

Volunteer Management Application

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Abstract — The objective of the Volunteer Management App is to increase youth civic engagement and will contribute to improved social cohesion across communities and regions. It will expand youth volunteerism and it will also encourage them to take part in any activities and improving the employability of youth through enhanced (soft) skills. Many events are going on, but volunteers do not have any platform for searching an event, took part in what they feel interesting. So, we made a web application that will connect event host and volunteer.

Index Terms—Volunteer management, Node.js, MongoDB

I. INTRODUCTION

Nowadays, the demand of volunteers is increasing. But the volunteers facing many trouble to find best work that suits their profile and the kind of work in there, they can enhance their soft skills. The reason to do volunteering is to help people and the other is to develop skills but they are end up doing undesirable jobs (stuffing mailers, cleaning up after events, etc.). They need some platform to search the work so that they can choose from it, know the work in it. Because in many jobs they feel unimportant. If you make them seem like sluff jobs you're handing out to keep them busy, they won't be coming back. Further, event managers are also facing many problems like recruiting enough volunteers to accomplish the things that need to be done, where they can get volunteers, what are their skills, how to assign right task to the right person and many more.

So, our purpose of this project is to connect the volunteers and event hosts in the best way possible by making this web application. Volunteer can see not only events in websites, there are more information regarding the events. So, they would know about the events details and what type of work needed to do in it. Further, we also provide a training program in which they can learn new things interact with professionals (also volunteers) and learn from them and develop new things. What's more, event manager can specify the number of volunteers required in his event and also choose from number of volunteers by viewing their profile. Whether they can fit in given work or not, they can sort the volunteers.

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II. SYSTEM ANALYSIS

A. Problem Statement

The volunteer as well as event manager facing many difficulties for information sharing and communication. For example, volunteers are not able to find good opportunities and end up doing simple tasks and that may be tedious and also not the type of experience they want. It's really difficult to search for events that match their needs the most. Also, the event managers don't have a good platform to advertise their events and find volunteers equipped with a certain kind of skills, such as in what type of work volunteers are good at.

B. Proposed Study

In this work, we propose a well-organized website to connect volunteers and event managers. In this web application, volunteers can browse and choose from many events which they feel interesting and attracted. Also, in the training section, volunteers can gain more or sharpen their skills by getting training from volunteer trainers. The event manager will be provided with suggestions of volunteers and can search the volunteers and according to the volunteer profile. What's more, he can simply click the "contact" button to message those volunteers desired by him/her.

III. IMPLEMENTATION

For our web application, we chose node.js with express as the server technology, mongoDB as database, embedded JavaScript and html for client side view engine. Our whole system is hosted online, server is hosted on heroku and database is hosted on Mlab. The complete architecture of the system is shown below.

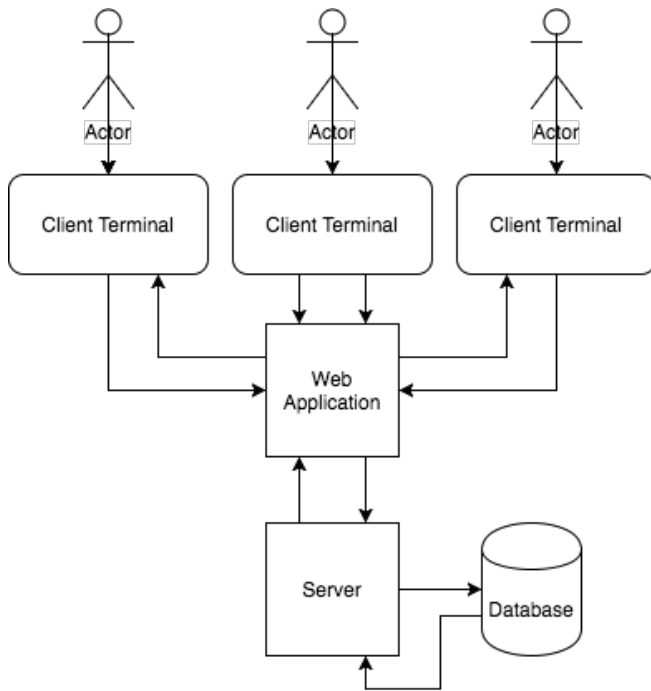


Fig 3.1 System architecture

Our system is a typical web application, the architecture of our system is a model consists of server, database and users' terminals. The huge systems are decomposed into subordinate systems to provide similar set of services as shown above. Figure includes major steps to implement the system and each step is explained below.

A. Understanding the Objective

The first step in developing a project is to understand the objective which involves an understanding of the intent and essentials of a system. This comprehension is used as a problem description and a preparatory system to accomplish the expectations. The objective of our project is to connect event manager and volunteer in best way possible.

