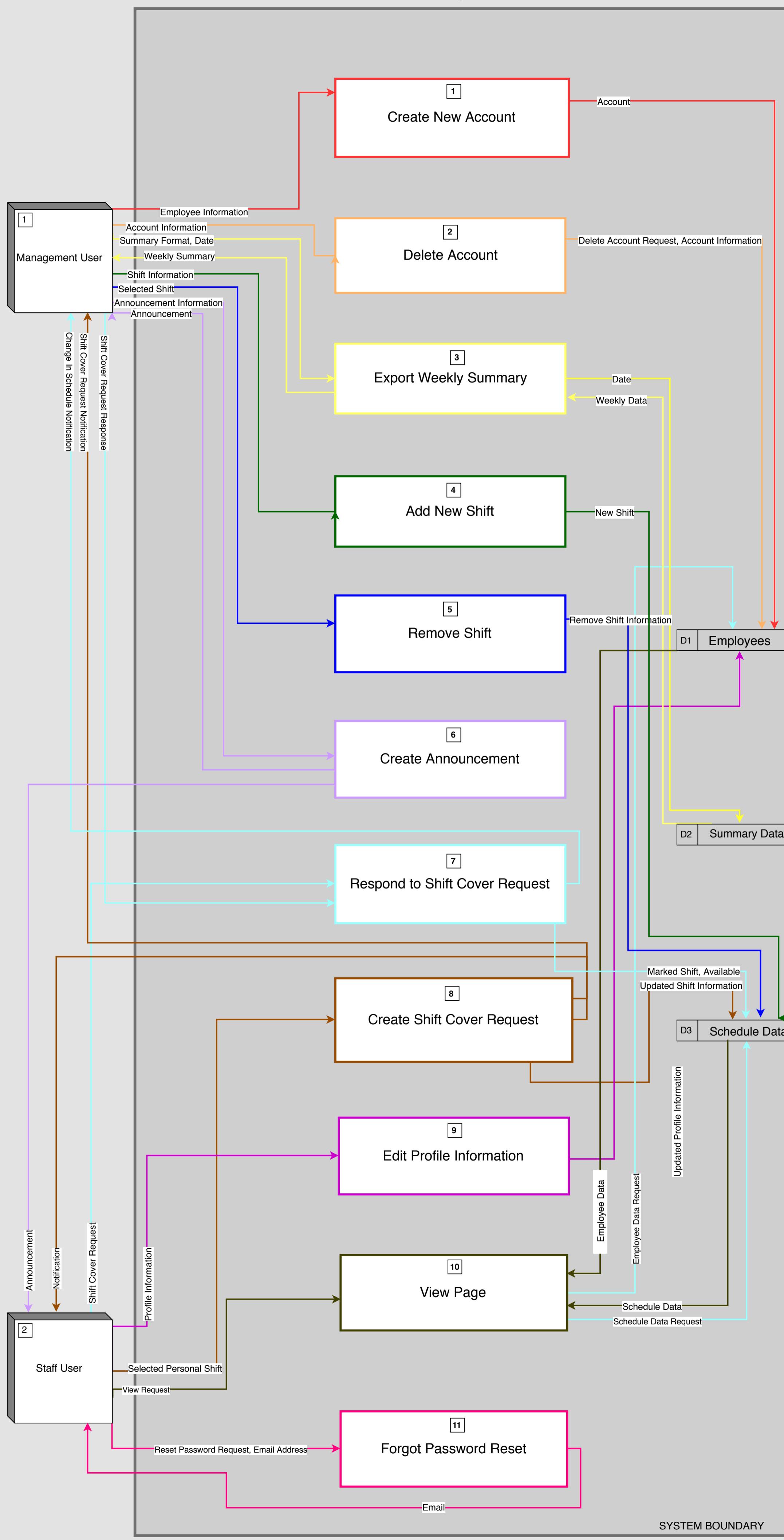


Figure 3: DFD Level 1 for BreadDev Bakery Scheduling System

SYSTEM BOUNDARY

# Data Flow Diagram Level 2

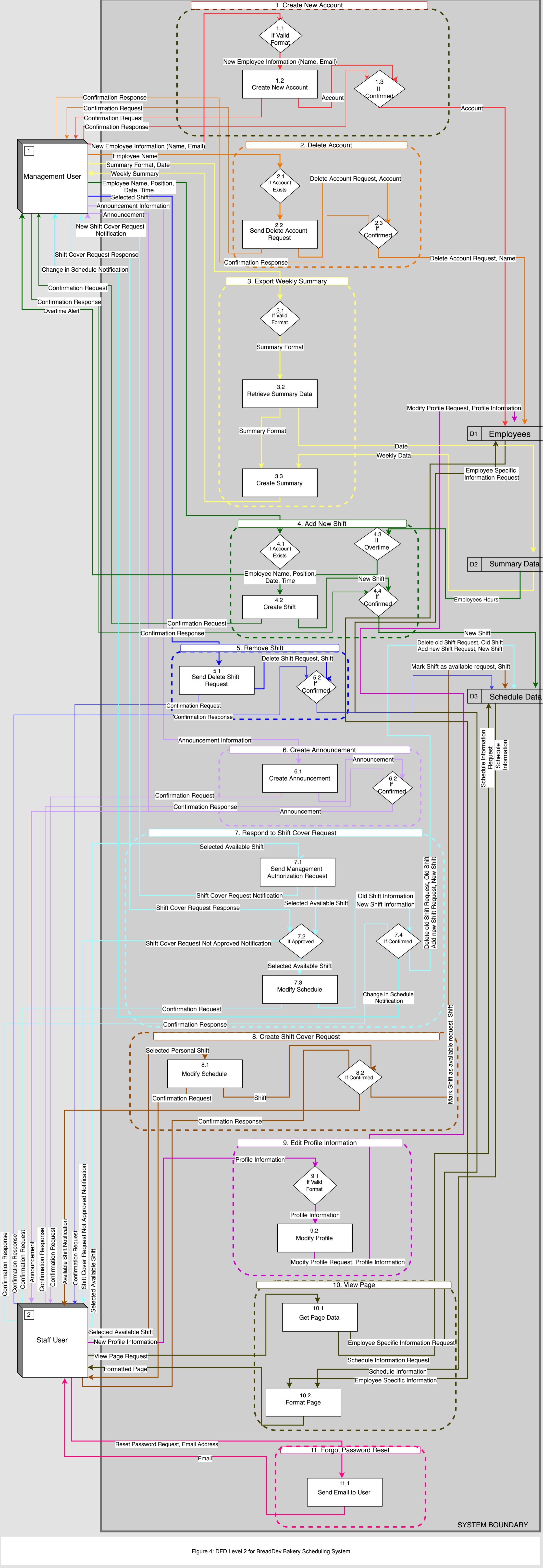


Figure 4: DFD Level 2 for BreadDev Bakery Scheduling System

# 8.0 Use Cases

## 8.0.1 Use Case Model

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

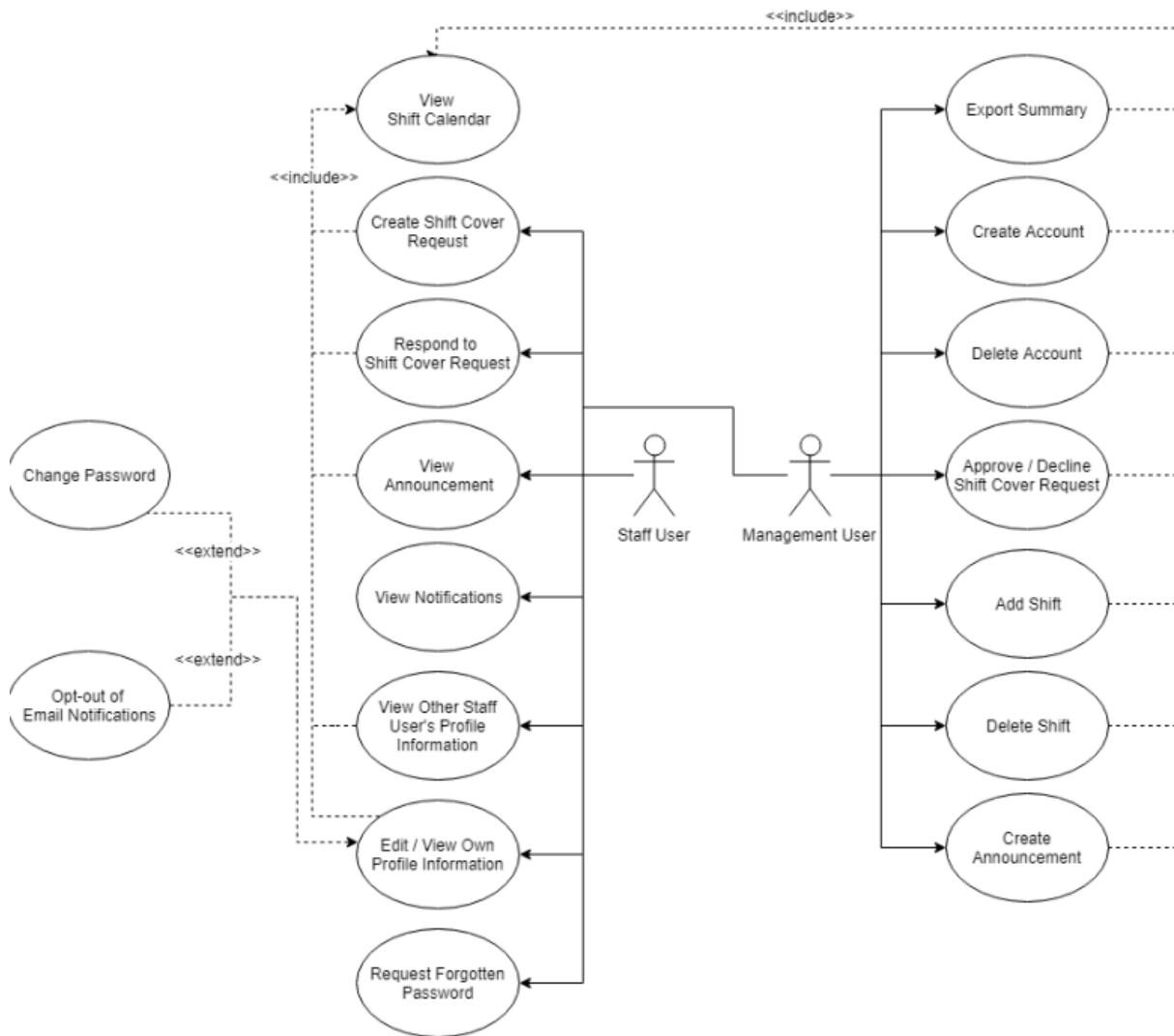


Figure 5: Use Case Model

### **8.1.0 UC-1: Create Account**

This use case scenario shows how a management user can create an 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 select to view accounts and selects to create a new account. A screen appears and prompts the management user to enter the new account's information. The management user inputs the corresponding information. Upon completion, the management user has the option to select to create the account or cancel. If the management user selects to create the account will be created and the name and account details will appear in the accounts list. If, however, the management user selects to cancel, it will not create the new account.

Table 2: Use Case 1 Create Account

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in User has email, position, and name for new account
<b>Steps</b>	User navigates to management tools User selects to create account User inputs email, position, and name for new account User confirms information to create account
<b>Success Conditions</b>	The account is created
<b>Alternate Paths</b>	4.a) User selects to cancel account creation

### 8.1.1 UC-1: Create Account Sequence Diagram

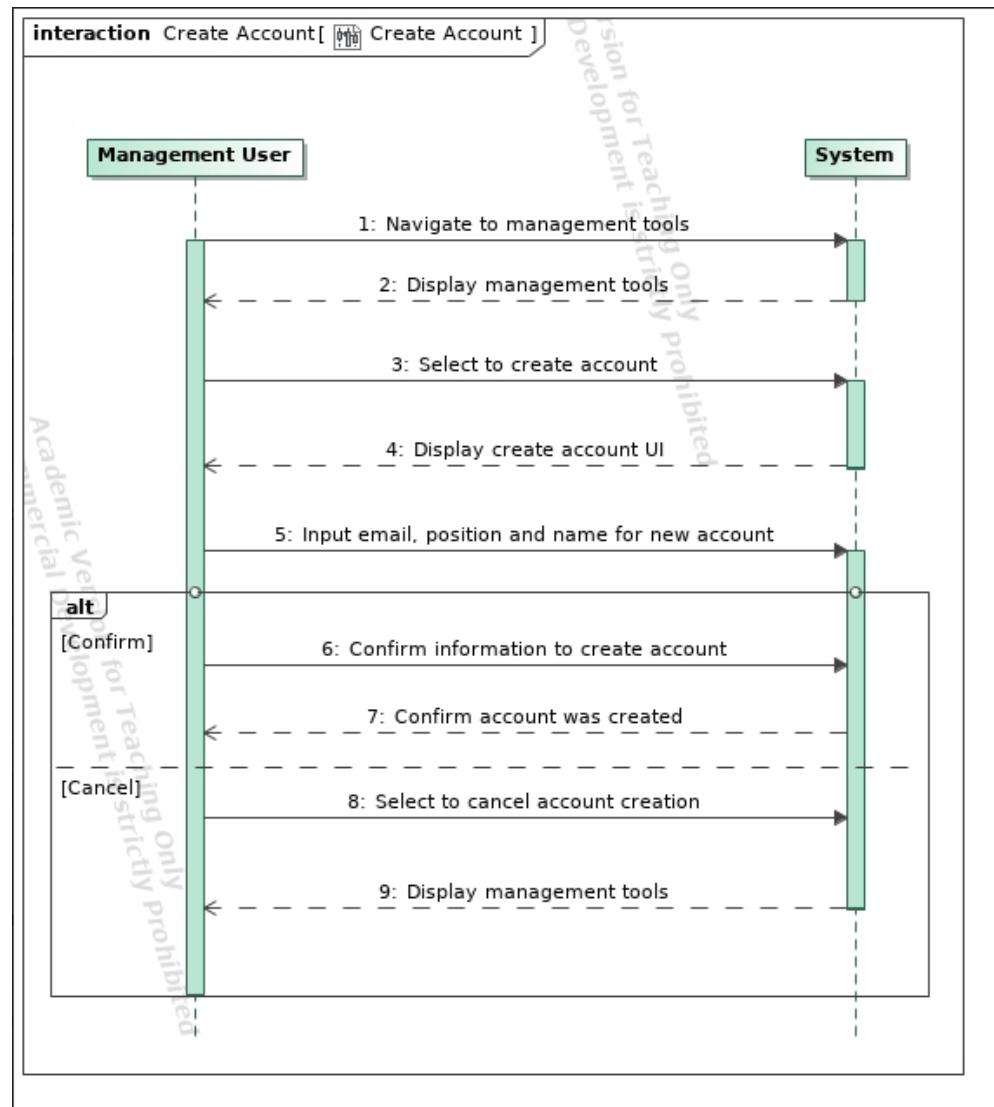
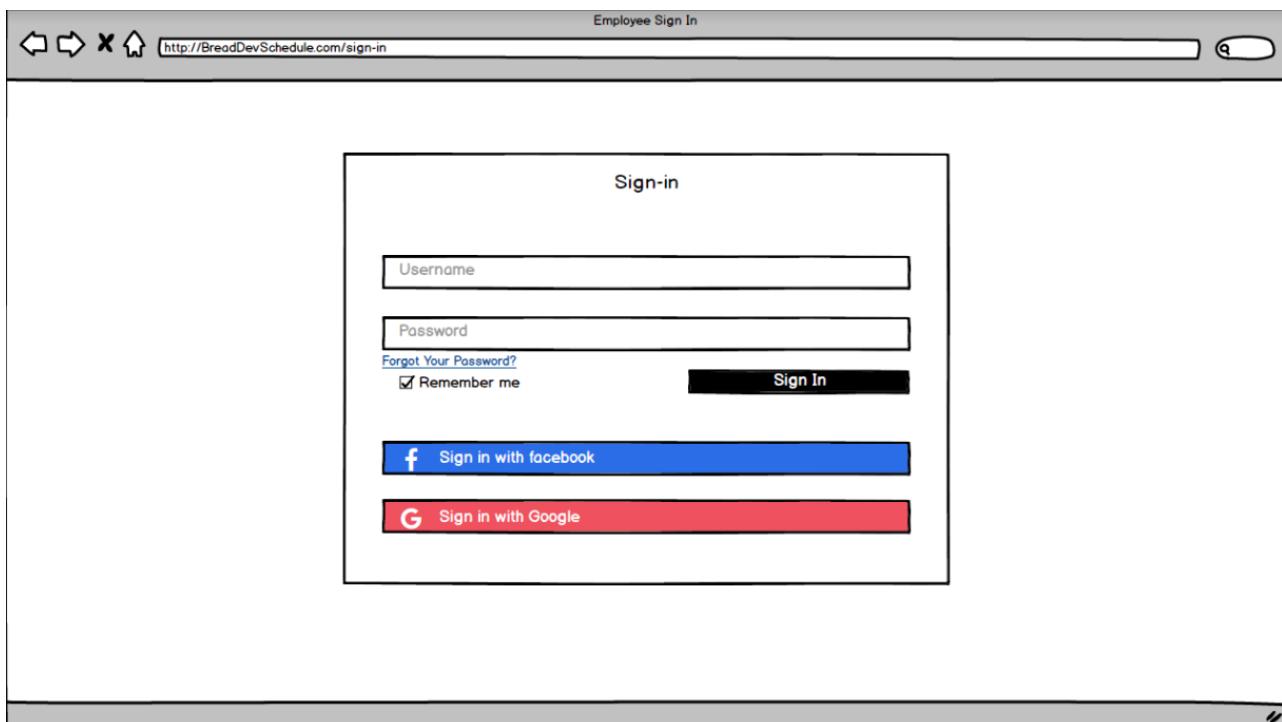


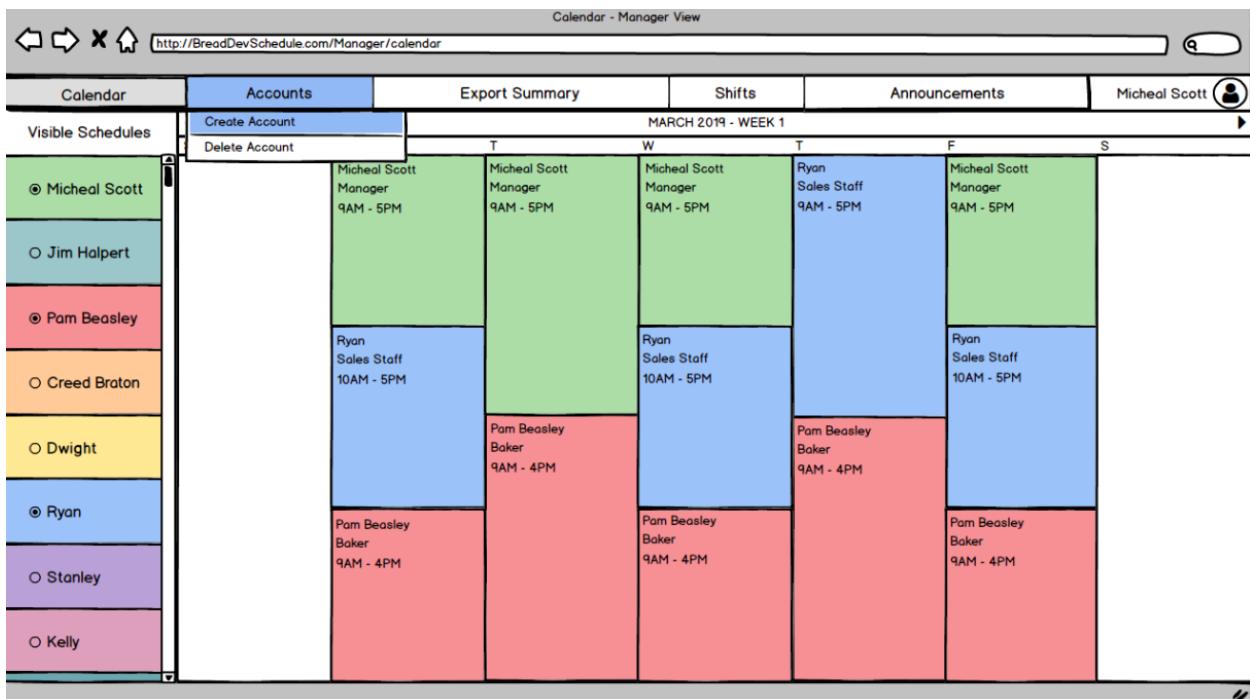
Figure 6: Create Account Sequence Diagram

## 8.1.2 UC-1: Create Account Mock Ups



The screenshot shows a web browser window titled "Employee Sign In" with the URL <http://BreadDevSchedule.com/sign-in>. The main content is a "Sign-in" form. It includes fields for "Username" and "Password", a "Forgot Your Password?" link, a "Remember me" checkbox, and a "Sign In" button. Below these are social login buttons for "Sign in with facebook" (blue) and "Sign in with Google" (red).

Figure 7: Login Mock Up



The screenshot shows a web browser window titled "Calendar - Manager View" with the URL <http://BreadDevSchedule.com/Manager/calendar>. The interface includes tabs for "Calendar", "Accounts", "Export Summary", "Shifts", "Announcements", and a user profile for "Micheal Scott". The "Accounts" tab is active, showing a grid for "MARCH 2019 - WEEK 1". On the left, a sidebar lists "Visible Schedules" for employees: Micheal Scott, Jim Halpert, Pam Beasley, Creed Bratton, Dwight, Ryan, Stanley, and Kelly. The calendar grid shows shifts assigned to these employees across the days of the week. Shift details include names like Micheal Scott, Manager, Ryan, Sales Staff, and Pam Beasley, along with their respective shift times (e.g., 9AM - 5PM, 10AM - 5PM).

