Tribhuwan University

Institute of Engineering

Pulchowk Campus

A Project Report on:

Volunteer Management System

Submitted By:

Amrit Baral(076bct006)

Nabin Da Shrestha(076bct037)

Nirajan Bekoju(076bct039)

Nishant Luitel (076bct041)

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Department of Electronics and Computer Engineering

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Contents

Abstract

A volunteer management system is a software created to help organizations adminster volunteer programs, events, or initiatives. This software offers volunteer recruitements features, scheduling, management and communication and acts as a database for all of an organization's volunteer information. This software also offers feature sets specifically fo the administrative requirements to manage any number of volunteers and events. Volunteer Management System ensure the sustainability of any programs and events that rely on volunteer's work. In short, Volunteeer management system can make sure that the any events that an organization perform has enough number of volunteers and also promote volunteering. All the events of the organization can be managed and scheduled and event manager can invite volunteer for the upcoming events.

Keywords: Volunteer Management, Web Development, Django, API, React, DFD

Introduction

Volunteering has been one of the most important factor for the successful completion of events. Several task in any events can't be completed without the help of volunteers. However, it is important for any organization to get complete information about volunteers so that they can know whether they are suitable of volunteering in a particular events or not. That is where volunteer management system can help. Because volunteer management system contains all the required information about the volunteer and it also provides a platform for communication between the volunteer and organization where organization can perform some question answering before recruiting the volunteers. Volunteers can also get detail information about the events being organized and they can show interest as well as request to be a volunteer in out proposed system.

Problem Statement

Recruiting right volunteers for an event is an important factor as skillset of volunteer matters in the smooth coordination in any event. Organizations have trouble to inform volunteer about the upcoming events and to check if volunteers are available for the event or not. It is difficult for any organization to guess the number of volunteers available and their needs as well. Moreover, it might be tedious for volunteers to apply physically. So, volunteer management system's goal is to solve all these problems and it is built with following objectives.

Objectives

- To manage all the events of an organization.
- To provide a platform for communication between volunteer and event manager.
- To verify the qualifications of volunteer for an event.
- To promote volunteering

Programmer's Guide

Software Detail

1. Technical Detail of Implementation

   Volunteer management system was built using Dango and Django Rest Framework for backend and React, Redux for Frontend. Sqlite was used as database in local server but PostgreSQL was used while hosting the website.

2. Authentication Detail

   Json Web Token Authentication was used with the help of djangorestframework-simplejwt version 4.7.2.

3. Level 0 Data Flow Diagram

   Level 0 Data Flow Diagram shows the flow of data from volunteer, admin and organization to and from the volunteer management system. All the functional features are shown briefly in the given level 0 data flow diagram.

0 level Data Flow Diagram for Volunteer management system
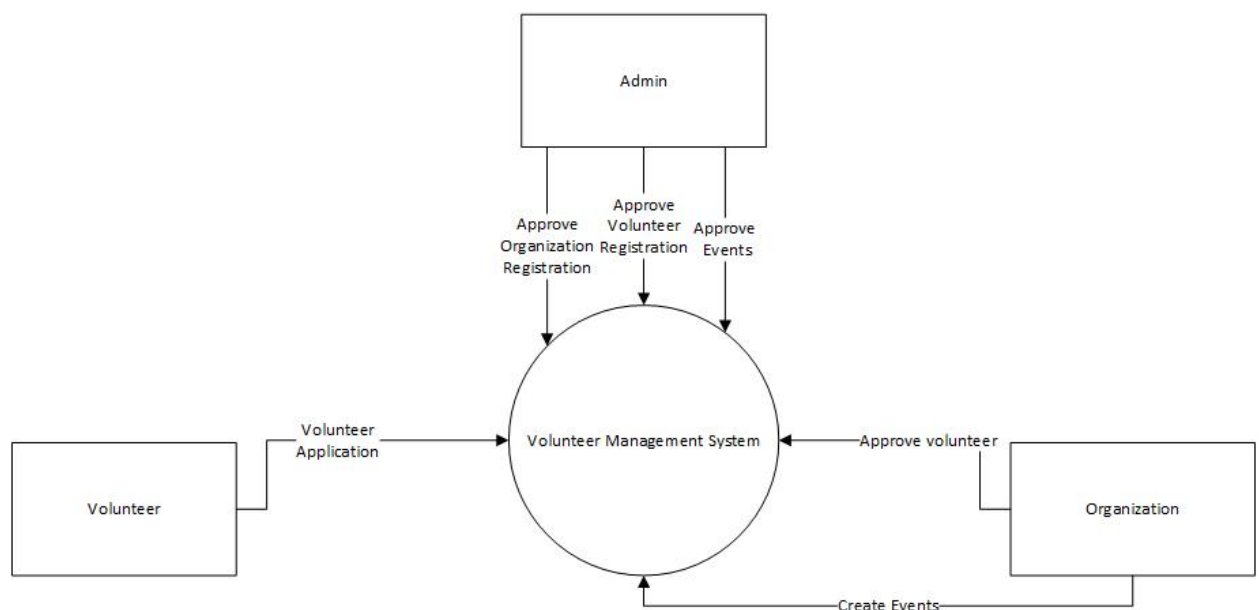
4. Level 1 Data Flow Diagram

