BOOTH Voting Package: User Guide

URI V⚓TES

Engineering for Democracy

Recommendations that will lead to future sustainable practices and tools utilized to overcome new and future obstacles in voting and election processes.

The idea of democracy is simple. Execution is complicated.

Purpose of Tool

Data Organization:

The BOOTH add-in package offers an open-source method of importing DS200 ballot scanner log files and Poll Pad electronic check-in log files into Excel. DS200 text files are automatically separated by data type into columns and added to new Excel worksheets, one new sheet for each selected file, with unnecessary information removed. The new sheet takes the name of the corresponding text file. Poll Pad files are imported into a new Excel worksheet in which the data is separated by type into different columns.

Potential applications of the importing tool include creating Excel files that contain every polling location in a town or district. The import function allows for any number of files to be imported simultaneously. Additionally, any number of files can be selected and added to any existing Excel workbook, allowing for easy report generation with supporting data.

Data Processing:

The Process function of the BOOTH add-in package allows the user to process a single sheet or multiple sheets of scanning data. A new sheet is created for each data set to be processed. For DS200 data, the new spreadsheet is formatted and populated with the scanning event message (Scan Type), the duration associated with the event (Duration), and a label determining if the scan was successful or unsuccessful (Ballot Cast Status). With the data processed, gathering information about the ballot scanning process in a single polling location, or across several, becomes much less tedious. Poll Pad data is kept largely unchanged from the importing stage, although the column listing date and time is separated for easier statistics Generation.

Potential applications of the processing tool include determining machine error rates and ballot marking error rates, as well as determining why delays may have occurred in a particular polling location. The data can be further filtered and examined with Excel features for data visualization purposes as well as for performance reporting.

Generating Statistics:

The Summary Statistics function of BOOTH allows a user to create statistics from a processed datasheet. When run on a sheet containing processed DS200 data, descriptive statistics such as mean, standard deviation, and maximum observations of duration are generated for each event type. When the function is applied to processed Poll Pad data, turnout per hour is calculated for each jurisdiction in the file. This turnout is also plotted and allows for the comparison of turnout between two jurisdictions.

Limitations:

At its current point of development, BOOTH imports, processes, and creates statistics specifically for DS200 and Poll Pad log files. Additional functionality to incorporate other device log files is currently being developed and will be included in future versions of the BOOTH Voting Package. Additionally, the program assumes that the files are created consistently by the voting equipment. If there are alterations to the raw data, the functionality may not work or may generate results that are inaccurate. If this is observed, please reach out to the RI VOTES team
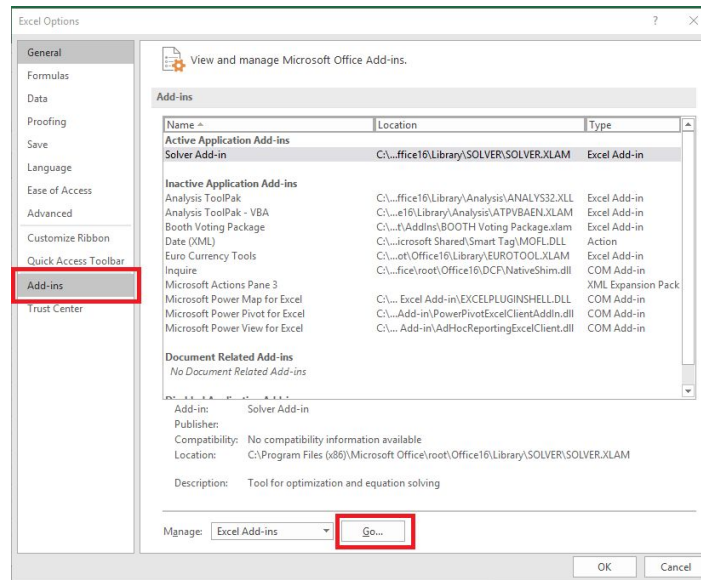
(see Feedback section).

