Judge Frog:
Comprehensive Human Trafficking Data Search and Analysis

COLLEGE OF SCIENCE & ENGINEERING
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Problem

- The issue of human trafficking has sparked interest from the government, academicians, non-government organizations, and the private sector
- With today's available resources on human trafficking it is difficult to examine:
  - How interconnected is organized crime with human trafficking in the United States
  - What types of organized crime groups engage in human trafficking
  - The possibility to prevent individuals from engaging in organized crime, and specifically human trafficking

Solution

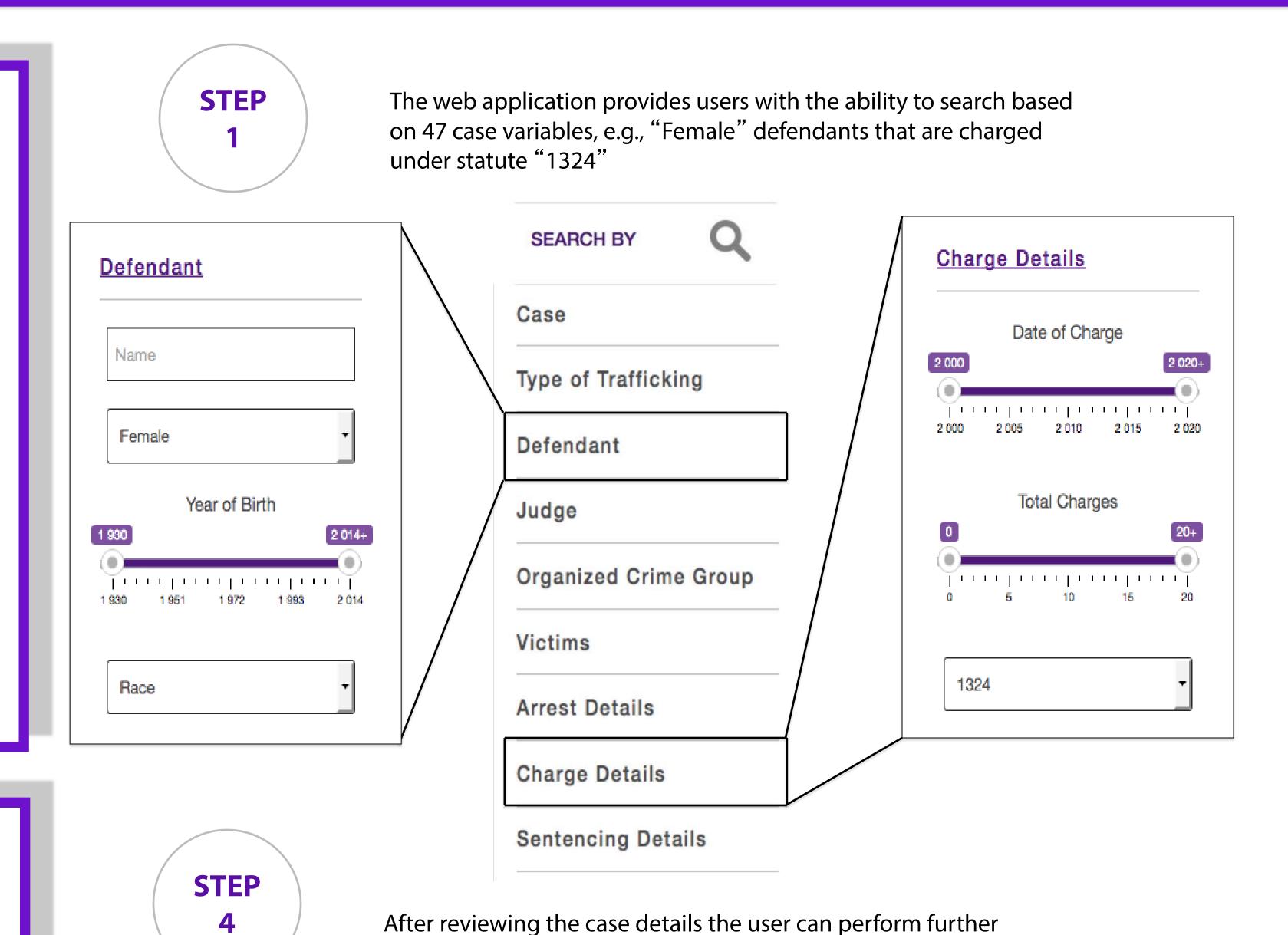Our project addresses the issues stated in the problem by:

