Requirements:

- ESRI ArcObjects 10.2
- Microsoft Visual Studio 2010

After installing Microsoft visual studio 2010, it is necessary to install ESRI ArcObjects 10.2.

How to run the program in the visual studio:

To run the program start debugging in visual studio and select a case study mxd file from select file dialog as figure 1.

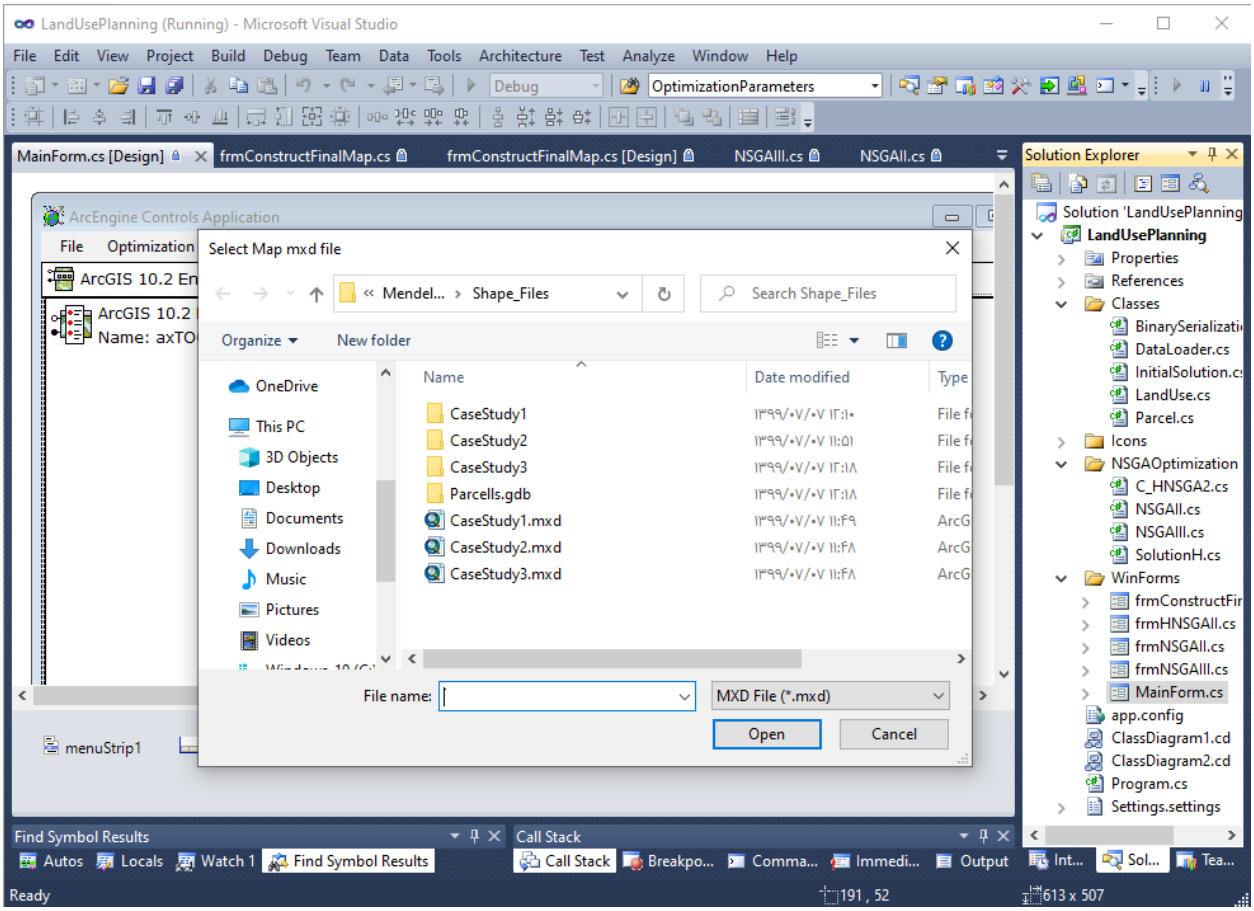

Figure 1. selecting a case study mxd file to initial the program.

To run algorithms, click on the optimization bottom in the menu bar and select an algorithm.

Set the parameters in the parameters setting window as figure 2.