Figure 8: Create Account Mock Up

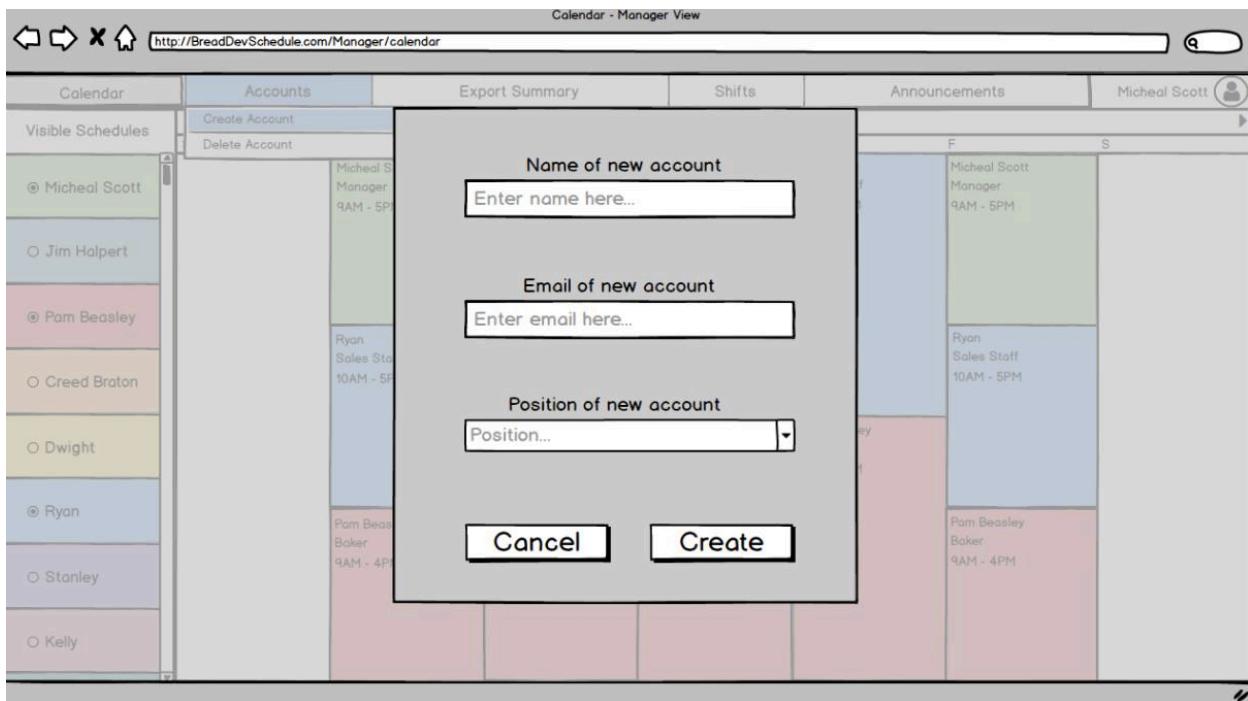


Figure 9: Create Account Input Box Mock Up

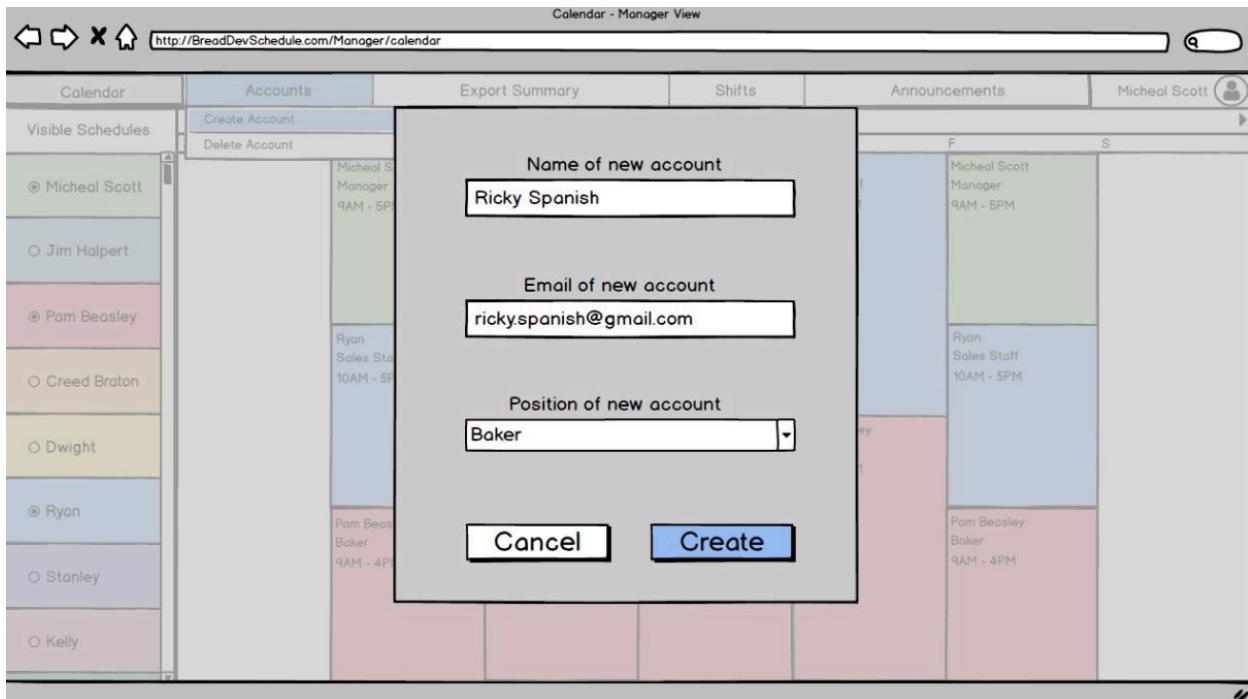


Figure 10: Create Account Example Mock Up

## 8.2.0 UC-2: Delete Account

This use case scenario shows how a management user can delete an account. The management user must be signed in to proceed. The management user selects to delete an account from a list of accounts with the name, position, and email for each account. The management user selects an account's information to continue. The management user has the option to select to delete the account or cancel. If the management user chooses to delete the account and an account has been selected, then the deleted account will be confirmed. If the management user selects to cancel the account will not be deleted.

Table 3: Use Case 2 Delete Account

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to management tools User selects to delete account User selects account(s) to delete User confirms to delete account(s)
<b>Success Conditions</b>	The account is deleted
<b>Alternate Paths</b>	4.a) User selects to cancel account deletion

### 8.2.1 UC-2: Delete Account Sequence Diagram

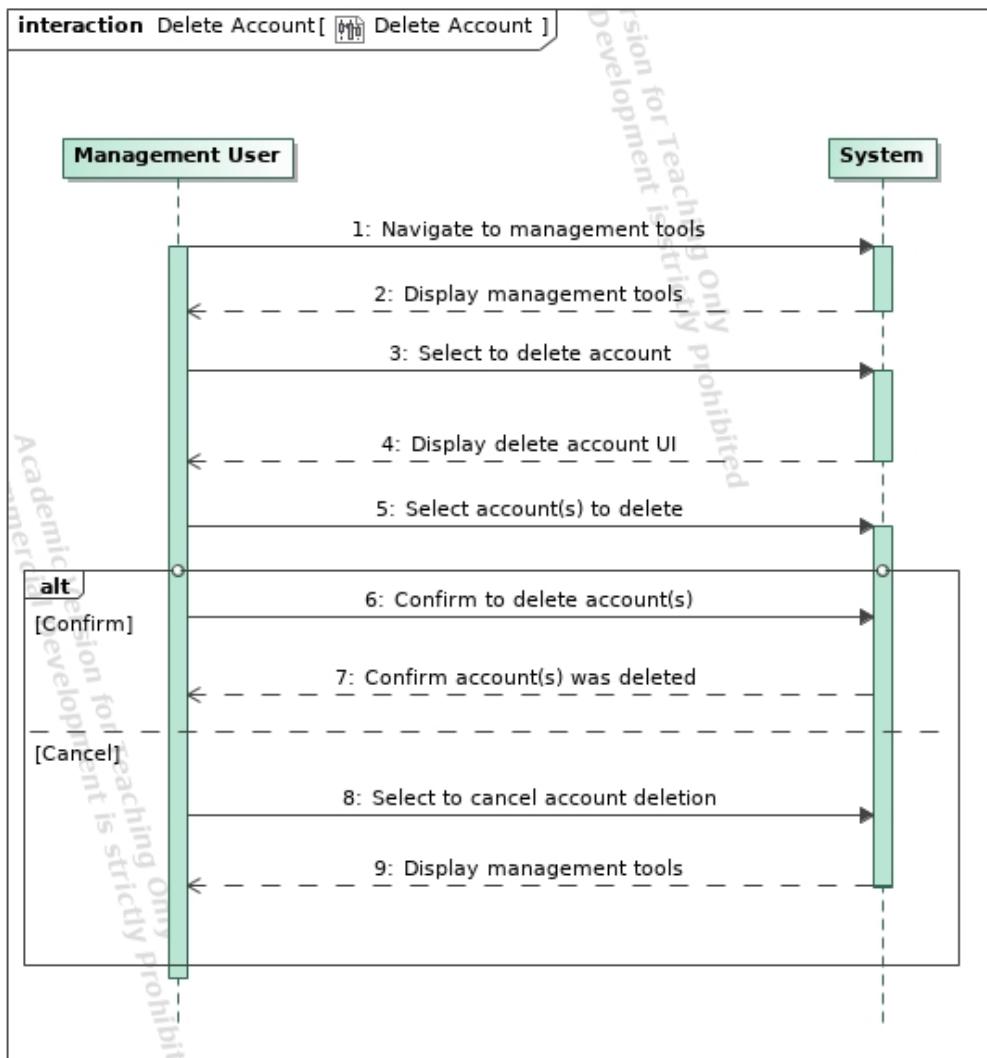


Figure 11: Delete Account Sequence Diagram

## 8.2.2 UC-2: Delete Account Mock Up

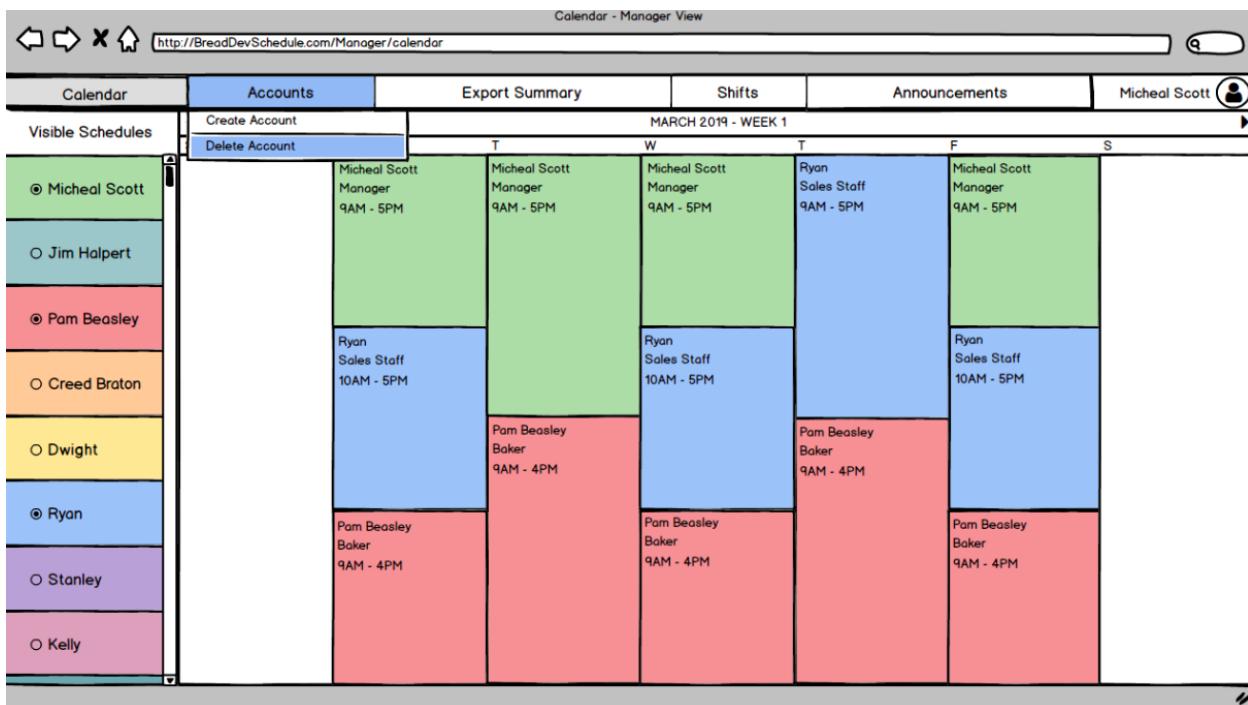


Figure 12: Delete Account Mock Up

Delete Account					
Calendar	Accounts	Export Summary	Shifts	Announcements	Micheal Scott
		MARCH 2019 - WEEK 1			
Visible Schedules	Create Account	T	W	T	F
○ Micheal Scott	Micheal Scott Manager 9AM - 5PM	Micheal Scott Manager 9AM - 5PM	Micheal Scott Manager 9AM - 5PM	Ryan Sales Staff 9AM - 5PM	Micheal Scott Manager 9AM - 5PM
○ Jim Halpert	Ryan Sales Staff 10AM - 5PM	Pam Beasley Baker 9AM - 4PM	Ryan Sales Staff 10AM - 5PM	Pam Beasley Baker 9AM - 4PM	Ryan Sales Staff 10AM - 5PM
○ Pam Beasley	Pam Beasley Baker 9AM - 4PM	Pam Beasley Baker 9AM - 4PM	Pam Beasley Baker 9AM - 4PM	Pam Beasley Baker 9AM - 4PM	Pam Beasley Baker 9AM - 4PM
○ Creed Bratton					
○ Dwight					
○ Ryan					
○ Stanley					
○ Kelly					

Figure 13: Delete Account List Mock Up

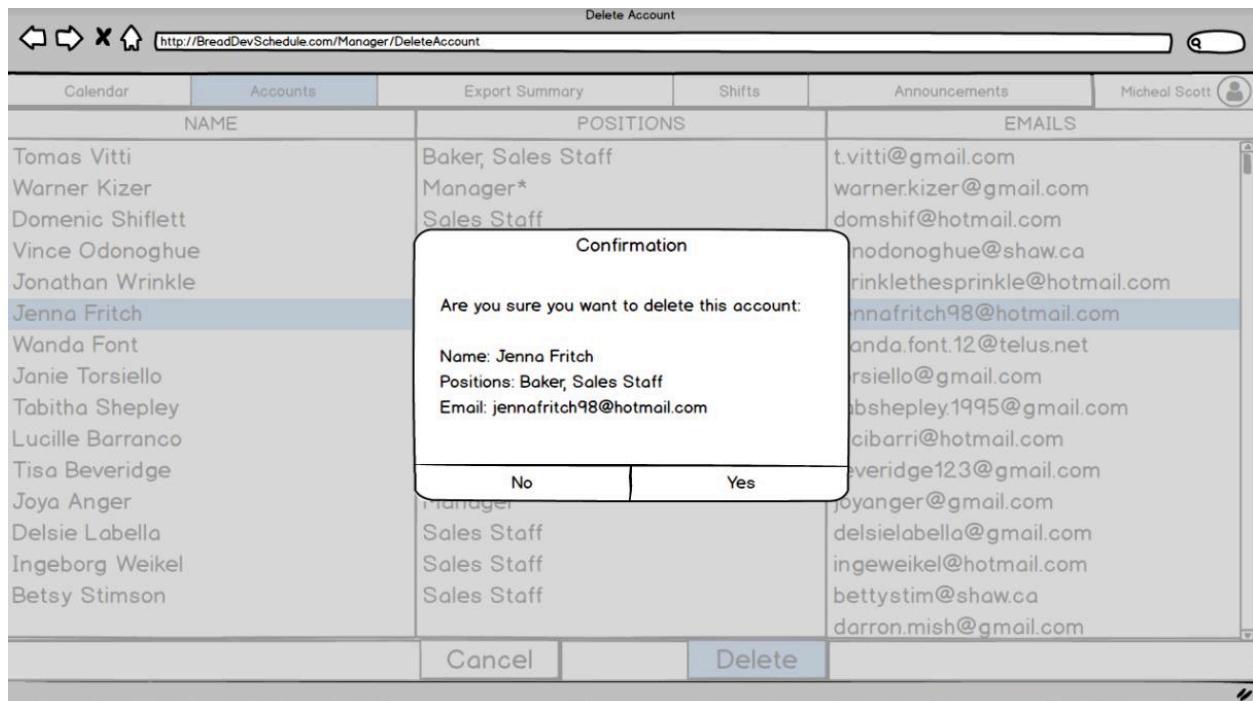


Figure 14: Delete Account Confirmation Mock Up

### **8.3.0 UC-3: Export Summary**

This use case scenario shows how a management user can export a summary. The management user must be signed in to proceed. The management user selects to export summary from the management tools. The management user has the option to choose which export format they want it to be saved as. The management user selects the desired format and then has the option to choose what week they would like to export, as well as the name the file should be saved as, and the path for where the file should be saved to. The management user selects each input box and enters the corresponding information. The management user has the option to export or cancel. If the management user selects to cancel the summary will not be exported. If the management user selects export and the information has been inputted correctly, then the summary will be downloaded in the selected format with the given name to the given location directory.

Table 3 Use Case 3 Export Summary

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to management tools User selects to export summary User selects export format User confirms to export summary
<b>Success Conditions</b>	The summary is exported
<b>Alternate Paths</b>	4.a) User selects to cancel exporting summary

### 8.3.1 UC-3: Export Summary Sequence Diagram

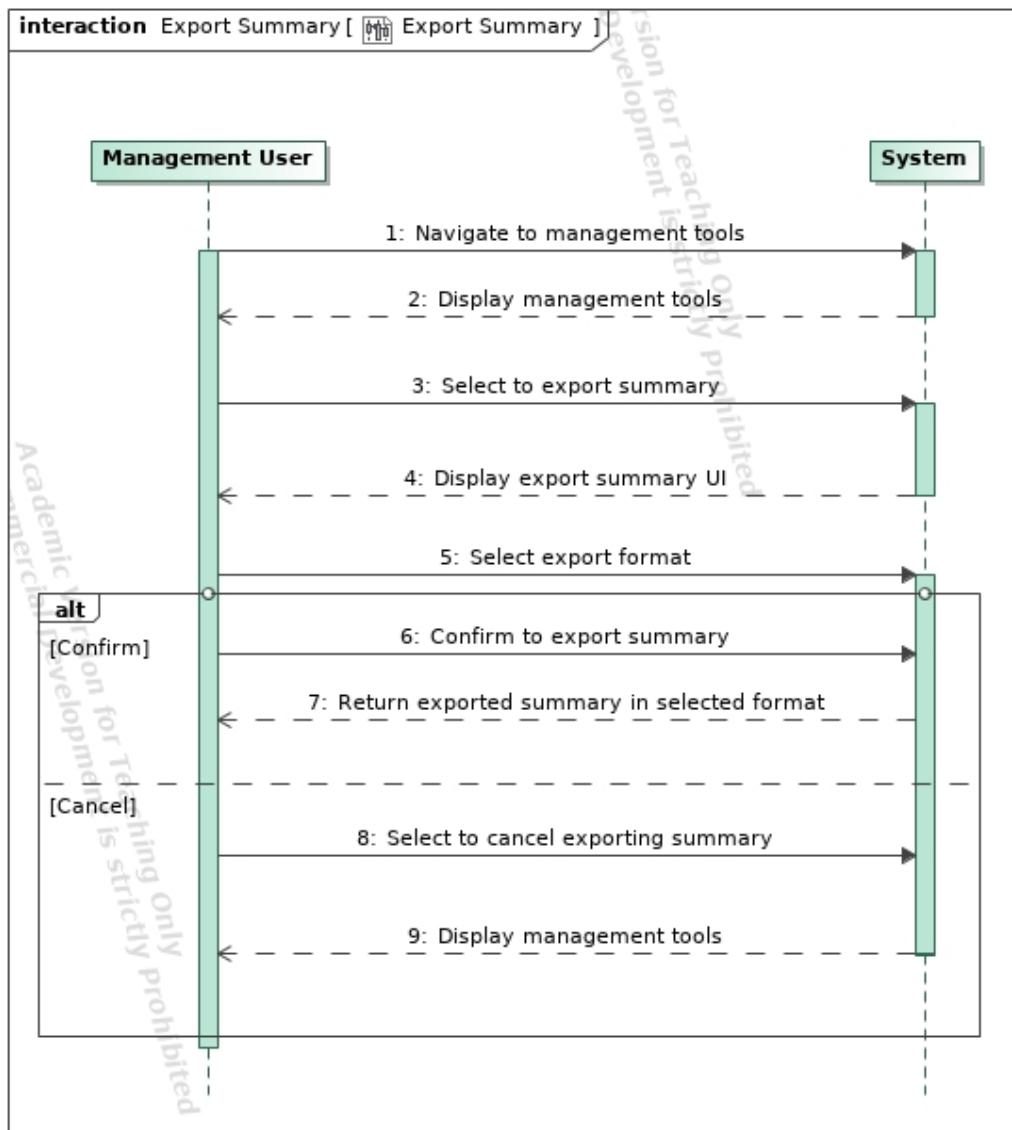


Figure 15: Export Summary Sequence Diagram

### 8.3.2 UC-3: Export Summary Mock Ups

Figure 16: Export Summary Mock Up

Figure 17: Export Summary Input Box Mock Up

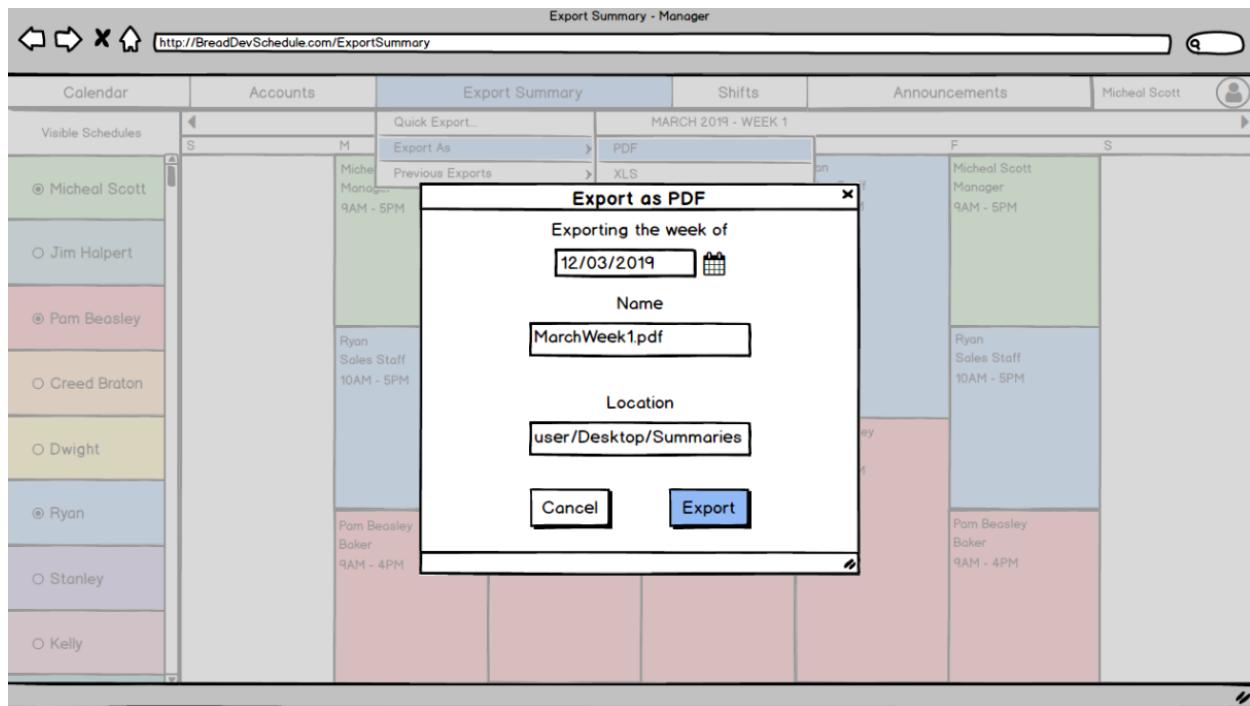


Figure 18: Export Summary Box Mock Up

#### **8.4.0 UC-4: Approve/Decline Shift Cover Request Response**

This use case scenario shows 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 so that the management user can view the response and can choose to approve or deny the request. The management user selects to view the shift cover requests. Each shift cover request will include the position of shift, the shift time, the request creator, the responder, and the pending decision which has an option to approve or decline. If the management user selects to decline, then there will be no changes to the schedule and the user who responded to the shift cover request will be notified that their response has been declined. If the management user selects to approve the shift cover responder will have the shift added to their schedule and will be notified, and the shift cover requester will have the shift deleted from their schedule and will be notified. Both the shift cover request and shift cover response will be deleted.

