**Data Management and Professional Practice (GIS) 713**

**Project 2023: Stellenbosch University Botanical Garden interactive map**

The main purpose of the Stellenbosch University Botanical Garden is to fulfil the research and educational needs within the Stellenbosch University and support conservation goals in the region, therefore the Garden contains both indigenous and exotic plants. The Botanical Garden contains various plant collections and is divided into several separate areas or theme gardens. The Garden also functions as an important green oasis in Stellenbosch, providing an important habitat for various animals (see <https://www.sun.ac.za/english/entities/botanical-garden/garden>). The public can view a [static map](https://www.sun.ac.za/english/entities/botanical-garden/garden/garden-map) of the garden.

The botanical garden has various data on plantings, buildings, paths and other infrastructure (such as benches, sundial, etc.). These have been co-ordinated into a single geodatabase and in previous years, the GIT713 class has collected high precision survey data for additional features in the garden and substantially improved the geodatabase. However, this data are not available to the public in an interactive map and a [Missouri Botanical Gardens](https://www.missouribotanicalgarden.org/plan-your-visit/the-garden/map) style interactive map has been suggested so that the public could interact/zoom/query key features. Tabular data and location maps from the Botanical Garden database software and online portal are available at <https://sun.gardenexplorer.org/> but needs to be updated.

The specific tasks for the 2023 GIT 713 class will be:

1. Determine requirements of the client.
2. Determine possible shortcomings of the existing system in the light of the requirements of the client.
3. Identify hardware and software to be used for the website (ArcGIS Online, Geoserver).
4. Decide on database management strategy for spatializing features from the client geodatabase.
5. Plan the project (using a combination of ‘traditional’ project planning, supplemented by SCRUM principles to achieve short timeline goals) and develop a Gantt chart.
6. Collect relevant data, photos, and information on key features to be included.
7. Explore routes to access key features, capturing these tracks/paths with high precision.
8. Develop a prototype per group using ArcGIS Online / Geoserver.
9. Present prototype per group to client who selects “best” prototype to be implemented in final web map.

To complete this work you will need to interact with the client numerous times and make various field trips to the garden. The field work should include a ‘final, in-field accuracy check’, which you will plan, execute, and report on. Ensure that during your client consultations, you are spending your time focusing on their priority areas. The final interaction will be to hand over the prototypes of completed operational web maps to the client.