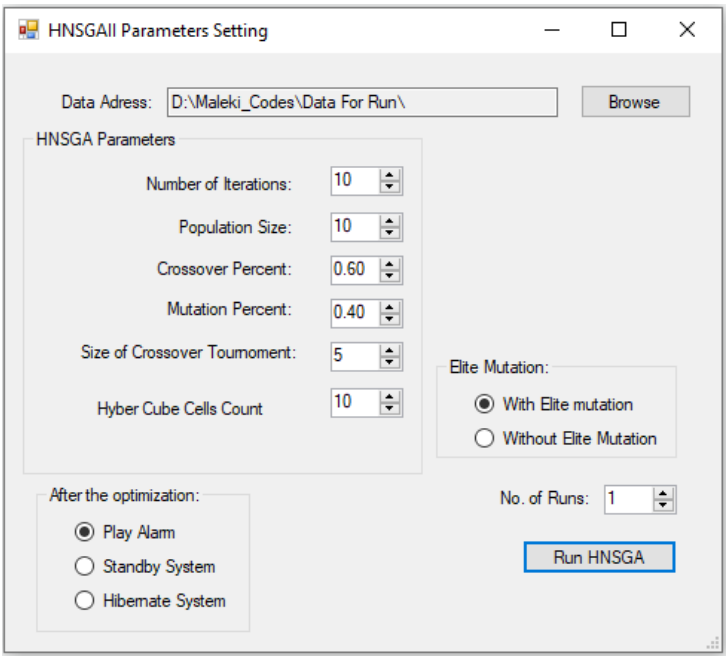

Figure 2. parameters setting widow

After running the algorithm, the results are saved in the results folder in the selected address.

To construct a map from the generated results, click on “Export Result” bottom in the menu bar and select “Construct map”. In this section a simple tool is designed for using by the human expert to select the final solution(s). In this tool, two methods can be used to select the final solution(s). In the first method, using the expert assigned weights to each objective, the best solution is identified by comparing the weighted-sum aggregations of objective for each solutions in pareto front. In the second method, an ideal point must first be considered. After that, the tool starts searching for the closest solution to the ideal point and the closest solution is considered as a best one. The user interface of the expert assistant tool in finding the appropriate solution is shown in Figure 3.”

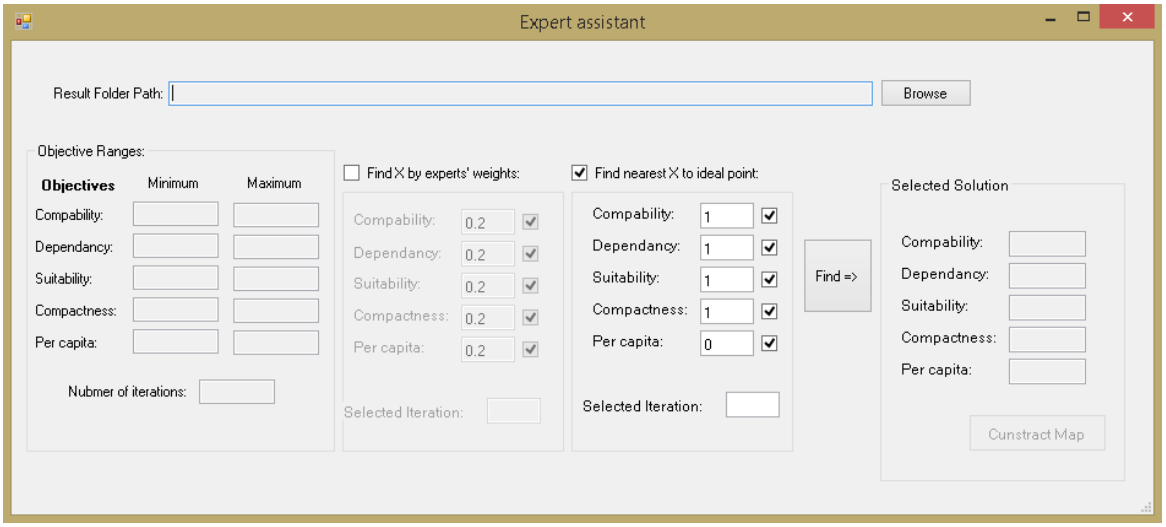

Figure 3. Construct map window

In the construct map window, you can select the result path by browse bottom. After selecting an appropriate results path, the upper and lower bounds of objective appear in the objective ranges box.

You can select and appropriate solution base on the nearness to ideal points for each objective.

Finally, you can generate the result map of the selected solution by clicking on" Construct Map" bottom.