BUILDINGS OF TEXAS
EXPLORING LINKED DATA BY MAPPING PLACES, EVENTS AND PEOPLE OVER TIME

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Background

The Buildings of Texas project has transformed the way our team from the University of Texas Libraries (UTL) thinks about place, people, and events in managing archival collections. Data were collected by a team of researchers studying architecturally significant buildings for the two-volume publication, *Buildings of Texas* (Moorhead 2013; Moorhead 2019). The research materials were donated by architectural historians, Gerald Moorhead and Mario Sánchez, to the Alexander Architectural Archives. Naming ambiguities, vague building location descriptions, and repeated references to people and architectural firms that were difficult to interpret and interconnect were among some of the challenges we faced. We have used this dataset (Pierce Meyer 2019) as a test-bed for exploring data models, geolocating built works in Texas, and mapping our Architectural collections as we develop map-based digital exhibitions and finding aids for archival material.

Methods

Using a custom Python script that we developed for data processing, we explored a variety of data models as we moved from a flat spreadsheet into a collection of inter-related datasets. We needed to be able to manage this dataset flexibly, to move easily between spatial and non-spatial visualizations, and to refer to concepts and typologies defined in widely-used ontologies. We are contributing our data to both the Getty vocabularies (Getty Research Institute 2019) and Wikidata (Wikidata 2019), as a means to broaden representation and allow for multivocality and multiplicity. We have purposely challenged traditional modes of archival description, being mindful of contributing to but also looking beyond perceived authorities.

Entry	Current Name	Historic/Original Name	Street Address	City	County	Zip	Date	Architect	Photo	Notes
AU1	Texas State Capitol		11th St. at Congress Ave.	Austin	Travis		1888	Elijah E. Myers	XSD	1882-1888
AU1m		Rotunda Lobby Floors					1936	Jessen and Jessen	S	
AU1m		Capitol Restoration					1995	Ford, Powell and Carson		
AU1m		Expansion					1993	3D/International	S	
AU2	Capitol Visitors Center	General Land Office	112 E. 11th St.	Austin	Travis		1856	Conrad Stremme	X	
AU2m		Restoration					1992			
AU2m	Texas State Library and Archives			Austin	Travis		1961	Adams and Adams		
AU2m		Restoration					2009	Bailey Architects		
AU3	Dewitt C. Greer State Highway Building		E. 11th St. at Brazos St.	Austin	Travis		1933	Adams and Adams	S	
AU4	Governor's mansion		11th St. at Colorado St.	Austin	Travis		1856	Richard Payne, Abner Cook, bldr	X	
AU4m		Restoration					1948	Jessen, Jessen, Millhouse and Greeven		
AU4m		Restoration					1982	Burson, Hendricks and Walls		
AU4m		Carraige house and improvements					1995	Carter Design Associates		
AU4m		Rehabilitation					2008	Volz and Associates		
AU4m		Restoration					2011	Ford, Powell and Carson		
AU5	Westgate		1122 Colorado St.	Austin	Travis		1965	Edward Durell Stone and Fehr and Granger	S	
AU6	Travis County Courthouse		1000 Guadalupe St.	Austin	Travis		1930	Page Brothers	S	
AU7	Central Christian Church		1110 Guadalupe St.	Austin	Travis		1928	Robert L. White, Ralph Cameron, and Samuel C.P. Vosper	S	
AU8	Texas Supreme Court		200 W. 14th St.	Austin	Travis		1956	PageSoutherlandPage,	S	

Central | Gulf Coast | South Central | South | North | Panhandle | East | West

Figure 1. Screenshot of one of the original spreadsheets developed during research for the *Buildings of Texas* that served as the starting point for this project.

