

Software Requirements Specification for Paychex Out of Office Application

Version 3.1

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Revision History

Version	Revision Date	Changes Made	Justification	Author
1.0	12/18/12	Initial Revision	Creation of template	Ian Dann Daquanne Dwight Tom Eiffert Elysia Haight
1.1	12/26/12	Removed notification feature. Added Vacation request, sick/out of office, and daily digest features. Updated functional requirements to match. Added user profiles.	Updated to match feedback from Paychex sponsors.	Elysia Haight, Daquanne Dwight
2.0	1/10/13	Edited requirements as specified by the project sponsors	Edited requirements as specified by the project sponsors	Ian Dann Daquanne Dwight Tom Eiffert Elysia Haight
3.0	3/10/13	Updated to correct defects from bug tracker	Some out-of-date information contained	Elysia Haight
3.1	3/18/13	Added/edited requirements in sections 3.2.2, 3.2.3, and 3.2.5	Adjustments made based on 3/12/13 sponsor meeting	Elysia Haight

1. Introduction

This Software Requirements Specification (SRS) has been created in order to fully describe the functionality of the Paychex Out of Office application. The document describes the product, its functionality, all use cases and user models, its functional and nonfunctional requirements, external interface requirements, and any and all other information needed in order to understand the product and its requirements.

This SRS describes the first, second, third, and fourth releases of this project.

1.1 Scope

1.1.1 In-Scope

This project will include the following:

- If an employee is sick or wants to share their current location the application shall update the database with that information. If the daily digest has already been sent, an email notification will be made to the employee's organizational group and to each member of each project they are currently assigned to. The employee's calendar will also be updated with the notification information.
- If an employee is requesting vacation time, the application shall generate a vacation request form and forward the form to the employee's manager via email. The manager shall have the option to approve or disapprove the employee's vacation time. If the vacation time is rejected by the manager, a notification email is sent to the employee, notifying them of the rejection and allows them to edit and resubmit. If the vacation time is approved, the application sends the form to the administrative assistant and shall update the employee's calendar with the time off.
- The application shall allow organizational managers to generate a report displaying a tally of employee's used sick, vacation, and floating holiday hours.

1.1.2 Out-of-Scope

This project will exclude the following:

- The application will not notify Paychex via phone if the user is out of office or sick.
- The application will also not provide a graphical user interface for any type of administration screens.

2. General Description

The Paychex Out of Office and Personal Time Off calendar mobile application is an out of office notification and tracking system for distributing information about an employee's absence from the workplace to other employees and supervisors. Employees will be able to request vacation, floating holiday, sick leave, or update with an alternative work location. Related employees (organizational/project managers, subordinates, and organizational/project peers) will be updated as to an employee's absence either by daily digest, or by individual email if the digest for the day has already been delivered. An interface used to submit, edit, review, approve, and report on out of office (OOO) requests will be supplied. The application is being developed by Clockwise Services, an RIT Software Engineering Senior Project team, for Paychex, Inc., a provider of payroll and human resources products and services.

Currently, employees at Paychex, Inc. must manually go through a number of steps in order to notify the necessary parties that they will be out of office. These steps entail calling several different phone numbers and filing several different reports. The exact workflow for out of office notification is different for each organization and project. Due to the complexity, an employee could easily miss a step in the notification process. The application is meant to make out of office notifications easier and less encumbered by user error by performing all of the notification steps that the application has been pre-configured to do based on the employee position in their organizational group and projects.

Clockwise Services will be responsible for all development of the application. Neither Paychex, Inc. nor any other entity will be expected to provide development for any subsystems of the application. The application will be web-based with a focus on compatibility with iOS and Android mobile devices. Upon project completion, the project will be transferred to Paychex, Inc. representatives in document and source form.

2.1 Product Features

The following features identify the main goals and functionality implemented in this project. The priority is ranked on a scale of 1-5, 1 being lowest priority and 5 being the highest. The priority for each feature was determined by discussing preferred functionality with the project sponsors and again amongst the team. The release was determined by analyzing the priority and deliverables due in the time period.

