PAST&E Project – Volunteer Management & Notification System

Requirement Document

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I. Introduction:

This is the requirement document for the Portland After School Tennis & Education (PAST&E) Volunteer Management System Project. The purpose of this project is to create a web application that can help all the members of PAST&E keeping track of their volunteer hours and communicating with each other.

This document contains … sections. This section provides a brief introduction to the product such as main goals and objectives, project's scope and context, and target audience of this document.

The second section Product Overview/Usage Scenario will introduce type of users that interact with the system. Along with that, use cases, which explain how each type of user will interact with the system, are also mentioned.

The third section is the Functional Model and Description. It will list all the features that the system is capable of in order to provide a convenient environment for all users.

The fourth section is the Functional Behavior and Description. This section will provide detail behaviors of the system when each type of user interacts with it with specific use cases.

The fifth section is the Nonfunctional Requirement, which will include certain agreements that make sure the system's implementation, documentation undergo the most convenient process for all participants.

The sixth section is the Glossary of Terms, which lists all the words and phrases that are widely used among PAST&E organization. Along with the list, short description will be included.

1. Goals and Objectives:

The ultimate goal of this project is to create a scheduling and notification system for use by the volunteers and staff of PAST&E. This system should be easy to use, allowing the volunteer to access and update their schedule and facilitate messaging between volunteers and staff.

2. Statement of Scope:

The delivered product includes the server-side application database, as well as the mobile application and website front-ends. This is a new web application that will be hosted either on a server provided by the team or on PAST&E's current web server.

What is out of this project's scope is to update the current website, hosted by GoDaddy. However, changes can be made if it is required to support the new scheduling and management system.

3. Software Context:

This system is implemented by team Aperture (team A) under supervision of the Portland State University Computer Science Capstone Company (PSUCSCC).

4. Target Audiences:

The target audiences of this documents includes:

- PAST&E management members (staff) and board members.
- All team Aperture members and relevant PSUCSCC members.

II. Product Overview/Usage Scenario:

This project’s objective is to create a system that helps all the staff members of PAST&E manage volunteers in term of assigning volunteers to specific group of scholar athletes with specific period of time. The system also supports communicating between users and users by sending and receiving messages. On the other hand, it provides feature of running reports on volunteers and sending notification messages or emails to users. The interface of this system will be a web application that can be interacted via a browser with Internet.

This section will provide use cases, in which how specific types of user will interact with the system.

1. User Profiles:

There are three main categories of users that will get in touch with the system at high frequency: Volunteers, Staff, and Administrators. There is also a Parent/Child user; features for this type of user will be listed as a stretch goal implementation.

Volunteers: Lowest users of the program, who will be placed under management of staffs and administrators.

Staffs: The low level manager of the program, who are in charge of the management of all volunteers.

Administrators: The high level managers of the program, who are in charge of the management of all volunteers.

2. Use Cases:

Volunteers

The use cases pertaining to the PAST&E volunteers

Case 1

Volunteer logs in for the first time

1. Volunteer has previously been given login credentials by the Admin
2. Volunteer logs into the website for the first time
3. Volunteer is asked if they would like to change their password
4. Volunteer verifies supplied credentials and asked to fill in missing ones (i.e.: emergency contact information, volunteer's email)
5. Volunteer is taken to the volunteer's home screen where they can access their

schedule and account info

Case 2

Volunteer logs in

1. Volunteer enters their login credentials
2. Volunteer is taken to the volunteer's home screen where they can access their schedule and account info

Case 3

Volunteer views their schedule (this case could be simplified if the schedule is already present on the volunteer's home screen)

Starting from Case 2, #2

1. Volunteer clicks on link to view their schedule and is taken to a calendar showing their volunteer schedule

Case 4

Volunteer creates their schedule

Starting from Case 3, #1

1. Volunteer clicks on link to create schedule
2. Volunteer clicks on the date
3. Volunteer adds time time for that date
4. Volunteer saves changes
5. If it is the same day that the volunteer was supposed to work, the system broadcasts change to staff and admin

Case 5

Volunteer updates their schedule

Starting from Case 3, #1

1. Volunteer clicks on a day that they are scheduled
2. Volunteer is given the option to edit the schedule
3. Volunteer selects to edit the schedule
4. Volunteer change the time for that day or deletes their schedule for that day
5. Volunteer saves changes
6. If it is the same day that the volunteer was supposed to work, the system broadcasts the change to staff and admin

