The Problem & The Solution

With so many restaurant review sites available how do you know which one you should believe?

The Solution?

We have come up with a plan to combine the top review sites into one easy to use website that will provide several benefits.

- More Reviews in one place
- Less biased results
- Standardized rating system

The Project

Design a database and website that would allow users to look up information about restaurants and restaurant reviews.

The challenges:

- How should such a database be structured?
- How to collect data from many different sources, standardize, and clean it?
- How to avoid manually having to input massive amounts of data?
- How to design the website?

Database Structure

We split our database into multiple tables for easier access.

- Restaurant Cuisine
- Cuisine
- Restaurants
- Restaurant Meals
- Meals
- Ratings
- Sources

Getting Data - Public APIs

- Generally simple and already formatted data from JSON
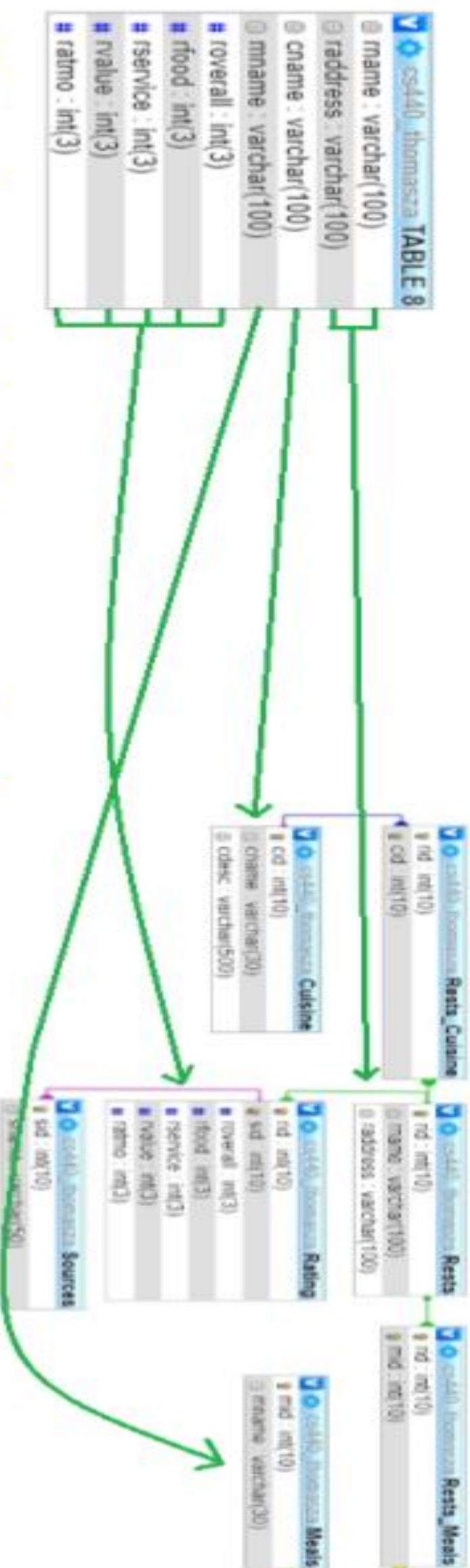- Easy to extract and configure into schema

The Challenges:

- API access limits
- Missing data or too much data
- Adapting API schema to our schema
- Difficult to distribute over multiple tables

Getting Data - Data Scraping

1. Decided to scrape data from restaurant review websites.
2. Added the Web Scraper Chrome extension.
3. Designed a Web Scraper sitemap across TripAdvisor.
4. Run Web Scraper and wait for it to extract the data.

Cleaning the Data

1. Used excel to work with the raw data.
2. Used excel functions to clean columns of data.
3. Save cleaned columns as CSV file.

Inserting the Data into Database

1. Use the phpMyAdmin import feature.
2. We now have all our data on one table.
3. Use a procedure to insert the data from this new table, into our Database.
4. Drop the new table. We are now done!