B. Creating Data

Once the understanding of the objective is over, the next step is to create the data. We use mongoDB as our Database. Most of all organizations are adopting MongoDB because it enables them to build applications faster, handle highly diverse data types, and manage applications more efficiently at scale. With the help of it. We can remove complex object-relational mapping (ORM) layer that translates objects in code to relational tables. It also has scalability, it can be scaled within a across multiple distributed data centers, providing new levels of availability and scalability previously unachievable with relational databases like MySQL. As your deployments grow in terms of data volume and throughput, MongoDB scales easily with no downtime, and without changing your application.

C. Web Application Development

For developing web application, we use Node.js with express as server. It enables asynchronous programming. After sending task to the computer's file system, it's ready to handle next request. And also, when the file system has opened and read the file, the server returns the content to the client. While in other servers like PHP, it waits while the file system opens and reads the file then it Returns the content to the client and after that it will ready for next request. So, Node.js eliminates the waiting, and simply continues with the next request. It is memory efficient also because of its single-threaded, non-blocking and also asynchronous programming.

We choose ejs(embedded JavaScript) as our client side view engine. With the help of ejs, it's much easier to combine html and JavaScript language for client browsing purpose.

D. Layout of Web Application

In our application we use five main pages(Home, Login, Opportunity, Profile, Create Event).In Home page, the information about our website is given. What we do, what kind of event is going on campus, how to contact us. In Login Page, user have to create login, and that information will be saved in mongo data base. The password will be encrypted by a middleware called "bcrypt-nodejs". So in the database, the password will look encrypted.

In Profile Page, users will be able to edit their profiles about in which field they are willing to volunteer for and in which field they are willing to train people as well as his basic information. In Opportunity Page, volunteer can search from all the events and request to enroll in any event. The event manager can see the enrolled volunteer and sort them accordingly by their skills. This page gives all the information for events like where it will be held, in what time, description of event, which type of volunteer required and many more.

In Create Event page, event manager can create event as well as training program. While creating event, he can also specify how many volunteers are need for particular expertise. When event manager hit submit button, information about event will store in mongo Database. and that will display in opportunity page as well as event manager's profile page. Below figure shows the layout of web application pages.

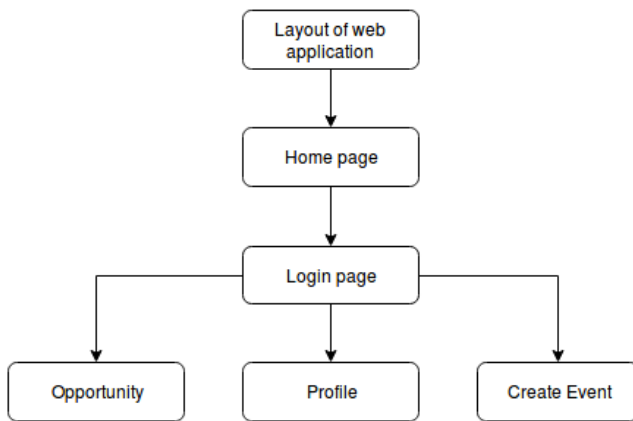


Fig 3.1 Layout of Web Application

IV. CONCLUSION

This section, we will provide some main features of our project and some screenshots of those related features and functionality.

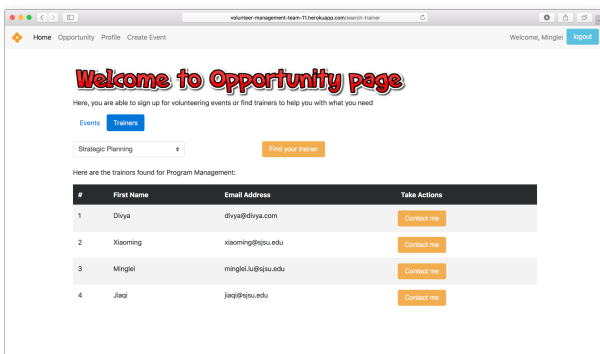
A. Sign-up and log-in

First, when a volunteer decides to use our system, we ask them to register with a new account in our system.

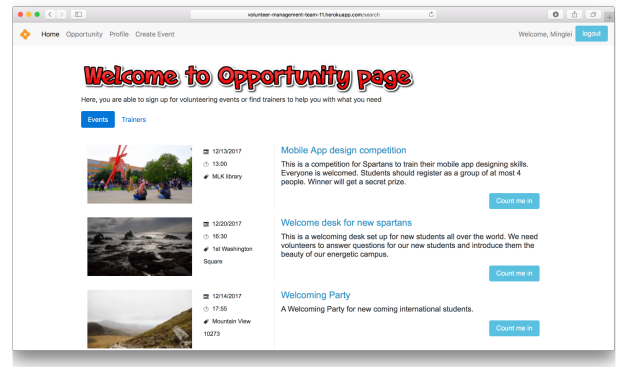
Then users will be able to edit their profiles about in which field they are willing to volunteer for and in which field they are willing to train people.