Table 4: Use Case 4 Approve/Decline Shift Cover Request Response

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in A shift cover request response has been created
<b>Steps</b>	User navigates to management tools User selects to view shift cover request responses User selects to approve/decline a shift cover request response
<b>Success Conditions</b>	If the shift cover request response was approved: The shift is assigned to the user who responded to the 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 The shift cover request response is deleted If the shift cover request was declined: The shift is still assigned to the user who created the shift cover request The user who responded to the shift cover request is notified that their shift cover request response was declined The shift cover request is not deleted The shift cover request response is deleted
<b>Alternate Paths</b>	3.a) User selects to decline a shift cover request response

### 8.4.1 UC-4: Approve/Decline Shift Cover Request Response Diagrams

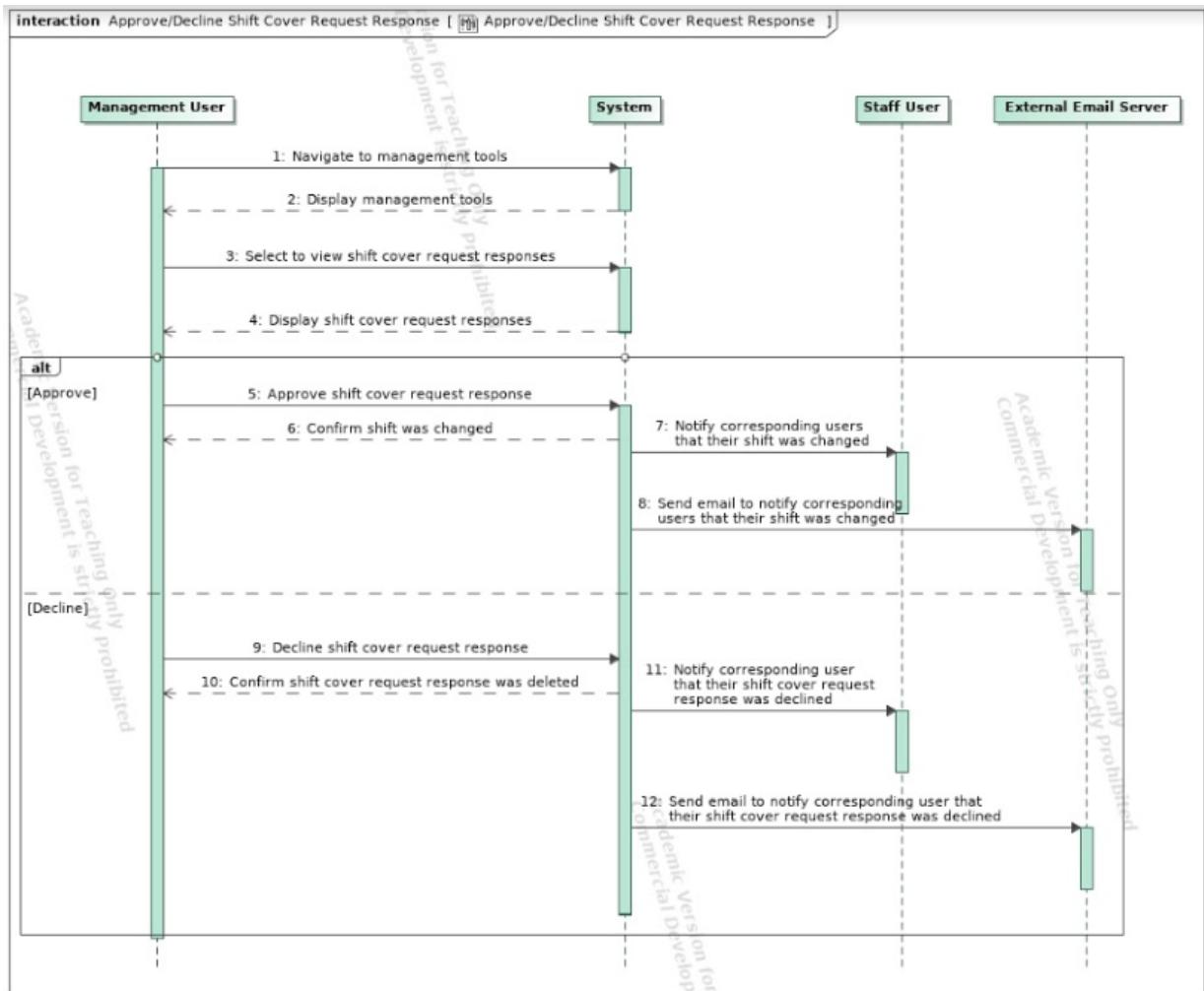


Figure 19: Approve/Decline Shift Cover Request Response Sequence Diagram

## 8.4.2 UC-4: Approve/Decline Shift Cover Request Response Mock Ups

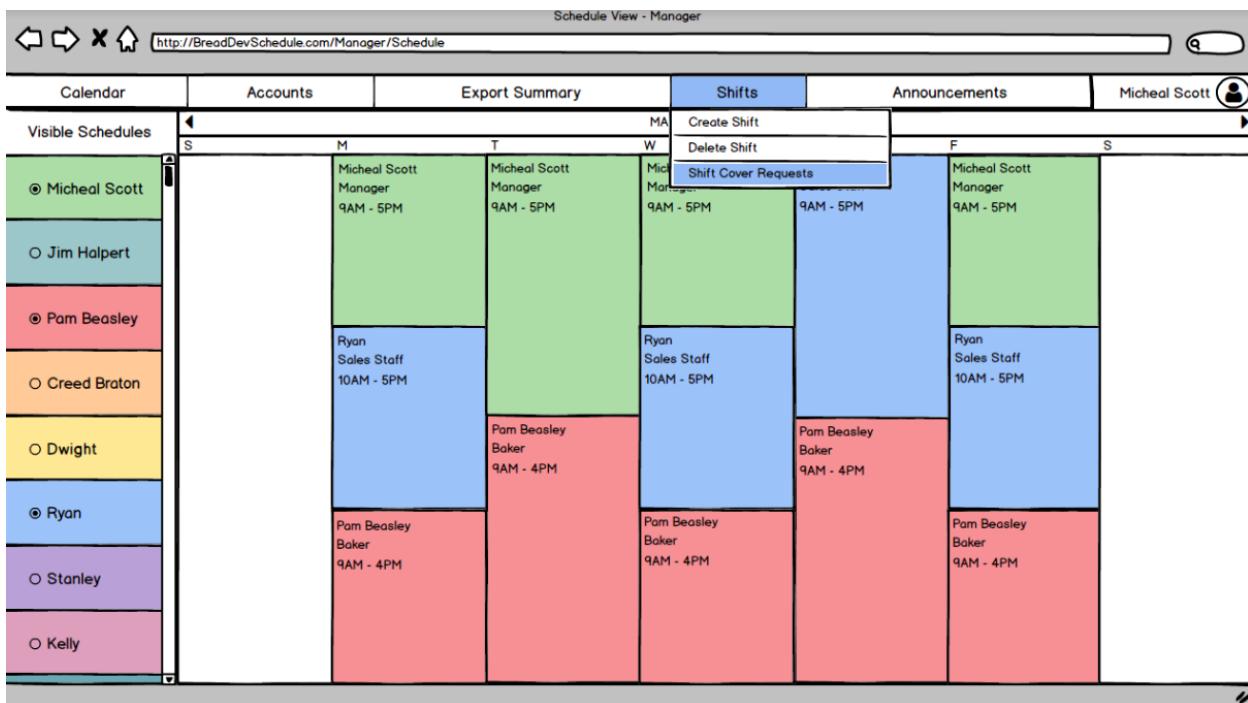


Figure 20: Shift Cover Request Response Mock Up

Shift Requests				
Calendar	Accounts	Export Summary	Shifts	Announcements
Position	Shift Time	Request Creator	Responder	Pending
Baker	Monday 4:30AM - 1:00PM	Tomas Vitti	Wanda Font	<button>Decline</button> <button>Approve</button>
Sales	Monday 9:30AM - 5:30PM	Betsy Stimson	N/A	N/A
Baker	Tuesday 4:30AM - 1:00PM	Jonathan Wrinkle	N/A	N/A
Baker	Wednesday 4:30AM - 1:00PM	Vince Odonoghue	Jonathan Wrinkle	<button>Decline</button> <button>Approve</button>
Sales	Thursday 9:00AM - 5:00PM	Delsie Labelia	Betsy Stimson	<button>Decline</button> <button>Approve</button>

Figure 21: Shift Cover Request Approve/Decline Mock Up

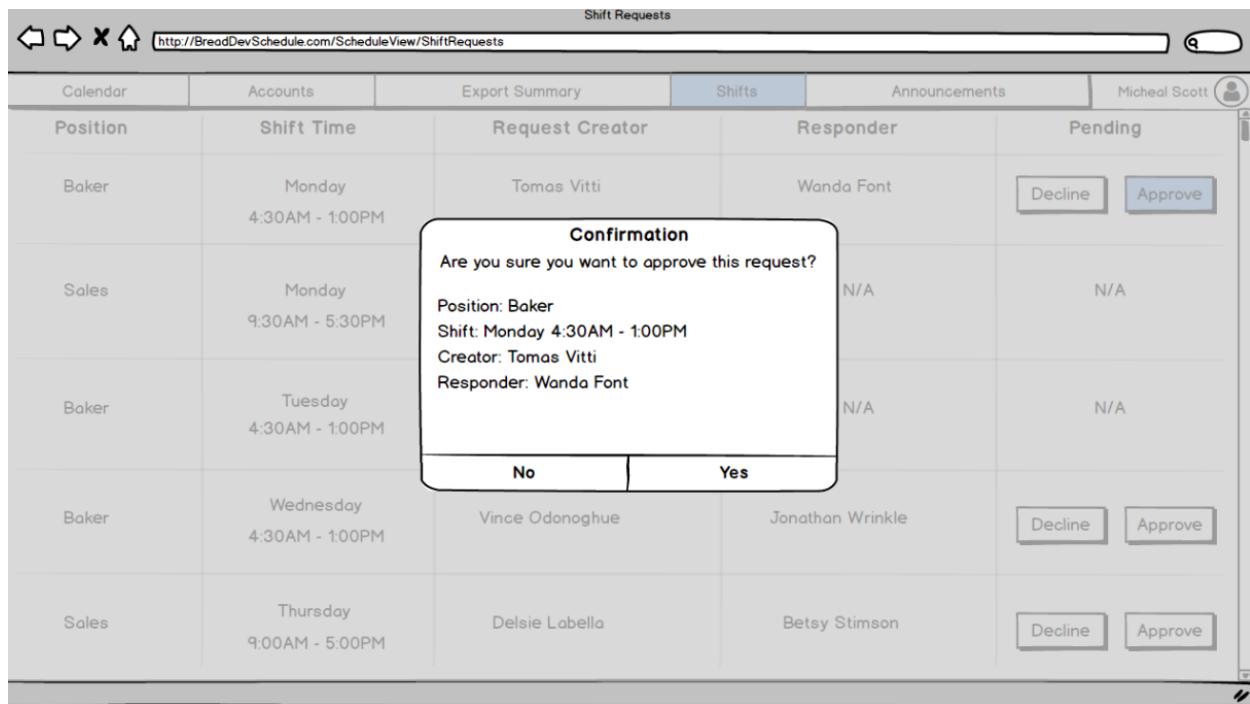


Figure 22: Shift Cover Request Approval Confirmation Mock Up

## 8.5.0 UC-5: Add Shift

This use case scenario shows how a management user can create a new shift. The management user must be signed in to proceed. The management user selects to view the schedule. The management user will select to create shift from the management tools. The management user selects the position, name of user, and the time of the shift. The management user has the option to select to create or select to cancel. If the management user selects to create and the user whose name was entered is not currently scheduled, then the new shift will be created. The management user also has the option to select cancel at any time which results in no new created shift.

Table 5: Use Case 5 Add Shift

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in User knows the shift date and time, user, and position to add User does not have a time conflict
<b>Steps</b>	User navigates to management tools User selects to add shift User inputs shift date and time, user, and position User confirms to add shift
<b>Success Conditions</b>	The shift is added
<b>Alternate Paths</b>	4. b) User selects to cancel adding shift

### 8.5.1 UC-5: Add Shift Sequence Diagram

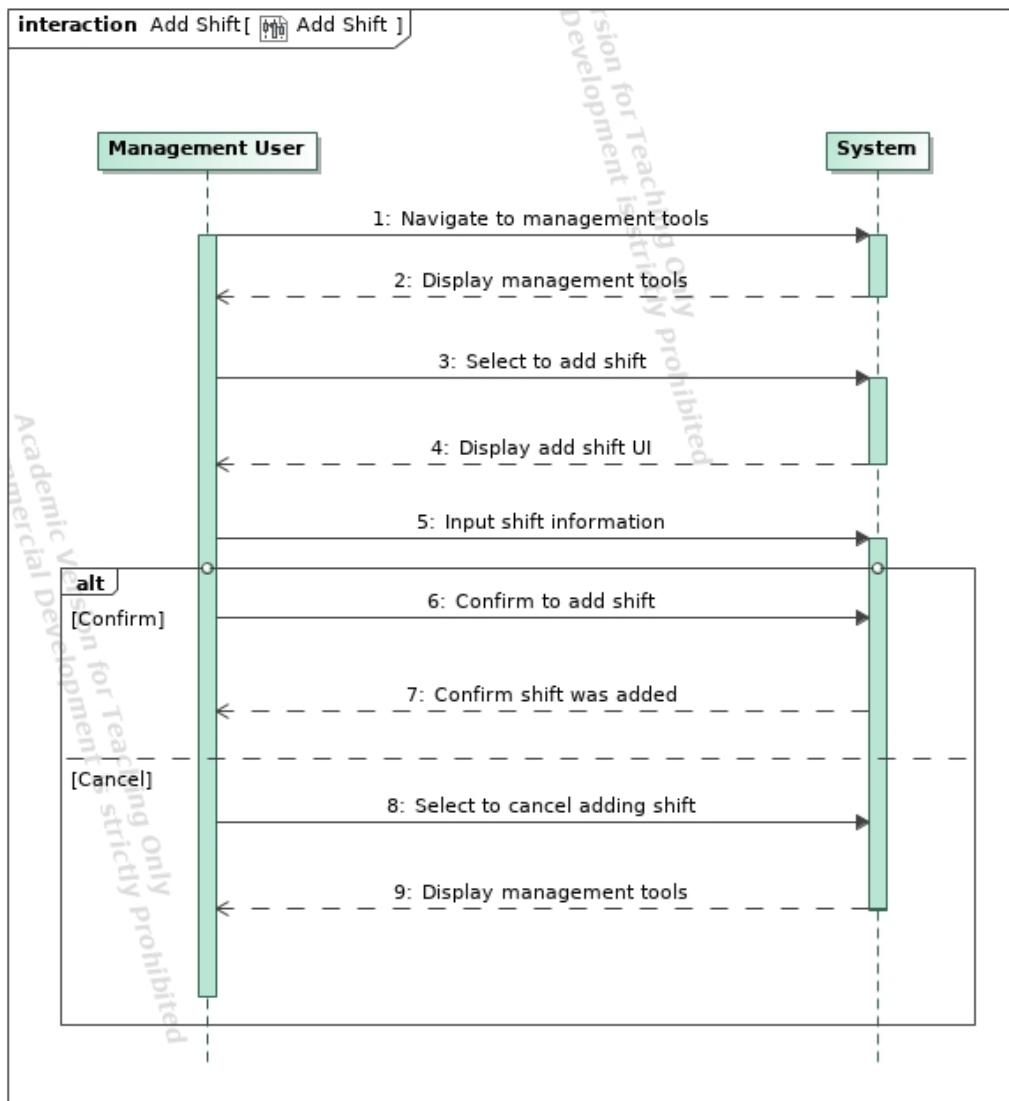


Figure 23: Add Shift Sequence Diagram

## 8.5.2 UC-5: Add Shift Sequence Mock Ups

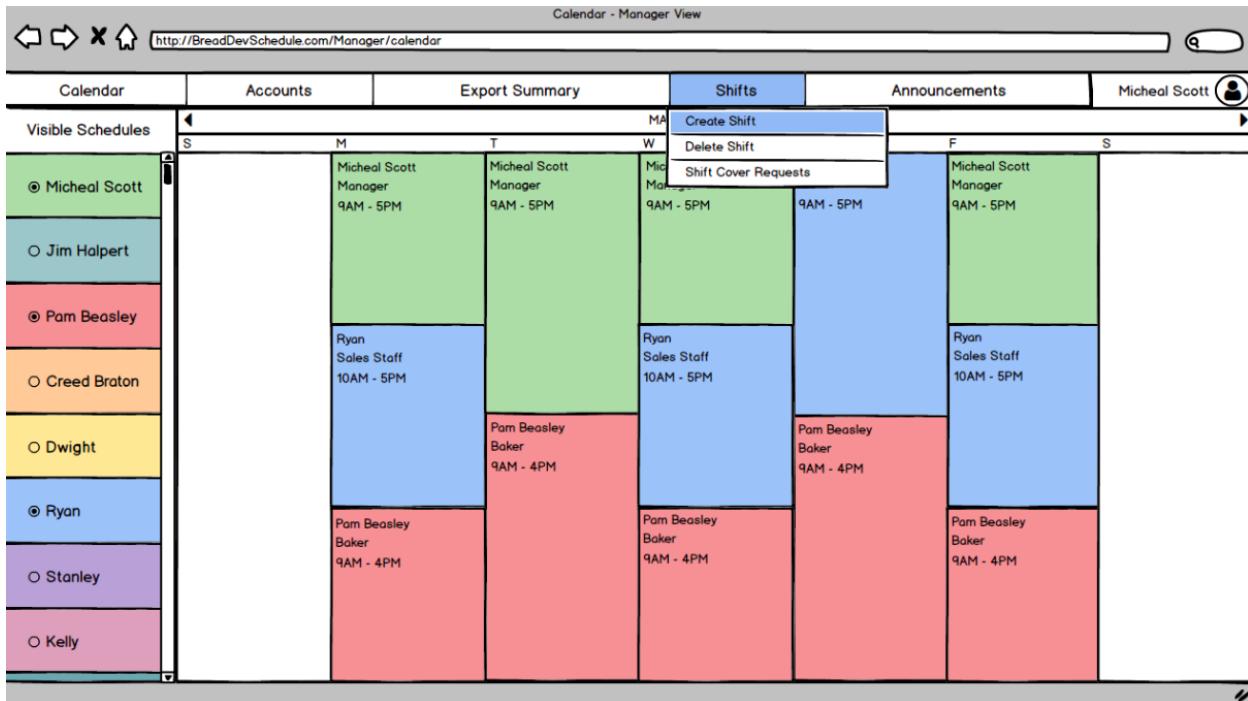


Figure 24: Add Shift Mock Up

The screenshot shows a 'New Shift' modal dialog overlaid on a weekly calendar. The modal contains fields for 'Position for Shift' (dropdown), 'Name of Employee Working' (text input with placeholder 'Enter employee name here...'), and 'Time of New Shift' (dropdowns for 'Day of the week...', 'Start time...', and 'End time...'). Below the modal are 'Cancel' and 'Create' buttons. The background calendar grid follows the same color-coding scheme as Figure 24.

Figure 25: Add Shift Input Box Mock Up

New Shift - Manager View

[http://BreadDevSchedule.com/Manager/new\\_shift](http://BreadDevSchedule.com/Manager/new_shift)

Accounts	Expo	New Shift	Announcements	Micheal Scott
Visible Schedules	S M F S	<b>Position for Shift</b> <input type="text" value="Baker"/>  <b>Name of Employee Working</b> <input type="text" value="Sandy Cheeks"/>  <b>Time of New Shift</b> <input type="text" value="Monday"/> <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 9AM - 5PM  Ryan Sales Staff 10AM - 5PM  Pam Beasley Baker 9AM - 4PM
④ Micheal Scott				
○ Jim Halpert				
④ Pam Beasley				
○ Creed Bratton				
○ Dwight				
④ Ryan				
○ Stanley				
○ Kelly				

Figure 26: Add Shift Example Input Mock Up

New Shift - Manager View

[http://BreadDevSchedule.com/Manager/new\\_shift](http://BreadDevSchedule.com/Manager/new_shift)

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

Figure 27: Overtime Warning Mock Up

## 8.6.0 UC-6: Delete Shift

This use case scenario shows how a management user can delete a new shift. The management user must be signed in to proceed. The management user selects to view the schedule. The management user selects to delete a shift from the shift list. If the management user selects to confirm then the shift is deleted, and the management user can choose to repeat the process to delete more shifts. If the management user selects to cancel, then the shift is not deleted and the management user can choose a different shift to delete or go back.