Level 1 data flow diagram shows all the description of how data flow occurs in volunteer management system and detail action of organization, volunteer and admin of this system. It shows all the related process as well as the database table and data flow between them in detail.
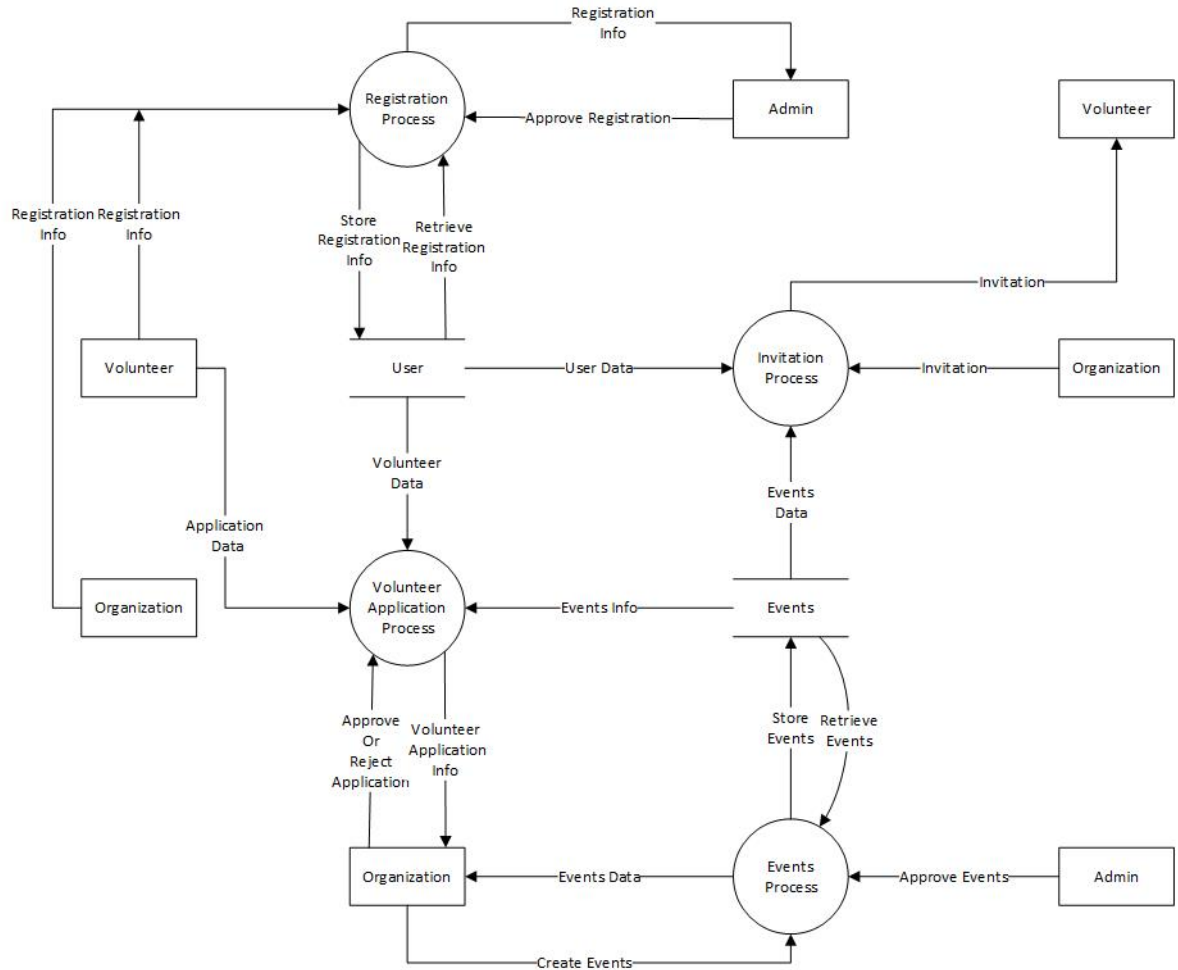
5. Entity-Relationship Diagram

