

SWEN303 Assignment Two - Volunteer Management System

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Part 1 - Introduction

Description - Volunteer Management System

The World Science Fiction Convention, or WorldCon, is an annual celebration of all shades of speculative fiction, and is entirely volunteer run. In recent years, volunteer management has been paper based, requiring admins to write out each job by hand, volunteers to take each job in person, and admins to sign each job ticket to confirm the job has been done. As well as the heavy bureaucratic burden, this method hasn't kept data around who made each job, meaning volunteers being unable to contact job creators if problems arise.

Technology has the opportunity to fix the pitfalls of the current solution, namely: quickly creating jobs, volunteering for jobs from anywhere, proper communication between admins and volunteers, and fast and accurate confirmation that volunteers have completed the jobs they've signed up for.

Today, there are many digital volunteer management systems available to organisations. One prominent example would be [Campfire](#). Campfire is purpose built for organisations with a hierarchical structure to make and manipulate jobs with ease. Some of the most important features worth mentioning are the calendar view of jobs that allows organisers and volunteers to gauge the resources they have, and will need in an intuitive fashion, and the map view where jobs can be organised spatially. This solution is aimed at political or other activist communities, where volunteers can come from anywhere, and locations are continuous. This contrasts the parameters of a convention's management system, where only WorldCon members can become volunteers, and there are a discrete number of locations in the convention center.

Trello should get another honorable mention as a useful large scale task management tool. Although primarily aimed at small to medium sized scrum teams, Trello has brought on a myriad of useful tools that can be useful for convention running, such as making a job template for easy repeat jobs, and due dates for tasks to indicate when jobs need to be completed.

Even though the need for communication between volunteers and administrators is paramount, I decided not to add a direct messaging function to the web app and instead added the functionality to add the person's primary messaging platform in the profile page. I believe the solution to having too many messaging platforms is not to create another.

Business Objectives

The primary business objectives would be to make a volunteer management system that maximizes efficiency, while being affordable for the membership system WorldCon maintains.

Efficiency is paramount, as the growing size of WorldCon has shown that linear increases in attending members mean exponential energy to manage volunteers. This time has been spent creating jobs, volunteers picking jobs, and confirming volunteers completed their jobs, which is integral to assigning rewards.

A secondary but important issue of keeping records of volunteer hours is also integral to the new system. With the paper system, there was no way to verify volunteers had completed the job, or which administrator signed them off. Because WorldCon Members are upstanding and honest people, there is very little fear of fraud, but a digital system would remove all doubt. Last year, a problem was also encountered where volunteers would arrive at a job and not be able to find anyone in charge, leaving them unable to complete it.

There is also the issue that administrators only knew when a job was taken, and not by who, meaning if a volunteer didn't arrive they would not know who to contact. The new management system should be able to provide volunteers with information about who created and took the job, so they can get in touch in case of emergencies or mix ups.

Finally there has been feedback that the design should be fun. This is highly related to the reward system. In other countries volunteers can be given an item with a clear cash value as reward for their work, but you cannot give 'volunteers' any kind of monetary compensation. So, instead, they will receive points based on the hours they work, and they can claim rewards using the points they have accrued. On top of which, there will be achievements which are visible on the volunteer's profile page.

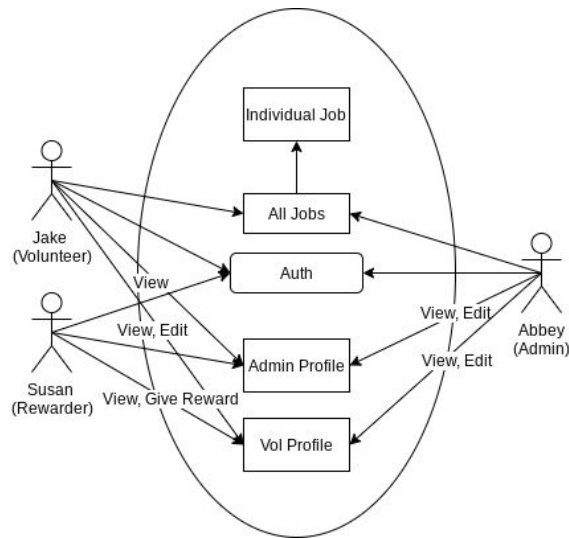
Importance to Stakeholders

WorldCon is a convention for members, by members, making it of utmost importance to make sure things run efficiently, effectively, and securely. A new volunteer management system would improve the quality of the convention in a way that can be built upon further conventions. Without it, the increasing complexity of conventions would overwhelm organisers and lead to a worse experience overall.