Case 6

Volunteer views their account information

Starting from Case 2, #2

1. Volunteer clicks on the link to view their account information
2. Volunteer is presented with a list of their current information

Case 7

Volunteer updates their account information

Starting from Case 6, #2

1. Volunteer clicks the link to edit their information
2. Volunteer is taken to a page with forms where they can fill in new information

Case 8

Volunteer uploaded a picture of him or herself

Starting from Case 7, #1

1. Volunteer clicks on link to upload image
2. Volunteer is taken to an upload image dialogue box
3. Volunteer selects the image to use from their hard drive
4. Volunteer clicks the "Ok" button
5. System uploads the image from the Volunteer's computer to itself
6. System updates the volunteer's image

Case 9

Volunteer checks messages sent to them

Starting from Case 2, #2

1. Volunteer clicks on link for messages
2. Volunteer is presented with a list of messages that have been sent out, including who sent the message, what time, and what the message is

Case 10

Volunteer sends broadcast message

Starting from Case 2, #2

1. Volunteer clicks on a link to send a message
2. Volunteer is taken to the message page

3. Volunteer selects the appropriate recipient from the dropdown list (volunteers, staff, all)
4. Volunteer fills out information
5. Volunteer clicks submit button
6. Volunteer is taken back to the volunteer homepage

Case 11

Volunteer tries to send broadcast message with required fields not filled out

Starting from Case 10, #4

1. Volunteer has not filled out all of the required info (either selecting a recipient, filling out a subject, or typing in a message)
2. Volunteer clicks submit button
3. System presents the volunteer with a message telling them the field(s) that need to be filled out and highlights the appropriate field(s)

Staff

The use cases pertaining to the staff who work at PAST&E. In addition to the use cases below, the volunteer use cases also apply to the staff with the possible except of the use cases pertaining to scheduling (tracking staff schedules was not discussed).

Case 12

Staff member views a volunteer's public info

Starting from Case 2, #2

1. Staff member clicks on the link to view volunteers
2. Staff member is taken to a page with a list of volunteers with the volunteer’s name and picture
3. Staff member clicks on a photos or name of a volunteer
4. Staff member is taken to a volunteer’s public page

Case 13

Staff member creates volunteer schedule

Starting from Case 12, #4

1. Staff member clicks on the link to create a schedule
2. Staff member enters the starting and ending time

3. Staff member clicks create button
4. Staff member is taken back to the volunteer’s public page

Case 14

Staff member creates a volunteer schedule with missing information

Starting from Case 13, #1

1. Staff member enters the either the starting or ending time or no time at all
2. Staff member clicks the create button
3. Staff member is prompted by the system that they haven’t correctly filled out the schedule

Case 15

Staff member views a volunteer's schedule

Starting from Case 12, #4

1. Staff member clicks link for volunteer’s schedule
2. Staff member is taken to a calendar with volunteer’s schedule

Case 16

Staff member updates a volunteer's schedule

Starting from Case 15, #2

1. Staff member clicks on a day that the volunteer is scheduled to work
2. Staff member is taken to a the page to edit the schedule
3. Staff member changes the information (start time and/or end time) for the schedule
4. Staff member clicks the update button
5. System sends out a broadcast message to all staff about the change if the update to the schedule happened the same day that the volunteer was scheduled

Case 17

Staff member deleted a volunteer’s scheduled time

Starting from Case 16, #2

1. Staff member clicks the button to delete the currently selected schedule entry
2. System asks the staff member to confirm
3. Staff member clicks the ok button

4. Staff member is taken back to the volunteer's public page

Case 18

Staff member checks in a volunteer

Starting from Case 12, #4

1. Staff member clicks button to check in a volunteer
2. System changes the button from check in to check out
3. System updates volunteer's time stamp record

Case 19

Staff member checks out a volunteer

Starting from Case 12, #4

1. Staff member clicks button to check out a volunteer
2. System changes the button from check out to check in
3. System updates volunteer's time stamp record

Case 20

Staff member runs reports

Starting from Case 10, #2

1. Staff member clicks on the link to run reports
2. Staff member picks a report type from a drop down menu
3. Staff member fills out a date range for the report
4. Staff member clicks generate report button
5. Staff member is taken to a new page with the desired report (possibly in PDF format, or a link at the top to go to a PDF format or the report)

Administrator

The use cases for the admin of the system at PAST&E. Like the staff, it is assumed that the admin has the use cases from before