Following diagram shows the entity-relationship diagram of the volunteer management system.
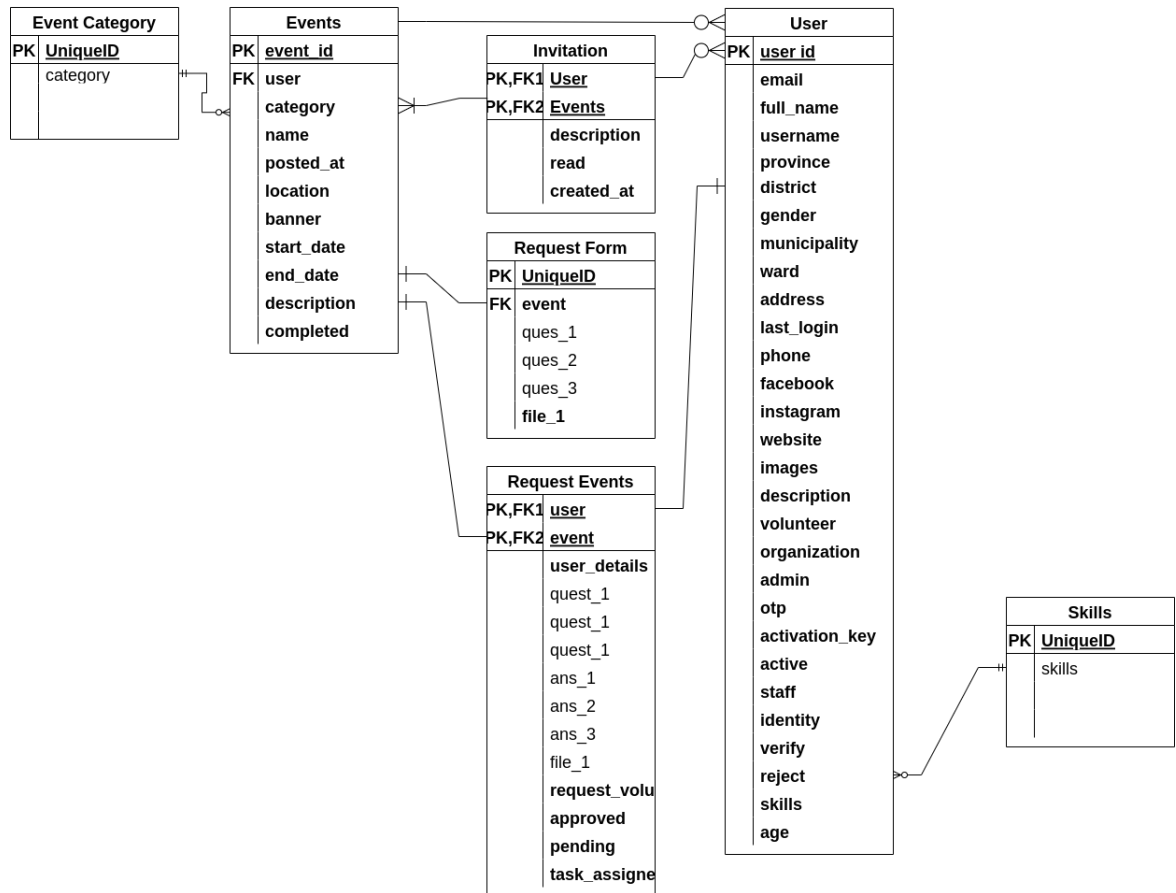
API Endpoints Details

Api Documentation was made with the help of Swagger. A brief details of all api grouped into django application are given below:

1. Authentication

   This application deals with all the authentication works like login, logout, profile detail and password reset.

