

Final Report: Lakeland Community Heritage Data Integration Project

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Project Overview

The Lakeland Community Heritage Data Integration Project was designed to preserve and analyze the demographic and historical data of the Lakeland community, a historically African American community in College Park. Lakeland's history is deeply rooted in resilience despite facing discriminatory practices such as redlining, which disrupted the community from the late 1960s to the 1990s. This project aims to document key attributes of Lakeland's population leading up to this period through a comprehensive database. Our goal was to create a sustainable resource that can serve future initiatives, including potential government reparations for impacted residents.

Outcomes and Deliverables

- **Comprehensive Database:**
A well-organized database that securely stores key information like names, ages, races, marital status, and property ownership. It's designed to grow and adapt for future needs.
 - **Easy-to-Follow Documentation:**
Clear explanations of how the project was built, why specific choices were made, and guidance for maintaining or improving it in the future.
 - **Built for the Future:**
A database tailored to support community efforts like reparations, making it easier to identify eligible members of the Lakeland community.
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Steps Taken to Accomplish the Project

Background Research:

- Conducted a thorough review of census data and voter registration records to understand the scope and challenges of integrating historical data into a relational database.
- Based on this research, we pinpointed to possible future use cases of our work

- i. One of the use cases identified was for possibly using this data in the situation that the government decides to distribute reparations to the community.
 - ii. Given the latter, this database would serve as a way to determine whether or not someone was eligible to receive such compensation.
- Identified key attributes critical to the community's historical and demographic representation, such as personal, familial, and property ownership data.
 - i. This step was key in allowing us to determine what key data points were important for creating the database

Data Normalization Process:

- **First Normal Form (1NF):** Structured raw data into tables ensuring no duplicate entries, maintaining atomic values.
- **Second Normal Form (2NF):** Addressed partial dependencies by segmenting attributes into new tables, ensuring they fully relied on the primary keys.
- **Third Normal Form (3NF):** Removed transitive dependencies to ensure optimal database design, separating data into specialized tables such as Occupations, Property Ownership, and Relationships.

Implementation:

- Designed and implemented the database, ensuring data integrity and scalability for future use cases.
- Documented each step comprehensively for ease of transfer to subsequent stakeholders.

Documentation & Handover

There is handover documentation available that goes over the design of the database and entails the steps taken to create and design certain aspects of it. The documentation is available in two forms: through a README on a Github repository and through Notion, all of which will be provided to the client. This documentation is important as future work will be done with what we have been able to accomplish this semester. What we have accomplished serves as a foundation for what the LCHP wants to achieve long term, and so having documentation that will allow them to know how to work with and maintain/update the database will be vital.

To support future stakeholders, documented:

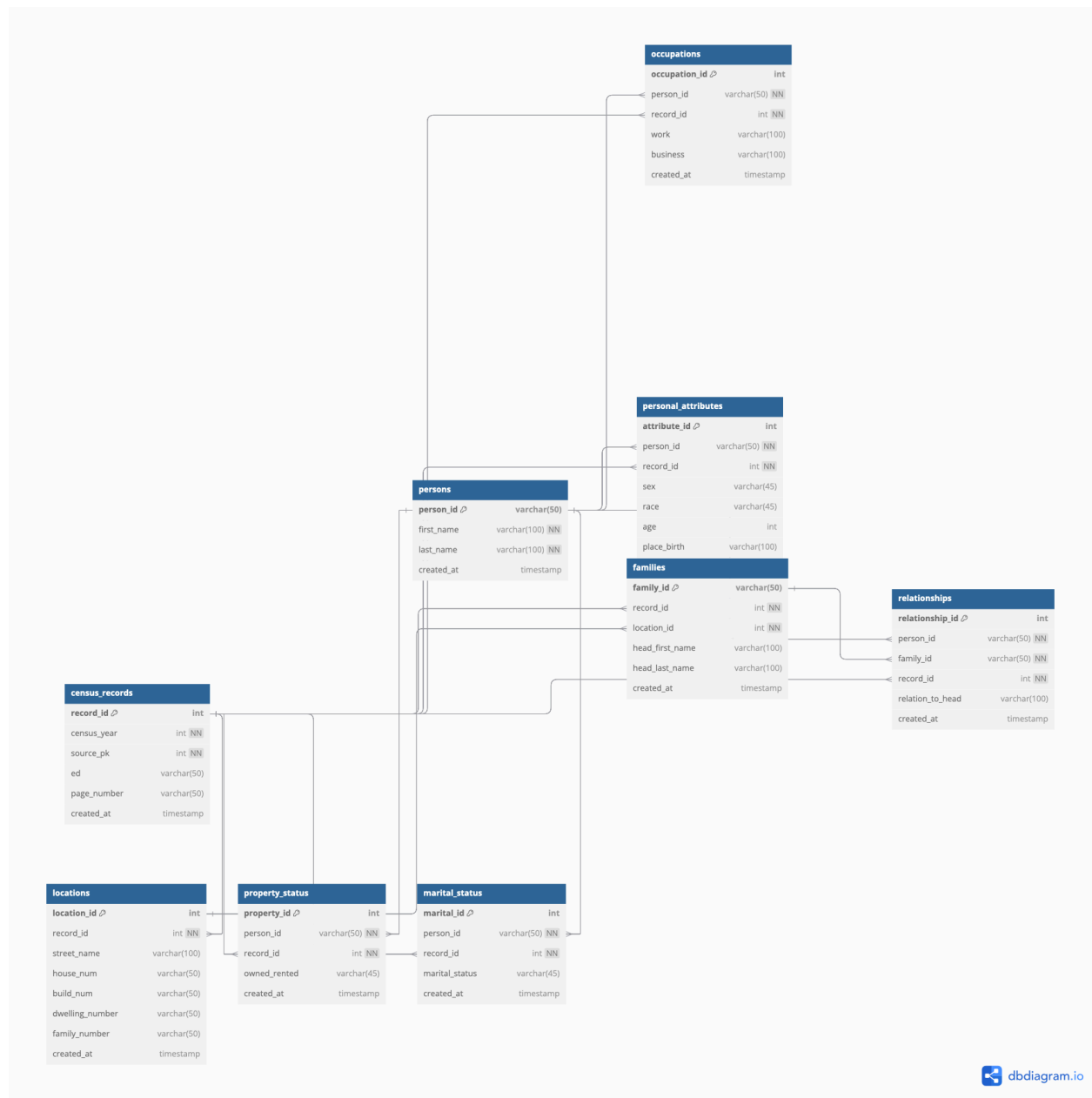
- The processes, methodologies, and rationale behind database design decisions.
- A user manual for maintaining, updating, and scaling the database.

Key Entities: Property type used to specify a the main object or concepts represented in the database

- Individual
 - First name
 - Last name
- Demographic Attributes
 - Race
 - Sex
 - Age
- Marital Status
- Occupation
- Property Ownership
- Family connection
 - Family
 - Dwelling
 - HOH First Name
 - HOH Last Name
 - Relation to HOH

Database Design:

- Designed an Entity-Relationship Diagram (ERD) to illustrate the database structure.
- Converted the ERD into a relational schema for implementation in Supabase.
- Creating an ERD



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Next Steps/Recommendations

- Revamp the website, add more features and modernize the website
 - Upload the database we built and develop scripts for the database to use live data
 - Organize the Github Repository
 - Consider developing bots to run a schedule data cleaning
 - Build off the database we created. More features, applications and increased size of database.
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