Case 21

Admin creates a volunteer or staff member account

Starting from Case 1, #5

1. Admin clicks the link to create an account
2. Admin is taken to the account creation page

3. Admin selects the account type from the drop down
4. Admin fills out the pertinent account info (name, phone number, emergency contact, email address, etc...)
5. Admin clicks the create button
6. Admin is taken back to the account creation page

Case 22

Admin views a staff member's account

Starting from Case 1, #5

1. Admin clicks on the staff link
2. Admin is taken to a list of staff members, showing their picture and name
3. Admin clicks on a staff member's picture or name
4. Admin is taken to a staff member's public page

Case 23

Admin updates a staff member's account

Starting from Case 22, #4

1. Admin clicks the edit button
2. Admin is taken to the staff member edit page
3. Admin inputs updates to staff member account information
4. Admin clicks the update button
5. Admin is taken back to the staff member's public page

3. Special Usage Considerations:

Parents/Children: as mentioned above this category will be listed as a stretch goal for this project. Users under this category will be able to send messages to staff: absence announcement, when/where to pick up kids… Currently, this type of communication is by directly emailing, calling, sending texts to staff members.

III. Functional Model and Description:

This part will list and describe all features of the program with the most up-to-date info (can be changed from time to time when requirement is changed)

- Receive messages from users and send it to designated users (destination users).
- Store all the info of users into a database system.
- Has a calendar feature that can be updated by users.
- Send a notification or a reminder email to volunteers when they will have their next assigned hour work (this could be considered as reminder from Google calendar, sending a notification email 1hour before the start of the event; or at the beginning of the day).
- Allow users read messages that are sent to them via specific interface.
- Allow volunteers to check in and check out. The output of this will be the number of hours volunteering of one.
- Allow users to update their own info and their schedule.
- Allow management-level users create/update/activate/deactivate/delete lower-level users.
- Allow management-level users update lower-level users' schedule.
- Allow management-level users to run reports on lower-level users' profile. The output of this feature is hours of volunteering of each user.
- Allow administrators create groups for volunteers.
- Allow staffs assign volunteers to specific groups.
- Allow volunteers to run report on their own profile. The output is hours of volunteer.
- Automatically run reports on all volunteers at weekend and return hours of volunteering.
- Automatically send a thank-you email to volunteers whenever they check out.

IV. Functional Behavior and Description:

This section will provide detailed behaviors of the system when each type of user interacts with it with specific use cases. There are three main types of user, which are Volunteers, Staff, and Administrators. Base on each group of users, the system will reply in different manner. Because this is a web application, all interaction will be processed via a web browser and Internet.

The main page: contains a welcome message and all the public information of PAST&E organization. This page does not require a log-in. Users must log in in order to proceed or use other features of the system.

1. Volunteers:

1.1. Check in/out with staff:

Since checking in can only be done by staff members. This feature will be listed in the next section. Volunteers can be checked in with any staff member. It does not have to be the one that they are assigned to.

After being checked in, the system will recognize that user as “online”. With this status, volunteer can log in and check out whenever he/she wants.

1.2. Update profile information:

Volunteers will be able to change their personal profile information. Those sections include: first and last name, date of birth, photo ID, phone number, email address, …

There will be a “Save” button to save all the updated info. The system will send all the new info to the database.

This feature does not require any validation from Staff or Administrator.

1.3. View current schedule of the week:

The system will bring up a weekly/monthly calendar based on the option how user wants to see their schedule. If the volunteer is assigned for any hour during the output calendar, that period of time will be marked by different color.

1.4. C/U/D schedule entry:

The first step of this feature is the user must choose a day of the week or the month that user wants to C/U/D entry of that day.

For creating: the system will bring up text boxes for user to input beginning and ending hour of volunteering.

For updating: user must click on an existing period of time. After that, the method will follow exactly as creating an entry. What the system will do is it will delete the old entry and automatically create a new one.

For deleting: user click on an existing entry. A pop-up message will be showed asking if the user wants to delete the entry.

All of these features will require validation from Staff.

1.5. Send messages to staff:

When volunteer wants to send a message to other users, this feature is used. It will contain three main parts, the received username, subject of the message, and content of the message. Received username and content of the message must not be empty.

On the other hand, when the message is sent, an email will also be sent to the email that is used to register the received username. This will help user in reading messages sent to them without logging in to the system or using a web browser.