ID	Feature	Description	Priority	Release
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F1	Calendar	A calendar containing absent employee information will be made available. The calendar will support daily and weekly views. Each view will display a list of those absent, along with comments about absence.	5	2
F7	Core	The Core consists of the “back-end” of the system. This includes the user database, background processing and tie-ins to external technologies, etc.	5	1
F4	Daily Digest	A daily report shall be emailed to all organizational group and project managers and peers of employees who are absent for the day, regardless of the nature of absence.	4	2
F6	User Interface	The user interface will be in web-format, optimized for mobile devices. It will be consistent across devices. The user interface is separate from the other features because of the importance of its usability, and the number of screen needed to encompass related features.	4	1
F2	Vacation Request	An employee shall be able to submit a vacation approval request. This shall allow the user to complete a form, stating the dates of absence. Once complete, the request form shall be emailed to the appropriate approving manager for approval. The receiving manager may approve or deny the request; if approved, the administrative assistant will receive the request forms for filing. The originating requester will receive email notification of vacation request status, whether approved or denied.	3	3
F3	Sick Leave/ Out of Office Request	An employee shall be able to submit a notice asserting that they will be out of the office for the day, whether due to sick leave or working at an alternate location. The leave request shall be automatically approved, and the appropriate personnel are to be notified.	3	3
F5	Reporting	Reports may be generated displaying statistics about who is out, when, and why. These reports may be generated over a given date range, and filtered by organizational group, project, and individual level	2	4

2.2 User Profiles

The Paychex Out of Office Application has the following three types of users:

2.2.1 Managers

Project and Organizational (not mutually exclusive) Manager exist. These users manage at least one project or organizational group, and are most interested in whether individuals in their project or group are absent.

2.2.2 Project Peer

Employees who are assigned to the same project are considered Project Peers. Users are concerned with whether Project Peers are absent, due to interaction and potentially interrelated work.

2.2.3 Organizational Peer

Employees who work in the same Organization are considered Organizational Peers. Users are concerned with whether Organizational Peers are absent, due to interaction and potentially interrelated work.

2.2.4 Subordinates

Subordinates are employees who work under another user. They are affected by absences of their Project/Organizational manager, as well as the absence of their peers.

2.2.5 Administrative Assistant

These users are responsible for keeping records of employee absences for their organizational group.

2.2.6 General Employees

These users are the members of at least one project and an organizational group. Each of these users are expected to notify their managers if they will be absent from their workplace.

3. Specific Requirements

The following sections contain specific requirements detailing the functional and nonfunctional aspects of this project. These requirements are deemed to be correct, traceable, unambiguous, verifiable, identifiable, and complete. These requirements do not indicate the design of the software, only how it is expected to operate.

3.2 Functional Requirements

Each main feature of the project has been broken down into specific requirements as follows.

3.2.1 Calendar

3.2.1.1 The system shall show the names of employees in a chosen group and overlay the area of the calendar view with a indicator for when or if each employee will be absent.

3.2.1.1.1 The system shall provide an employee display filter to filtered the listed employees to display by a single organizational group, project, individual, or to just display the current user.

- If the organizational group filter is chosen, the system shall display all available organizational groups visually in the form of a tree where the user can select which organizational group to filter by.
 - The system shall default to showing the branch with the user's own organizational group as the area of the tree in focus when the tree is displayed.
- If the project filter is chosen, the system shall provide a field that gives the user the option to choose from a list of projects the user is in or the option to perform an incremental search of project names.
- If the individual employee filter is chosen, the system shall provide a field for the user to perform an incremental search of employee names.

3.2.1.1.2 The system shall allow the user to select an indicator to display more details about the employee's absence. The system shall display information about the type of absence (sick, vacation, etc), the description of the absence, the date/time range the employee will be absent, and the location where the employee will be.

3.2.1.2 The system shall have options to display the calendar in a daily or weekly view.

3.2.1.2.1 The system shall show the daily view with divisions from left to right showing the work hours of the day: 8 A.M. through 6 P.M.