- Creating a comprehensive database to store information on federal human trafficking cases
- Developing tools for administrators to maintain the database
- Developing interface for administrators to maintain users
- Providing a robust search function allowing users to query and filter the database
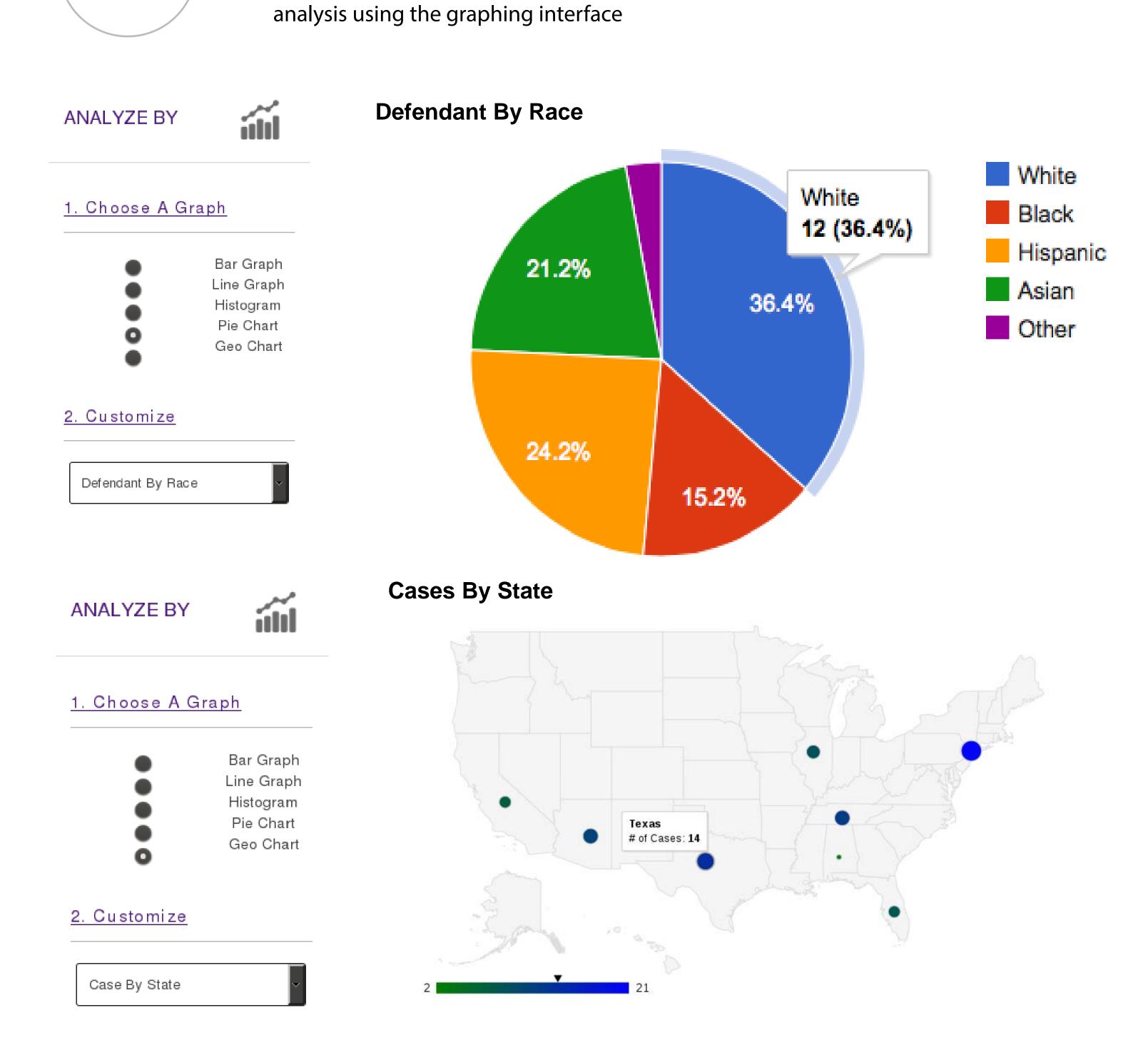- Displaying dynamically generated graphs that allow analyses to be performed on these cases
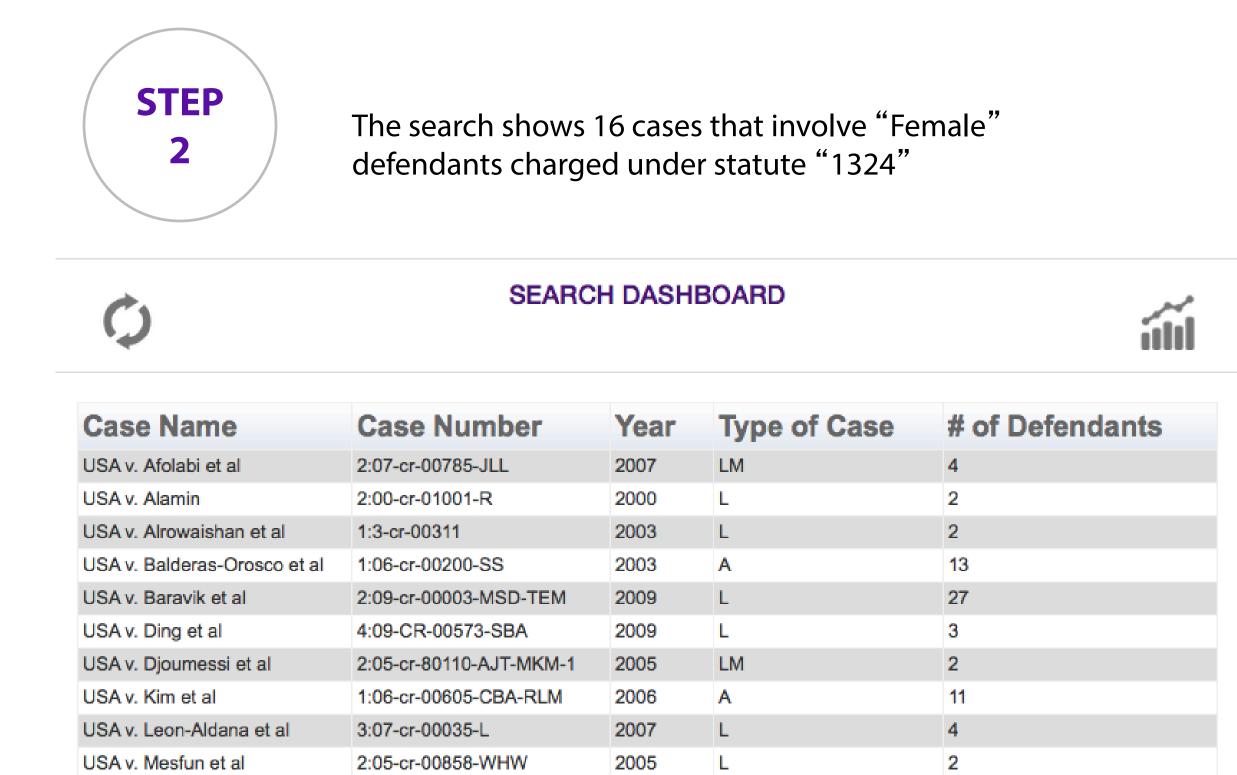
Database Structure