1.6. Run a report:

Volunteers are able to run a report on their own profiles. The output of this feature is a status window containing:

- Date and time that user is registered.
- Number of hours volunteering in the current week.
- Number of hours volunteering in the current month.
- Number of hours volunteering since the beginning.

Moreover, volunteers can choose specifically which period of time they want the report to show (which month, week, …)

2. Staff:

2.1. Check in Volunteer:

Checking in volunteer is done by staff members and via staff profile. Staff member will enter username of volunteer and check-in hour. The system will check whether input username exists. If it does, it will be marked as "online". When being marked online, volunteer can log in anytime to check out. If the input username does not exist, the system will require staff member to re-enter.

2.2. Update volunteer profile:

This feature works exactly similarly to feature (1.2). The difference is that staff member can update any volunteer profile. Therefore, there will be a step that staff member enters username of volunteer. The system will search for input username in database. If exists, it will be pulled out for editing. Or else, it requires staff to re-enter volunteer username.

2.3. Run reports on volunteer profile:

Staff members can run reports on any volunteer profile. First the system will list out all the volunteer members with first and last name. Staff will choose one to run reports on. The output of this feature is similar to how a volunteer running a report on him/herself:

- Date and time that user is registered.
- Number of hours volunteering in the current week.
- Number of hours volunteering in the current month.
- Number of hours volunteering since the beginning.

Or the staff member can choose specific month or week to be shown.

2.4. Broadcast messages to all staff and volunteer members:

When staff members want to broadcast a message to all staff or volunteer members, the procedure will undergo similarly to how volunteer sends message to staff. The difference is that the username text box will include all the necessary usernames separating by semi-colons (;).

2.5. Read messages:

First the user must log in. If there are new messages, it will be showed under message tab. On the other hand, the system will automatically send email containing sender's name, subject, and message's content to the received user's registered email.

2.6. C/U/D volunteer schedule entry:

Staff member can C/U/D schedule entry of their assigned volunteers. Many volunteers can be assigned to one staff. The procedure of this feature undergoes the same method to volunteer use case.

2.7. Assign volunteers to specific group of scholar athletes:

Each volunteer will be assigned to one specific staff member the he or she must report to. After being assigned, that staff member is allowed to assign his or her volunteers to specific group of scholar athletes. When staff members log in, under "Assigned Volunteers" tab, they will see list of volunteers that are assigned to them. Along with this list is the option of group that volunteers can be assigned to.

3. Administrators:

3.1. C/U/D staff user:

The Administrator has the highest control to the whole system. Administrator is also the direct manager of the staff information.

For Creating: Whenever there is a new staff joins in, the system will lead the administrator to the textboxes to input the basic information of the staff. Then the system would create an account for this staff.

For Updating: The administrator will update the staff's profile if the staff submit any change to them. Also, only the administrator has the control to update some specific information of the staff.

For Deleting: Whenever there is a staff quit his job, the administrator will cancel this staff's account. The staff is unable to access it any more. However, the information would be still preserved in the database.

3.2. Send administrative messages to staff:

When the administrator wants to send out some messages to staff, this function will be in used. Once the administrator choose this function, the system will lead the administrator to the page that require him to fill in the receiver name, subject of the message and content of message. The receiver name must not be empty.

3.3. Create/Deactivate volunteer profile

When the volunteers submit their application, the administrator will create an account for them. When the volunteers take off, the administrator will deactivate their accounts.

