

Interactive Mapping of Wilson Cemetery in Princeville, NC

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Abstract

Black cemeteries often face neglect and erasure, leading to the loss of significant historical narratives. To keep Wilson Cemetery's legacy alive, we created a map of the gravesite. By mapping with the community, collecting GPS points, 3D lidar scans, and leaflet mapping, we were able to create an interactive map of Wilson Cemetery. This map offers the community of Princeville with the opportunity to find family and connect with their ancestors. It also preserves the long rich history of Wilson Cemetery and the Town of Princeville.

Introduction

Cemeteries are vital places of remembrance, allowing us to connect with our ancestors and families. However, not everyone has had the opportunity to access these important places, namely Black communities. Many Black cemeteries face desecration, neglect, and even sometimes intentional erasure from public records (Calhoun, 2022). Some cemeteries are developed on top of, and completely erased from history, which is why documentation of these cemeteries is particularly important. Many organizations have worked to preserve the legacy of these Black cemeteries, such as The Black Cemetery Network, which works to counter Black cemetery erasure (Black Cemetery Network, n.d.).

Wilson Cemetery is one example of a cemetery that faces these challenges. It's located in Princeville, NC, the first Black chartered town in the United States, situated right next to the Tar River. This proximity to the river makes it susceptible to flooding events, like the ones after Hurricane Floyd in 1999 and after Hurricane Matthew in 2016(Thomae, 2024). These floods have altered the landscape of the burial site, damaging and submerging some graves. Preservation of this cemetery is particularly important to the history of the town as it is the oldest

cemetery in Princeville with graves dating back to the 19th century, as well as the burial site of World War I and II veterans, and the town's founder.

Our project seeks to create an interactive map of Wilson Cemetery documenting those who are buried there. Unlike a list of names, the geographic component of this map will highlight the spatial relationship between grave sites, as families are often buried in the same plots. This will allow community members to locate graves and reconnect with their family history. This research may also help with future restoration efforts, providing a baseline of gravestone conditions. Through this project, we aimed to promote community engagement, focus on preservation, and give a voice to histories that have long been marginalized.

Methods

Data Collection

We first collected aerial imagery of the cemetery using a DJI drone. This was used as our basemap, which gave us an initial overview of the structure of the cemetery. This was retiled for efficiency when zooming in and out of the map. We created a survey in Survey123 with questions pertaining to vegetation cover, headstone condition, name, date of death and birth, and a unique number identifier. This allowed for collaboration with the community, as they could easily use the survey to collect data points. The survey was also connected to a differential GPS so we could collect an accurate location measurement down to the centimeter level. The differential GPS was also connected to the Emlid Flow app. This allowed us to have two points of reference when collecting the coordinates to allow us the most precise location data. In order to keep track of which graves we had already collected, we used markers with unique IDs. These IDs were written on small flower-shaped markers and placed temporarily on each grave to mark the graves in a respectful manner. As we collected the grave data in Survey123, we also collected

lidar scans of the graves to create 3D models. We collected these scans in the app Scanniverse and named the files after the unique ID so they could later be joined with the Survey123 data.

Data Processing & Map Creation

The Survey123 data was cleaned to remove duplicate entries and irregularities. This cleaned data was then joined with the Emlid Flow data using the unique IDs to ensure accurate geolocations of the graves. The lidar scans were cropped to include only the gravestone and then processed in Supersplat so the gravestones would be facing upright and forward, allowing for a better visualization when accessed from the final map. Screen captures were also taken of the adjusted lidar scans to be included in the final map. The final map was created using Visual Studio Code to create an HTML based map utilizing both JavaScript and the Leaflet library. This map was designed with the ability to zoom in and out and with clickable grave markers to display information. It also included links to the 3D models as well as static images of the gravestones.

Results

Our final product is an interactive Leaflet map of Wilson Cemetery in Princeville, NC, documenting 259 graves. Figure 1 shows the final map with a drone image as the basemap and each grave on top represented as a blue semi-transparent circle marker. The markers are interactive; when clicked a pop-up appears containing the name of the person/persons buried there and a photo of the grave as seen in Figure 3. When clicked, a sidebar also appears as seen in Figure 2. This sidebar includes the person's name, date of birth, date of death, a link to the 3D gravestone model, gravestone type (such as headstone or flatstone), the condition, legibility, vegetation cover, a unique point ID number, and an additional information section. Additionally, the pop-up also includes a full 3D model of the gravestone. As seen in Figure 4, the 3D model

can be moved around with the cursor to see all sides of the gravestone. There is also a search bar in the sidebar to allow community members to search for relatives.

Figure 1

An interactive leaflet map of Wilson Cemetery in Princeville, NC. Gravesites are represented by blue dots and are interactive. The basemap is a drone image of the cemetery.

