

CONNECTING INTERAGENCY JUSTICE FACILITY DATA: BUILDING A WEB APP TO STREAMLINE GROUP QUARTERS RESEARCH

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Keywords:

Web Application Development, Cross-Agency Data Integration, Data Management, Record Validation, User Experience

Summary:

This summer, Jena Bhandari helped develop a web application for the Census Bureau's Criminal Justice Administrative Records System (CJARS). The project aimed to enhance quality of justice facility data, such as records of prisons and detention centers. The project focused on linking and validating data from Department of Justice frames and the Master Address File. By developing an interactive web application using Angular and Django, Jena created a interactive dashboard and a user-friendly interface and for analysts to verify and update records. This integration improved data accuracy, facilitated continuous updates, and streamlined the validation process.

Connecting Interagency Justice Facility Data: Building a Web App to Streamline Group Quarters Research

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No data protected by 13 USC § 9 were used to create this presentation.

MAF:

- a Census Bureau file that contains an accurate, up to date list of all potential living quarters. The MAF is protected by Title 13, which limits our ability to share this data with external partners.

*“The largest area of **spending was for enumeration projects** such as following up with households that did not return their census forms and **counting people who live in group quarters**, such as skilled nursing and correctional facilities.”*

Source: GAO 2023

Challenges with Outdated Databases:

- Wasted Resources: Time and money lost on duplicated locations and closed facilities
- Missing Updates: New GQs may not be captured

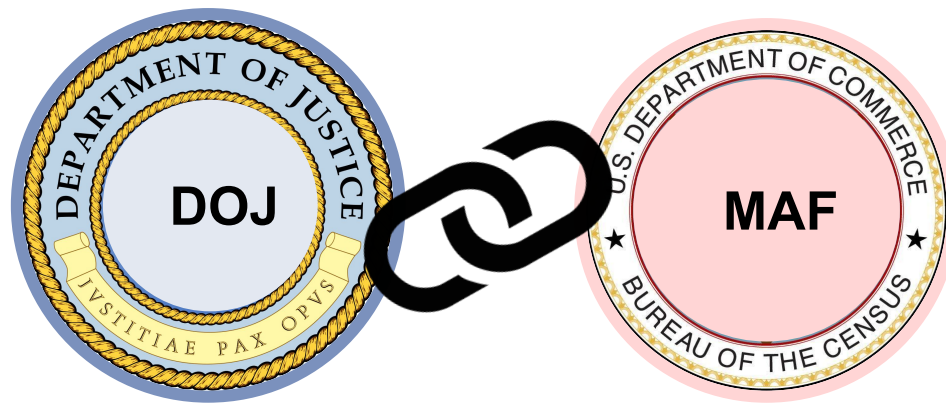
Alternative Data Sources of Justice Facilities

Department of Justice (DOJ) Frames:

- Contains comprehensive lists of justice facilities, such as prisons and detention centers, available from public sources or maintained by Census
- Used by agencies such as the Bureau of Justice Statistics (BJS) and Office of Juvenile Justice and Delinquency Prevention (OJJDP) to support survey programs
- Integrating data from public records allows products to be tailored for customers while maintaining Title 13 compliance

First Step:

- Used probabilistic linkage to **connect restricted MAF records and public DOJ records** and evaluate the coverage of justice facilities, which **requires manual validation**



A platform for analysts to easily verify linkages, research, and edit records

Goals:

- Link data from DOJ frames and MAF to create an enhanced, integrated database of justice facilities
- Develop a web application which allows users to interact with the integrated database, make updates, and assess facility records
- Improve coverage, enhance data quality, and reduce burden on agencies
- Create a flexible process so we can continuously update with new data frames

Why is it Important?