Results

We turned address information contained in the dataset into coordinate pairs through geocoding. We spent an enormous amount of energy moving from a collection of spreadsheets, through OpenRefine, to a relational database implemented in a geodatabase within PostgreSQL. Along the way we experimented with document (MongoDB) and graph database (Neo4J) technologies and gained valuable new knowledge. RDBMS technologies turned out to be much easier for mapping and managing the data with GIS software, though the graph data model was more expressive of the linkages and interconnectedness of the people, places, and events in the data. To facilitate sharing of the geospatial dataset developed from the work carried out on the original donated spreadsheets, the data was ultimately packaged as a single zipped shapefile (Conrad et al. 2019) and made available for download on the Texas GeoData portal (University of Texas Libraries 2019).
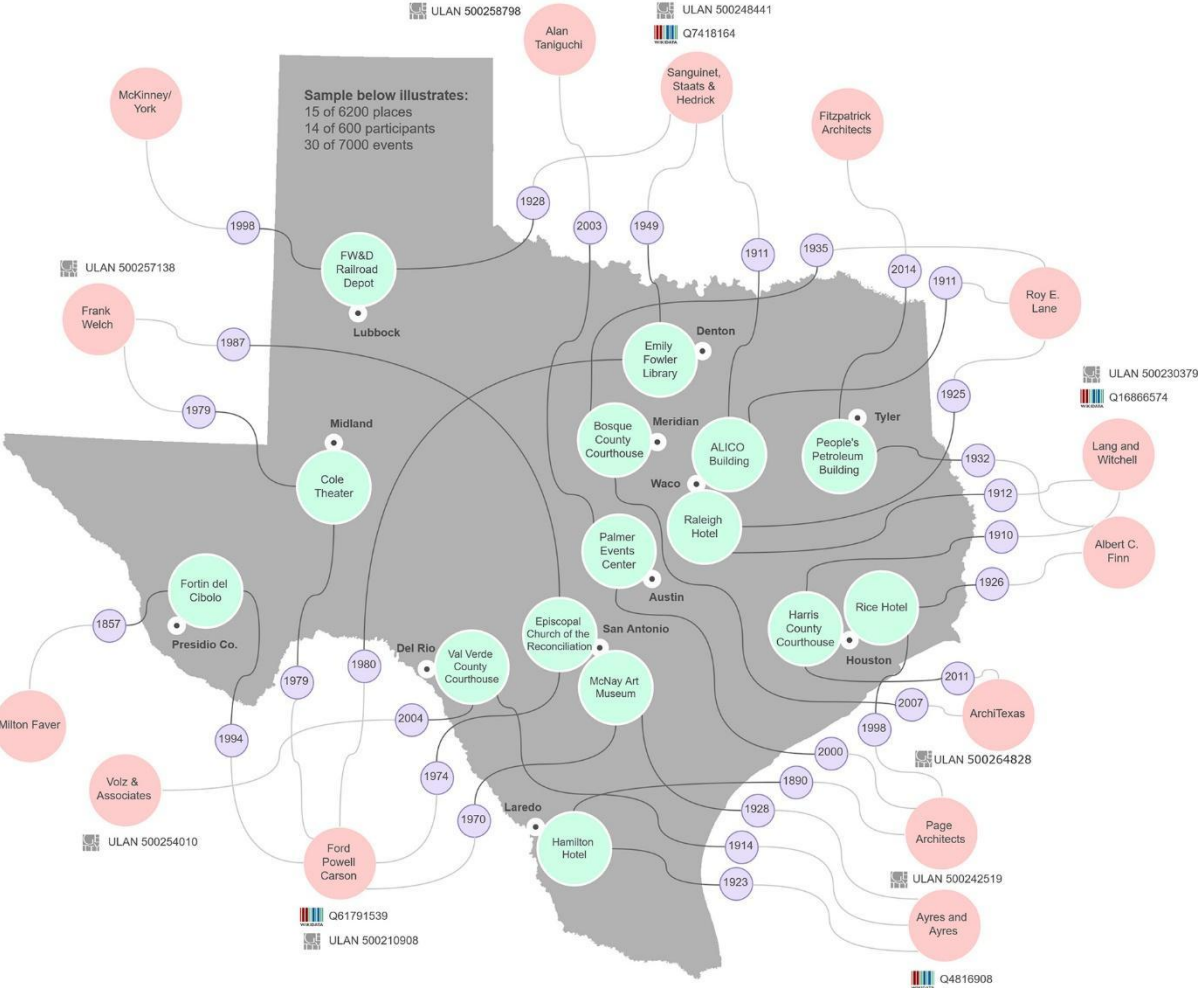
Figure 2. Visualization of the relationships between different entities (built works, architects, locations, events) that were established through programmatic processing of information in the original donated spreadsheets.

Figure 3. Screenshot of the Buildings of Texas dataset item record page in the Texas GeoData portal.

Future Work

This project has launched broader efforts to geolocate and map our architectural collections. We look forward to deepening the connections between the people, places, events, and artifacts in other archival collections at UT Libraries.

Additional Contributors

We are building on the work of Gerald Moorhead, Mario Sanchez, and a team who conducted research for Buildings of Texas. We are especially grateful to Grace Hansen, who began data cleanup and geocoding, and Irene Lule, who researched the use of GIS for architectural archives. We also want to thank the UT Libraries GIS stakeholder group, the UT Libraries IT developer team, and our colleagues at the Alexander Architectural Archives.

Software

Neo4J Server Community Edition (version 3.5.3). Windows. Neo4J, 2019.

MongoDB Server (version 4.0). Windows. MongoDB Inc., 2018.

PostgreSQL (version 9.6.15). Windows. 2018.

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