

## How to use OrgAhead

### **The OrgAhead interface**

1. Start OrgAhead by **double clicking** the corresponding Batch File.
2. Give the Interface around **15 seconds** to load. During this time please do not carry out any operations on it.
3. The Menu Bar gives the user two options:
  1. File—Load Single Simulation [this does NOT work for Virtual Experiments]. This enables the user to specify a pre-existing input file. Once the user chooses a file using the file chooser, the user can click on the “Run Simulation” tab, and choose “Run Single Simulation.” And then, by clicking on the “Run” button, orgahead.exe runs off of the input parameters specified in the file. The results are visible on the scrolling pane, and are also written to a file (Results0.txt) in the same directory as the input file.
  2. Tools—Set Working Directory. This enables to specify a working directory for the session. When the user clicks on “Set Working Directory,” a directory chooser pops up, where the user can specify a directory. From this point, all input and output files specified are written to this directory. The user also has the option of changing the default directory, during a session.

### **Single Simulation**

1. Navigate to the “**Single Simulation**” tab.
2. On the left is the list of groups (of input parameters). In certain cases (as in “Anneal”) there are sub groups that can be accessed by clicking on the name of the group.
3. Once the user clicks on a group name, the corresponding input parameters appear on the main panel. The user can now manipulate the values of the parameters (Click on the parameters to see a brief description in the “Help” area situated at the bottom of the panel).
4. When the user is done setting up the parameters for the run, the user clicks on the “Run Simulation” tab and then chooses “Run Single Simulation.” By clicking on the “Run” button, the user enables orgahead.exe to run off of the input parameters specified in the interface, and the results are written to a visible on the scrolling pane, and are also written to a file (Results0.txt) in the directory specified by the user (in Step 2 under “The Orgahead Interface”). If no directory is specified, then the results are written to the same directory as orgahead.exe.

### **Virtual Experiment**

1. Navigate to the “**Virtual Experiment**” tab.
2. On the left is the list of groups (of input parameters). In certain cases (as in “Anneal”) there are sub groups that can be accessed by clicking on the name of the group.
3. Once the user clicks on a group name, the corresponding input parameters appear on the main panel. The user can now manipulate the values of the parameters (Click on the

parameters to see a brief description in the “Help” area situated at the bottom of the panel).

4. When the user is done setting up the parameters for this particular run, the user clicks on the “Set up Next Simulation” tab. Clicking on the button enables the user to conclude with this run of the virtual experiment and start on the next run. The “Total Number of Simulations” entry increases by 1, signifying the end of a run. The user now can set up parameters for the next run in the same way (repeat Steps 1-4).

5. Once the user is done setting up a series of simulations for the virtual experiment, the user clicks on the “Run Simulation” tab and navigates to “Run Virtual Experiment.” By clicking on the Run button, the user can see the results of the various runs on the scroll pane. The results are also written to a file (ResultsN.txt where N corresponds to the Nth run of the experiment) in the directory specified by the user (in Step 2 under “The Orgahead Interface”). If no directory is specified, then the results are written to the same directory as orgahead.exe.

Note: The group named “Output” (on the left pane) contains certain parameters that specify the various kinds of ‘outputs’ generated by OrgAhead. By default, -print\_efficiency, -print\_organization and -print\_change are chosen. These, in addition to -print\_matrices create csv files, when checked (a checkbox appears next to these parameters). Other -print options define the things that are part of the Orgahead output (no separate csv files are created for these other parameters).

### **Viewing Results/Visualizations** (common to both Single Simulations and Virtual Experiments)

The following are options available to the user **after** the user has run a single simulation or a virtual experiment. **The sample files specified in the following sections are in the folder named “OrgAheadExamples”**

- **View Results:** By default, OrgAhead writes Efficiency values (Relative and Absolute) of the output to a csv file (PE\*.csv, \* specifies simulation number) to the directory specified by the user. The user can click on the “Efficiency over time” tab on the left. And then, the user chooses the csv file using the file chooser. Now, by clicking on the “Generate” button the user can view, graphically, the performance over time [Sample file: OrgAheadExamples\OutputSamples\pe.csv].
- **Network Visualization:** By clicking on the “Network Visualization” tab (on the top part of the panel), the user has the following options:
  - **Organizational Structure:** The user can view the Initial and Final Organizational Structures of the organization (for a particular run) by choosing the Results (Results\*.txt). When the user clicks on generate, the Network Visualization panel pops up with the hierarchical structure

[Sample files: OrgAheadExamples\VisualizationSamples\HierOutput1.txt, OrgAheadExamples\VisualizationSamples\HierOutput2.txt].

- **XML File:** Sample XML Files are provided in the VisualizationSamples folder. Zembassy\_measures.xml has measures associated with it (Measures generated by one of our other tools—ORA). Tunisia.xml represents the same information without node labels. Both xml files use SocNetML.dtd (also included in the folder).
- **Network Visualization:** This tab refers to the MetaMatrix Visualization. The user can choose a metamatrix file that conforms to OrgAhead format, and click on “Generate” [Sample file: OrgAheadExamples\VisualizationSamples\FS.txt]
- **People By People, People By Resource, People By Tasks, Task By Resource, Task by Task:** These are individual matrix types that can be visualized using the visualization tool. At present, this only accepts BINARY input matrices [Sample files: P-P.txt, P-R.txt, P-T.txt, T-R.txt, T-T.txt—all these folders are in the folder OrgAheadExamples\VisualizationSamples]

Other sample files in the OrgAheadExamples folder (subfolder name in parentheses):

- n input.txt, temp1.txt, HierInput1.txt, HierInput2.txt –OrgAhead input (InputSamples).
- n Results0.txt, Results1.txt – OrgAhead output (OutputSamples).
- n Pe.csv -- efficiency values (OutputSamples)
- n Pc.csv -- change over time (OutputSamples)
- n Po.csv -- organizational structures (OutputSamples)
- n Pm1.csv, Pm2.csv-- matrix files: these can be generated when the user chooses the “Print Matrices” option, under “Output” (OutputSamples).

For more information on OrgAhead, please visit

<http://www.andrew.cmu.edu/~jusung/orgahead/orgahead.html>