Table 6: Use Case 6 Delete Shift

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to calendar User selects a shift to delete User confirms to delete shift
<b>Success Conditions</b>	The shift is deleted
<b>Alternate Paths</b>	3. a) User selects to cancel deleting the shift

### 8.6.1 UC-6: Delete Shift Sequence Diagram

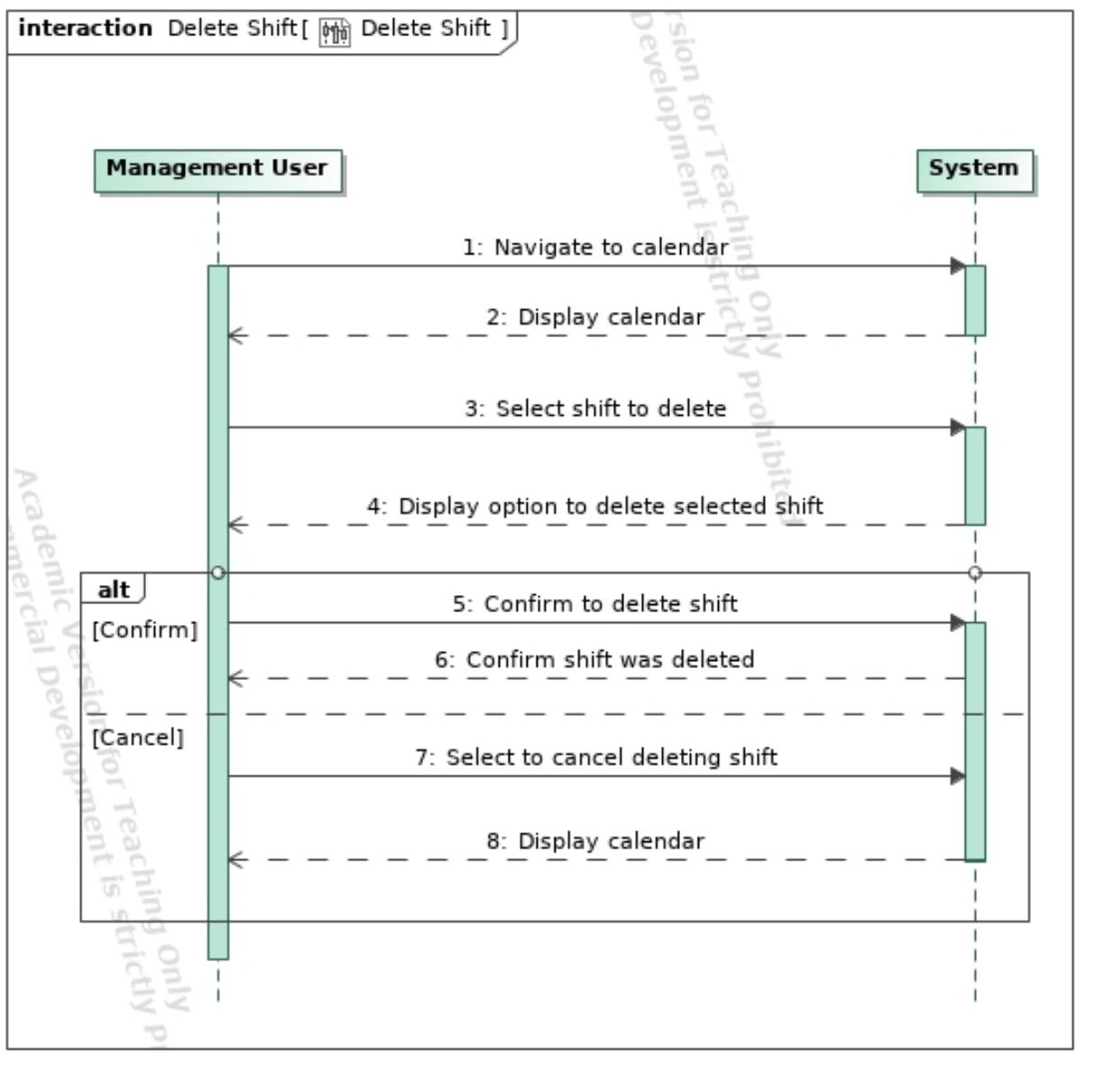


Figure 28: Delete Shift Sequence Diagram

## 8.6.2 UC-6: Delete Shift Mock Ups

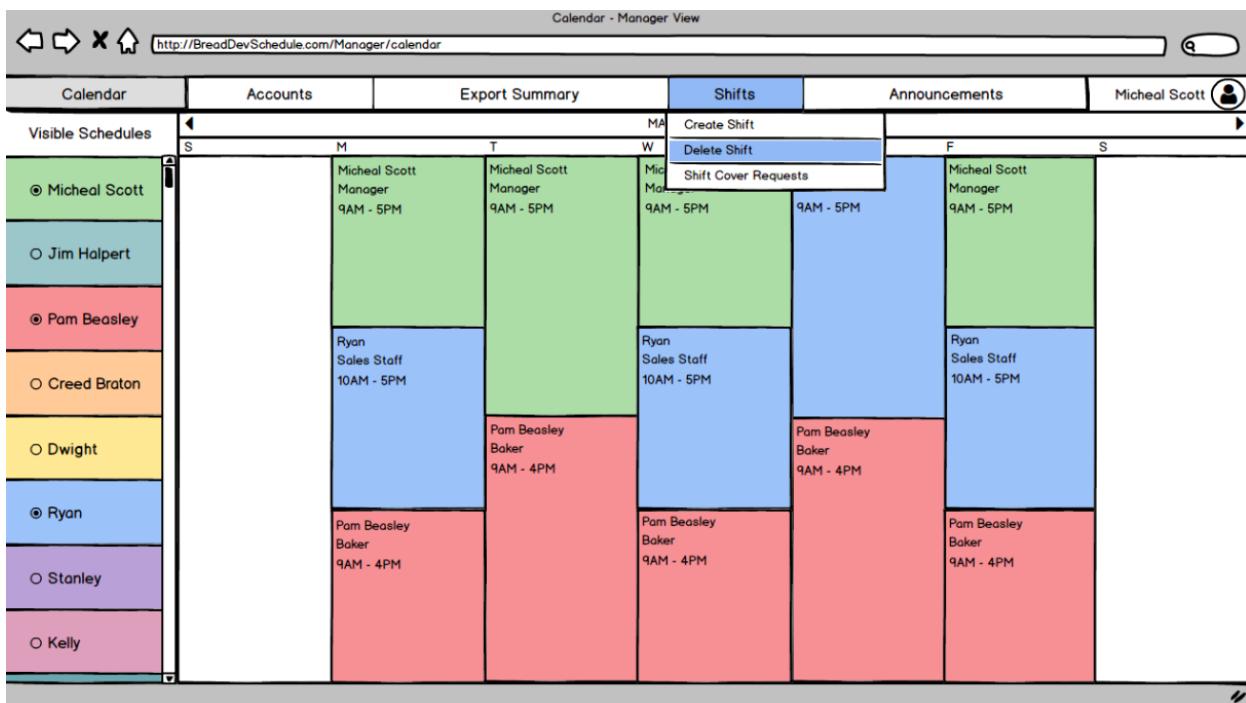


Figure 29: Delete Shift Mock Up

Shift Requests				
Calendar	Accounts	Export Summary	Shifts	Announcements
Position	Day	Shift Time	Employee	Option
Baker	Monday	4:30AM - 1:00PM	Tomas Vitti	<button>Delete Shift</button>
Sales	Monday	9:30AM - 5:00PM	Betsy Stimson	<button>Delete Shift</button>
Baker	Tuesday	4:30AM - 1:00PM	Jonathan Wrinkle	<button>Delete Shift</button>
Baker	Wednesday	4:30AM - 1:00PM	Vince Odonoghue	<button>Delete Shift</button>
Sales Staff	Thursday	9:30AM - 5:00PM	Delsie Labello	<button>Delete Shift</button>

Figure 30: Delete Shift List Mock Up

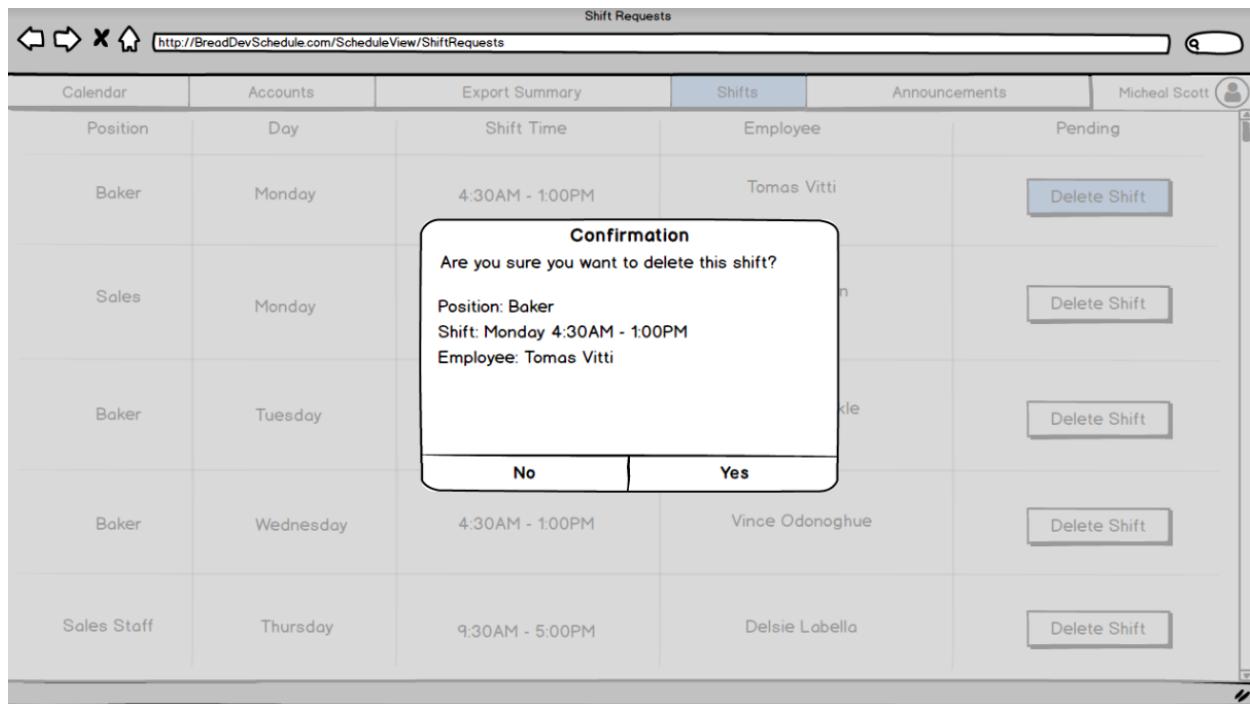


Figure 31: Delete Shift Confirmation Mock Up

## 8.7.0 UC-7: Create Announcement

This use case scenario shows how a management user can create a new announcement. The management user must be signed in to proceed. The management user selects to view announcements. Management user can then select to create an announcement and input the desired information. The management user selects to provide the title and body for the announcement. The management user then has the option to select to create or to cancel. If the management user selects to create then the announcement will be created and users will be notified. If the management user selects to cancel, then no announcement will be created.

Table 7: Use Case 7 Create Announcement

<b>Actor</b>	Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to management tools User selects to create an announcement User inputs the announcement title and body User confirms to create the announcement
<b>Success Conditions</b>	The announcement is created Notification is created and sent to all users
<b>Alternate Paths</b>	4. a) User selects to cancel creating the announcement

### 8.7.1 UC-7: Create Announcement Sequence Diagram

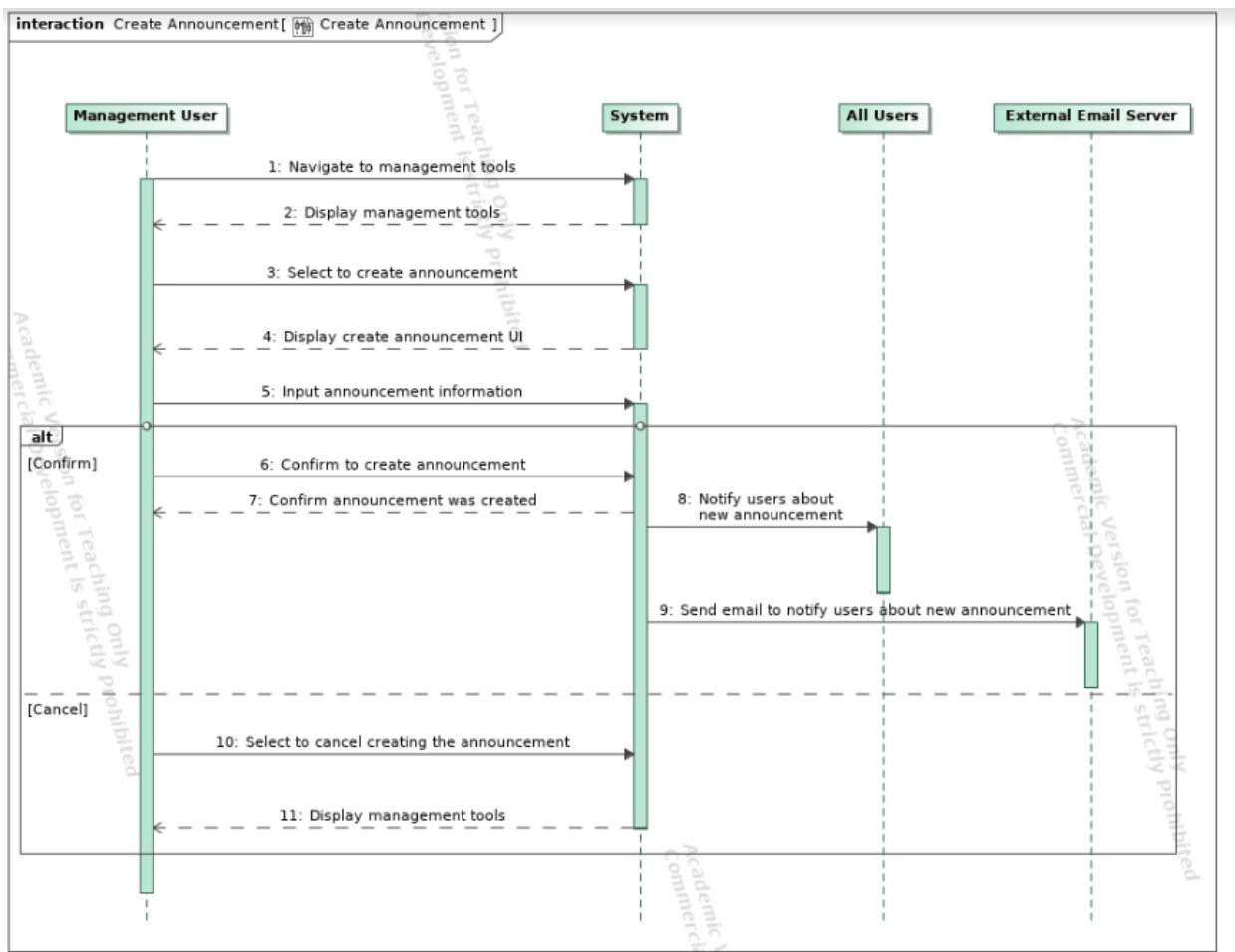


Figure 32: Create Announcement Sequence Diagram

## 8.7.2 UC-7: Create Announcement Mock Ups

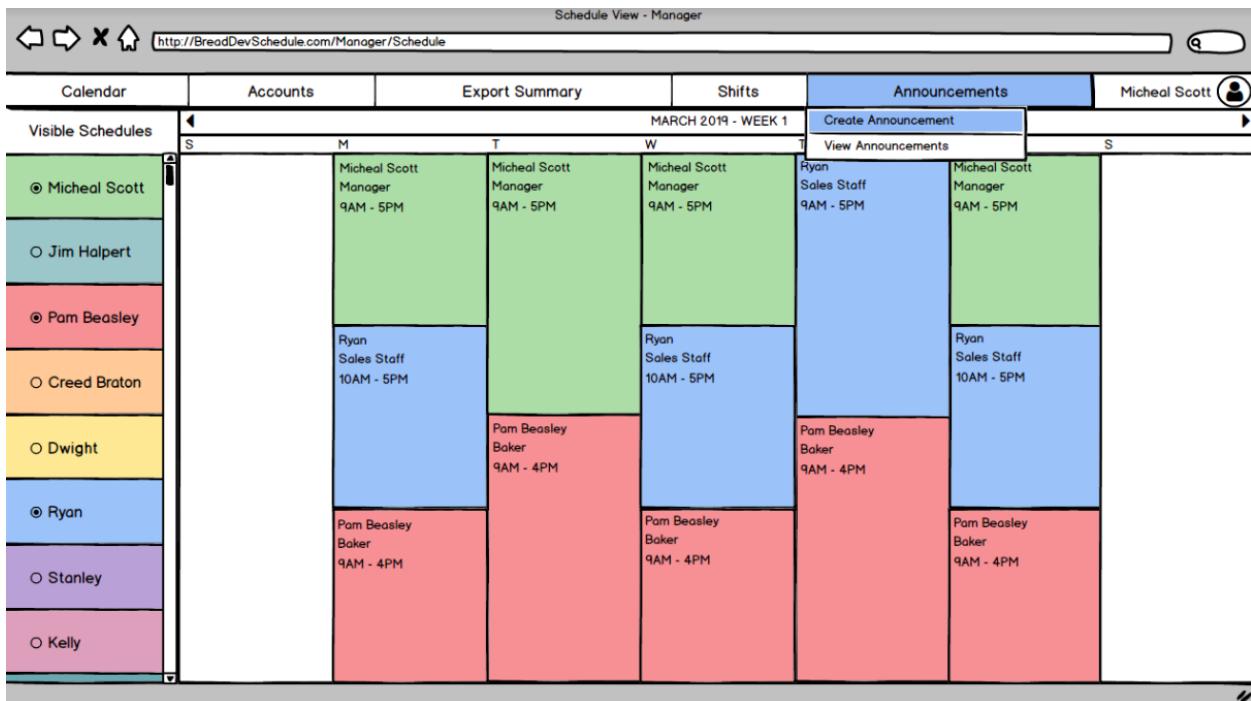


Figure 33: Create Announcement Mock Up

The screenshot shows the 'Create Announcement' form. It includes fields for Recipients (Management and Staff checked), Subject (Enter your subject line here...), and an Announcement text area (Enter your announcement here...). A note states 'The creator of the announcement is automatically added when you hit create'. Buttons for Cancel and Create are at the bottom.

Recipients:  Management  
 Staff

Subject: Enter your subject line here..

Announcement:

Enter your announcement here...

The creator of the announcement is automatically added when you hit create

Cancel Create

Figure 34: Create Announcement Blank Mock Up

Figure 32: Create Announcement Input Example Mock Up

### 8.8.0 UC-8: View Calendar

This use case scenario shows how a user can view the calendar. The user signs in and the calendar is opened by default. If the user is already signed in, the user can view shifts by selecting to view calendar. The user then has the option of selecting a user's schedule to view or to view only their own schedule.