B. Expertise Training between volunteers

More than only opportunities for events volunteering, our system will provide volunteer with training opportunities. Users are allowed to choose in which field they are willing to train. So when a user search for a trainer, he/she will choose a field, and the system will suggest the user with people who are willing to train others in that field. Then the user will be able to contact the guys they choose.



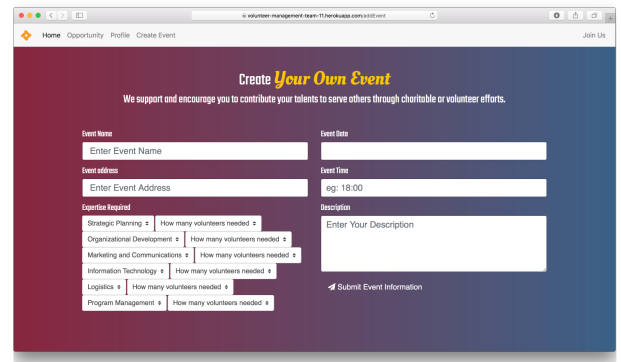
In the same page, users can browse the events going on in the future. Click the name will take you to a page with detailed information.



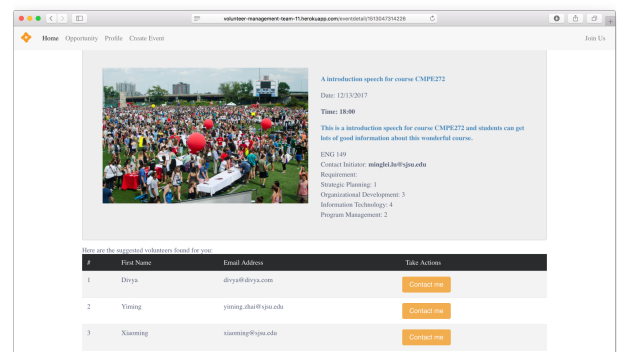
After a user clicks the “count me in” button, the event will be displayed in the users’ profile page in the “My events” tab.

C. Create new Event

Event Managers can also create events and post it on our server. Event initiator can specify the name, date, time and also expertise requirements for the event they create.



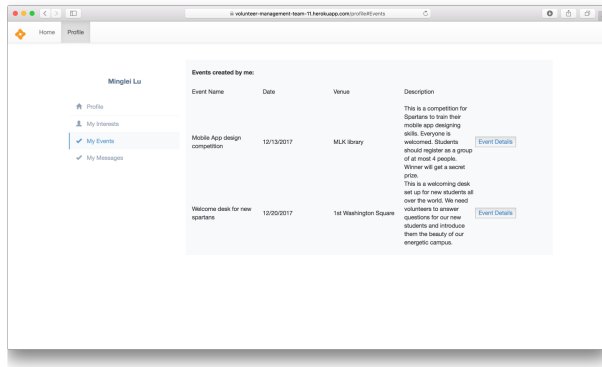
After they created the event, they will be directed to the page with the event details. Also, the system will suggest them with a list of users that are suitable to work for the event.



Under the event detail table, there are some volunteers that the system suggests the event initiator to contact. After the event manager click the button “contact me” button, the user will receive a message within the system which will be shown later.

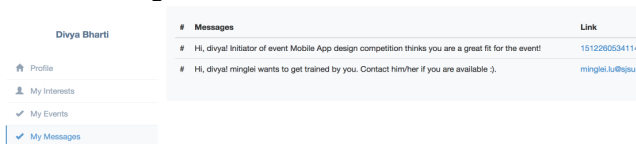
C. User Event Management

In this tab, volunteers will see the events they volunteer for, event managers will see the events they create.



D. Messages

In this tab, users will see the messages sent from other users (both volunteers and event managers). Once a event manager click the “contact me” button, system will send a message to the volunteer. Also, when a volunteer searches for trainer and click the “contact me” button, the system will also send a message to the volunteer.



As shown in the screenshots, the link on the right side can take you to the related event that the manager suggested you to join. For training, the link will simply be the email address of the trainee who is interested to be trained by the user.

E. Demo

Since we have hosted our web application online. If you are interested to try it yourself, feel free to click the link below. You're recommended to create a new account on your own and try to browse our system.

<https://volunteer-management-team-11.herokuapp.com/>

V. REFERENCE

- [1] We don't have any reference for our project.