3.2.1.2.2 The system shall show a weekly view with divisions from left to right showing weeks and days of the chosen month.

3.2.1.2.3 The system shall provide an option to change focus to the selected day/week within both daily and weekly views. This is performed by selecting a day on a calendar picker.

3.2.2 Vacation/Floating Holidays Request

3.2.2.1 The system shall permit the user to initialize a vacation request and/or floating holiday usage. A form shall be displayed allowing the user to select the vacation or floating holiday start date, end date, and provide comments about the absence.

- The vacation's end date shall not be before the start date.

3.2.2.2 The system shall display the user's number of remaining vacation and floating holiday hours in the vacation request form.

3.2.2.3 The system shall allow users to combine vacation and holiday hour usage in one request by decrementing the number of available hours for each.

3.2.2.4 The system shall email a notification of the vacation request to the requesting employee's organizational group manager. This email notification shall include a link to a page containing the completed request form, with options to approve or deny the vacation request.

- If a vacation request is approved by the organizational group manager, the system shall email the completed vacation request forms to the appropriate administrative assistant.
- If a vacation request is denied, the system shall require the organizational manager to provide a reason for denial.

3.2.2.5 The system shall email notification of an organizational group manager's approval or denial of a vacation request to the originating requester.

- If a vacation request was denied, a link to edit the vacation request form shall be included in the email. The system shall populate the request form with previously submitted information, and allow the user to edit and resubmit as needed.

3.2.2.6 The system shall record the vacation dates in the employee's calendar, and mark them as absent on the specified dates if the vacation request was approved.

3.2.3 Sick Leave/Out of Office Request

3.2.3.1 The system shall allow an employee to submit notification of sick leave absence or alternate work location. A form shall be displayed allowing the user to provide start and end dates of absence, comments about absence and work location (if the employee is out of office).

- The requested sick or out of office end date shall not be before the start date.

3.2.3.2 The system shall email the requesting employee's organizational manager, informing them of the employee's absence. The email shall contain a link to the absence details page.

3.2.3.3 The system shall record the absence in the employee's calendar, and mark them as absent on the specified date.

3.2.3.4 If a user submits a sick leave/OOO request after the daily digest compilation time, the system shall email the requesting employee's project manager, project team members, organizational group members, and subordinates a notification of the absence.

3.2.4 Daily Digest

- 3.2.4.1** The system shall compile daily reports containing absent employee name, reasons for absence, and alternate work location if relevant.
- 3.2.4.2** The system shall email the daily report to all organizational group managers, project managers, organizational group peers, team mates, subordinates, and administrative assistants of absent employees. The daily report is specific to the receiver; no information about indirectly related employees is to appear on an individual's daily report.
- 3.2.4.3** The system shall send a daily digest email if no related employees are absent. This email shall state "No related employees absent for the day."

3.2.5 Reporting

- 3.2.5.1** The system shall contain a separate page for generating reports, and allow users to select the type of desired report form a drop-down selection list.
- 3.2.5.2** The system shall provide a means to generate a report listing who was out during a given date range, with specific dates and absence comments for each employee.
- 3.2.5.3** The system shall allow the user to filter the report data to display a single organizational group, project, individual, or notification group, as well as allow a combination of filter options.
- 3.2.5.4** The system shall not store reports, but instead generate them as needed.
- 3.2.5.5** The system shall provide a means to generate a report displaying a tally of employee's used sick, vacation, and floating holiday hours.
- This report shall be available to organizational managers only.
 - If an employee has exceeded their allocated hours in any category, the employee name and offending hours shall be displayed in red.

3.2.6 User Interface

- 3.2.6.1** The system shall provide control to submit a sick day
- 3.2.6.2** The system shall provide control to begin and submit a vacation time request
- 3.2.6.2.1** The system shall display and allow completion of request form by employee
- 3.2.6.2.2** The system shall allow managers to approve or reject a vacation form by selecting the appropriate button on the screen.
- 3.2.6.3** The system shall provide a means of submitting the employee's alternate work location
- 3.2.6.4** The system shall provide users a display of metrics created from sick day and Out of Office data
- 3.2.6.5** The system shall displayed any potential error messages in a plain message box pop up. If an error occurs, the system shall store a log of the error information on the server.