Table 8: Use Case 8 View Calendar

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to calendar User views calendar of selected user's shifts
<b>Success Conditions</b>	Calendar is displayed to user
<b>Alternate Paths</b>	2.a) User selects to view only their own shifts

### 8.8.1 UC-8: View Calendar Sequence Diagram

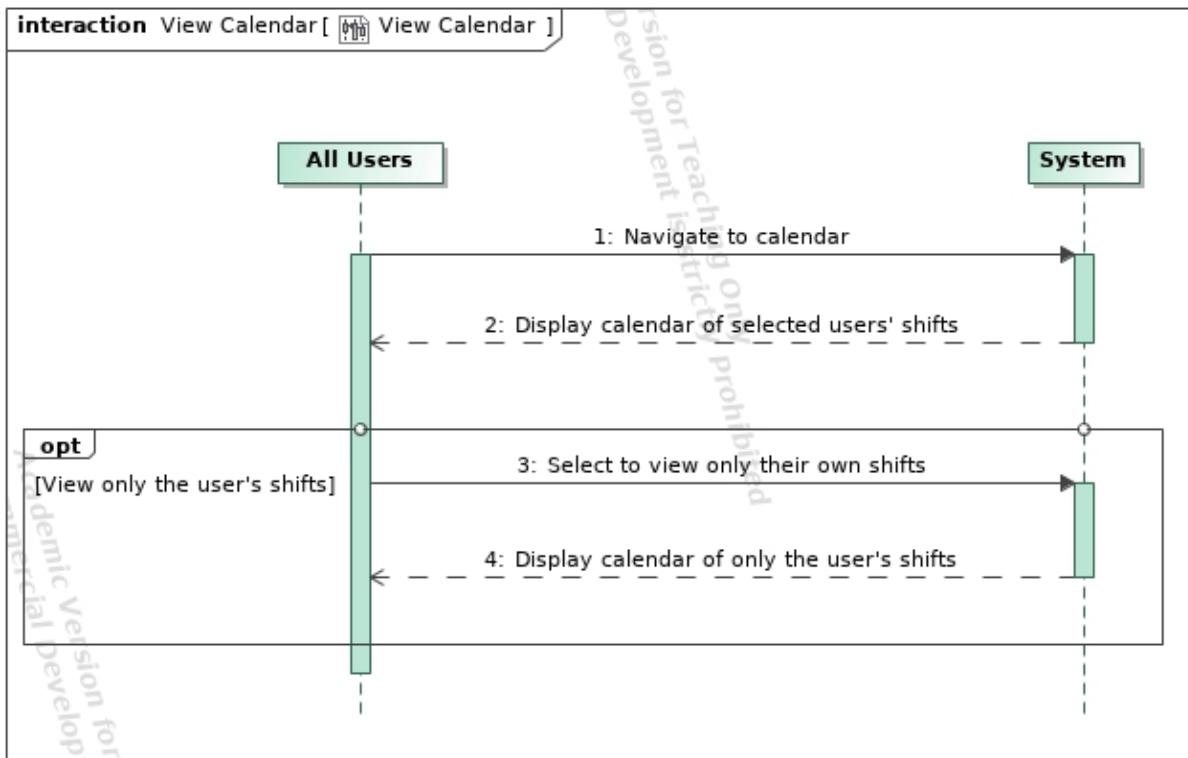


Figure 33: View Calendar Sequence Diagram

## 8.8.2 UC-8: View Calendar Mock Ups

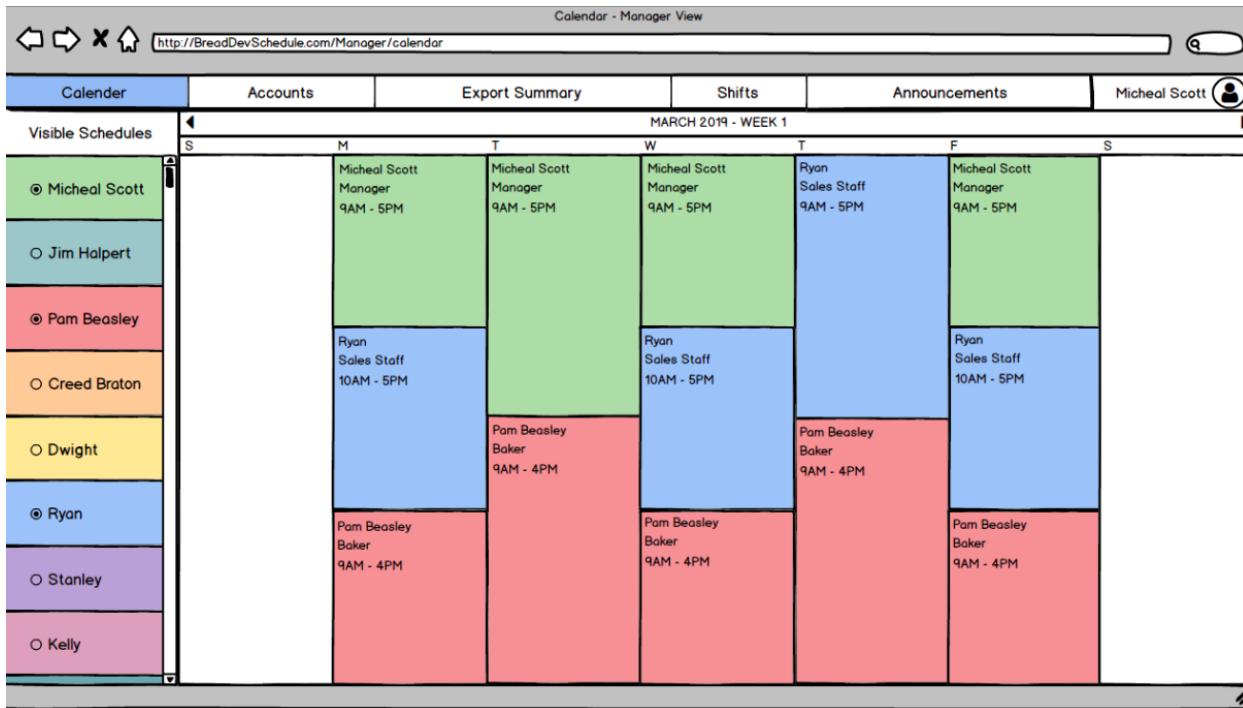


Figure 34: Management User View Calendar Mock Up

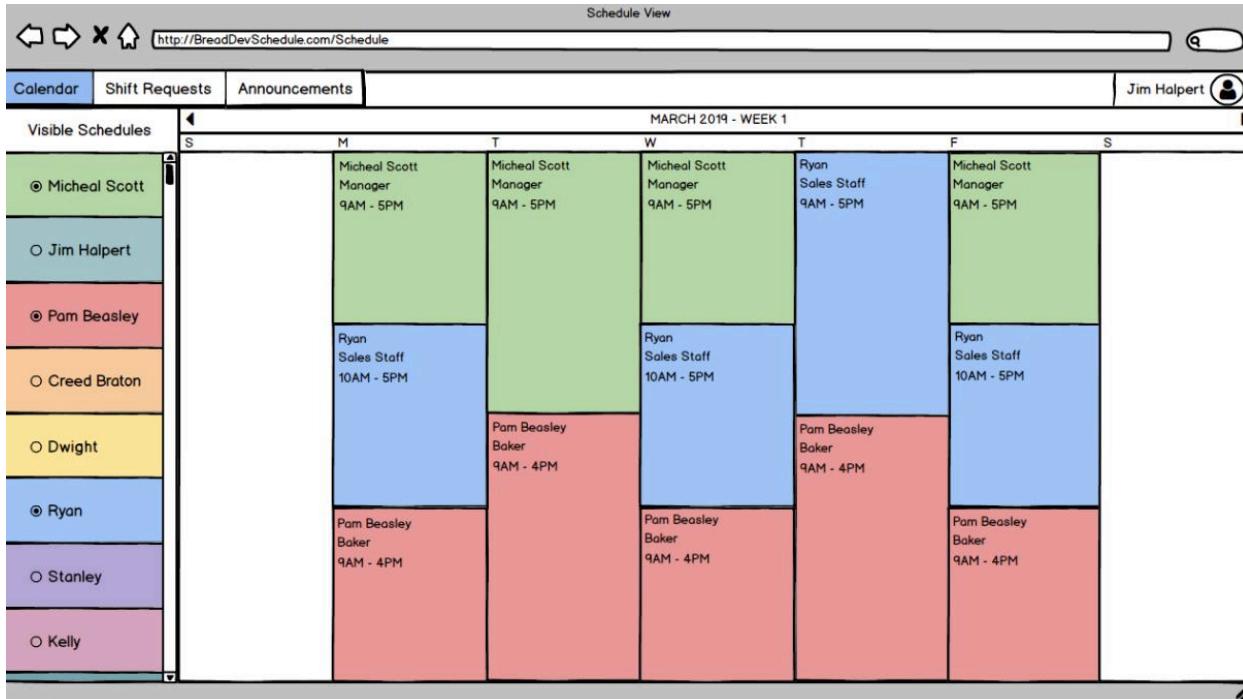


Figure 35: Staff User View Calendar Mock Up

## 8.9.0 UC-9: Create Shift Cover Request

This use case scenario shows how a user can create a shift cover request. The user must be signed in to proceed. The user selects to view shift cover requests. The user will select to create a shift cover request. The user then selects the shift that they want to have covered. The user selects a specific shift and has the option to confirm or cancel. If the user selects to confirm then the shift cover request is created with the specific shift and the shift cover request is sent out to all other users with the same position that are not opted out of notifications. If the user selects to cancel, then no shift cover request is created.

Table 9: Use Case 9 Create Shift Cover Request

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to calendar User selects one of their own shifts User selects to create a shift cover request User confirms to create a shift cover request
<b>Success Conditions</b>	Shift cover request is created Notification is created and sent to users of the same position that have not opted-out
<b>Alternate Paths</b>	4.a) User selects to cancel creating a shift cover request

### 8.9.1 UC-9: Create Shift Cover Request Sequence Diagram

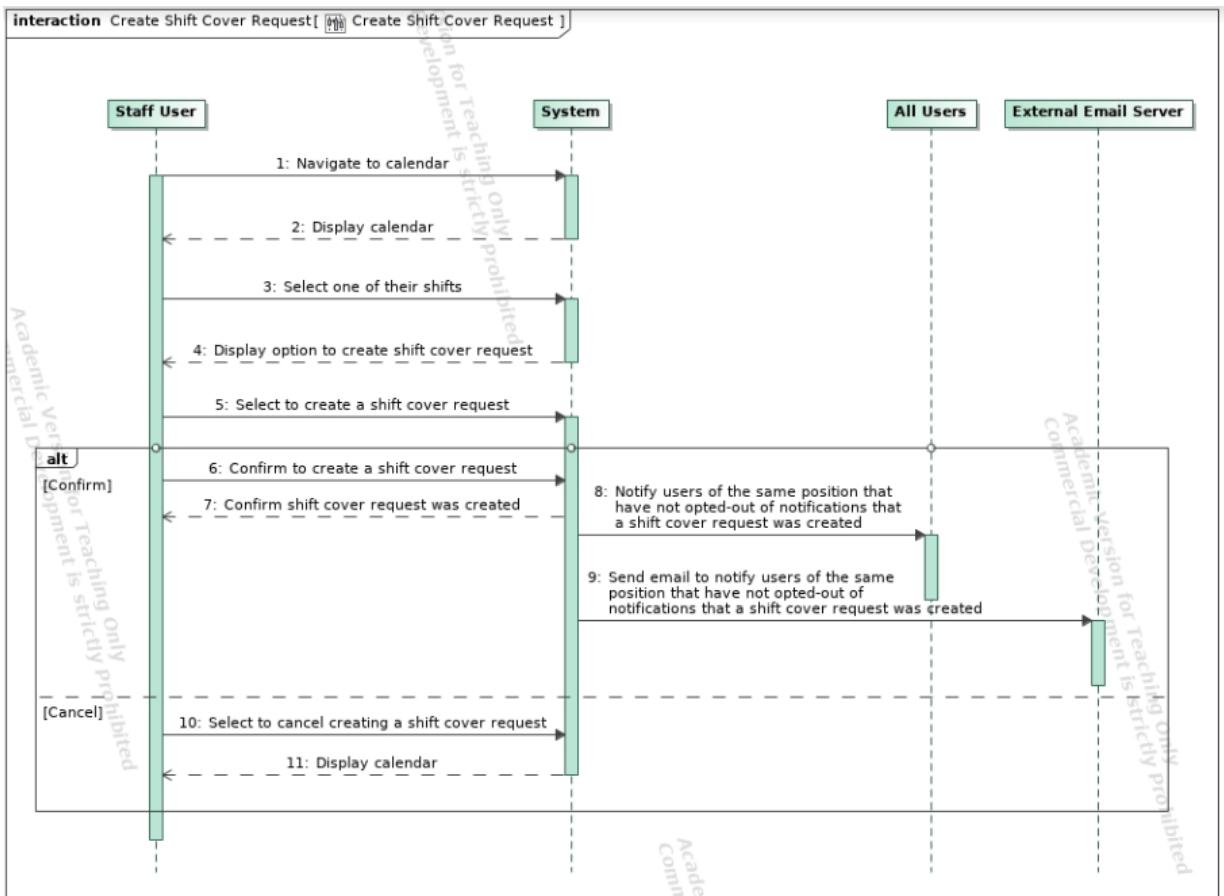


Figure 36: Create Shift Cover Request Sequence Diagram

## 8.9.2 UC-9: Create Shift Cover Request Mock Ups

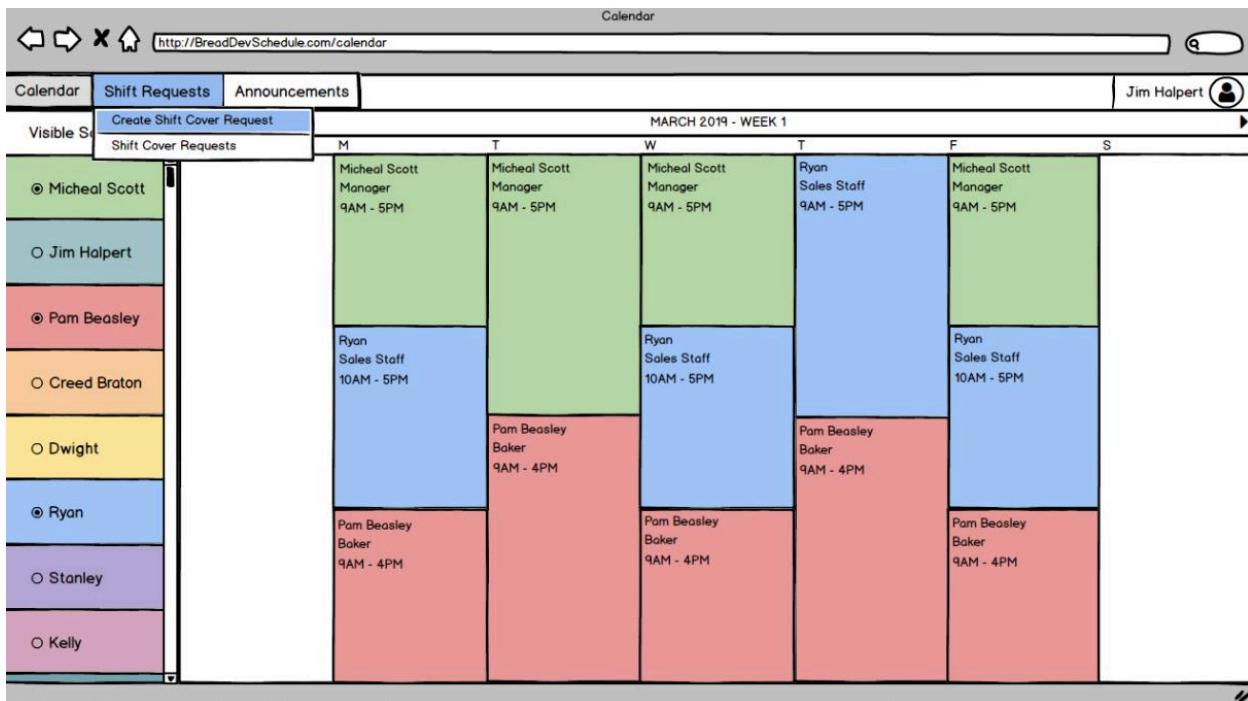


Figure 40: Create Shift Cover Request Mock Up

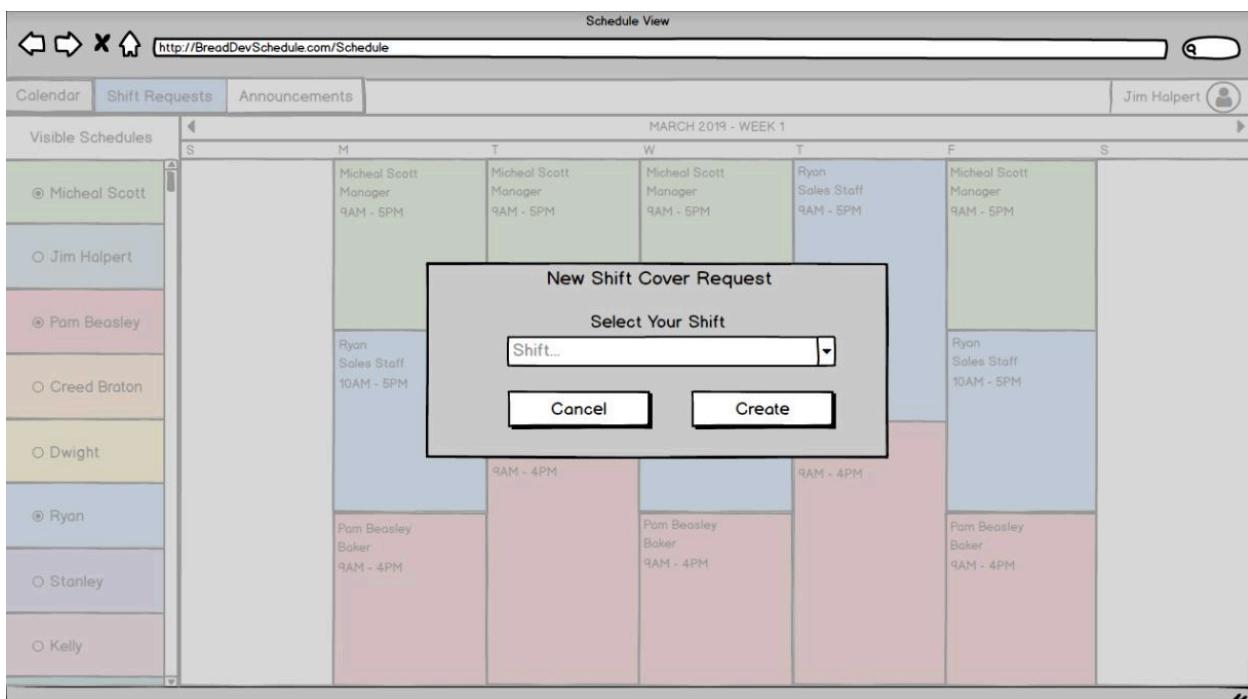


Figure 41: Shift Cover Request Input Mock Up

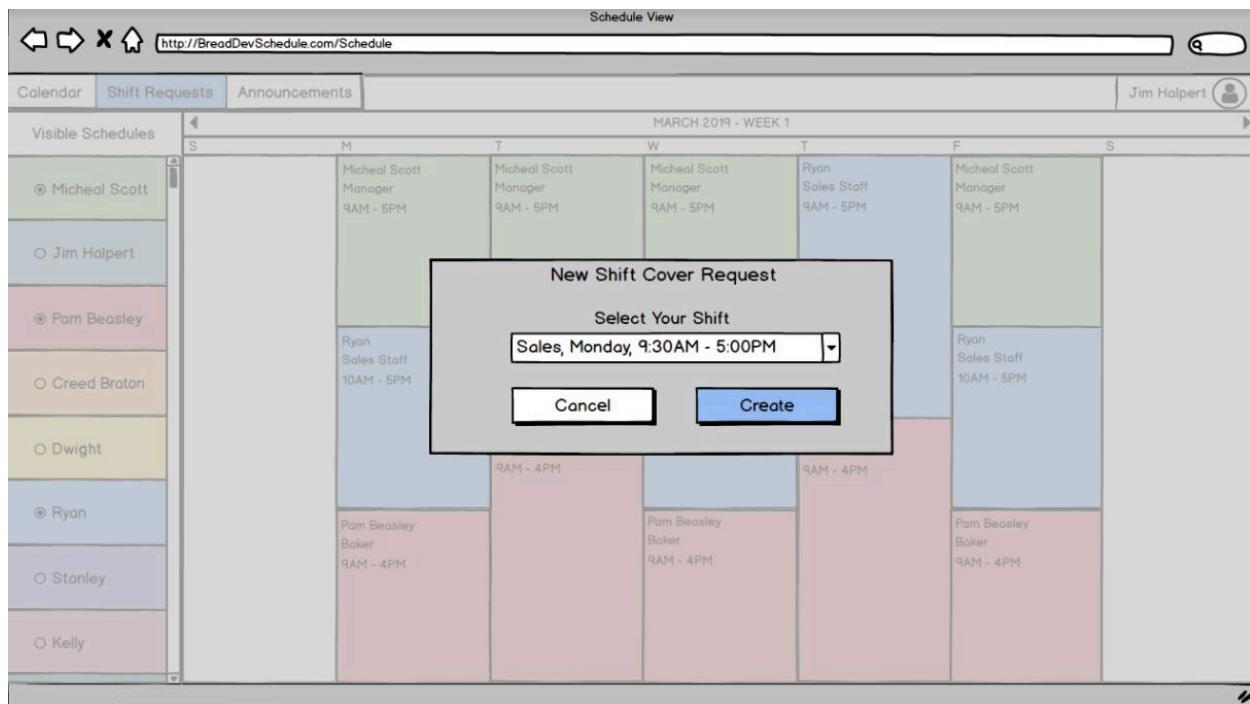


Figure 42: Create Shift Cover Request Example Mock Up

## 8.10.0 UC-10: Respond to Shift Cover Request

This use case scenario shows how a user can create a shift cover request. The user must be signed in to proceed. The user selects to view shift requests. A user can view shift cover requests for their position that are scheduled when they are not currently working. The user can then select to respond to a shift cover request. When a user responds to a shift cover request a management user is notified.

