***T****ime* ***O****ff* ***W****ork* ***EL****ectronic Calendar (****TOWEL****) Documentation*

The Crownpoint Healthcare Facility is in search of a new and more efficient system for employees to request time off. Currently, the facility is using a paper based system that requires the employees to submit a request in person. The form is currently held in the main Crownpoint clinic, which makes it difficult for employees from other clinics to request time off.

*Crownpoint’s system is formatted as follows:*

* Employees sign a hard copy calendar on the days they want to request off.
* The first three employees to request the same day off get accepted automatically.
* The fourth request must get the necessary approval.

With that in mind, it is possible to easily create a more efficient and functioning system that can benefit the employees as well as the administration.

Some requirements and constraints kept in mind during the development of this application:

* System will allow employees to put in a request for time off.
* System needs an Admin area where requests can be handled and messages can be sent between users.
* First four requests for the same day are accepted automatically.
* Fifth request must be approved by Admin.
* Shortcut to Calendar/Scheduling Tool

The created software uses a Google API to handle the interface of the application. This produces a structurally sound environment for obtaining the required information (name, department, requested date and time, and reason for request) and sending it into the Google Calendar. These required fields are all on a webpage that prompts the user when and where to fill in these requirements. When the user hits submit, the data is then sent into the calendar, which will then present who has requested which days off, and will be color coordinated to show which department that person is in.

**Our functions and interfaces:**

1. The main function opens up the URL of the request form
2. The parseform function obtains all of the inputs from the user:
   1. Name
   2. Department
   3. Start Date
   4. End Date
   5. Reason
3. The schedule function submits the inputs into the calendar and displays them. If too many employees have requested off that day(s), it will send a message to the admin for approval.
4. The askAdminForApproval function sends a message to the admin via email to approve that particular request.

As stated above, the main function is responsible for opening the URL of the request form and getting the responses. The main function takes each response received and parses it using the parseForm function and then schedules it using the schedule function.

ParseForm takes each individual response from Main and parses it to get the users name, the start date of their request, and the end date of their request. During parsing, the function will log the number of the response it is handling, the question being asked (i.e. name, start date, end date, etc.), and the response to that question. If the iteration is 0, the response should be the name; if the iteration is 1, the response should be the start date; and if the iteration is 2, the response should be the end date. Those values are stored in the global variables - name, startDate, and endDate - and used in the function schedule.

The schedule function starts by getting the user’s default calendar and setting giveTimeOff to true. Next, the function will check to see if people have already taken off the dates from startDate to endDate. If the maximum number of users has already been met for those days off, then the function will send the response to the askAdminForApproval function and set giveTimeOff to false; however, if the maximum number has not been met then the function will give the user the requested time off and log the event.

The askAdminForApproval function will send an email to the admin asking them to approve or deny the user’s request.

The main function will continue to perform these functions until all requests in the queue have been parsed and either scheduled or sent to the admin for approval.

**Test Strategy And Results***Introduction:*Group 1’s time off request interface that supports a calendar utilizing Google’s Application Programming Interface (API). This project will augment or replace the current method of a paper system that requires valuable time from staff to take and schedule employee’s time off. The purpose of these tests is to find and amend any bugs or errors that will interfere or impede the original and improved functionality of the request interface

*Strategy:*

Features and functions have been divided into categories and measurable goals, using a pass/fail system.

*Test environment:*

Browsers used:

* Chrome
* Safari

Operating Systems used

* Windows 10
* IOS

*Test Summary:*

|  |  |  |
| --- | --- | --- |
| **Test #** | **Test Description** | **Pass/Fail** |
| 1 | URL opens to Request Form | Pass |
| 2 | Options and fields allow user to provide sufficient details | Pass |
| 3 | Submitted details stored properly | Pass |
| 4 | Differentiation in priority of leave | Pass |
| 5 | Admin notified when necessary | Pass |
| 6 | Script functionality | Pass |
| 7 | UI functionality | Pass |

**Features**   
  
*Requesting a day off:*

* Requests can be filed on the UI through the link
* Amount of people who can request before being denied [4]

*Script Functionality:*

* The script updates every time a request is filed.
* Script accurately sends data to the calendar.

*Organization and information:*

* Shows various types of leave:
  + Sick, Bereavement, personal, legal, emergency, temporary, leave without pay
  + Other (fill in)
* Shows various types of employees
  + Physician, nurse practitioner, midwife
  + Other (fill in)
* Specialty:
  + Family Practice, internal medicine, pediatrics, adult, geriatric, OB
  + Other (fill in)

*Date of time off:*

* MM/DD/YYYY format
* Can be selected from calendar dialogue box

*Admin Interactions:*

* Admin can view responses:
  + Individually
  + By type, date, time
* Admin alerted via email when approval is needed

*Prioritization:*

* Sick leave automatically approved

*UI Functionality:*

* All buttons and links perform as described in user guide

*Results:*

* Features and functions work as described in documentation.