- Reduces in-office, field verification and de-duplication costs
- Improves data quality because JFF unites two different data sources
- Builds relationships between analysts across the two agencies

Justice Facility Frame Validation Interface

The Stack:

- Backend: Django – Python
- Frontend: Angular – TypeScript

Linkage Page

- Allows users to verify the linkage between the DOJ and MAF, their attributes, and flag issues

Rel. Type

DOJ

MAF

DOJ1_MANYMAF

☒ First Child Juvie SJIC

☐ Second Child Juvie SJIC

☒ Third Child Juvie SJIC

☐ Parent Jail SJIC

☒ census

☐ hybrid

☐ streets

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MapLibre

DOJ		MAF	
DOJID	93111	3111	MAFID
Facility Name	First Child Juvenile Correctional	Parent Facility	Facility Name
GQ Name	First Child Juvie	Parent Jail	GQ Name
Address	842 Ashley 12 West	10456 Parent Rd, New Haven	Address (cleaned)
Zip Code	39165	46774	Zip Code
Frame	SJIC	Y	2020 Unit Flag
Population			Population
		1	2020 Enum. Status
			GQ Type

Mock Data Shown

Match

Not a Match

✓

Update and mark reviewed

<<

<

1

2

3

4

5

>

>>

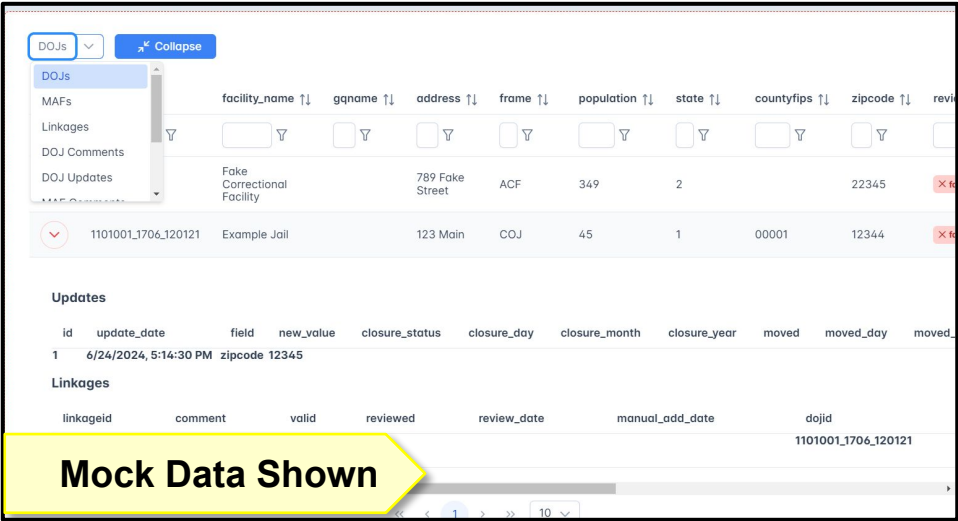
Justice Facility Frame Dashboard

User Problem:

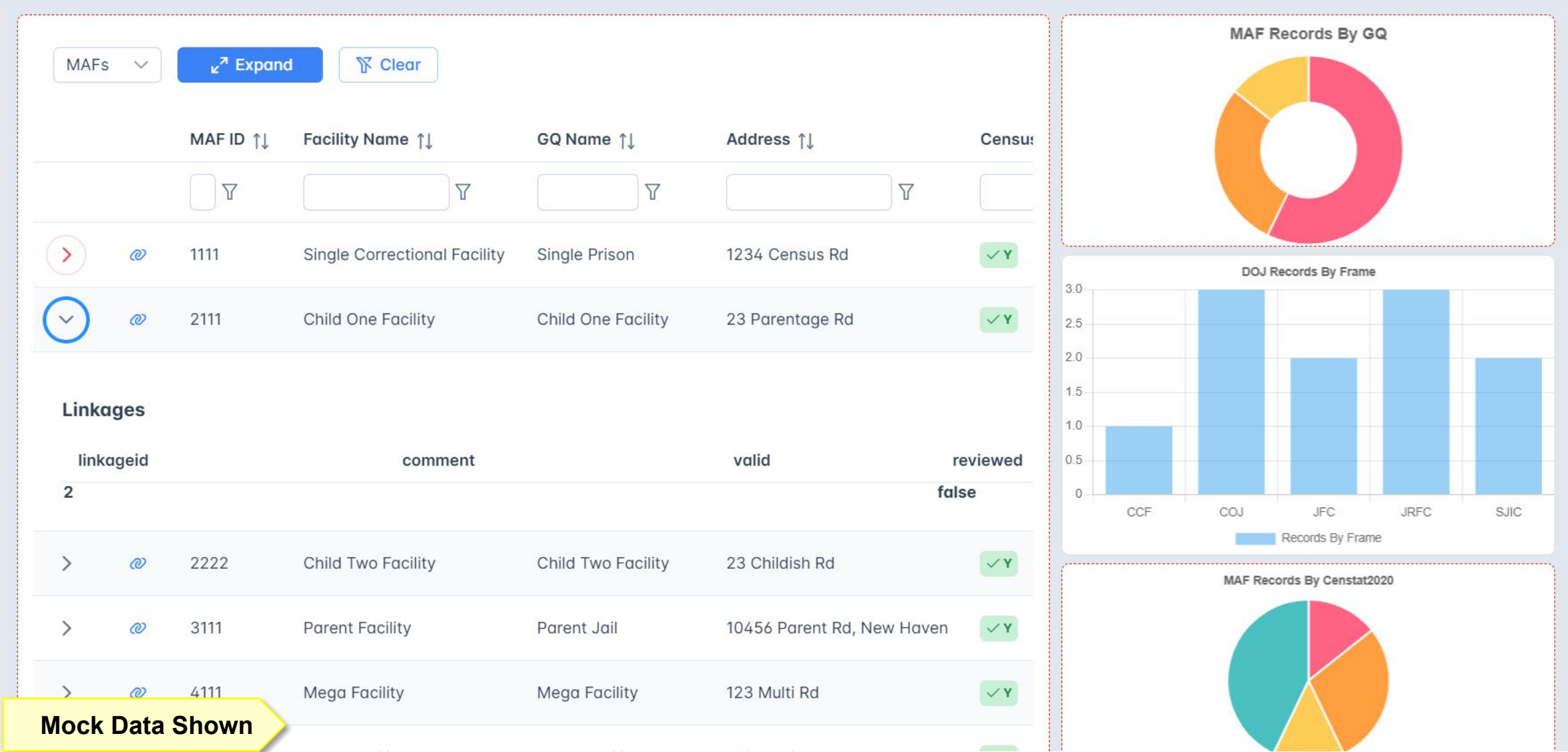
- As a user, I have difficulty accessing the facility records and looking up their associated linkages, updates, and comments made by analysts in a simple manner.

Solution:

- Developed a comprehensive dashboard with user friendly features:
 - Filter, sort, search, and find linkages and updates for each record within the DOJ Frames and MAF.
 - Charts with the number of pending reviews and the amount of each record type.



