CF Linear Equations
User Manual

V 1.0.0.1

1. The ***CF Linear Equations*** application is a Windows Metro 8.1 app solves systems of linear equations of the form **Ax** = **B** where:
   A is a square matrix.
   B is a vector of the same length as the rows and columns of **A.**
   x is the calculated vector.

2. When the application is started, the initial screen appears (Figure 1).

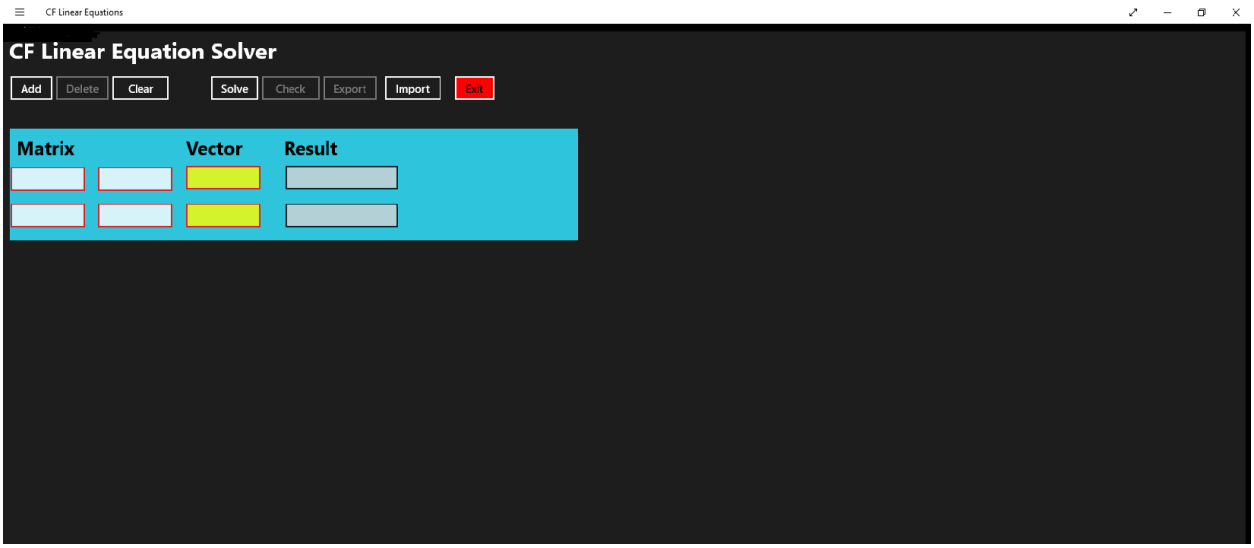

Figure 1 – Initial Screen

3. To change the matrix size, click the **Add** button to add a single row/column (Figure 2). Use the **Delete** button to remove a row/column.

Figure 2 – Screen after Add is clicked.

4. Fill in the matrix values and the vector values. Then, click on the **Solve** button to solve the system of equations. (Figure 3).

Figure 3 – Solved System Display

5. The check the results, click on the **Check** button. The matrix values will be multiplied by the result values and the results will be displayed in the Check column (Figure 4). Each value in the ***Check column*** should match the value in the Vector column (Note: there may be some rounding errors, so the match may not be exact).

