KEIKY LIMITED CASE STUDY

Porting geotechnical calculations from Lotus-123 to Python
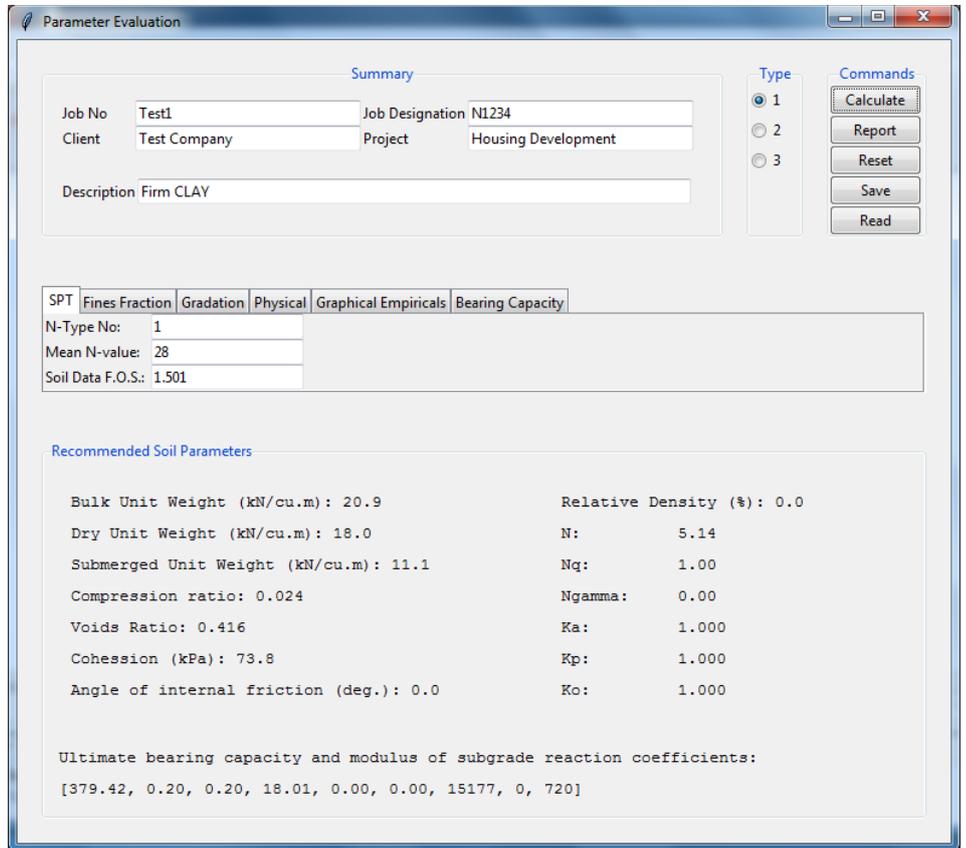
A set of geotechnical calculations for soil mechanics were ported from Lotus-123 to Python.

Jentech Consultants had previously used a set of Lotus-123 spreadsheets to perform calculations to determine properties such as the soil bulk unit weight, dry unit weight and bearing capacity. Lotus-123 was no longer being supported and while the equations could be ported to a tool such as Microsoft Excel, Excel comes with a price per user licence and does not offer the flexibility of a scripting tool such as Python for performing advanced calculations.

KEIKY ported the equations and created a library which the client could call from their own scripts and other tools including spreadsheets such as Microsoft Excel.

A graphical user interface (GUI) was created which allowed users to perform the calculations and report the results. The GUI allowed users to save the input parameters in XML files which could then be recalled.

This provided the customer with traceability and provided useful training material for new users in the form of template files.

The GUI also allowed Jentech to produce PDF reports which could be supplied to their clients.

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