GET	/authentication/	authentication_list 🔒
POST	/authentication/login/	authentication_login_create 🔒
POST	/authentication/logout/	authentication_logout_create 🔒
POST	/authentication/password_reset/ — An Api View which provides a method to request a password reset token based on an e-mail address	authentication_password_reset_create 🔒
POST	/authentication/password_reset/confirm/	authentication_password_reset_confirm_create 🔒
POST	/authentication/password_reset/validate_token/	authentication_password_reset_validate_token_create 🔒
GET	/authentication/profile/	authentication_profile_list 🔒

2. Category

   This app contains all the information about the category of the events and skills of the volunteers.

GET	/category/events_category/	category_events_category_list 🔒
GET	/category/skills/	category_skills_list 🔒

3. Events

   This app contains all the information about events management such as events history, events registration, update and deletion.

GET	/events/events_ascending/	events_events_ascending_list 🔒
GET	/events/history/{user_id}/	events_history_read 🔒
GET	/events/like/{E_id}/	events_like_read 🔒
POST	/events/register/	events_register_create 🔒
GET	/events/self/	events_self_list 🔒
GET	/events/update/{id}/	events_update_read 🔒
PUT	/events/update/{id}/	events_update_update 🔒
PATCH	/events/update/{id}/	events_update_partial_update 🔒
DELETE	/events/update/{id}/	events_update_delete 🔒
GET	/events/user/{user_id}/	events_user_read 🔒
GET	/events/{E_id}/	events_read 🔒

4. Invite

   This app deals with the invitation of the events to volunteers with email features.

GET	/invite/read/{I_id}/	invite_read_read 🔒
GET	/invite/{U_id}/	invite_read 🔒
POST	/invite/{U_id}/{E_id}/	invite_create 🔒

5. Miscellaneous

   This application handles the basic operation like searching and sorting of events.

GET	/miscellaneous/advance_search/	miscellaneous_advance_search_list 🔒
GET	/miscellaneous/events/	miscellaneous_events_list 🔒
GET	/miscellaneous/events/search/	miscellaneous_events_search_list 🔒
GET	/miscellaneous/events/sort/{category_id}/	miscellaneous_events_sort_read 🔒
GET	/miscellaneous/events/sort_desc/	miscellaneous_events_sort_desc_list 🔒
GET	/miscellaneous/show/number/{E_id}/	miscellaneous_show_number_read 🔒
GET	/miscellaneous/skills/search/{skill}	miscellaneous_skills_search_read 🔒
GET	/miscellaneous/users/search/	miscellaneous_users_search_list 🔒

6. Organiation

   This application provide the request form to join an event for volunteers and also approve the volunteer request form after the proper review of volunteer detail and question answering.

GET	/organization/approval/request/{E_id}/{U_id}/	organization_approval_request_read 🔒
POST	/organization/approval/{E_id}/{V_id}/	organization_approval_create 🔒
POST	/organization/request/form/	organization_request_form_create 🔒
GET	/organization/requested/form/{E_id}/	organization_requested_form_read 🔒
GET	/organization/requested/{E_id}/	organization_requested_read 🔒

7. User

   This application deals with user registration, profile update and verification.

GET	/user/profile/{U_id}/	user_profile_read
POST	/user/register/	user_register_create
POST	/user/register/verify/resend/{id}/	user_register_verify_resend_create
POST	/user/register/verify/{id}/{otp}/	user_register_verify_create
GET	/user/update/{id}/	user_update_read
PUT	/user/update/{id}/	user_update_update
PATCH	/user/update/{id}/	user_update_partial_update
DELETE	/user/update/{id}/	user_update_delete

8. Validate

   This application deals with email validation.