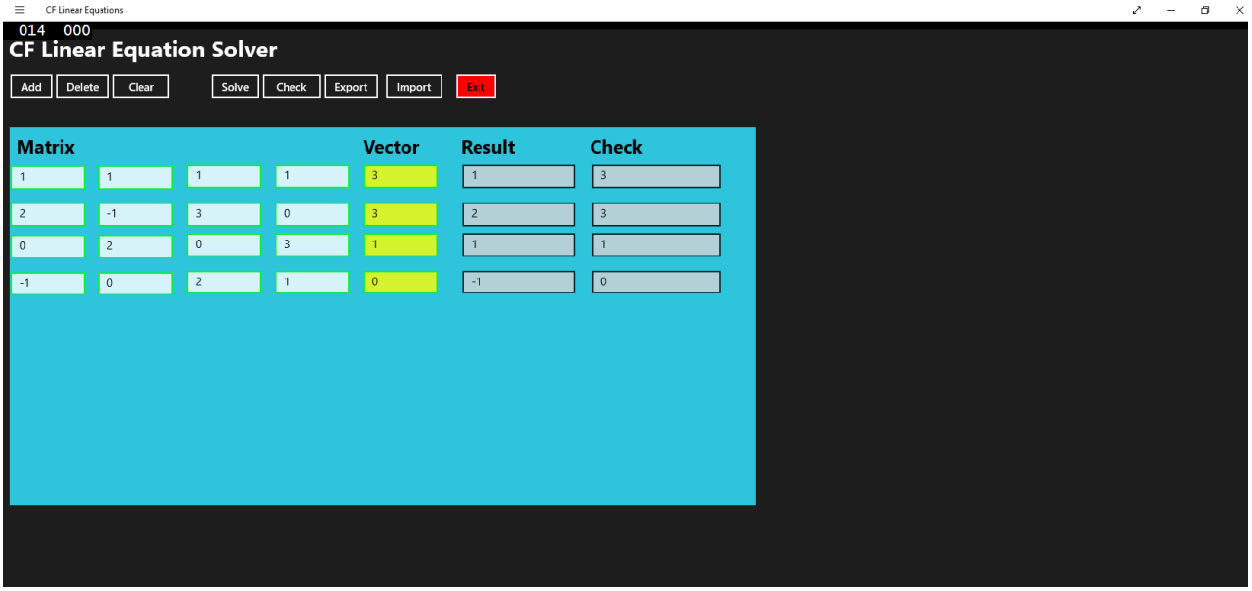

Figure 4 – Check Screen

6. Some systems of equations have no solution. In these cases, you will see the display shown in Figure 5:

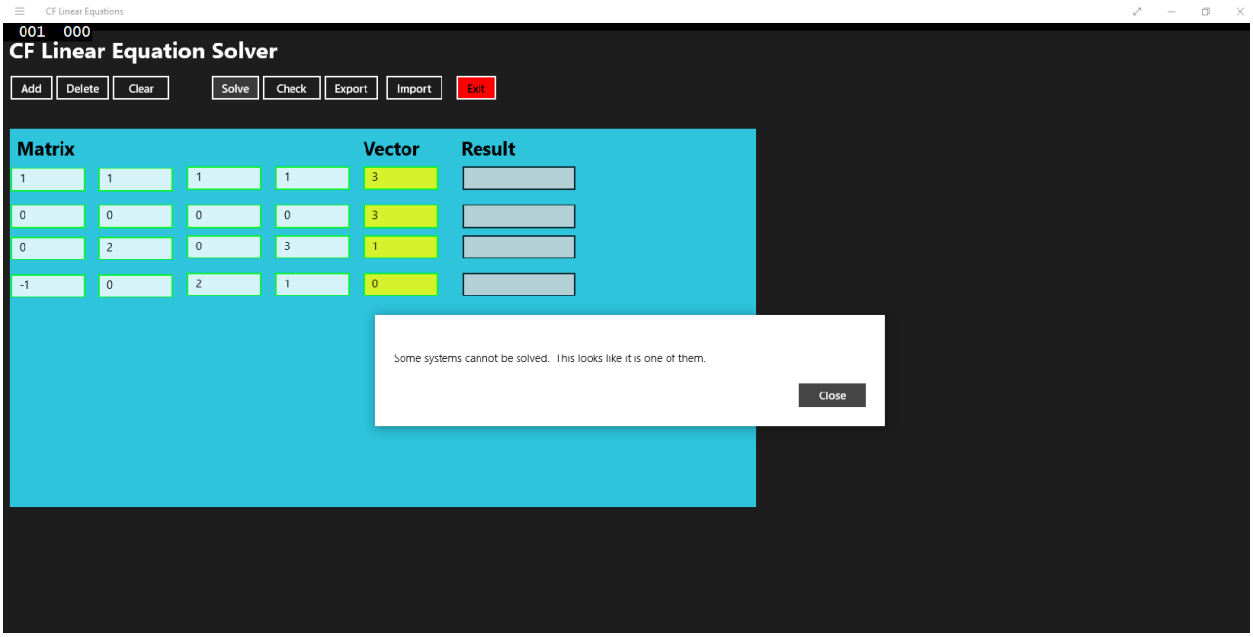

Figure 5 – System with no Solution

7. To clear the values, click on the **Clear** button.

8. You can export a matrix/vector pair to a comma-delimited file by clicking on the **Export** button (Figure 6). You can import a .csv file (properly formatted) using the **Import** button (Figure 7).