Justice Facility Frame Dashboard



Mock Data Shown

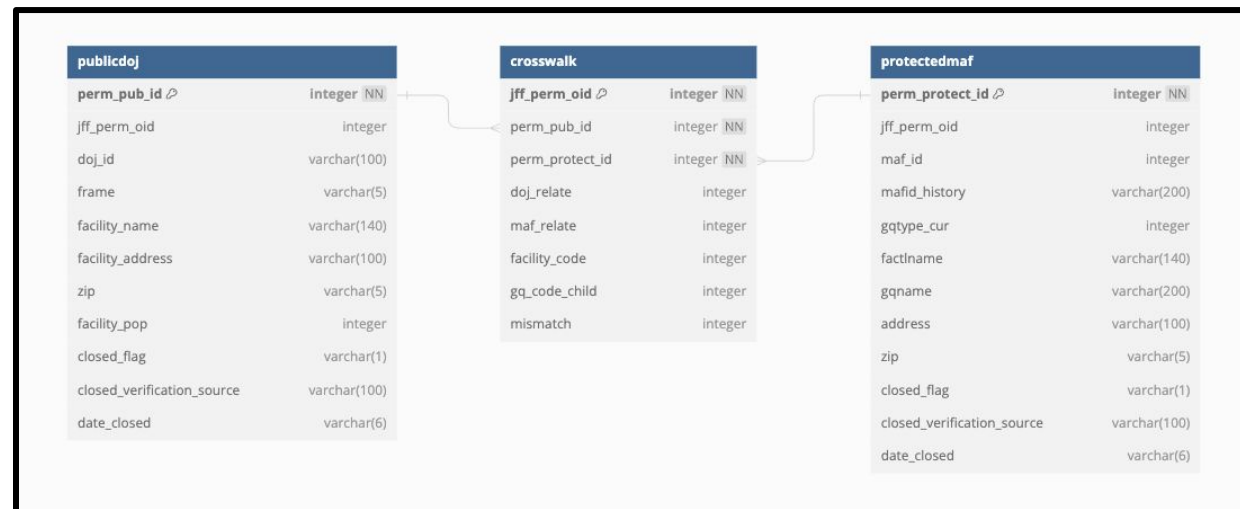
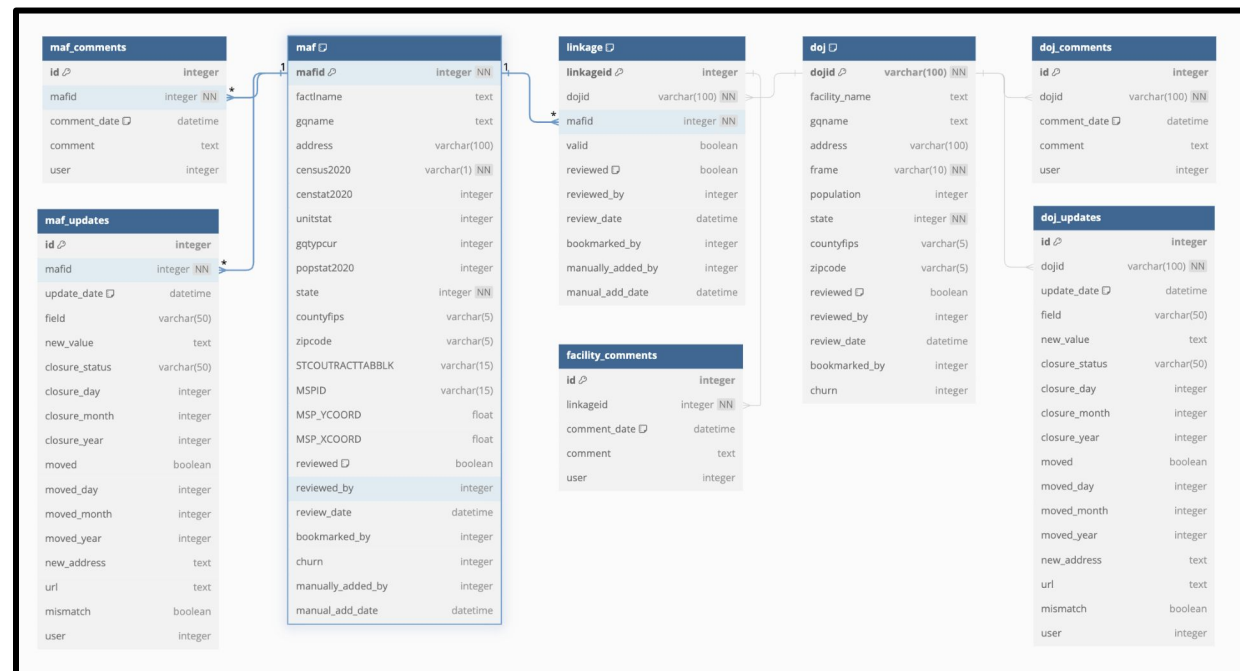
Data Migration

Purpose:

- Ensure changes that are made in our database are reflected as exports to the MAF
- Progress from test environment to implementation environment

Solution:

- Map existing database onto a new structure
- Manage the multi-relational linkages in the crosswalk
- Define parent child relationships between MAF records and DOJ records





The Justice Facility Frame is currently being used to evaluate MAF and DOJ facilities by internal analysts.

Implications:

- Improved the accuracy and coverage of justice facility data in preparation for surveying
 - Integrated external datasets
 - Continuous updates and validation
 - User-friendly interface for analysts

The Future:

- Validation of other datasets, such as web-scraped data
- Algorithmic triage to prioritize cases for human review
- Delivering data products to agency partners

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- **Clare Speer** – Data Engineer – 2022 Fellow
- **Keith Finlay** – Economist
- **Michaellyn Garcia** – Survey Statistician

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Contact Me!

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