GET	/validate/email/{email}	validate_email_read
GET	/validate/username/{username}	validate_username_read

9. Verification

   This application deals with the verification of volunteer as well as organization by the admin of volunteer management system.

GET	/verification/alluser/	verification_alluser_list
GET	/verification/showalluser/	verification_showalluser_list
GET	/verification/showallvolunteers/	verification_showallvolunteers_list
GET	/verification/showspecificuser/{U_id}/	verification_showspecificuser_read
POST	/verification/user/{U_id}/	verification_user_create

10. Volunteer

    This application helps volunteer to show interest in an event and apply for specific events along with question answering in the organization's volunteer request form.

POST	/volunteer/interested/event/	volunteer_interested_event_create
GET	/volunteer/interested/{U_id}/	volunteer_interested_read
POST	/volunteer/request_event/{U_id}/{E_id}/	volunteer_request_event_create
GET	/volunteer/requested_specific/{U_id}/	volunteer_requested_specific_read

User's Guide

Basic Detail

1. Home Page

   In order to login, click the upper right corner Login Button.
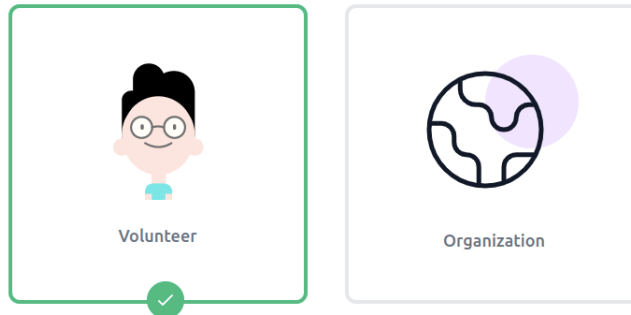
2. Login

   This is the login page. You can login and if you donot have an accout, click the sign up link at the bottom of the form.