Instructions for Use:

Importing:

- Once DS200 and/or Poll Pad raw data files are obtained, open a new Excel file.
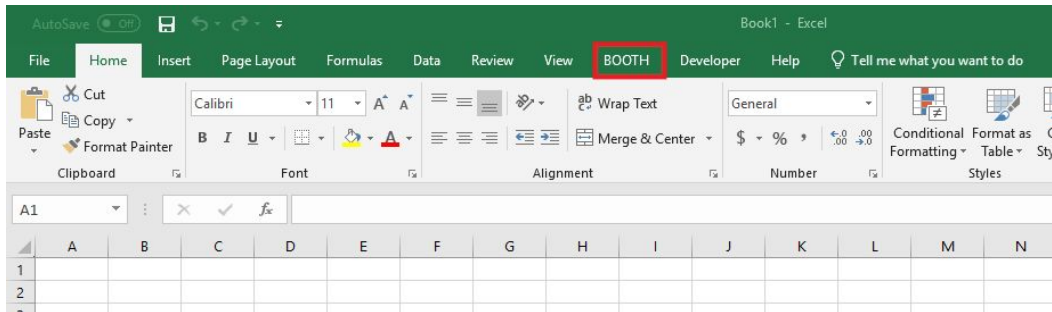- Click on the 'File' tab and then click on 'Options' in the Excel file.
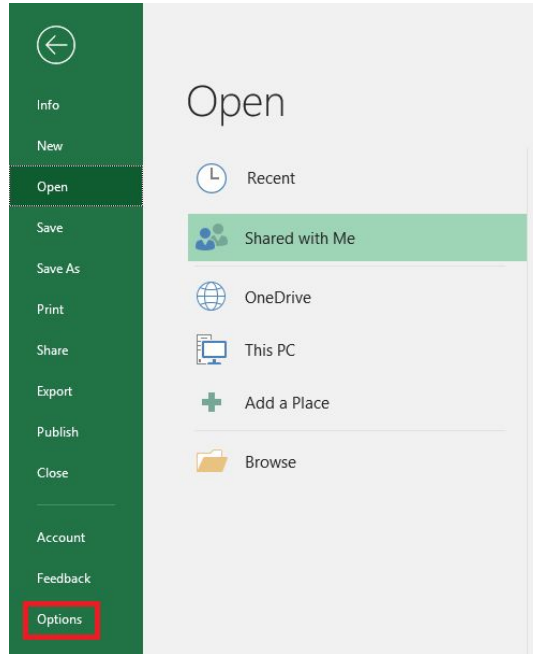
- In options, click 'Add-ins' at the bottom left of the menu.
- At the bottom of the page, select "Manage: Excel Add-ins" from the dropdown menu and click "go".

- When the small window pops up, click Browse.
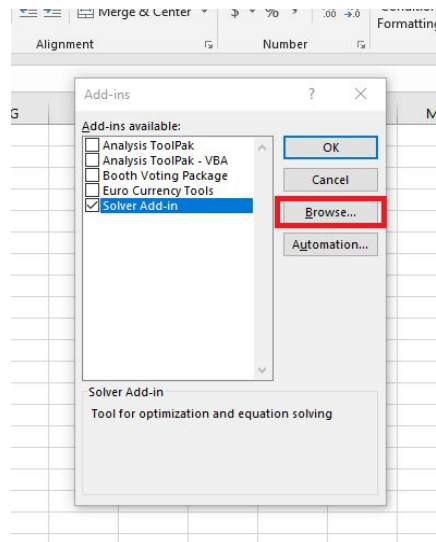
- Navigate the folders until you find the BOOTH Excel Add-in file in the BOOTH Voting Package folder and select the file.
- Click 'Open' in the file explorer window.
- The ribbon in Excel should now have an additional tab labeled 'BOOTH' located between the 'View' and 'Help' tab.