Table 10: Use Case 10 Respond to Shift Cover Request

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in Another user has created a shift cover request User does not have a time conflict and has the correct position
<b>Steps</b>	User navigates to calendar User selects a shift that has a shift cover request User responds to shift cover request User confirms shift cover request response
<b>Success Conditions</b>	Management users for the shift position are notified of response to shift cover request to approve or decline
<b>Alternate Paths</b>	4.a) User selects to cancel responding to shift cover request

### 8.10.1 UC-10: Respond to Shift Cover Request Sequence Diagram

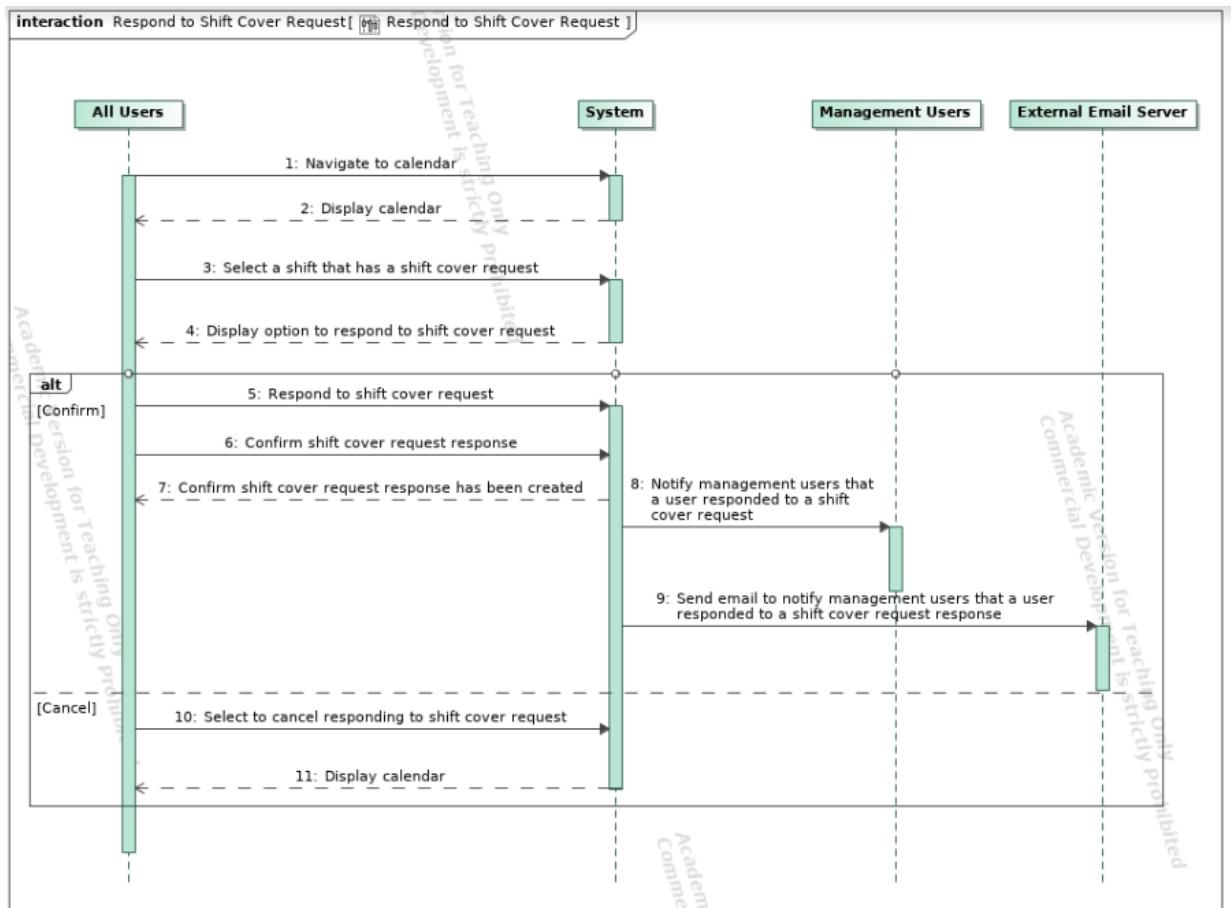


Figure 43: Respond to Shift Cover Request Sequence Diagram

## 8.10.2 UC-10: Respond to Shift Cover Request Mock Ups

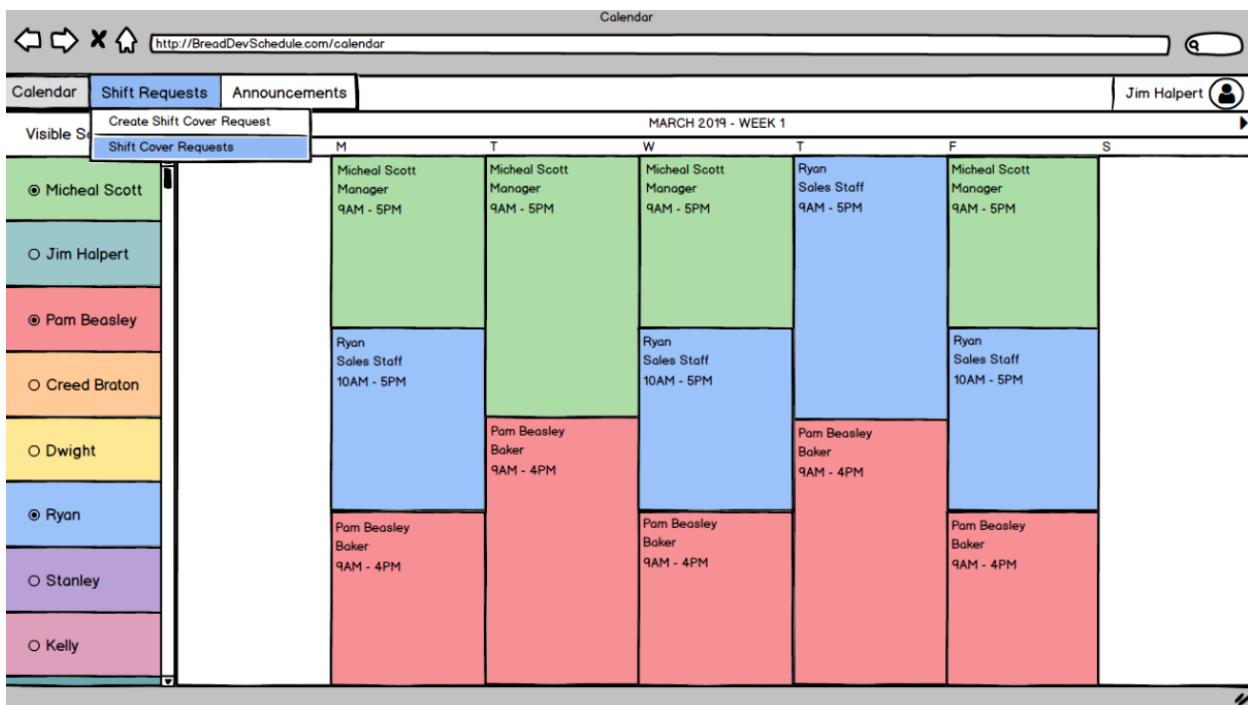


Figure 44: Respond to Shift Cover Request Mock Up

Shift Cover Requests				
Position	Day	Shift Time	Requester	Option
Baker	Monday	4:30AM - 1:00PM	Tomas Vitti	<button>Accept</button>
Sales	Monday	9:30AM - 5:00PM	Betsy Stimson	<button>Accept</button>
Baker	Tuesday	4:30AM - 1:00PM	Jonathan Wrinkle	<button>Accept</button>
Baker	Wednesday	4:30AM - 1:00PM	Vince Odonoghue	<button>Accept</button>
Sales Staff	Thursday	9:30AM - 5:00PM	Delsie Labello	<button>Accept</button>

Figure 45: Shift Request List for Response Mock Up

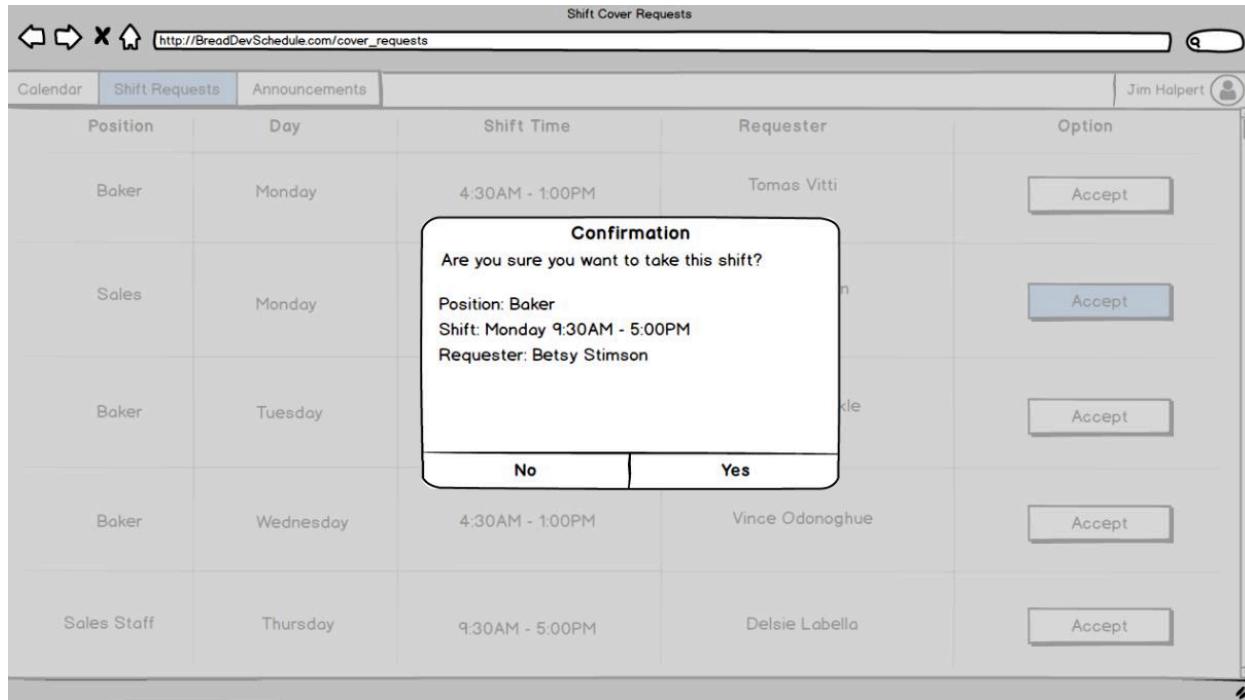


Figure 46: Shift Cover Request Response Confirmation Mock Up

## 8.11.0 UC-11: View Announcement

This use case scenario shows how a user can view an announcement. The user must be signed in to proceed. The user selects to view announcements. Announcements are listed by date and a user can select to view a specific announcement.

Table 11: Use Case 11 View Announcement

Actor	Staff or Management User
Preconditions	User has an account User is logged in An announcement exists
Steps	User navigates to announcements page User selects an announcement User views the announcement
Success Conditions	The announcement is displayed to the user
Alternate Paths	

### 8.11.1 UC-11: View Announcement Sequence Diagram

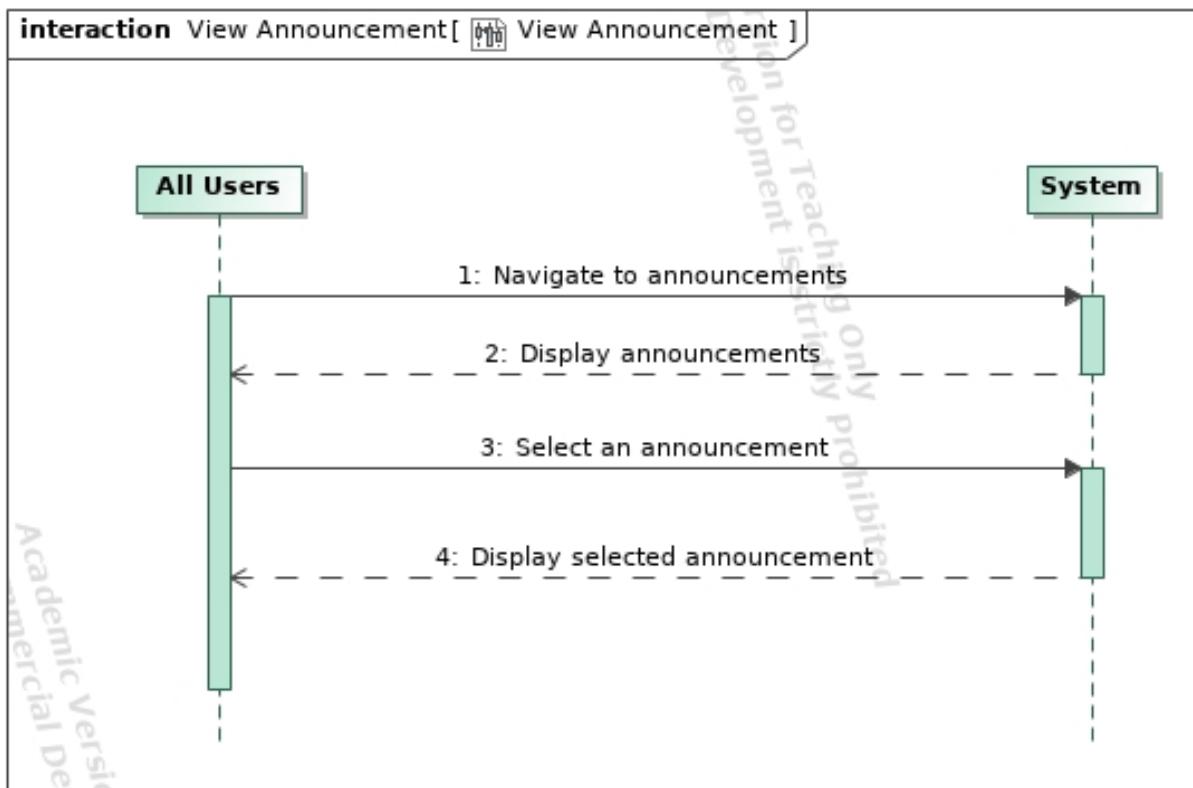


Figure 47: View Announcement Sequence Diagram

## 8.11.2 UC-11: View Announcement Mock Ups



Figure 48: View Announcement Mock Up

## 8.12.0 UC-12: Edit Profile

This use case scenario shows how a user can edit their profile information. The user must be signed in to proceed. The user selects to view their profile and then selects to edit their profile information. The user selects to input the desired profile information. Once finished editing the user has the option to select save or cancel. If the user selects to save, then the information will be saved. If the user selects to cancel, then the information will not be saved.

Table 12: Use Case 12 View Announcement

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to their profile User selects to edit profile information User edits their profile information User confirms to save profile information
<b>Success Conditions</b>	Profile information is saved
<b>Alternate Paths</b>	4.a) User selects to cancel editing profile information

### 8.12.1 UC-12: Edit Profile Sequence Diagram

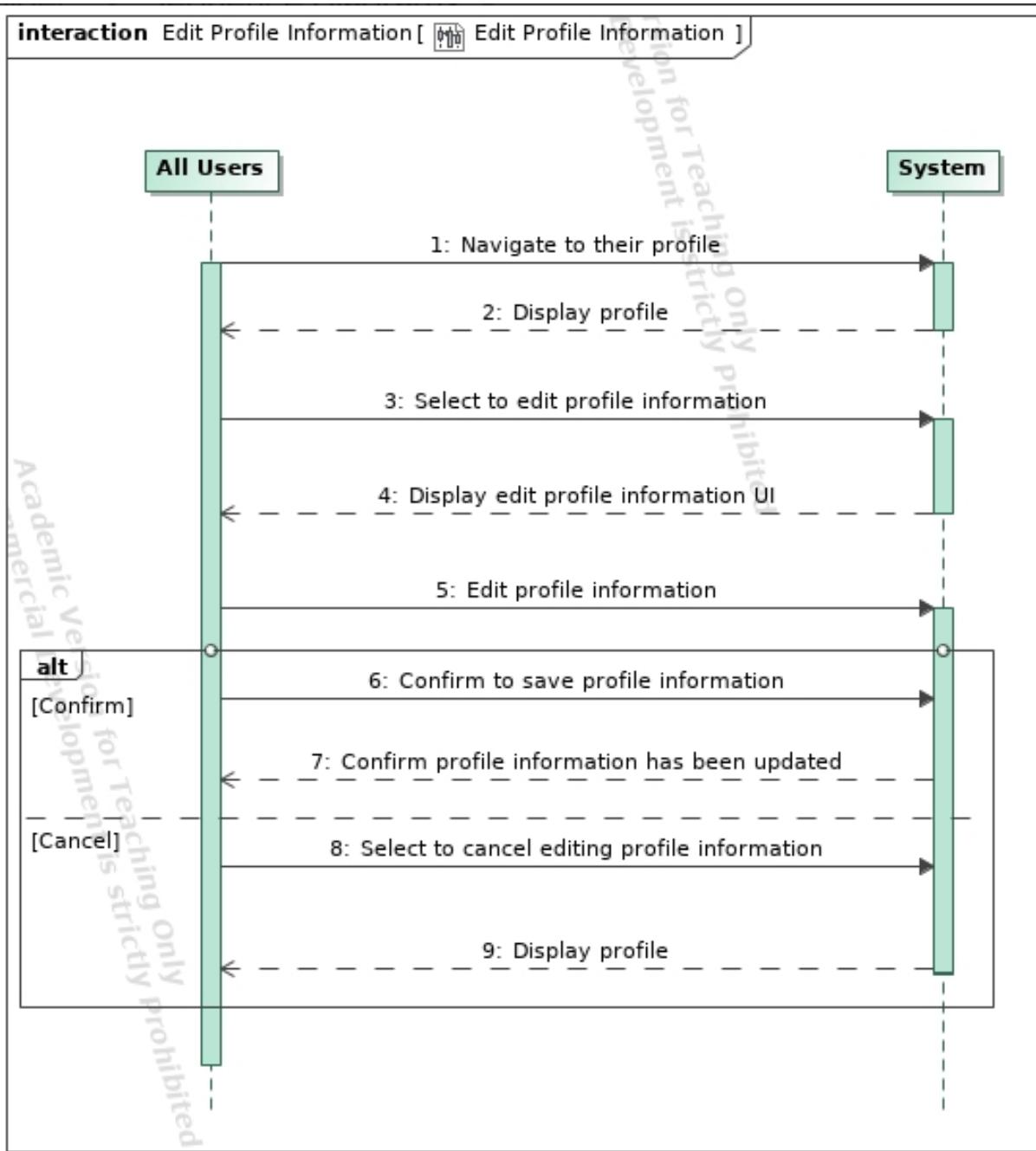
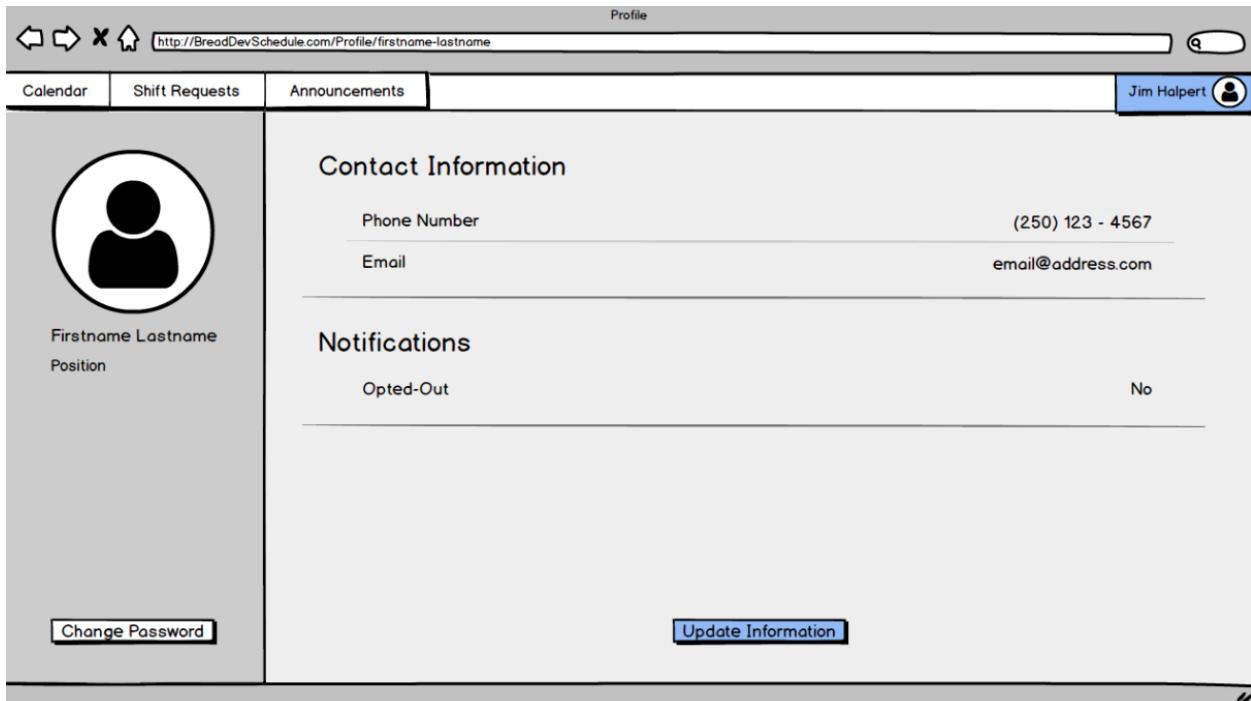


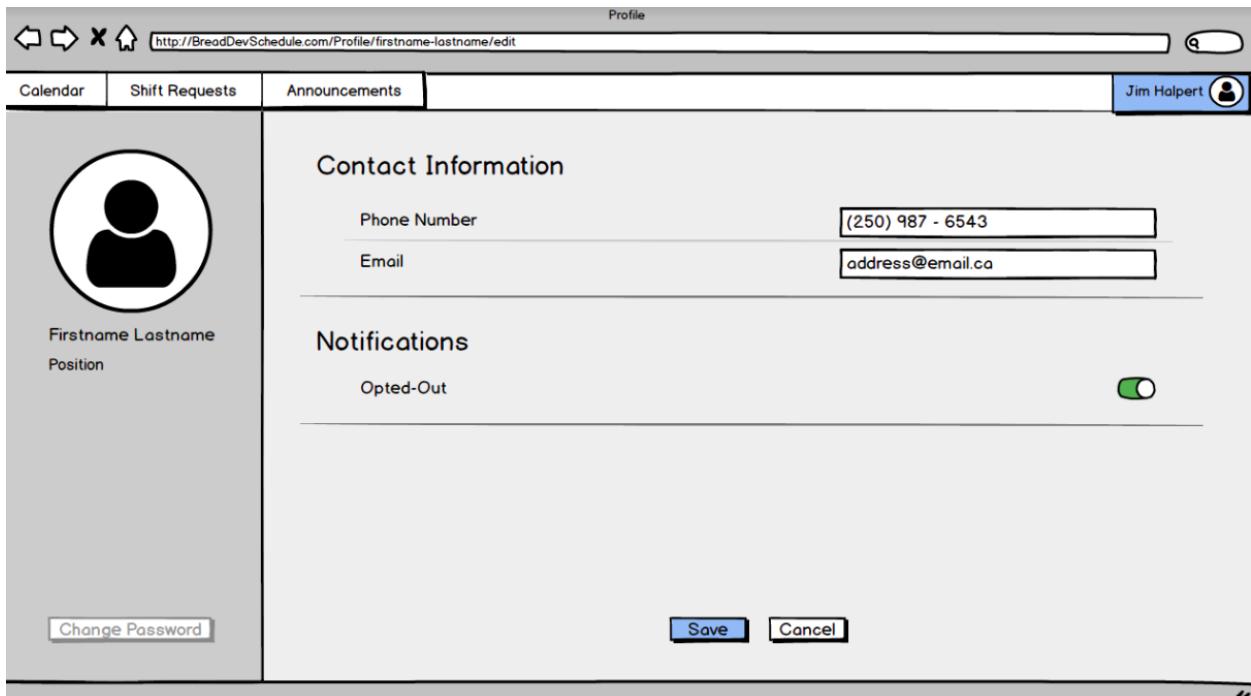
Figure 49: Edit Profile Sequence Diagram

## 8.12.2 UC-12: Edit Profile Mock Ups



The screenshot shows a web browser window titled "Profile" with the URL "http://BreadDevSchedule.com/Profile/firstname.lastname". The top navigation bar includes links for "Calendar", "Shift Requests", and "Announcements", along with a user profile for "Jim Halpert" and a search icon. The main content area is divided into two columns. The left column contains a placeholder profile picture, the name "Firstname Lastname", and the position "Position", with a "Change Password" button at the bottom. The right column is titled "Contact Information" and includes fields for "Phone Number" (250) 123 - 4567 and "Email" (email@example.com). Below this is a section titled "Notifications" with a "Opted-Out" field set to "No". At the bottom right of the right column is a "Update Information" button.