3.3 Use Cases

3.3.1 Use Case Actors

System

The System encompasses all processes of the application.

Database

The Database stores all relevant application information, such as employee hierarchies, email addresses, individual calendar information, etc. It is accessed to store or retrieve information.

Application User

The Application User is the Paychex employee currently using the Out of Office application. The hierarchical employment level of the employee is irrelevant, as all Application Users have the same permissions when accessing the Vacation Request, Out of Office Request, Calendar View, and On-Demand Reporting features of the application.

Subordinate

Subordinates consist of any Paychex employee who has a person above them in the organizational hierarchy. The employee may also be of any other user class; they are typically referred to when discussing Organizational Managers.

Group Member

Group Members are the Paychex employees on the same level of the organizational hierarchy. The employee may also be of any other user class, such as Organizational Manager, Project Team Member, Subordinate, Project Manager, or Administrative Assistant.

Project Team Member

Project Team Members are the Paychex employees working on the same project. They employee may also be of any other user class, such as Organizational Manager, Group Member, Subordinate, Project Manager, or Administrative Assistant.

Organizational Manager

The Organizational Manager is a Paychex employee who has subordinates in the Paychex organizational level. The Organizational Manager receives notices of their subordinates' Out of Office requests and vacation requests. It is their prerogative to decide whether a vacation request is approved or denied.

Project Manager

The Project Manager is a Paychex employee who manages a project. The Project Manager receives notices of Out of Office requests for their project members.

Administrative Assistant

The Administrative Assistant is the Paychex Employee who organizes vacation and out of office requests. Once a request has been submitted and approved, the Administrative Assistant files the necessary paperwork. They receive all notices of requests if approved.

3.3.2 Use Case #1

Use Case Name: Create Vacation Request

Actors: Application User, Organizational Manager, Database

Description: A user may submit a vacation request form to their manager for approval

Preconditions:

- The user has logged into the System

Event Flow:

1. Application User selects option to submit request
2. System displays a request form
3. Application User selects vacation request option
4. System queries Database and displays Application User's remaining vacation hours
5. Application User completes the form fields: start date, end date, comments (optional)
6. Application User submits form
7. System stores the form data in Database
8. System retrieves Application User's Organizational Manager email address from the Database
9. System emails a link to the form review page to the Application User's Organizational Manager

Postconditions:

- The Organizational Manager receives an email containing the form and a link to a page that will allow the Organizational Manager to approve or deny the request.

Alternate Event Flow:

3. Application User selects floating holiday option
 4. System queries Database and displays Application User's remaining floating holiday hours

Exceptions:

- 5.E.1. Required form fields have not been filled out
 - 1.1. Alert the user to missing fields
 - 1.2. Continue at step 5

3.3.3 Use Case #2

Use Case Name: Respond to Vacation Request

Actors: Application User, Organizational Manager, Administrative Assistant, Database

Description: A submitted vacation request form may be approved or denied at the discretion of the Organizational Manager. Application User is to be made aware of decision

Preconditions:

- The user has logged into the System
- An Application User has completed Use Case #1 successfully

Event Flow:

1. Organizational Manager receives email containing link to the form review page
2. Organizational Manager activates link to form review page
3. Organizational Manager chooses the “Approve” option
4. System retrieves Organizational Manager’s Administrative Assistant email address from the Database
5. System emails request form to Administrative Assistant
6. System stores vacation dates in Application User’s calendar
7. System emails request approval status to Application User
8. System adds the vacation absence to the Applications User’s calendar
9. If the vacation request is submitted for the current date and after the required time to generate daily reports, System emails the Application User’s Organizational Group Members, Project Team Members, and Subordinates.

Postconditions:

- The approval decision is emailed to the originating Application User. The Administrative Assistant is emailed the forms if the request was approved. The vacation is added to the originating Application User’s calendar.