3. Registration

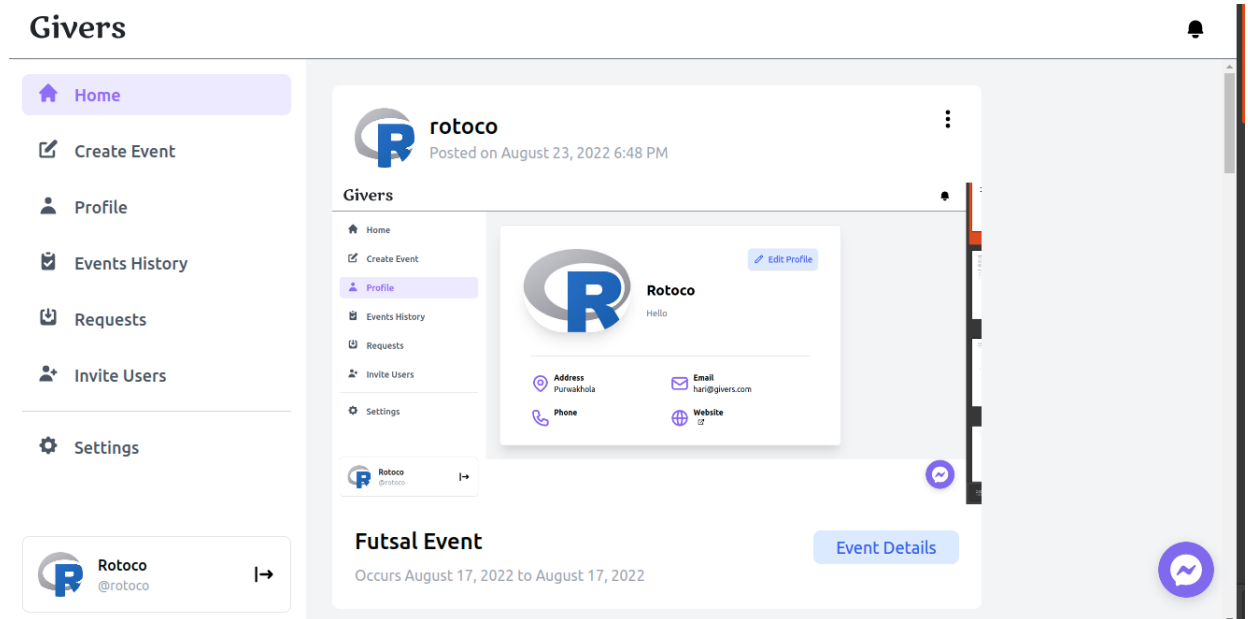   Here, you can register as an organization or a volunteer and follow up five steps to sign up.
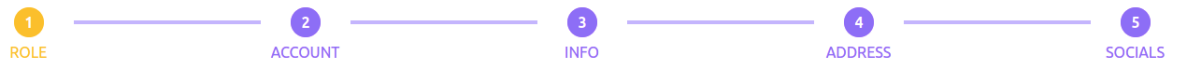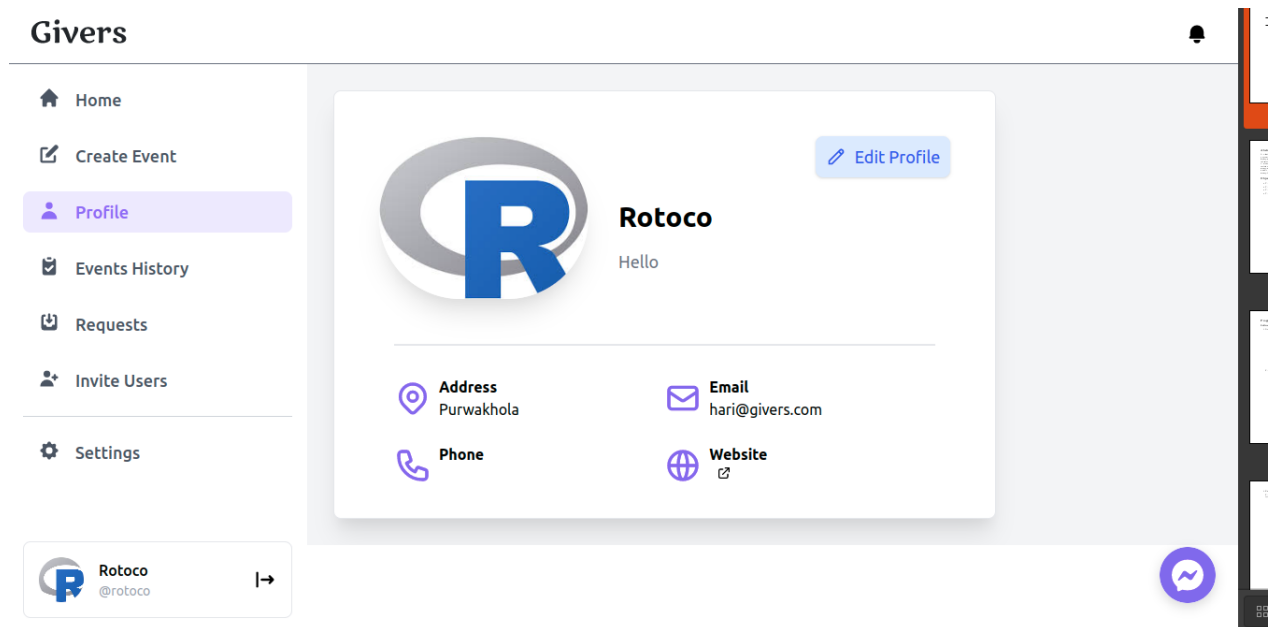
Organiation' Guide

1. Home Page

   In the home page, we can see different menu in the left bar and a newsfeed to follow up the events in the middle division.

2. Profile

   We can view the profile detail as well as edit profile with the help of Edit Profile Button on the upper right corner.

3. Create Events

   Fill up the create event form as shown below to create an event.

4. Event History

   This menu contains all the events that the organization has completed.

5. Requests

   This menu contails all the events list that the organization has requested volunteers for.

6. Invite Users

This menu shows all the upcoming events and the invited volunteer and participants in the event after clicking View All link.