Figure 50: Profile View Mock Up



The screenshot shows a web browser window titled "Profile" with the URL "http://BreadDevSchedule.com/Profile/firstname.lastname/edit". The top navigation bar and user profile are identical to Figure 50. The main content area is divided into two columns. The left column contains a placeholder profile picture, the name "Firstname Lastname", and the position "Position", with a "Change Password" button at the bottom. The right column is titled "Contact Information" and includes fields for "Phone Number" (250) 987 - 6543 and "Email" address@email.ca. Below this is a section titled "Notifications" with a "Opted-Out" field where a green toggle switch is turned on. At the bottom right of the right column are "Save" and "Cancel" buttons.

Figure 51: Edit Profile Mock Up

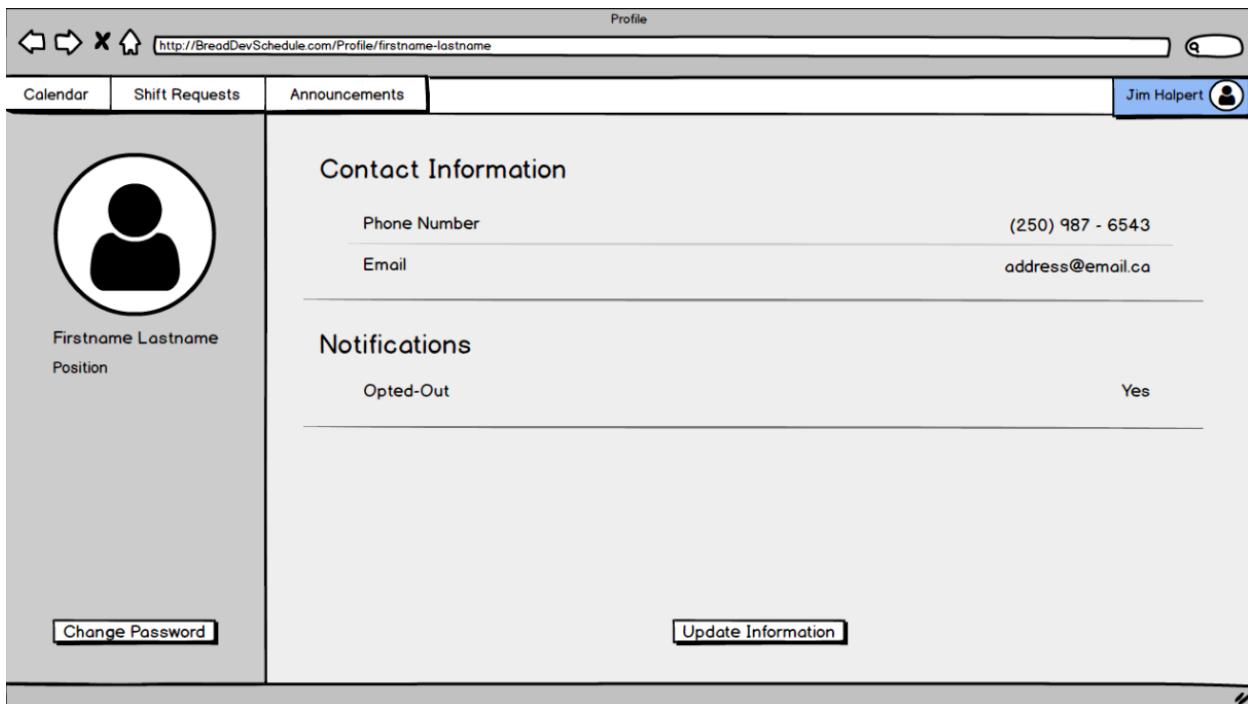


Figure 52: Changed Profile Mock Up

### 8.13.0 UC-13: View Profile

This use case scenario shows how a user can view another user's information. The user must be signed in to proceed. The user selects to view another user's profile from the calendar. Once the user selects to view another user's profile they will view the specific user's email and an optional phone number.

Table 13: Use Case 13 View Profile

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to calendar User selects a user
<b>Success Conditions</b>	Selected user's profile is displayed to user
<b>Alternate Paths</b>	

### 8.13.1 UC-13: View Profile Sequence Diagram

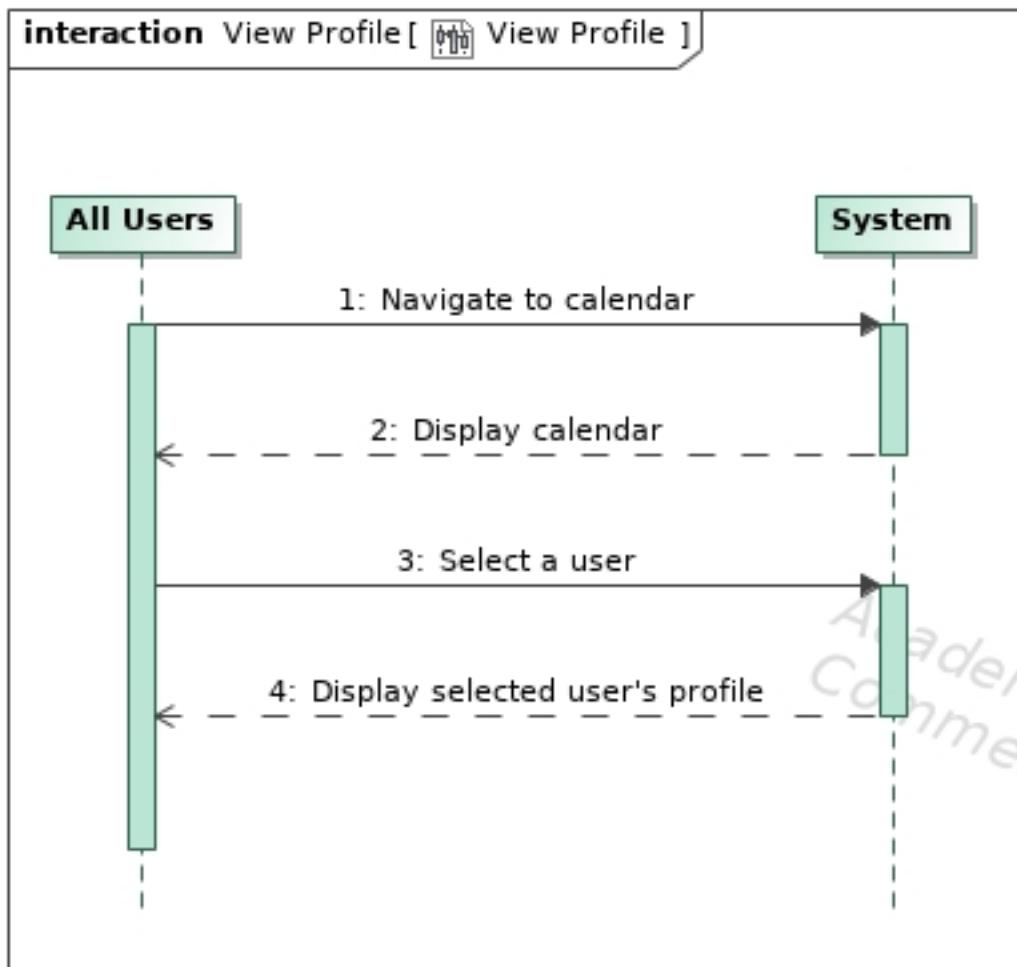


Figure 53: View Profile Sequence Diagram

## 8.13.2 UC-13: View Profile Mock Ups

This screenshot shows a 'Schedule View' interface for March 2019, Week 1. On the left, a sidebar lists 'Visible Schedules' for Micheal Scott, Jim Halpert, Pam Beasley, Creed Braton, Dwight, Ryan, Stanley, and Kelly. The main area displays a grid of days (S, M, T, W, T, F, S) and times (9AM - 5PM). Shifts are color-coded by employee: Micheal Scott (green), Jim Halpert (blue), Pam Beasley (red), and Ryan (light blue). A tooltip for 'View Profile Information' appears over a shift for Ryan on Tuesday. The URL http://BreadDevSchedule.com/Schedule is visible at the top.

Figure 54: View Profile Mock Up

This screenshot shows the same 'Schedule View' interface as Figure 54, but with a modal window open over the schedule grid. The modal displays a user profile for 'Creed Braton' (Baker) with a placeholder profile picture. Below the picture, the text 'Creed Braton Baker' is shown. At the bottom of the modal, there are fields for 'Phone Number' containing '(250) 123 - 4567' and 'Email' containing 'email@address.com'. The URL http://BreadDevSchedule.com/Schedule is visible at the top.

Figure 55: View Another User's Profile Mock Up

## **8.14.0 UC-14: Opt-out of Shift Cover Request Notifications**

This use case scenario shows how a user can opt-out of notifications. The user must be signed in to proceed. The user selects to view their profile and then selects to edit their profile information. The user selects to opt out from shift cover request notifications. The user then has the option to select save or select cancel. If the user selects to save, then the opt-out information will be saved. If the user selects to cancel, then the opt-out information will not be saved.

Table 14: Use Case 14 Opt-out of Shift Cover Request Notifications

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in User has not already opted out of notifications
<b>Steps</b>	User navigates to their profile User selects to edit profile information User selects to opt-out of notifications User confirms to opt-out of notifications
<b>Success Conditions</b>	User's profile reflects that the user has opted-out of notifications
<b>Alternate Paths</b>	3.a) User selects to cancel opting out of notifications

### 8.14.1 UC-14: Opt-out of Shift Cover Request Notifications Sequence Diagram

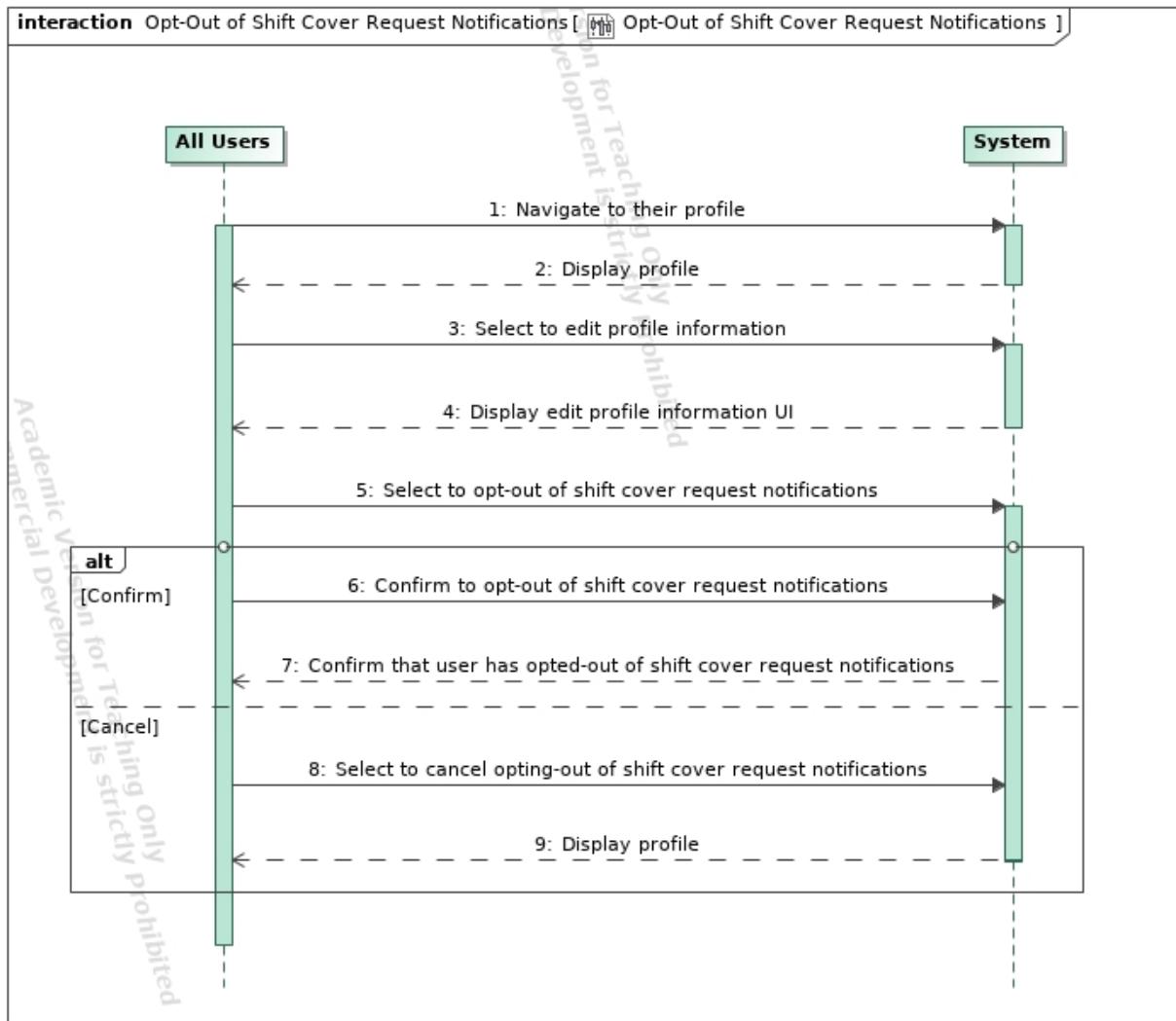


Figure 56: Opt-out of Shift Cover Request Notifications Sequence Diagram

## 8.14.2 UC-14: Opt-out of Shift Cover Request Notifications Mock Ups

The mock-up shows a web browser window with the URL <http://BreadDevSchedule.com/Profile/firstname.lastname/edit>. The page title is 'Profile'. The navigation bar includes 'Calendar', 'Shift Requests', 'Announcements', and a user icon for 'Jim Halpert'. The main content area has two columns. The left column contains a placeholder profile picture, the text 'Firstname Lastname Position', and a 'Change Password' button. The right column contains 'Contact Information' fields for 'Phone Number' (250) 987 - 6543 and 'Email' (address@email.ca). Below this is a 'Notifications' section with a toggle switch labeled 'Opted-Out' which is currently turned off (green). At the bottom are 'Save' and 'Cancel' buttons.

Figure 57: Opt-out of Shift Cover Request Notifications Mock Ups

## 8.15.0 UC-15: View Notifications

This use case scenario shows how a user can view notifications. The user must be signed in to proceed. The user selects to view their profile. The user then selects notifications and can then view a list of notifications.

Table 15: Use Case 15 View Notifications

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User knows that a notification exists User navigates to notifications User views list of notifications User selects a specific notification
<b>Success Conditions</b>	Notification is displayed
<b>Alternate Paths</b>	

