# Project Description
# COMS 4111 Databases

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## 1  Project Goal

Our goal is to provide potential donors to Donorschoose.org projects with additional information regarding the quality and character of the school environment so that they can maximize the utility of their donations. Currently, Donorschoose.org provides only one mechanism for classifying schools hosting projects: schools are divided into low, medium and high poverty levels. By utilizing more granular data released by the New York City government, we can provide more information both about the demographics in a school district as well as the school's performance. Statistics for school performance that we can provide include school attendance rates, AP and SAT exam scores, NY Regional Math Test scores, NY Department of Education (DOE) school ratings, etc.

We would like to create a web front-end that would allow a user to look for Donorschoose.org projects based on these and other statistics, as well as by geographic region (including borough, school district and zipcode). We intend to provide data visualization using the Google Maps API.

## 2  Organizational Structure

### 2.1  Entity Sets

- Schools

    - **<u>Name</u>**
    - povertyLevel (CHAR) [Poverty level of school]

- Projects

    - costToComplete (REAL)
    - expirationDate (CHAR)
    - fulfillmentTrailer (CHAR) [What money will be spent on]

- – fundingStatus (CHAR)
- – fundURL (CHAR)
- – **id** (INT)
- – imageURL (CHAR)
- – percentFunded (REAL)
- – proposalURL (CHAR)
- – shortDescription (CHAR) [Explaining the goals of the project]
- – subject (CHAR)
- – title (CHAR)
- – totalPrice (REAL)

- Teachers

  - – Name
  - – numCurrentProjects (INT)
  - – numTotalProjects (INT)
  - – TID (INT)

- Users

  - – amountDonated (REAL)
  - – **email** (CHAR)
  - – name (CHAR)
  - – numDownVotes (INT)
  - – numProjectsFunded (INT)
  - – numUpVotes (INT)
  - – password (CHAR)
  - – passwordSalt (CHAR)

- School Districts

  - – **districtNumber** (INT)

- City Boroughs

  - – **name**

- School Surveys

  - – →**School$Name**
  - – **Year**

- Tests
    - →School$Name
    - Test Type
    - Year

- Addresses
    - Latitude (REAL)
    - Longitude (REAL)
    - **Street Number**
    - **Street Name**
    - **Zipcode**

- Grade Levels

- Votes
    - Type (CHAR) ['up', 'down']

## 2.2   Relationship Sets

- Teachers⇒**PROPOSE**—Projects

- Projects⇒**AT**—Schools

- Schools⇒**IN**—School Districts

- School Districts⇒**IN**—City Boroughs

- Schools⇒**HAVE**—Addresses

- Users⇒**SUBMIT**—Votes

- Users⇒**MAKE**—Donations

- Votes⇒**RATE**—Projects

- Donations⇒**FUND**—Projects

# 3   Questions

- Say we have an attribute of a relationship between two entities, and we want to display all of these attributes for relationships associated with a particular entity (i.e. relationship set = "comments" and attribute = "comment"), is this a sign we want to model this attribute as a separate entity? Or does it not matter?