Revised Project Idea

Final vision?

- Secure a *web hosting service* for a website with the functionalities listed below.

Functionalities?

- Automatically collect data from Google Drive, so the .txt files don't have to be manually uploaded.
- A dominance hierarchy that is produced when certain dates are queried. Who was the top bird in January? Who was the bottom bird during Winter 2022?
- Lots of general queries and analyses such as:
    - Bird that appears at the feeders most often
    - Most popular feeder
    - Largest bird?
    - Average number of feedings in a day? In an hour?

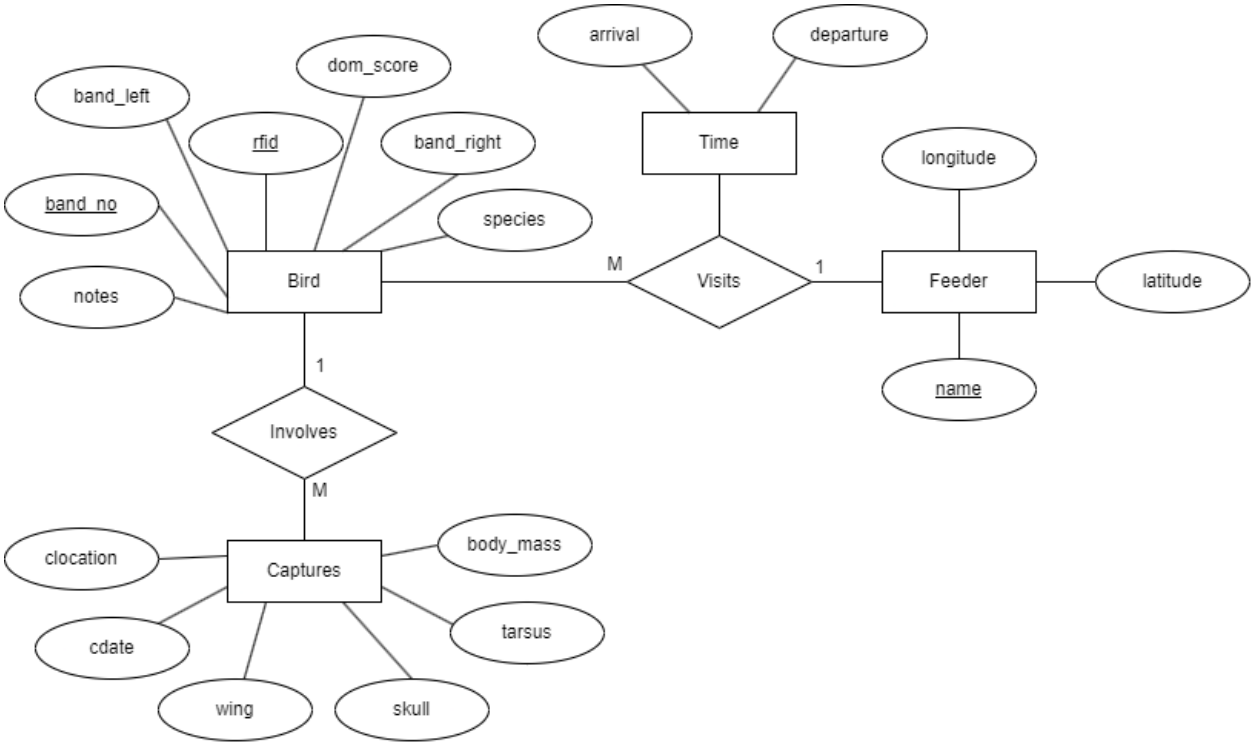
Limitations?

- As of now, only members of Amherst College should be allowed to view the website.
- If database edit access is introduced, then only certain people should be allowed to edit the database.

Who will use it? What about after we're gone?

- This will be used for years by thesis students, researchers, and his biology class.
- As use expands, there's a possibility that he will want it to continue to grow.

ER Schema V.2


arrival
departure
dom_score
band_left
rfid
band_right
Time
longitude
band_no
species
Bird
M
Visits
1
Feeder
latitude
notes
1
name
Involves
M
clocation
Captures
body_mass
tarsus
cdate
wing
skull

Relational Schema

Captures	
PK	(rfid CHAR(10), clocation VARCHAR(5), cdate DATE)
FK1	rfid
	tarsus REAL
	skull REAL
	wing REAL
	body_mass REAL

Visits	
PK	(rfid CHAR(10), fname VARCHAR(20), arrival TIMESTAMP)
FK1	rfid
FK2	fname
	departure TIMESTAMP
	score REAL

Birds	
PK	rfid CHAR(10)
CK	band_no CHAR(10)
	species CHAR(4)
	band_left VARCHAR(20)
	band_right VARCHAR(20)
	dom_score REAL
	notes VARCHAR(150)

Feeder	
PK	fname VARCHAR(20)
	latitude REAL
	longitude REAL

Software

React.js *(Frontend)*

- A JavaScript library for creating single-page user interfaces that is open-source. Each component in a React application is responsible for rendering a small, reusable piece of HTML.

Django *(Backend)*

- A Python-based web framework that provides a structure and common methods for making web applications. That is, software, normally backed by a database, that includes some kind of interactivity, and operates through a browser.

Node.js *(Backend)*

- A cross-platform, open-source runtime environment for executing JavaScript code outside of a browser. Used to create back-end services such as APIs, Web Apps, and Mobile Apps.

Postman *(Backend)*

- An API client used to develop, test, share and document APIs. It is used for backend testing where we enter the end-point URL, it sends the request to the server, and then receives the response back from the server.

Role Assignments

Translating the R code into a Python Script and general Data wrangling

- Jack and Adam

Building up the backend and ensuring requests go through via a makeshift frontend.

- Seojin and Wendy

Open Questions

Do we want database edit access from the website?

How do we go about automating the data collection process from Google Drive?

How to go about calculating the dominance score? Where does the dominance score and displacement go in our database?