- Comprehensive database developed with MySQL
- Stores case information consisting of judge, federal district location, defendant, and victims information
- Each defendant contains information regarding their arrest, charges, sentencing and organized crime involvement
- Database contains multiple tables allowing assistants to insert cases and receive administrator approval before appending new information to the working dataset

Web Application

- Provides a user friendly web interface for the user to search thousands of human trafficking cases
- Interfaces with MySQL database to search, analyze, and maintain a working dataset
- Will allow public access at no cost

STEP 1 The web application provides users with the ability to search based on 47 case variables, e.g., "Female" defendants that are charged under statute "1324"

STEP 2 The search shows 16 cases that involve "Female" defendants charged under statute "1324"

STEP 4 After reviewing the case details the user can perform further analysis using the graphing interface

Defendant By Race

Cases By State

STEP 3 The user can choose any of the 16 selected cases and review all details or filtered details based on the search criteria given. The modal window displays details of the case chosen.

Search Panel

- Allows user to search the database for thousands of cases and their individual defendants
- Search by 47 different case specific variables and view applicable results in table
- Select row in results table to display detailed case information

Analyze Panel

- Allows user to visualize specified data from all or selected cases
- Choose from 5 types of graphs and select the independent and dependent variables to dynamically generate an interactive graph

Admin Panel

- User permissions:
  - Admin: allowed full access to admin panel
  - Research Assistant (RA): allowed access to create and edit
- Case entry is performed via single-case insertion or administrator batch upload
- Allows administrators to review a case after case has been inserted or edited
- Case editing and deletion performed solely by admins

Results and Conclusions

- Successfully developed a highly efficient interface for searching and analyzing human trafficking cases
- Provided ability for admins to maintain dataset to add to project longevity
- Experienced real world interactions with clients and working with clients' requirements

Acknowledgments

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