Many of the trees on the St. Norbert Campus were planted by Fr. Anselm Keefe (1895-1974) in the mid 20th century. It was Fr. Keefe's vision to beautify the campus by creating gardens that were accessible to the public. This included planting a diverse variety of trees, including one of every tree species native to Wisconsin. It was Keefe’s mission to make St. Norbert College an arboretum; a public garden where people could come and enjoy a diverse range of trees and other plants.

In 2010, St. Norbert College joined the American Association of Public Gardens to formalize its standing as an arboretum and a public garden. Because of the rich story behind many of the trees at SNC, it has been the goal of many people over the years to document the location and type of trees around campus. This has traditionally been done by creating a paper map with the location of trees represented by dots or pins (Figure 1).

In this project, we used Geographic Information System (GIS) to create a map of the trees on campus. GIS is a software program that allows data to be imported and then manipulated to create 2 and 3-dimensional maps.

Unlike paper based maps, GIS can be easily updated. Trees can be added or removed easily as they are planted or removed from campus. GIS maps are also interactive, allowing users to select different attributes and display them on the same map. GIS maps are digital, which allows the map to be distributed and accessed by a range of people and viewed on a variety of electronic devices, including mobile devices. This would allow students or campus visitors access to a guide of the trees at SNC.

**Methods**

A Trimble Global Positioning System (GPS) was used to obtain the location of trees on Campus. The GPS unit was held next to the trees while it collected the latitude and longitude coordinates of each tree. The diameter of each tree was then measured using a special measuring tape. The height of each tree was measured using an altimeter. The genus and species of trees were determined using a dichotomous key. Features of the trees such as leaves, twigs, buds, and bark were used to help identify the trees. The data from the GPS were then downloaded into Pathfinder Office and post-processed to increase the accuracy of the location of the trees to within 3 meters. It was then exported as a file that is compatible with GIS. The data were then imported into GIS and the map was created (Figure 2).

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**Future Work**

Future work includes making the data accessible to mobile devices. GPS in mobile devices will allow people to locate trees based on coordinates.

Future work also includes comparing these data to older tree data to see which trees have been planted and removed over time at SNC.

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