Personas and Requirements

Model Overview

UML Diagram



Personas

Abbey Jones (Administrator)

Abbey is 49 years old, and the Art Show Area Head for the next WorldCon. This will be her 11th WorldCon and it's her third time being part of the staff. She has all the domain knowledge she needs from running and volunteering for WorldCon in the past, and has used the old system for managing volunteers. Her goal is to make sure her part of the convention is run as smoothly as possible. Her goal with the new system is to make job creation faster and easier so she gets the volunteers she needs, when she needs them. She would also like to monitor the status of jobs in case they don't find a volunteer in time to do the task.

Activities: When she's not catching up on the latest Extant episode, she's engaging in the SMOFS and fandom communities for her favourite scifi shows.

Attitudes: Not every WorldCon Abbey has attended has gone well, so she's nervous that the new system will be a bigger barrier than improvement.

Aptitudes: Years of fandom arguments and WorldCon attendance and running, she's great at articulating her needs, and has learned how to use technology to do so ever since the advent of email.

Weaknesses:

Domain Knowledge: This is Abbey's first time being in charge of the Art Show, and all her knowledge and experience has come from being a volunteer until now, as well as conversations from previous Art Show area heads.

System Knowledge: Abbey has no experience with the VMS, because she has only used the pen and paper method of volunteer job creation.

Interaction: Abbey will be frequently checking the VMS throughout each day of the con, everytime she needs a new job made, checks the status of her jobs, and marks each of jobs as completed.

Priorities: Her priorities are that jobs are opened and chosen accurately, and to stay informed about the latest changes to their status.

Motivations: Something about being a smof, deep in the WorldCon

community, intrinsic enjoyment of doing a good job for a thing she loves.

Computer Self-efficacy: She is highly tech literate, with a lot of experience using technologies at work and for her hobbies.

Risk Tolerance: She's able to try new things and experiment with new technologies, but prefers to use technologies she's already familiar with

Information Processing: She prefers to have new technologies explained to her before use, and learns best from in person teaching and demonstration.

Tinkering: Abbey prefers to call up tech support to know exactly how things work instead of trying to find it herself.

Jake Fields (Volunteer)

Jake is a 34 year old returning WorldCon member but first time volunteer. He works in academia but has strong ties to the science fiction and fantasy communities, going to regional conventions since he was a teenager. He lives in New Zealand and has only been to the Australian WorldCons. He is excited to work on making WorldCon fun for others and get the exclusive rewards offered to volunteers. His goal with the new system is to be able to pick up jobs whenever he wants to avoid the inconvenience of waiting in line to get jobs, and planning days in advance for which sessions he's attending and when he's free to pick up jobs.

Activities: Jake runs a weekly DnD game with his friends, and also participates in the occasional LARP.

Attitudes: Jake feels relaxed as he is willing to put in 110% effort to make a great Con, but finds it more important to just have a good time.

Aptitudes: Jake likes rules, and is very self motivated when he knows what needs to be done.

Weaknesses: Jake is very introverted. He finds it hard to spend more than 15-20 minutes in conversation with people he doesn't know very well.

Domain Knowledge: All of Jake's experience comes from attending conventions, and while he sees where he might fit in to assisting, has no prior experience working in them.

System Knowledge: The closest system knowledge Jake has is using the trello board at work for creating and managing tasks, but was not formally trained with this system.

Interaction: Jake will be checking the system intermittently. On occasion between breaks to see if there are any jobs he can pick up, and bookending jobs to get them marked off as completed.