Insertion Procedures

We give our procedure the number of rows of our table, and the source of our reviews.
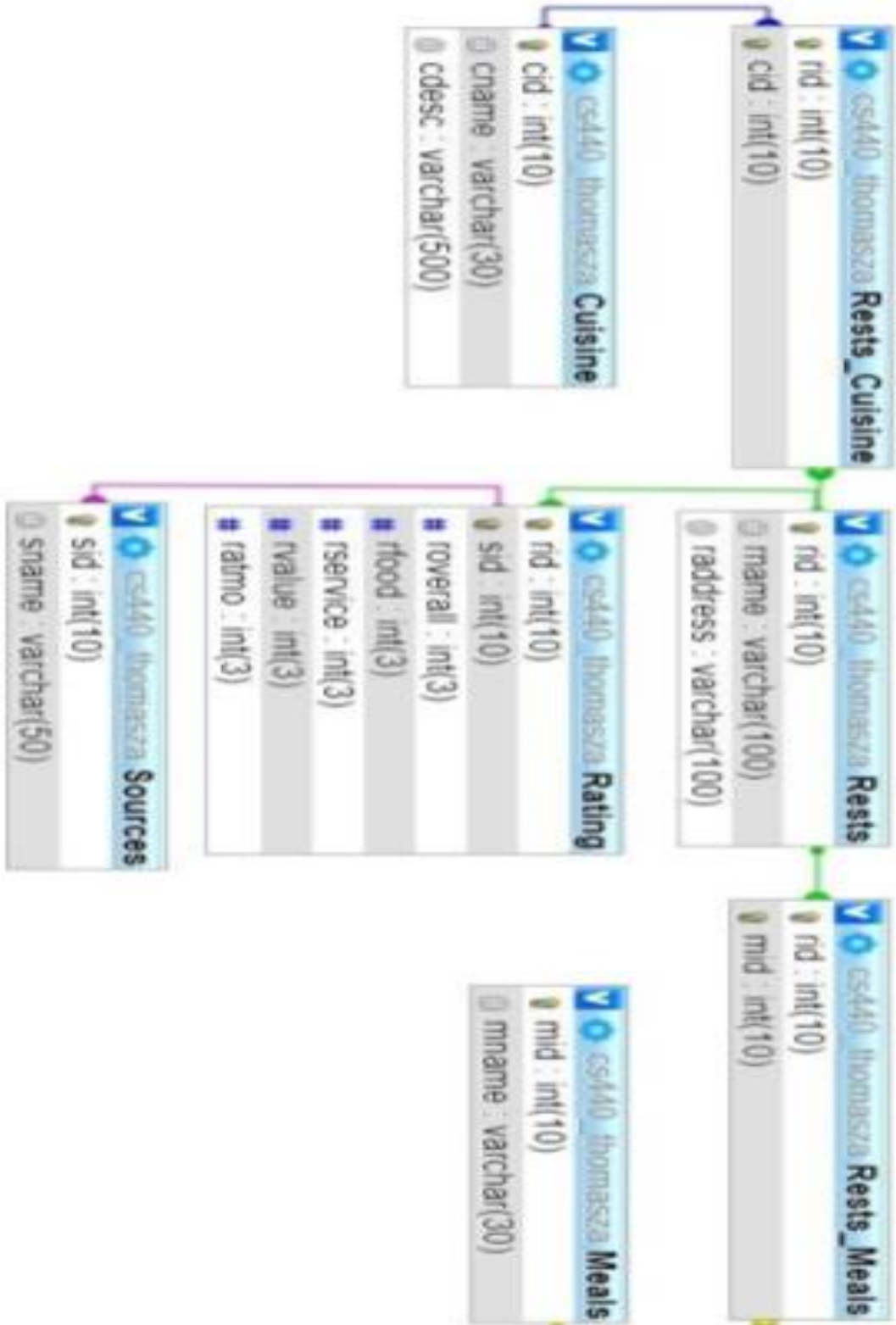
unload_table
- Loops over each row of table.
- Each row gets passed to the expand_row procedure.

expand_row
- Spreads a single row across the tables in the database.
- Keeps track of new generated IDs to maintain relationships.

Restaurant Review Website

We created a user friendly website using HTML, CSS, JavaScript, and PHP.

Users can look up tables that are created by SQL queries to our database.

Possible selectable queries include restaurant info + review + review source, restaurant info + cuisine, and restaurant info + menu items.