Givers

🔔

- 🏠 Home
- ✏️ Create Event
- 👤 Profile
- 📋 Events History
- ⏻ Requests
- 👤+ **Invite Users**
- ⚙️ Settings

Rotoco
@rotoco
➡️

← Go Back

Showing all Users

Event Name : Futsal Event

Filters

Gender

| Choose a gender ⌄ |

Age

| 20 | to | 40 |

Address

Province

|	NAME	GENDER	ADDRESS	AGE
avatar	Rita Khadka	Female	Mustang	35
avatar	Mina Lama	Female	Jajarkot	45
avatar	gemet89440@petloca.com	Male	Mahottari	

Volunteer's Guide

1. Volunteer Home

   This is the home page of the volunteer where we can see the menu on the left bar and newsfeed of upcoming events in mid division.
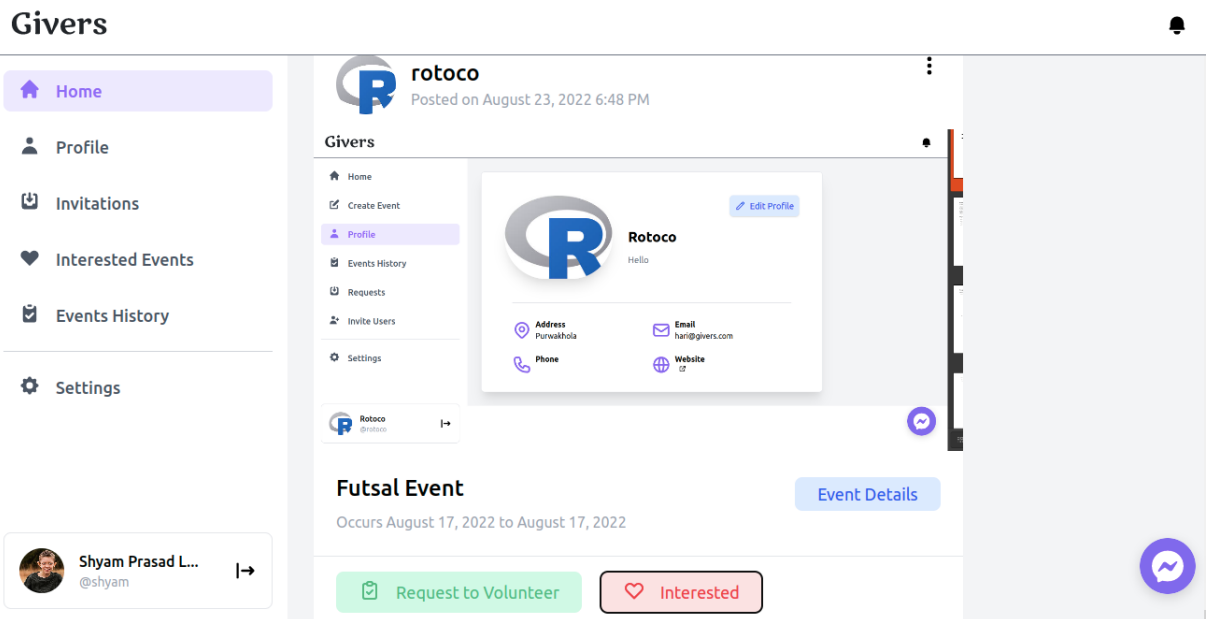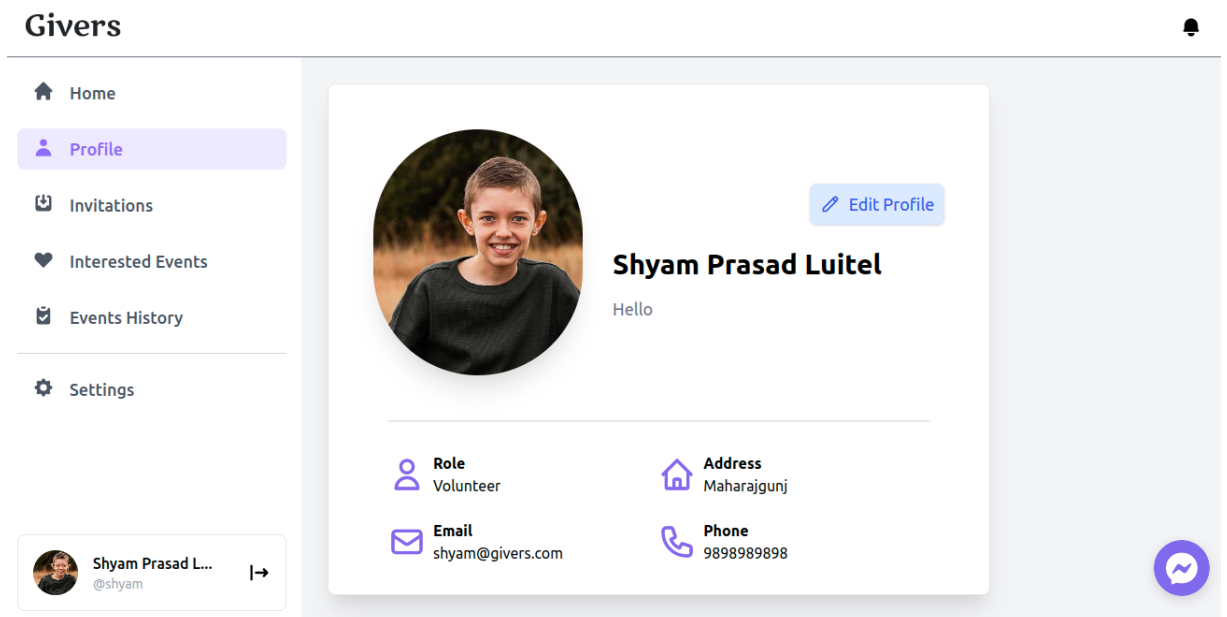