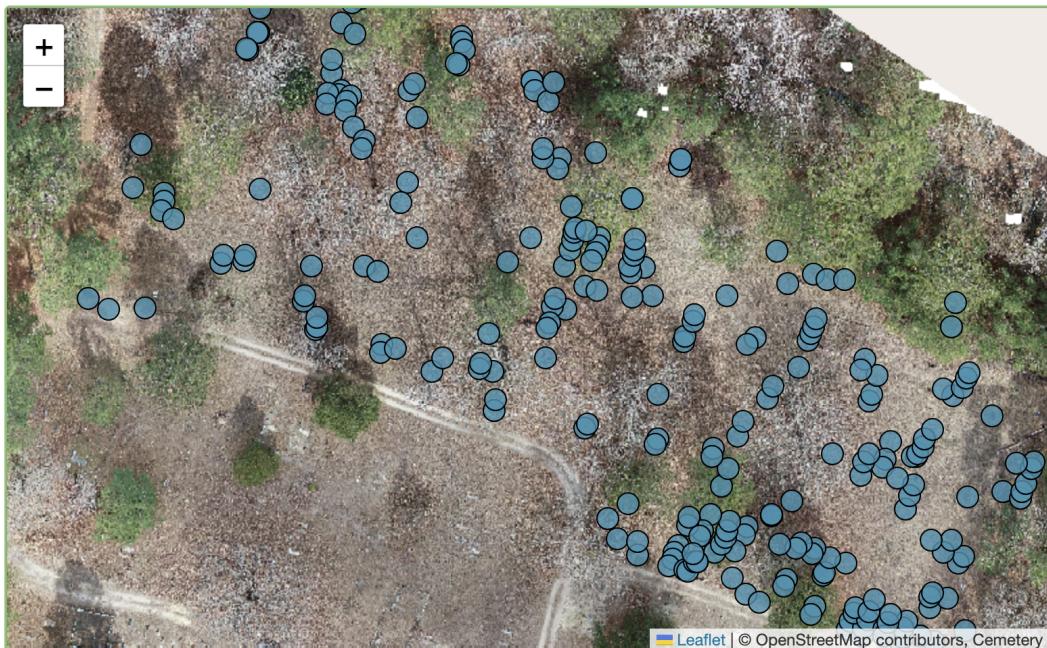


Figure 2.

The sidebar displayed when clicked, which contains grave information. Martha Ann Wooten is used here as an example.

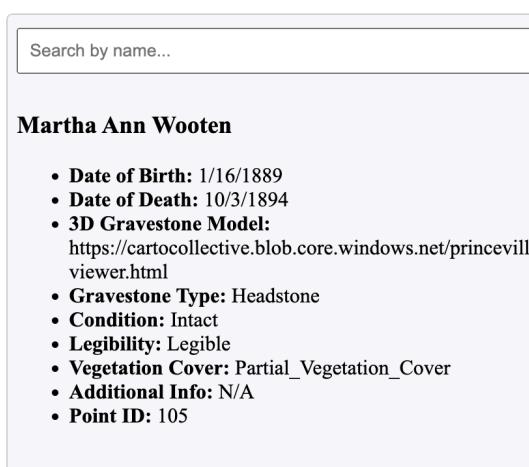


Figure 3.

The popup displayed when a grave is clicked. A photo of the 3D model of the grave is displayed, as well as a link to the model.

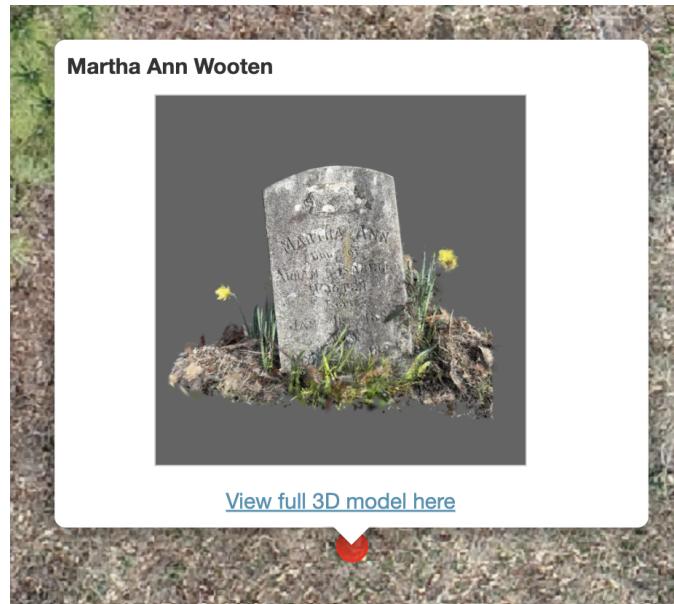


Figure 4

3D model of a headstone using Caroline Walston as an example. The headstone can be viewed from all angles by moving the cursor.



Discussions

Our project aimed to preserve the legacy of Wilson Cemetery while encouraging community engagement and reconnection to family histories. Our interactive map sought to address the challenges faced by Wilson Cemetery, such as flooding and disrepair. By making this map accessible to community members, it will allow them to locate relatives and friends' graves as well as reconnect them with family members. By fostering this sense of community, this mapping project may also promote further interest in local history and the conservation of this site. The documentation of the gravestone conditions and vegetative cover can be of use for future restoration efforts by highlighting which graves need the most maintenance. It is also important that if future flooding events happen, there is a record of what was there before.

This project not only conserves the history of Wilson cemetery but also contributes to broader, future preservation efforts in Princeville. Princeville is actively pursuing a place on the National Register of Historic Places. In order to be considered for the National Register of Historic Places, three historical landmarks must be identified in the town, and Wilson Cemetery would be the 3rd one. Through this mapping project, we are able to emphasize Wilson Cemetery's historical and cultural significance and support the town in completing the nomination. Through inclusion on this register, the town would receive recognition, protection from outside development, and increased funding for preservation, allowing others to explore the long, rich history of Princeville.

Sources

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