

EMMANUEL SINGLETARY

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# DATABASE PROJECT

# DISTRIBUTION LIST GENERATOR

**A DISTRIBUTION LIST GENERATOR IS A TOOL USED BY STAFF MEMBERS TO CREATE LISTS OF PEOPLE, NAMELY STUDENTS. THESE ARE USED FOR BULK EMAIL AND FOR ORGANIZATION.**

# PURPOSE

- ▶ To build a better distribution list generator, faster and with more features
- ▶ MVNU already has one, but I think it's very slow and dated-looking
- ▶ There isn't a way to organize clubs or sports teams
- ▶ No ability for custom lists

# CHALLENGES

- ▶ Complex SQL queries became an issue
- ▶ Couldn't figure out a clean way to provide some features without a front end framework
- ▶ I ran out of time, quickly

# MVNU'S DISTRIBUTION LIST GENERATOR

- ▶ Dated UI
- ▶ Load time: 27s
- ▶ Not responsive
- ▶ Relies on slow MSSQL database

Distribution List Generator 2.0

Students

Trad and Non-Traditional

All Locations

All Programs

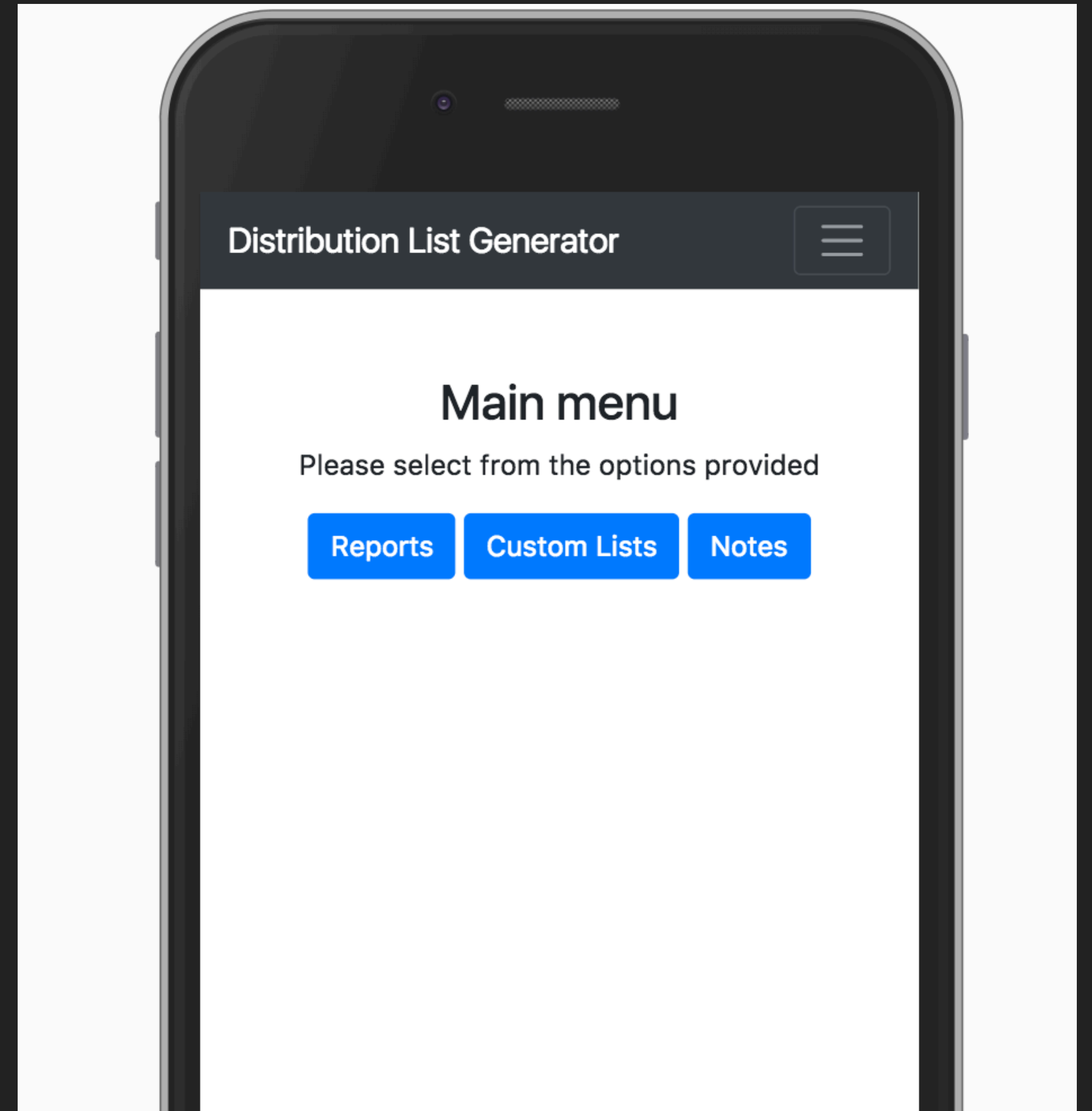
BY MAJOR OR MINOR

There are 2081 students matching your request

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# MY PROJECT

- ▶ Modern Bootstrap UI
- ▶ Load time: 607ms
- ▶ Responsive (Except for tables)