Alternate Event Flow:

3. Organizational Manager chooses “Deny” option
 - 3.1. The Organizational Manager shall be prompted to provide a reason for request denial
 - 3.2 System creates a link to the vacation request editing page containing current request field information and emails this and notification of denial to the originating Application User.
 - 3.3 User opens link in notification email.
 - 3.4 Continue at Use Case #1, Step 3

Exceptions: N/A

3.3.4 Use Case #3

Use Case Name: Declare Out of Office

Actors: Application User, Organizational Manager, Project Manager, Administrative Assistant, Project Team Members, Organizational Group Members, Subordinates, Database

Description: A user may declare out of office based on sickness or alternate work location to their Organizational Manager.

Preconditions:

- The user has logged into the system.

Event Flow:

1. Application User selects option to submit request
2. System displays a request form
3. Application User selects alternative work location
4. Application User completes the form fields: start date, end date, location, comments (optional)
5. Application User submits form
6. System stores the form data in Database
7. System adds the absence or alternate work location information to the Applications User's calendar
8. If the out of office form is submitted for the current date and after the required time to generate daily reports, System emails the Application User's Organizational Group Members, Project Team Members, and Subordinates.

Postconditions:

- The Organizational Manager, Project Manager, Administrative Assistant receive an email with the details regarding the Applications User's absence or alternative work location, whether in daily digest or separate email afterwards.
- The Applications User's calendar is updated with their absence or alternative work location information.

Alternate Event Flow:

3. Application User selects sick day option
 - 3.1 System queries Database and displays the Application User's remaining number of sick leave hours
4. No location information necessary

Exceptions:

- 4.E.1 The Application User does not enter all required information in the form fields.
 - 1.1 Alert the users to missing fields
 - 1.2 Continue at step 3

3.3.5 Use Case #4

Use Case Name: Send Daily Digest

Actors: Organizational Manager, Project Manager, Administrative Assistant, Organizational Group Member, Subordinates, Project Team Member, Database

Description: The system generates and emails a customized report for each employee who has organizational/project peers, managers, and/or subordinates out of the office for the day

Preconditions:

- The current system time is that of the required time to generate daily reports.

Event Flow:

1. For each employee in the Database, System retrieves the employee's email
3. System generates a filtered report of with that employee's Project Manager, Administrative Assistant, Organizational Group Members, Subordinates, Project Team Members that are out of the office on that given day

4. System emails generated report to the selected employee

Postconditions:

- The Organizational Managers, Project Managers, Administrative Assistants, Organizational Group Members, Subordinates, and Project Team Members receive a daily report, listing only employees relevant to their organizational group and projects that out of the office on that given day.

Alternate Event Flow: N/A

Exceptions:

- 3.E.1. No data was found matching filter options
 - 1.1. Display “No matching absence information found”
 - 1.2 Continue at Step 4

3.3.6 Use Case #5

Use Case Name: Generate On Demand Report

Actors: Application User, Database

Description: An Application User specifies a set of report data to be viewed. This data is gathered and presented to the Application User. The data is not stored after the Application User has completed their task.

Preconditions:

- The Application User has logged into the System

Event Flow:

1. Application User selects report generation option
2. System displays the report page
3. Application User selects data filter options (date, organizational group, project name, individual) for report information
4. Application User chooses generate report option
5. System collects the name and OOO status of employees matching the selected filter options from Database
6. System displays collected information in a separate window
7. Application User views displayed information
8. Application User selects the control to exit report generation

Postconditions:

- A report containing chosen information is displayed

Alternate Event Flow:

- 8a. Application User uses the option to change display format
- 8b. Application User changes data filter options
 - 8b.1. Continue from step 4

Exceptions:

- 6.E.1. No data was found matching filter options
 - 1.1. Display “No matching absence information found”
 - 1.2 Continue at Step 7

3.3.7 Use Case #6

Use Case Name: Viewing a Calendar

Actors: Application User, Database

Description: An Application User may view a calendar showing when and if employees are going to be out-of-office (OOO).