- Click on the 'BOOTH' tab and then click the 'Import DS200 file(s)' or 'Import Poll Pad file(s)' button.
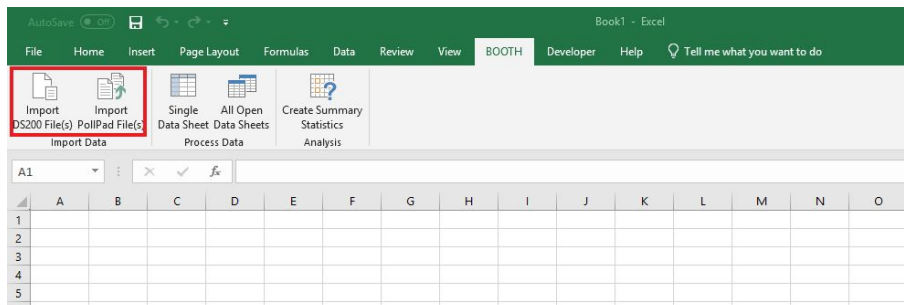
- When the file explorer pops up, select the file or multiple files that you wish to import (import DS200 files if that button was pressed, and Poll Pad files if 'Import Poll Pad file(s)' was pressed) and click 'Open'.

Processing:

- There are two processing functions in BOOTH. The first processes a single data sheet while the second processes all open sheets that contain DS200 or Poll Pad data.
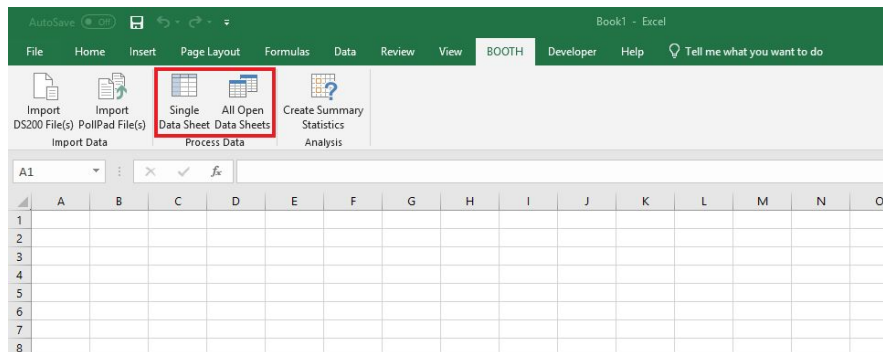
- To use the 'Single Data Sheet' processing function:
  - Select the worksheet from the bottom tabs that the user wishes to process.
  - Click the 'Single Data Sheet' button in the processing area of the ribbon. A new worksheet will be created containing the processed data.
- To use the 'All Open Data Sheets' function:
  - Click the 'All Open Data Sheets' button while on any sheet of the workbook.
  - This may take time if many sheets are open and contain DS200 or Poll Pad data. The user will be notified if any sheets do not contain compatible data.
  - A new worksheet containing the processed data for each DS200 sheet is created and Poll Pad data is processed directly on the datasheet.

Summary Statistics:

- To create summary statistics for processed data:
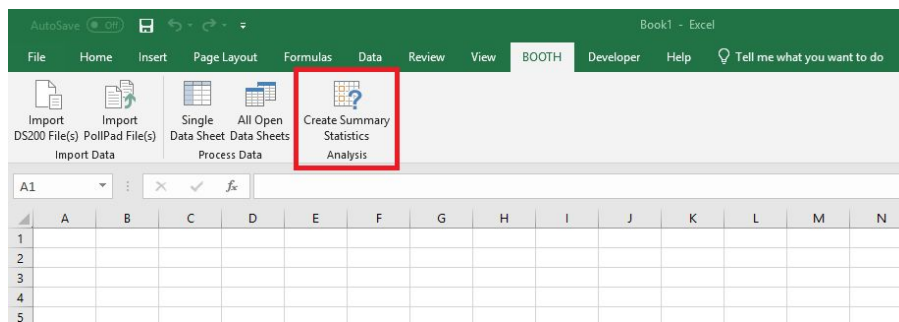
  - Select the worksheet containing the data to be analyzed.
  - Click the 'Create Summary Statistics' button in the Excel ribbon.
  - This will create a new worksheet with descriptive statistics if the sheet contained DS200 data and will create turnout rates if the sheet contained Poll Pad data.

Feedback Section:

Please contact uri.sis.lab@gmail.com with any questions, concerns, or feedback. We will respond as quickly as possible to help resolve any problems.