- ▶ Relies on fast MySQL database





```

11     return reject(err);
12   })
13 }
14 }
15
16 // Delete a custom list along with all members
17 exports.deleteList = function(listId) {
18   return new Promise((resolve, reject) => {
19     database.execQueryWithParams(`DELETE FROM person_li
20     .then((results) => {
21       database.execQueryWithParams(`DELETE FROM custom_
22       .then((results) => {
23         return resolve(results);
24       })
25     })
26     .catch((err) => {
27       return reject(err);
28     })
29   })
30 }
31
32 // Get all custom lists
33 exports.getLists = function() {
34   return new Promise((resolve, reject) => {
35     database.execQuery(`
36     SELECT custom_list.list_id, list_desc,
37     CONCAT(first_name, " ", middle_name, " ", last_name
38     | COUNT(person_list.person_id) AS 'member_count'
39     FROM custom_list
40     LEFT JOIN person_list ON custom_list.list_id = pers
41     JOIN person ON custom_list.list_owner = person.id
42     GROUP BY custom_list.list_id
43     `)
44     .then((results) => {

```

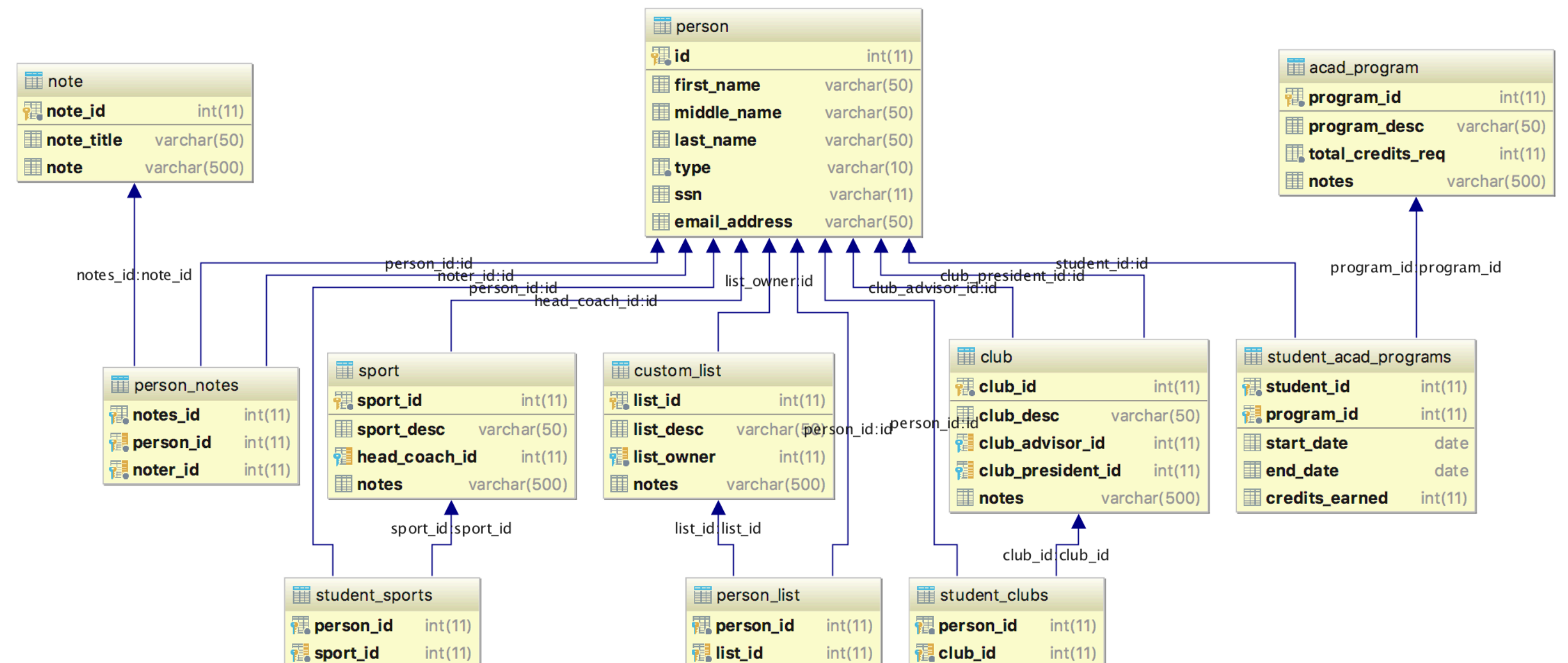
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# ARCHITECTURE