3.4. C/U/D groups (groups of children, each volunteer will be assigned to a group)

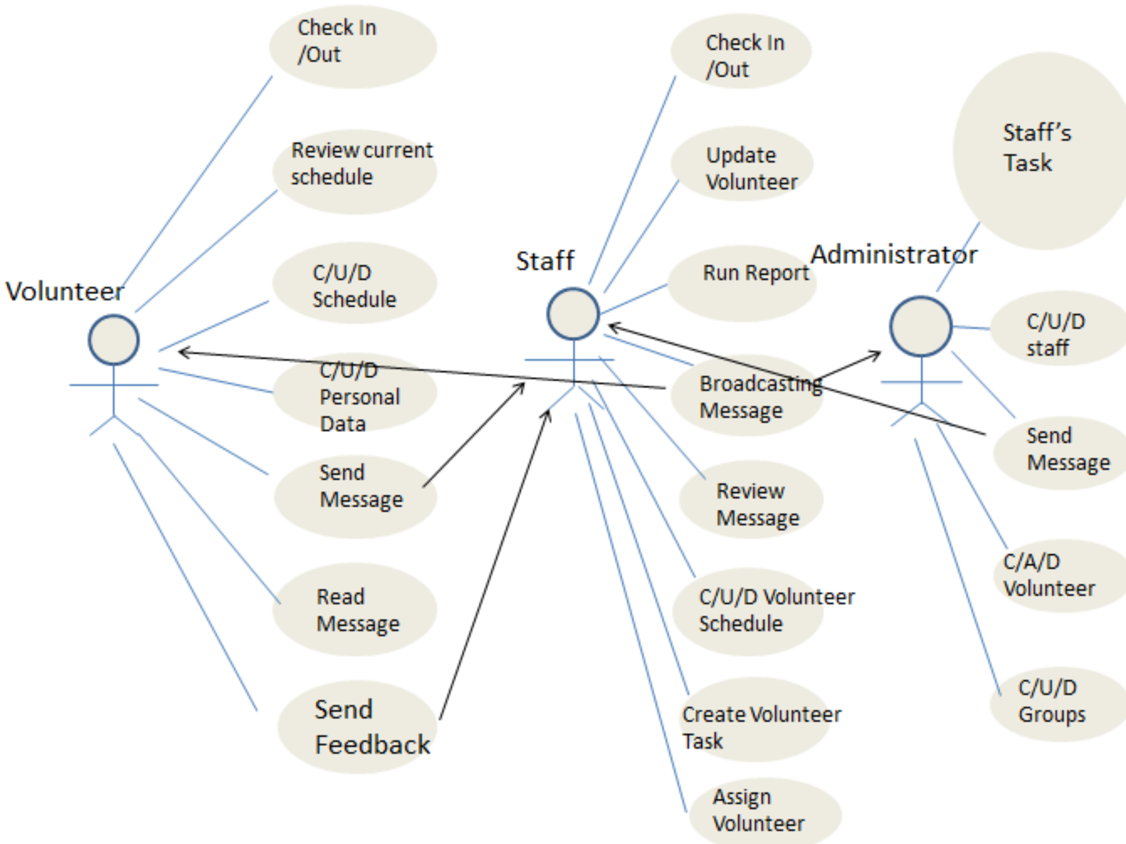
There are several different groups, Elephant, Chimpanzee, Cheetah, etc. The administrator is in charge of the management of those groups.

For creating, the system requires the administrator input the group's name, grade level and other information.

For updating, the administrator will update the content of the groups, including students' name, number, volunteer name and so on.

For deleting, the administrator will delete the group, which won't be used in future.

Here is a graph to introduce the relationship between the users and function behaviors:


Check In
/Out
Review current
schedule
C/U/D
Schedule
C/U/D
Personal
Data
Send
Message
Read
Message
Send
Feedback
Volunteer
Staff
Check In
/Out
Update
Volunteer
Run Report
Broadcasting
Message
Review
Message
C/U/D Volunteer
Schedule
Create Volunteer
Task
Assign
Volunteer
Administrator
Staff's
Task
C/U/D
staff
Send
Message
C/A/D
Volunteer
C/U/D
Groups

V. Nonfunctional Requirements:

This section includes what languages will be used in implementation the system and the usability of the system.

1. Programming languages:

Within the scope of this project, the management and notification system will be built on Drupal, which is built on PHP. On the other hand, MySQL database management system will be used to store all the users' info. In addition to this, if the system has to be deployed on a mobile device that has iOS or Android OS, Objective-C (iOS) and Java (Android) will be taken into consideration.

2. Usability:

The system must have a user-friendly interface for everyone. On the other hand, all functions and features that are built for each type of users must be clearly described and easy to use.

VI. Glossary of terms:

- Scholar Athletes: participants of PAST&E (kids, children who come to learn playing tennis).
- Chimpanzee: groups of scholar athletes who are in 3rd grade.
- Elephant: groups of scholar athletes who are in 4th and 5th grades.
- Cheetah: groups of scholar athletes who are in 6th grade.
- Tutor/Teacher/Coach: volunteers that participate in educating and teaching scholar athletes in tennis and other fields of education.
- Ding-dong: A game played with the students where one side of the court is controlled by the 'champion' team. All other teams rotate on the non-champion side. Each time a non-champion team beats a champion team, they get one point. When a team has three points, they become the new champion team and take control of the champion side. When a team has two points, they must shout Ding-Dong to the champion team when the match starts, hence the name.