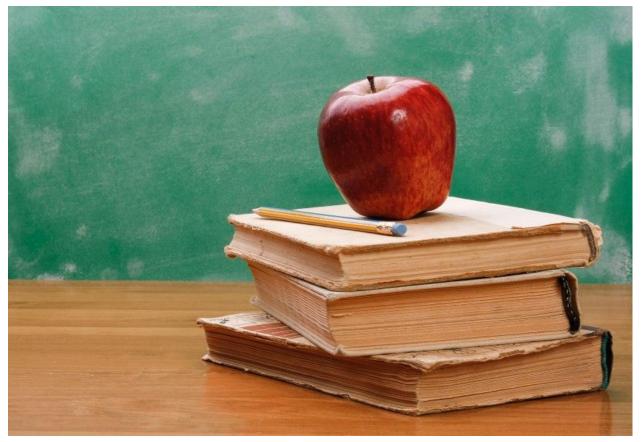# Equal Education Technical Report

CS373: Software Engineering Fall 2018

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Motivation:

Our website is designed to help people find charitable opportunities to assist underprivileged children with their education. In today's society, a strong, reliant education is essential to living a successful life; yet there are many school districts in America that lack even basic school supplies. We wanted to showcase less fortunate areas in the US and allow users the opportunity to give their time or financial support to these communities. We hope that these contributions allow less privileged children have the same opportunities and benefits as more affluent areas.

User Stories:

Our core interest is to provide an extensive database of school districts in need of assistance. The website aggregates a large number of low-income areas and links them to charitable organizations and volunteer events relevant to that area. Users can then either search for school districts within their area, donate to charity organizations that they trust, or sign up for volunteer events. We believe that many people would be willing to donate their resources, but they might not know how or whom to trust. We want to showcase to our users just how many different, reliable ways there are to help out the community in regards to education.

Models:

Our three models are <u>school districts</u>, <u>charitable organizations</u>, and <u>volunteer events</u>.

School Districts

The school district model consists of lower income school districts in America. Each school district will have its name, location, description, population under poverty, charities involved, and opportunities available listed. Users can sort by poverty level (using data from census.gov), and date of establishment to determine which school is the best fit. There is also an option to filter districts by state so the user can easily find opportunities within their area.

Charities

The charity model consists of several charitable organizations involved with education. Associated with each charity is its location (city, state), deductibility, ruling date, their mission statement, volunteering events, and schools associated. The charities can be sorted the name of the company, date of establishment, and rating (as done by CharityNavigator.org.) We want to make sure users feel comfortable in giving their donations to a reputable cause. The user can also directly search for any specific organization they have in mind.

Volunteer Events

The volunteer model consists of a myriad of events for users to donate their time to. Listed for each event is the location, time of event, school districts associated, the description of the event, charities involved, and the skills required (supplied by VolunteerMatch API.) Events can be sorted by date, name, or organization involved. We realize that many people might have a strict schedule, so we want to provide users with a way to find the perfect event.

RESTful API:

Link:

The mockups for the models are built using Postman Mock server. We built 2 end points for each model:

1. `/<plural_model_name>` : outputs a JSON with lists of all the entities in the model. This end point also takes parameters that could be used to filter on. Ex: `/charities` and `/charities?district_id=0`
2. `/<model_name>/:id` : outputs a the specific model entity identified by "id". Ex: `/charity/0`

We have three models:

1. School Districts (`/school_districts`)

Fields	Description
id	identifier
name	name

child_pop	Population of school going children
pov_child_pop	Population of children below poverty line
state_code	State code
district_code	School District code

2. Charities (*/charities*)

Fields	Description
id	identifier
name	name
url	Webpage url
mission	Mission statement
start_date	Established date
district_id	Id of the school district
mailing_address	Mailing address
deductability	Tax deductibility
rating	Rating out of 5
charity_navigator_url	Charity Navigator Website url
Income amount	Income cash held by the charity

3. Volunteer Opportunities (*/opportunities*)

Fields	Description
id	identifier
title	name
availability	Time for which the volunteer needs to be

	available for
parentOrg	Charity organization that is organizing this
minimumAge	Minimum age of the volunteer
skillsList	List of skills that are expected from the volunteer
location	City and state code
district_id	School district id associated with this event
description	Description of the activities

Tools:

- Team communication was done primarily through **Slack**

- **Gitlab** used as our Git-repository manager

- The **Bootstrap** framework used for front-end design

- **Postman** used to develop and test API

- **React** JavaScript library used to build the User Interface

Hosting:

- **Google Cloud Platforming (GCP)** is used to host our website/API

- **Google Cloud Storage (GCS)** is used for storing and accessing data from database hosted by **GCP**

- Domain (EqualEducation.info) provided by **Namecheap**