### 8.15.1 UC-14: View Notifications Sequence Diagram

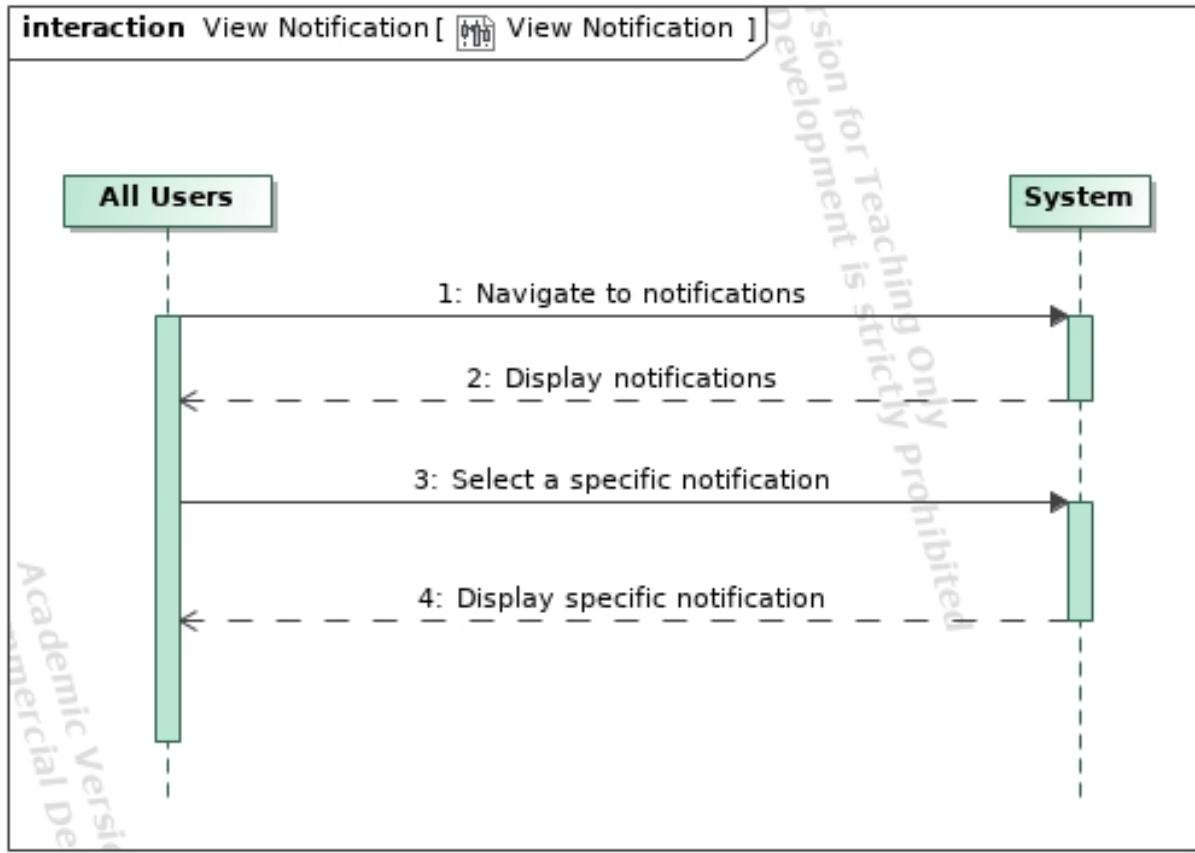


Figure 58: View Notifications Sequence Diagram

## 8.15.2 UC-15: View Notifications Mock Ups

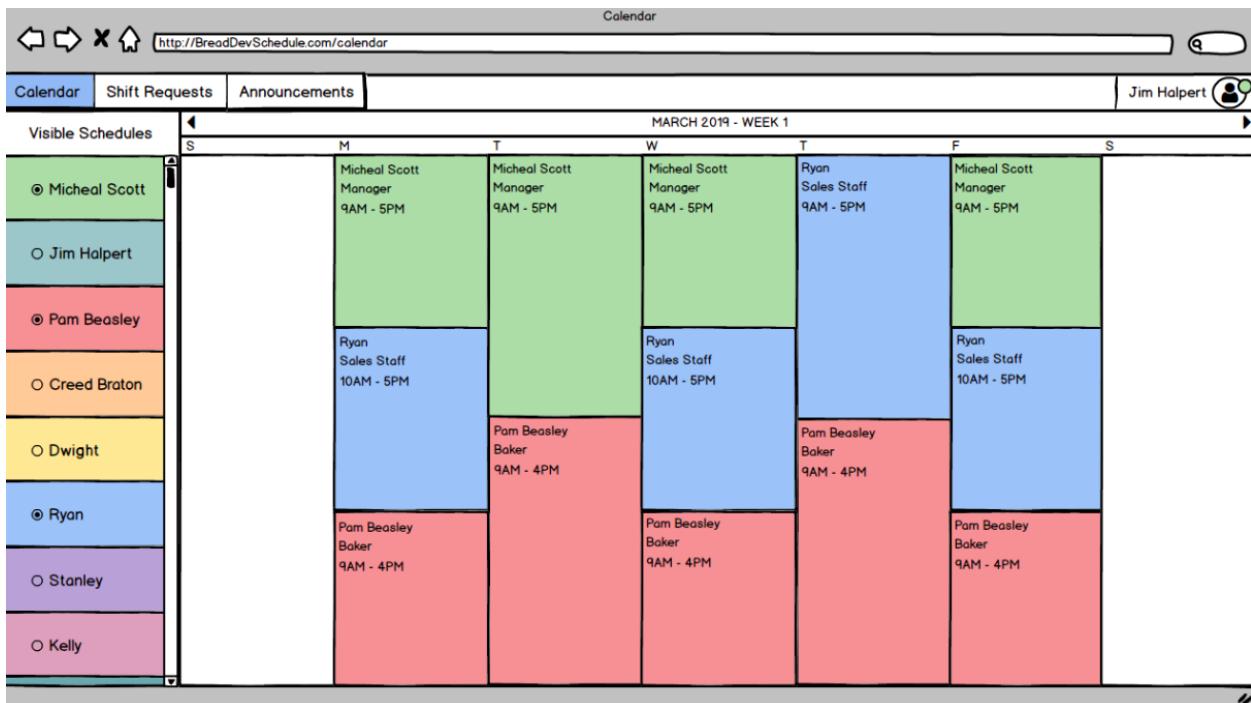


Figure 59: Notification Badge Mock Up

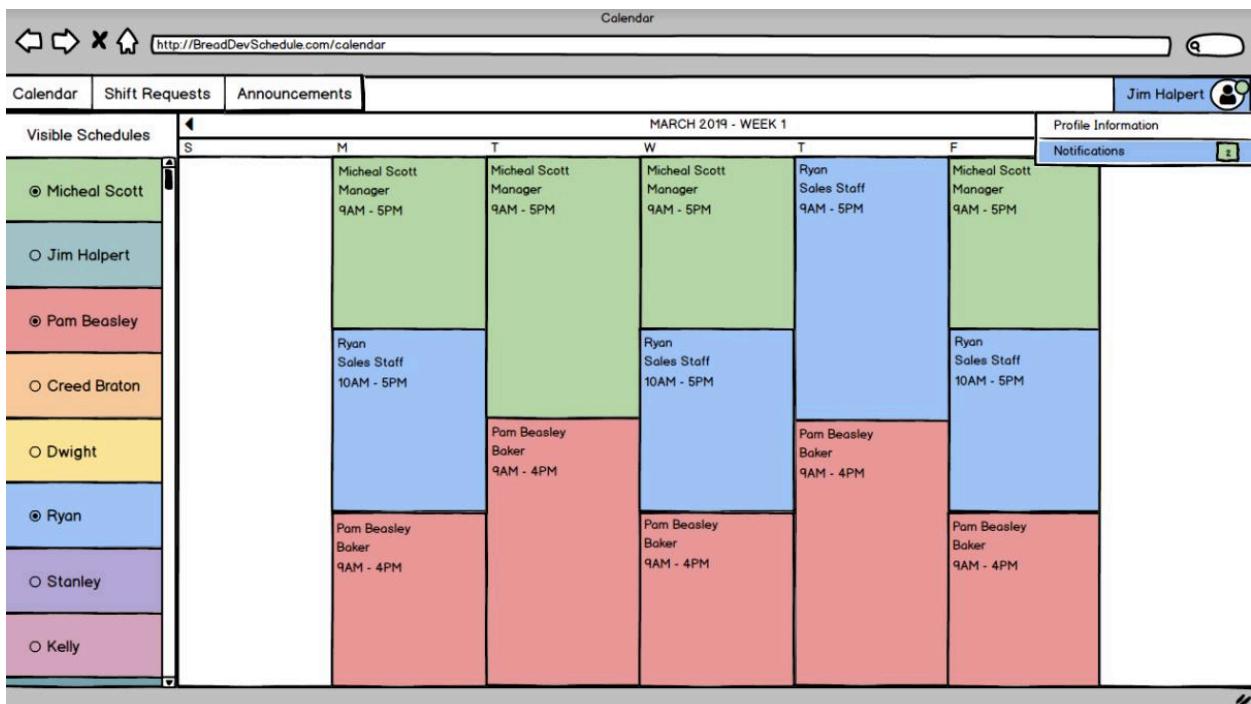


Figure 60: View Notification Mock Up

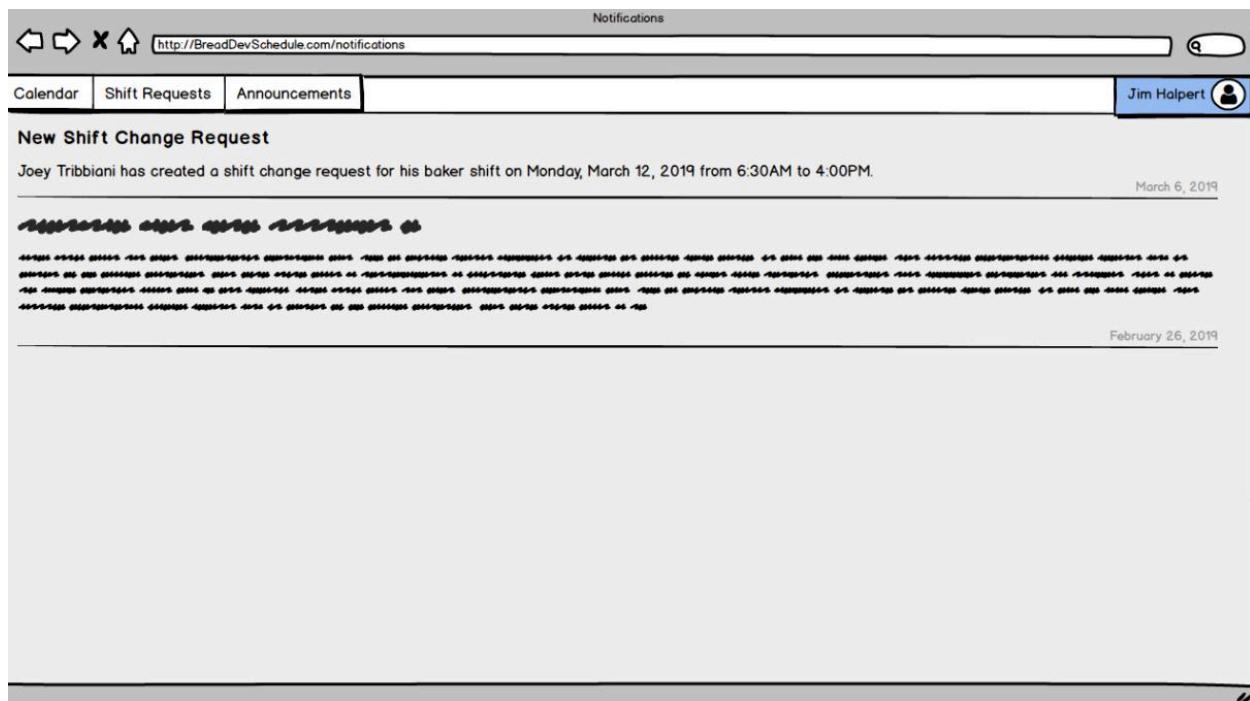


Figure 61: View Specific Notification Mock Up

## 8.16.0 UC-16: Forgot Password

This use case scenario shows how a user can change their forgotten password when the user is not signed in. Without being logged in the user can select to forget your password. The user will then input the email for their account. The user then has the option to select send or cancel. If the user selects to send, then they will be sent an email with a link to reset password. The user can open the email using their email service and select the reset password link. The user is redirected to the system where the password may be changed. The user can input their new password. The user then has the option to select to change the password or cancel. If the user selects to change the password it will be changed. If the user selects to cancel, then the password will remain unchanged.

Table 16: Use Case 16 Forgot Password

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User has given a valid email address that corresponds to an existing account
<b>Steps</b>	User navigates to the sign in User indicates that password has been forgotten User inputs their email address User confirms email address User receives the password reset email User selects to change forgotten password User inputs new password User confirms new password
<b>Success Conditions</b>	The user's password has been changed
<b>Alternate Paths</b>	3.a) User selects to cancel

### 8.16.1 UC-16: Forgot Password Sequence Diagram

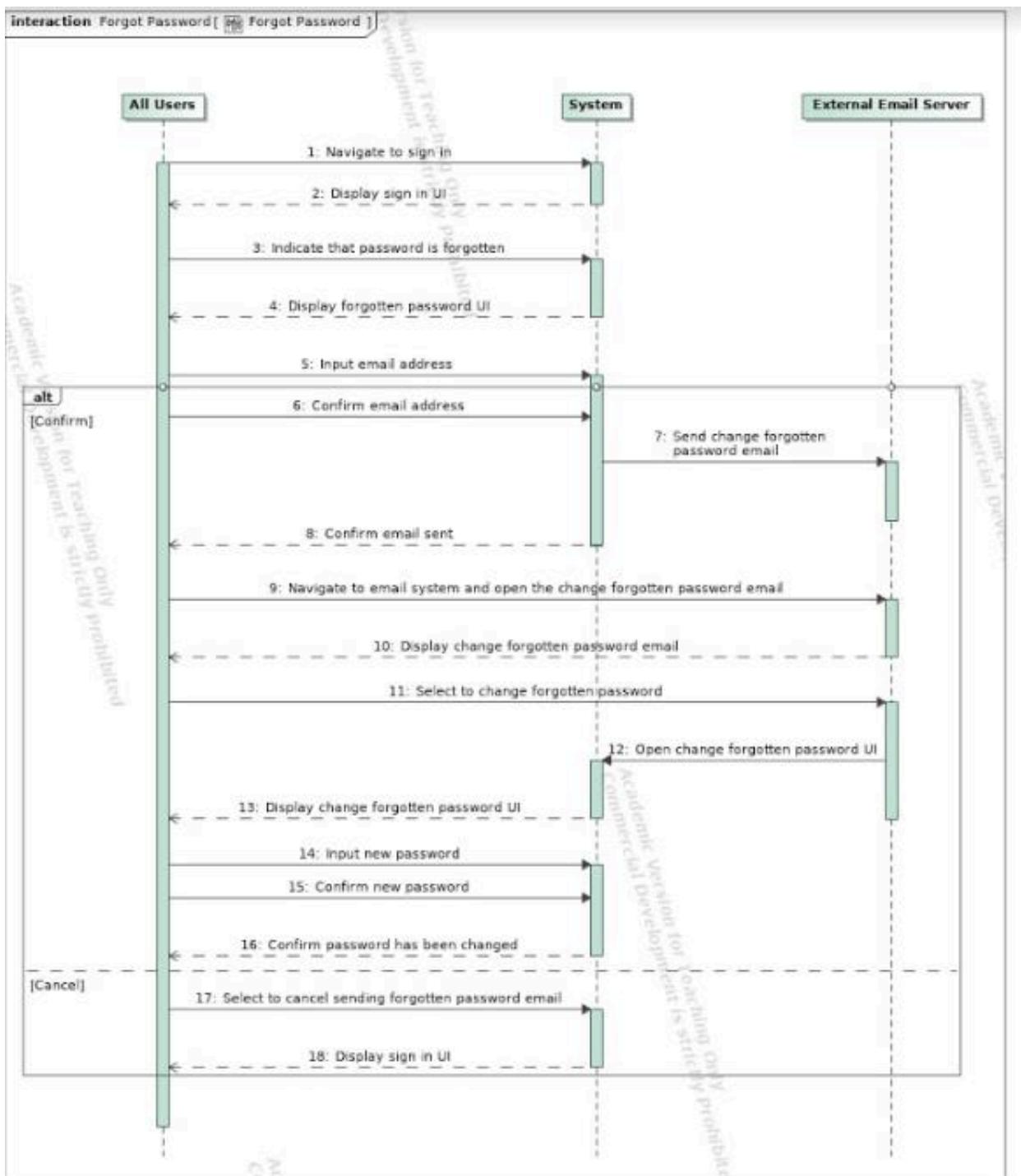


Figure 62: Forgot Password Sequence Diagram

## 8.16.2 UC-16: Forgot Password Mock Ups

The screenshot shows a web browser window titled "Employee Sign In" with the URL <http://BreadDevSchedule.com/sign-in>. The page contains a "Sign-in" form with fields for "Username" and "Password". Below the password field is a blue link "Forgot Your Password?". To the right of the password field is a checkbox labeled "Remember me" and a black "Sign In" button. At the bottom of the form are two social sign-in buttons: "Sign in with facebook" (blue) and "Sign in with Google" (red).

Figure 63: Forgot Password from Login Mock Up

The screenshot shows a web browser window titled "Forgot Password" with the URL [http://BreadDevSchedule.com/sign-in/forgot\\_password](http://BreadDevSchedule.com/sign-in/forgot_password). It displays a "Sign-in" form with a modal dialog box titled "Email to Recieve Password". The modal contains a text input field "Enter email here..." and two buttons "Cancel" and "Send". Below the modal is a red "Sign in with Google" button.

Figure 64: Forgot Password Input Box Mock Up

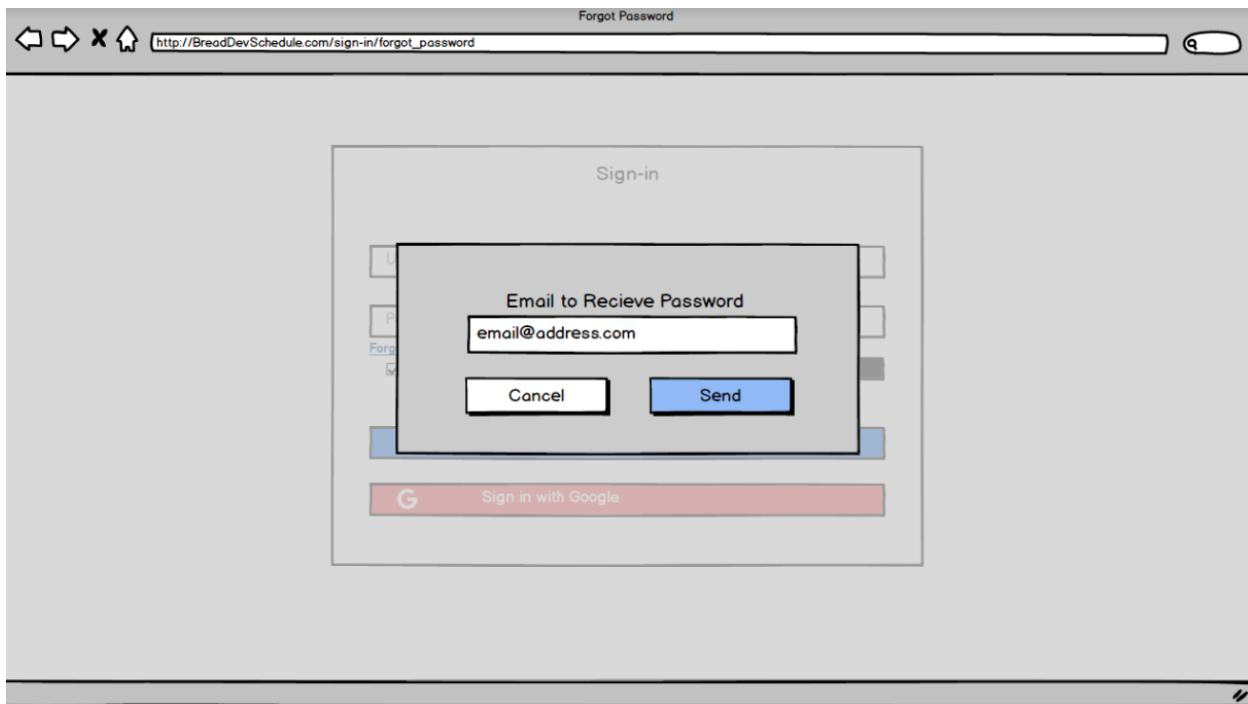


Figure 65: Forgot Password Example Mock Up

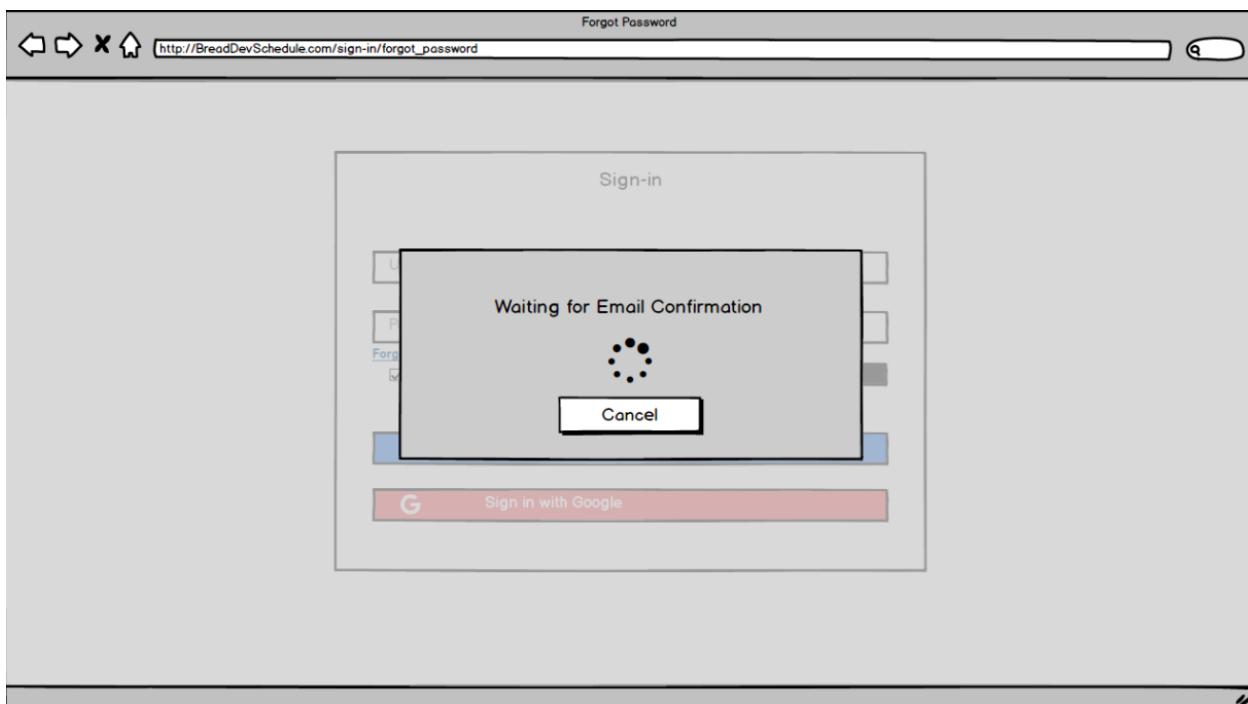


Figure 66: Forgot Password Waiting Mock Up

## 8.17.0 UC-17: Change Password

This use case scenario shows how a user can change their password. The user must be signed in to proceed. The user selects to view their profile and then selects to edit profile information. The user selects to change password. The user can then select to input a new password. The user then has the option to select change password or select cancel. If the user selects change password, then the password will be changed. If the user selects to cancel, then the password will remain unchanged.

Table 17: Use Case 17 Change Password

<b>Actor</b>	Staff or Management User
<b>Preconditions</b>	User has an account User is logged in
<b>Steps</b>	User navigates to their profile page User selects to change password User inputs the new password User confirms to change password
<b>Success Conditions</b>	The user's password has been changed
<b>Alternate Paths</b>	3.a) User selects to cancel changing password

### 8.17.1 UC-17: Change Password Sequence Diagram

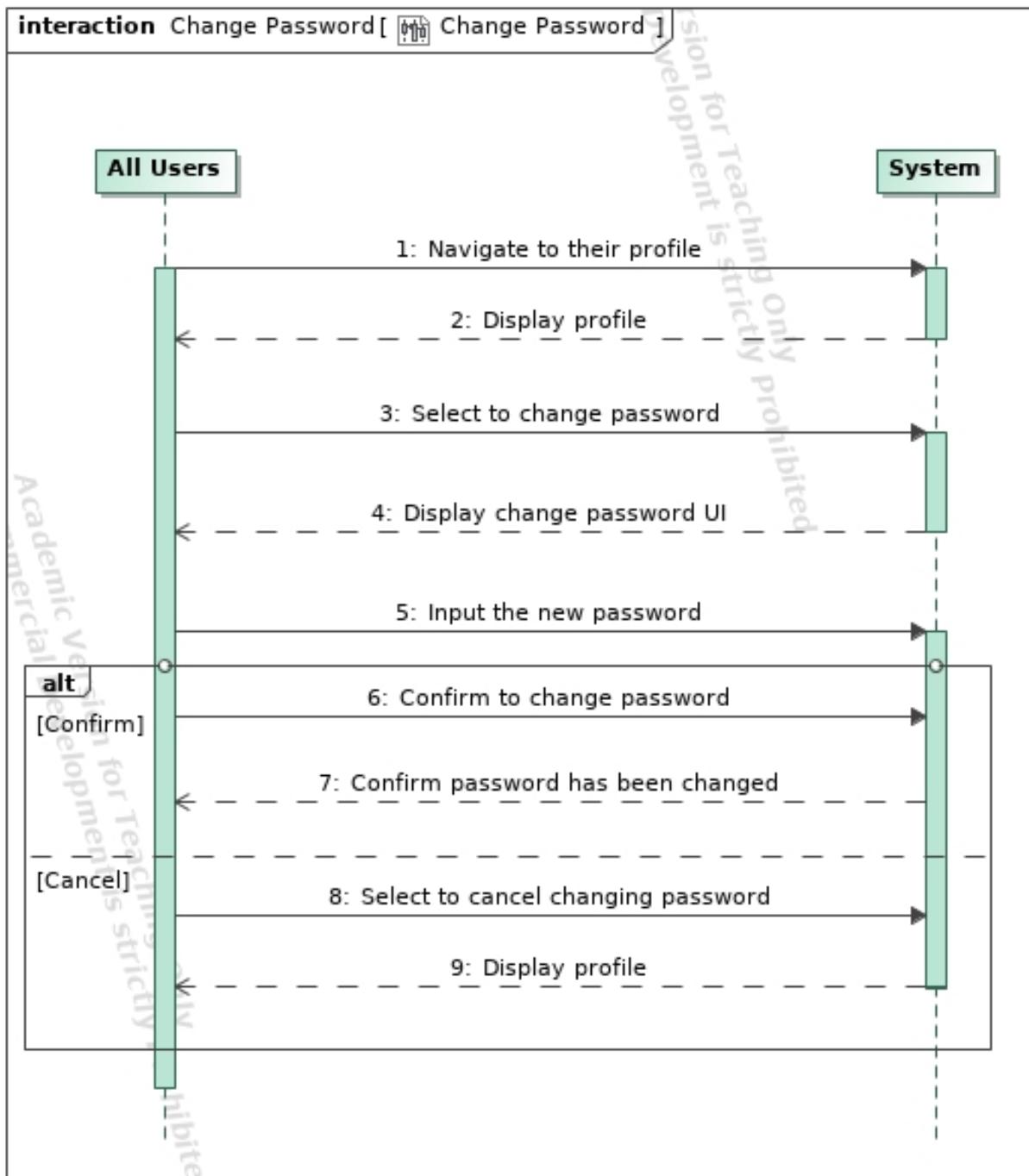


Figure 67: Change Password Sequence Diagram

## 8.17.2 UC-17: Change Password Mock Ups

The screenshot shows a web-based profile interface. At the top, there are navigation icons (back, forward, search) and a URL bar displaying <http://BreadDevSchedule.com/Profile/firstname.lastname/change-password>. The top right corner shows a user icon labeled "Jim Halpert". Below the header, there are three tabs: "Calendar", "Shift Requests", and "Announcements". The main content area is titled "Contact Information" and contains fields for "Phone Number" (250) 123 - 4567 and "Email" (email@address.com). Below this is a "Notifications" section with a "Opted-Out" field set to "No". On the left side, there is a placeholder for profile picture and contact details: "Firstname Lastname" and "Position". At the bottom left is a "Change Password" button, and at the bottom right is an "Update Information" button.

Figure 68: Change Password from Profile Mock Up

This screenshot shows the "Change Password" modal dialog overlaid on the profile page. The dialog has a title "Change Password" and three input fields: "Current Password", "New Password", and "Confirm New Password", each represented by a redacted box. At the bottom of the dialog are two buttons: "Change Password" and "Cancel". The background profile page remains visible, showing the "Contact Information" and "Notifications" sections, along with the "Update Information" button at the bottom right.

Figure 69: Change Password Input Mock Up

## **9.0 Other Requirements**

There are no additional requirements at this time.

## **Appendix: Issues List**

There are currently no issues that have not been addressed.