**Monte Carlo Simulation User Guide**

**Overview**

This Monte Carlo simulation tool helps forecast the number of work items your software development team is likely to complete within a given timeframe. By inputting historical data and selecting desired timeframes for simulation, you can receive probabilistic estimates of future throughput.

**Getting Started with Your Excel Sheet**

First, Download the Excel Template Then…

Step 1: Input Your Historical Data

Open the Excel workbook provided with the simulation tool. You'll find a sheet named Data Input Sheet. Here is where you should input your historical data.

* ID Column: Enter the unique identifier for each work item (e.g., user story ID).
* Started Column: Enter the date when work began on the item.
* Done Column: Enter the date when the item was completed.

Step 2: Select Data for Simulation

In the Data Input Sheet, you will also see a Selected column.

For each row of historical data, you wish to include in your simulation, enter "Yes" in the Selected column.

Step 3: Set Up Your Simulation Parameters

Navigate to the Simulation Control Sheet tab within the same workbook to set your simulation parameters.

Days To Simulate: Enter the start and end dates you would like to forecast for. The total number of days should automatically be calculated.

Step 4: Uploading and Running the Simulation

Once you've set up your historical data, save the excel file and select “Upload and Convert” in the UI.

**Interpreting the Results**

After running the simulation, the app will output the results back into your Excel workbook in two new sheets:

Summary of Percentiles: This sheet will display key percentile values (e.g., 95th, 85th, 70th, 50th, 30th).

For instance, if the 95th percentile shows the number 50, you can interpret it as: "There's a 95% chance that the team will complete 50 or more work items in the simulated time frame."

Histogram: This sheet will provide a visual histogram chart representing the distribution of the total completed work items over all simulation runs. This visual aid helps in understanding the spread and the most range outcomes of the simulation.

**Best Practices and Tips**

Always make a copy of your original data before making selections and running simulations.

Regularly save different versions of your Excel workbook, especially before running a new simulation, to maintain a history of changes.

Review the results in the context of any known future changes that might affect team performance, such as team size adjustments or different types of work items.