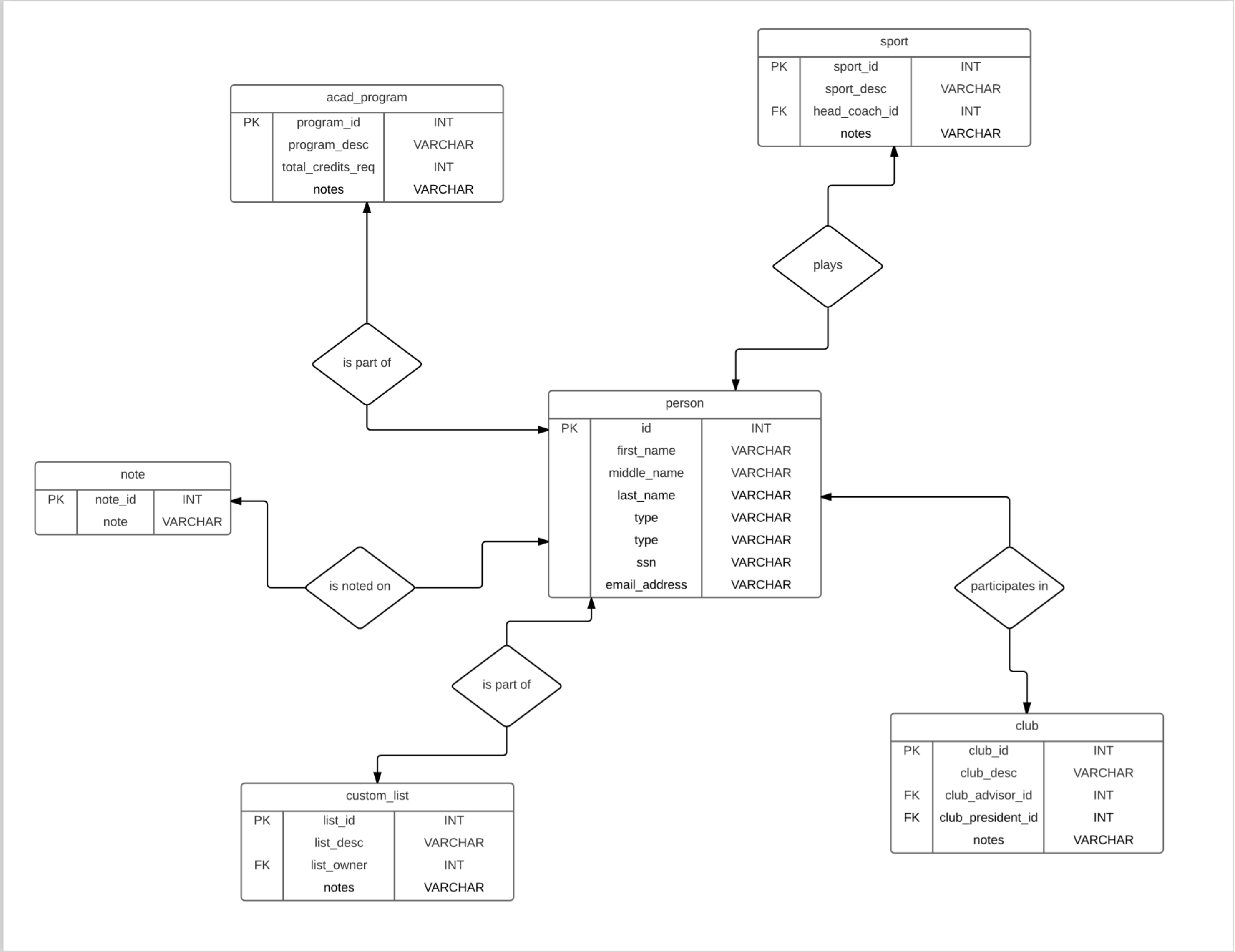


## DATABASE

- ▶ Source of truth is 'person' table, lots of foreign key constraints
- ▶ It uses a many-to-many relationship, with cross-reference tables



ORIGINAL ER DIAGRAM



# IMPLEMENTATION STACK

- ▶ Frontend: HTML/CSS/JS
- ▶ CSS: Bootstrap 4
- ▶ Backend: Node JS and Express
- ▶ Templating: Handlebars
- ▶ Database: MySQL 5.7
- ▶ Host: Digital Ocean

# LINKS

- ▶ Github Repo: <https://github.com/esingletary/distribution-list-generator>
- ▶ Demo Link: <https://dlg.manny.co/>

DEMO