Preconditions:

- The Application User has logged into the System

Event Flow:

1. Application User selects the option to view the calendar
2. System displays the calendar page showing the last used calendar view and employees' OOO information from the Database previously set to display, with the current date in focus
3. Application User selects the toggle to change the current calendar view
4. System changes the view to daily if the view was weekly, or weekly if the view was daily
5. Application User selects the option to change the employee display filter
6. System gives the option to display just the Application User, project team members, individuals, or employees of a certain organizational group on the calendar
7. Application User selects one of the displayed options
8. System retrieves employee name and OOO status from the Database for the chosen option and displays the collected information on the calendar

Postconditions:

- The Application User is able to see the calendar with the chosen employees' OOO information to display in the calendar view they selected.

Alternate Event Flow:

2. The system displays the calendar page showing the Weekly view by default and the Application User's default organizational group as the employees' OOO information to display.

Exceptions: N/A

3.4 Non-Functional Requirements

The following non-functional requirements do not detail how the system is expected to work, but instead what it needs to achieve the functional requirements. They are achieved at a system rather than unit level, and are stated in measurable terms so as to determine completion.

3.4.1 Performance

3.4.1.2 The system shall support at least 20 users simultaneously.

3.4.1.3 The system shall navigate to and load user interface pages in no longer than 5 seconds for forms and no longer than 20 seconds reports on 1 mb/s or more internet connections.

3.4.2 Reliability

3.4.3 Availability

3.4.3.1 The system shall be 99.8% available; it shall be expected to be down for 20.16 minutes per week or less.

3.4.4 Security

3.4.4.1 The system shall require LDAP authentication for users to access the system.

3.4.5 Maintainability

3.4.6 Portability

3.4.6.1 The system shall be supported on both Android 4.0 and iPhone 4 (and newer).

3.4.7 Usability

3.4.7.1 The system shall operate with a simple and minimalistic interface. Buttons, text, and input fields are to be appropriately sized and spaced, and placed so that a user may access each on a touch screen phone with ease

3.4.7.2 The system shall provide a help option with an overview of how to the use system

3.4.7.3 The system shall have an interface whose colors match those of the Paychex logo

3.5 Out-of-Scope

3.5.1 The system shall not provide a user interface for administrative tasks.

3.5.2 The system shall not call into Paychex's phone in system when they are sick.

3.6 Design Constraints

The Paychex Out of Office application will be a web application, hosted on a Windows server. It will be viewable on computers as well as mobile devices. The application will require an internet connection to operate and will communicate with the necessary software interfaces via REST and HTTP.

3.7 Assumptions and Dependencies

The Paychex Out of Office application will need to connect to several external software products. A database will be used to store and retrieve absence information for employees. An LDAP interface will be required for employees to log into the system.

4. Definitions, Acronyms, and Abbreviations

OOO: Out of office

Vacation request: Vacation requests include floating holidays and regular vacation time requests.

5. References

A. Appendices

A.1 Images

A.1.1 Calendar view conceptual wireframe

The wireframe shows a calendar interface for the month of December. At the top, it includes a header with 'Employee' on the left, '< December >' in the center, and 'Months' with a dropdown arrow on the right. Below the header, two date ranges are displayed: '11/25 - 12/1' and '12/2 - 12/8'. The main area is a grid with four rows for employees: Sally May, Fred Mac, Will Bates, and Lin Valt. Sally May has a 'vacation' bar from Dec 2 to Dec 8. Fred Mac has a 'vacation' bar from Dec 3 to Dec 9. Will Bates has a small dark bar on Dec 10. Lin Valt has a small dark dot on Dec 3. The grid continues with empty rows below.

Employee	11/25 - 12/1	12/2 - 12/8	12/9 - 12/15	12/16 - 12/22	12/23 - 12/29	12/30 - 12/31
Sally May		vacation				
Fred Mac		vacation				
Will Bates						
Lin Valt						

A.1.2 Report View

<u>Name</u>	<u>Date</u>	<u>Reason</u>
1. Person 1	12/4/12 12/18/12	sick Hair Appt
2	12/4-12/18	Vacation