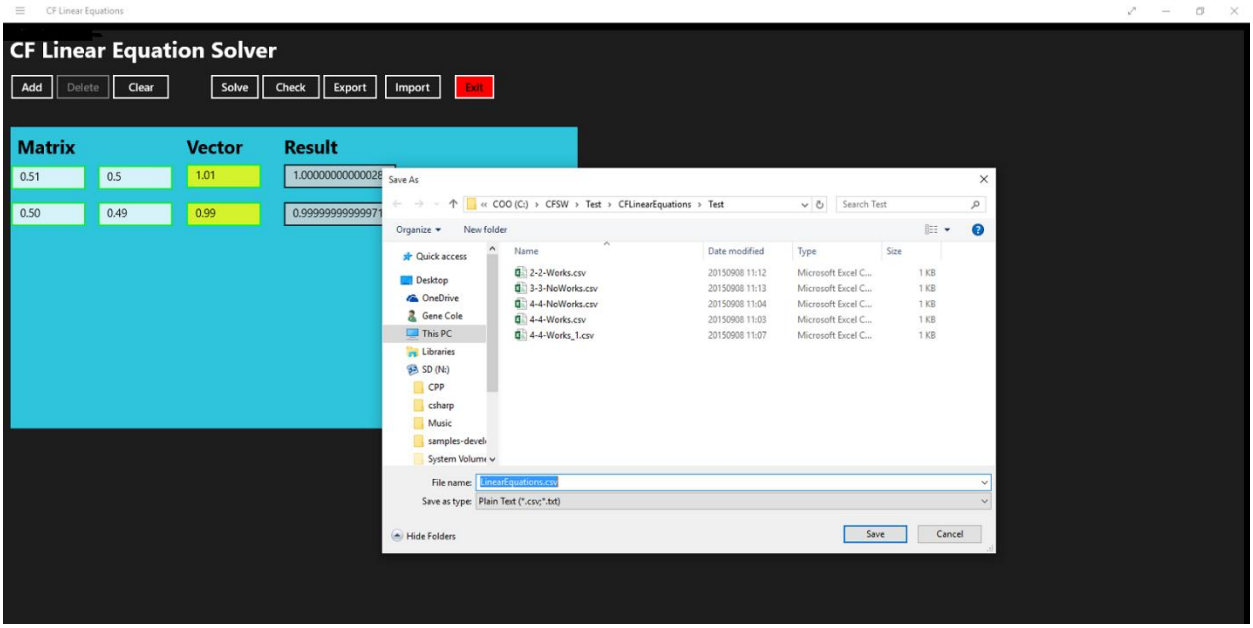

Figure 6 – Export to a .csv file

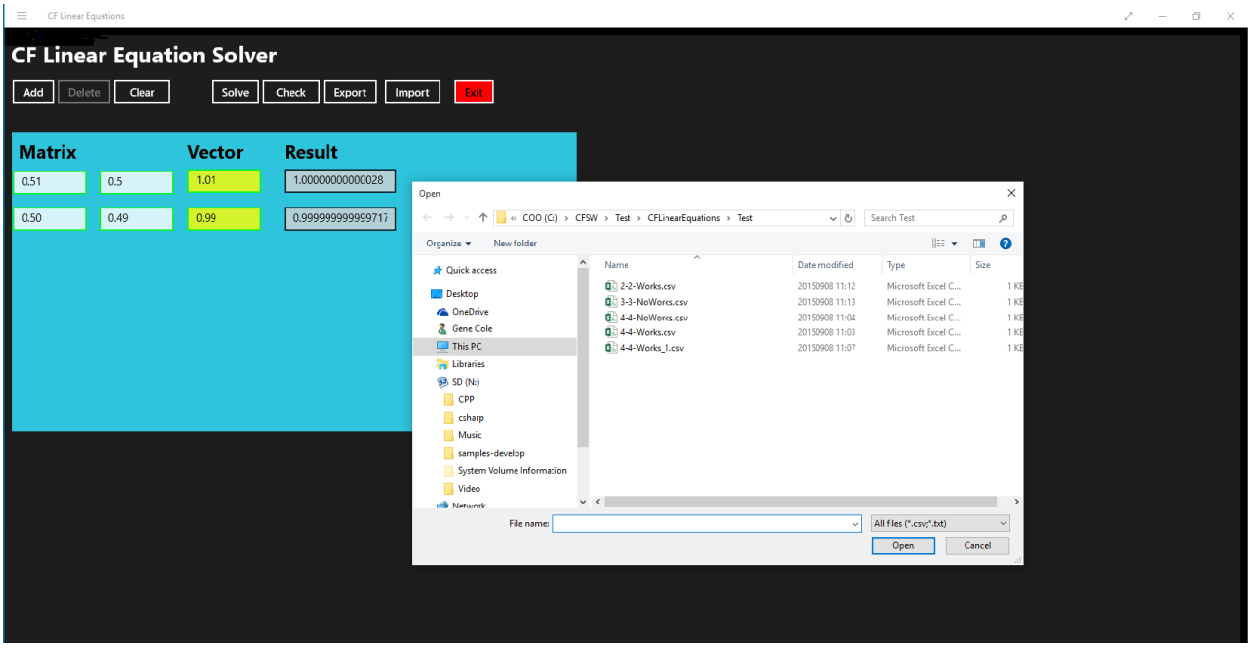

Figure 7 –Import from a .csv file

9. **Errors** – If an input error occurs, a message box will popup. Normally, the error message will be self-explanatory. If an unexpected error happens, please email the text of the error to:

   LinEq@cfsw.biz

10. Please email any problem descriptions or improvement suggestions to:

    LinEq@cfsw.biz