   The events post contains a bar for event detail where volunteer can show interest to an event as well as request to be a volunteer.
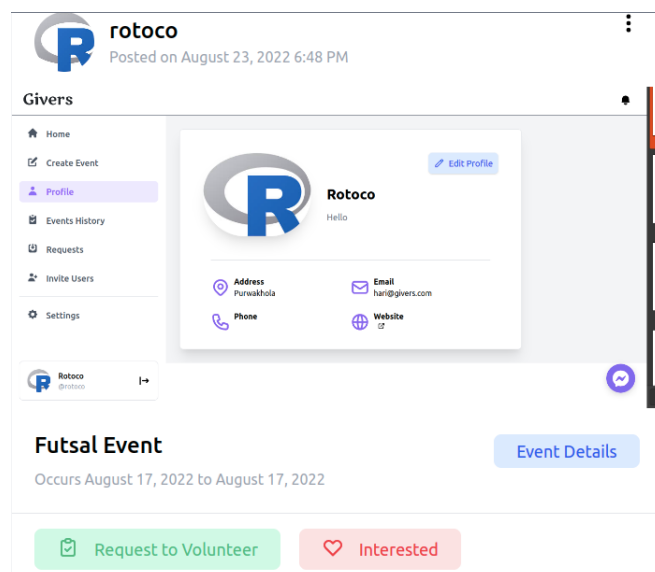
2. Profile

Below is the profile menu of Volunteers where they can see the detail as well as edit profile.

3. Invitations

This menu contains all the invitations from organizations for an event.

4. Interested Events

This menu shows all the events that the volunteer is interested in.

5. Events History

This meny shows all the events that the volunteer has participated.

Conclusion

Volunteers play significant role in the successful completion of any events of any organization. With the help of volunteer management system, any registered organization are able to manage events and request for volunteers on the basis of certain skillsets and question answering. Validation of volunteer skills and approval of request form is possible through this system. Moreover, Volunteer can also search for the events which are more likely of their interests and can contribute and also develop self personality. In summary volunteer management system provides platform to organization and volunteer for the successful execution of any program.

Future Enhancement

1. In order to promote volunteering work, Badge will be provided to the volunteers.

2. Review of events and volunteering experience platform will be added.

3. Availability of volunteer feature will be added.

4. For the effective communication between organization and volunteer, real time chat features will be added.