The SAS Prototype Application series from SAS Institute Inc. is designed to bring the power and flexibility of the SAS System to the end user without requiring knowledge of the SAS language. This is accomplished using SAS/AF software to provide menus and SAS/FSP software to provide full-screen data access. Other SAS products provide data analysis and data manipulation capabilities, such as Base SAS software, SAS/OR software, SAS/ETS software, and SAS/QC software. The prototypes are easily changeable to more specific user needs, since they are written in the SAS language. They run under MVS, VM/CMS, or VMS in interactive mode.

WHAT IS A SAS PROTOTYPE APPLICATION?

It is an interactive approach to solving a business problem. The user supplies data and the prototype performs the analysis and reports results interactively. The only required user knowledge is to understand the type of problem being solved. For example, if the problem is project scheduling, the user should understand concepts of the critical path method (CPM). To guide the user in using the prototype, there are interactive help facilities at every step. The prototype has many basic capabilities, but is not meant to solve a problem of any complexity. However, a SAS programmer at the site can add features as needed.

EXAMPLE: THE OPERATIONS RESEARCH PROTOTYPE

Following is an example of how a user would solve a problem using a prototype application. The one used is the Operations Research Prototype, currently available from SAS Institute.

Following is the main menu of the application. We will choose option number 1 from the main menu (Project Scheduling). Note that there are many other capabilities in the Operations Research prototype. The following screens were created using SAS/AF software and SAS/FSP software.

The following menu asks whether you want to use data you already have or if you would like to create a new project. Existing data is used in this example.

Next is a screen that asks for the name of the data file to use. If the name is not known it can be found by selecting the "To browse saved models..." option.

1275
Here, the data in any saved model can be viewed by putting an X beside the model name. The name is also needed to call the project data into the analysis on the next screen.

Control is passed to the "Use a Saved Project" screen. Any saved project can be chosen. This example uses the SURVEY project. Note that there are holiday and resource options not used in this example.

Next is the data set that contains the SURVEY data. Any of the project data can be changed at this point and new data can be added. The data are being displayed with PROC FSEDIT.

Now the data set is ready for project scheduling. In the following screen, the user can specify scheduling options such as weekends and starting date for the project.

The report below is the project schedule for the SURVEY project solved by PROC CPM. This report is being generated by PROC PRINT.

Other reports such as calendars and Gantt charts can be requested.
ENHANCING THE APPLICATION

Most of the interface is made up of screens created using SAS/AF® software. Following is a catalog of selected screens in the Operations Research prototype. To change or add to the prototype, simply add or modify the catalog. The MENU type is the one that shows the user the options available, and the HELP type can be used underneath any program or MENU screen to provide help at any time during the application. The PROGRAM type contains a user prompting area and an area for SAS statements. The catalog is accessed using PROC BUILD.

Current and Planned Prototypes from SAS Institute

All SAS prototype applications are free from SAS Institute, however each requires a set of products to run.

<table>
<thead>
<tr>
<th>Prototype</th>
<th>Products needed to run</th>
<th>Date Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Research</td>
<td>A,B,C,D,E</td>
<td>Now</td>
</tr>
<tr>
<td>Statistical Quality Control</td>
<td>A,B,C,D,F</td>
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<td>Forecasting</td>
<td>A,B,C,D,G</td>
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<td>Graphics</td>
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<tr>
<td>Report Writing</td>
<td>A,B,C,D</td>
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