Priorities: Jake's priorities are to have a good time, and make sure he puts in his fair share of work for the convention.

Motivations: Jake understands that WorldCon is member funded and volunteer run, so he feels a strong sense of duty to give back.

Computerself-efficacy: Jake keeps up with technology, and uses a multitude of interfaces and applications for his work.

Risk Tolerance: Jake isn't stressed when he doesn't understand how an application works, but will probably just not use a feature rather than ask for help.

Information Processing: Jake is very good at parsing written information because a lot of what Jake does at work involves reading reports.

Tinkering: Jake much prefers to read to understand applications, and would probably not use features rather than experiment.

Scenarios

Essential Use Cases

Creates a Job _(Requires Authentication)_

User	System
Navigate to Job Creation	
	Displays Job creation form
Input Job Details	
Submit Job	
	Save job in database
	Display Confirmation of Success

Checks job status

User	System
Navigate to My Jobs Page	
	Display My Jobs

Navigate and Select Job in question	
	Display full screen details of Job

Change Job Details

User	System
Navigates to My Jobs	
	Display Jobs
Select Job	
	Display full screen details of Job
Select Edit Job	
	Display edit mode for job
Enter New Job Details	
Hit Save Job	
	Ask for confirmation
Confirm Save	
	Send updated job to database
	Confirm the job has saved

Confirms Job's Completion (Administrator)

User	System
Navigate to My Jobs	
	Display all My Jobs
Select job that has been completed	

	Display full screen details of job
Select "Job Completed"	
	Mark Job as completed
	Add job's points to volunteers assigned
	Reload page indicating job's completion

Sort Jobs by Condition

User	System
Navigate to All Jobs	
	Displays all jobs
Select "Sort Jobs"	
	Displays jobs matching condition

Provide Volunteer Reward

Navigate to Volunteer Profile	
	Display volunteer profile
Select "Reward"	
	Prompt "From Existing or New"
Select from Existing	
	Displays Existing rewards
Select Reward	
Select confirm	
	Prompt Double Confirmation
Confirm	
	Display Confirmation

	Display User Profile
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Design

Appendix 1 is the PDF of illustrated designs of the Volunteer Management System application.

Appendix 2 is a Video walk through of several scenarios, using the illustrations to demonstrate.

Reflection

Nomenclature: There was a distinct issue with naming pages and roles. It was hard to find a definition that was clear and also not overlapping. I had to settle on reusing the word job multiple times, which is not ideal, but I found it better than the alternatives, like 'My Agenda' page because it might get confused with the convention schedule itself.

For many UI elements, it was difficult to strike a balance between reuse and differentiation. Volunteers and administrators have different profile page types with similar elements, but the same "My Jobs" page with differing definitions of what qualifies as their jobs; volunteers see jobs they have signed up for, but administrators see jobs they have created.

On a related note, I realised immediately that icons would be extremely important, and struggled with the balance on when to use icons and when to use words. After the first few iterations I added the standard icons most people would recognise: back button, the settings gear, the map balloon. I also thought to add icons for some domain specific variables, specifically in each job where the difficulty of 3 skills are listed: lifting, moving, and social interaction. For these I used an anvil, a walk-sign light, and a speech bubble. I'm afraid these would not be as intuitive as the other ones, and so when prototyping should be mindful to have a hover-over option to say what skill the icon represents. In the future, I will need to do more research with stakeholders on what icons they most associate with each task.

I originally imagined this solution to be a website, but as the design progressed I realised it would work better as a native app. The idea of a native app was avoided because I wanted the solution to be cross platform in the sense of mobile and laptop, and because it would avoid the burden of having to download another app. But, with an app, it would mean less strain on the wifi and cellular networks during the convention, which will already be tested. This means faster navigation between screens in the app, and a more efficient experience overall. I also

considered the fact that the vast majority of use would be on mobile devices, and by making an app we do not rule out the possibility of a web port for certain aspects, like inputting jobs.

Dear lord this is embarrassing.