Gemini Phase 1 Science Proposal Entry Tool

Dayle Kotturi
International Gemini 8 m Telescopes Project Office, P.O. Box 26732,
Tucson, Az, 85726-6732

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Dayle Kotturi[a]
International Gemini 8 m Telescopes Project Office, P.O. Box 26732, Tucson, Az, 85726-6732

1 Abstract

The new generation of 21st century 8m ground-based telescopes requires a new model of proposal submission. The proposal submission tool must be globally accessible and provide an efficient mechanism to create a proposal and submit it for review. Global accessibility is dependent on network availability and connection time should be minimized to reduce this dependency. The efficiency of the tool is optimized by implementing checks which ensure that the proposal is complete before it reaches the reviewers. This saves the reviewers from having to contact the astronomer for additional information and the astronomer is assured that her/his proposal will not be rejected for its incompleteness.

The Gemini Phase 1 Science Proposal Entry Tool is a platform-independent software program which is downloaded from the web to reside on the astronomer's local machine. During the creation of a science proposal, no network connection is required. Input is entered through a Graphical User Interface (GUI) which consists of a series of pages. The astronomer can, for the most part, page around the GUI entering the information in any order. However, in some cases, data that determines what is displayed on other pages must be entered before advancing to the next page. Local saves and prints of the proposal can be made at any time. Also, the tool can reload an existing proposal so that the astronomer can work on a proposal over several sittings. Completed pages are indicated on a floating screen separate from the main GUI. When the astronomer is ready to submit the proposal, the file is verified for completeness. If complete, it is submitted to the National Time Allocation Committee via ftp.

Keywords: Phase 1, Science Proposal, Graphical User Interface

2 Introduction

The Phase 1 Science Proposal Entry Tool (P1) is a Java Application [1] which has been built with Marimba's Bongo GUI builder [3] to meet the requirements defined in [2]. It can be downloaded to any platform from a distribution site. A new version of the tool will be distributed each semester to provide the current set of available resources (e.g. instruments, cameras) at the telescope. The application fits onto a 640 by 480 pixel screen and is drawn in 8 bit color.

[a] D.K.(Correspondence): Email: dkotturi@gemini.edu; Telephone: 520-318-8424; Fax: 520-318-8590

3 Initial Display

The initial display of the P1 is shown in Figure 1. The title bar at the top of the screen indicates the directory and filename of the current science proposal. Initially, if no file has been loaded, the name is *Untitled*. There is a menu bar with pull down file options to create a new science proposal, *open* an existing file, *save* a file, *revert* to the last saved version of a file, *print* a file, *send* a file (to National Time Allocation Committee (NTAC)) and *exit*. With the *edit* options, you can cut, copy and paste. Under the help option, you can access HTML help.

At the bottom of the screen on the left, is a *Nav* button. Use this button to redraw the P1 Navigator screen should it become hidden from view. Also at the bottom of the screen, arrow keys let you change pages. In the center of the screen at the bottom is a box which displays help information for the item which is currently in focus.

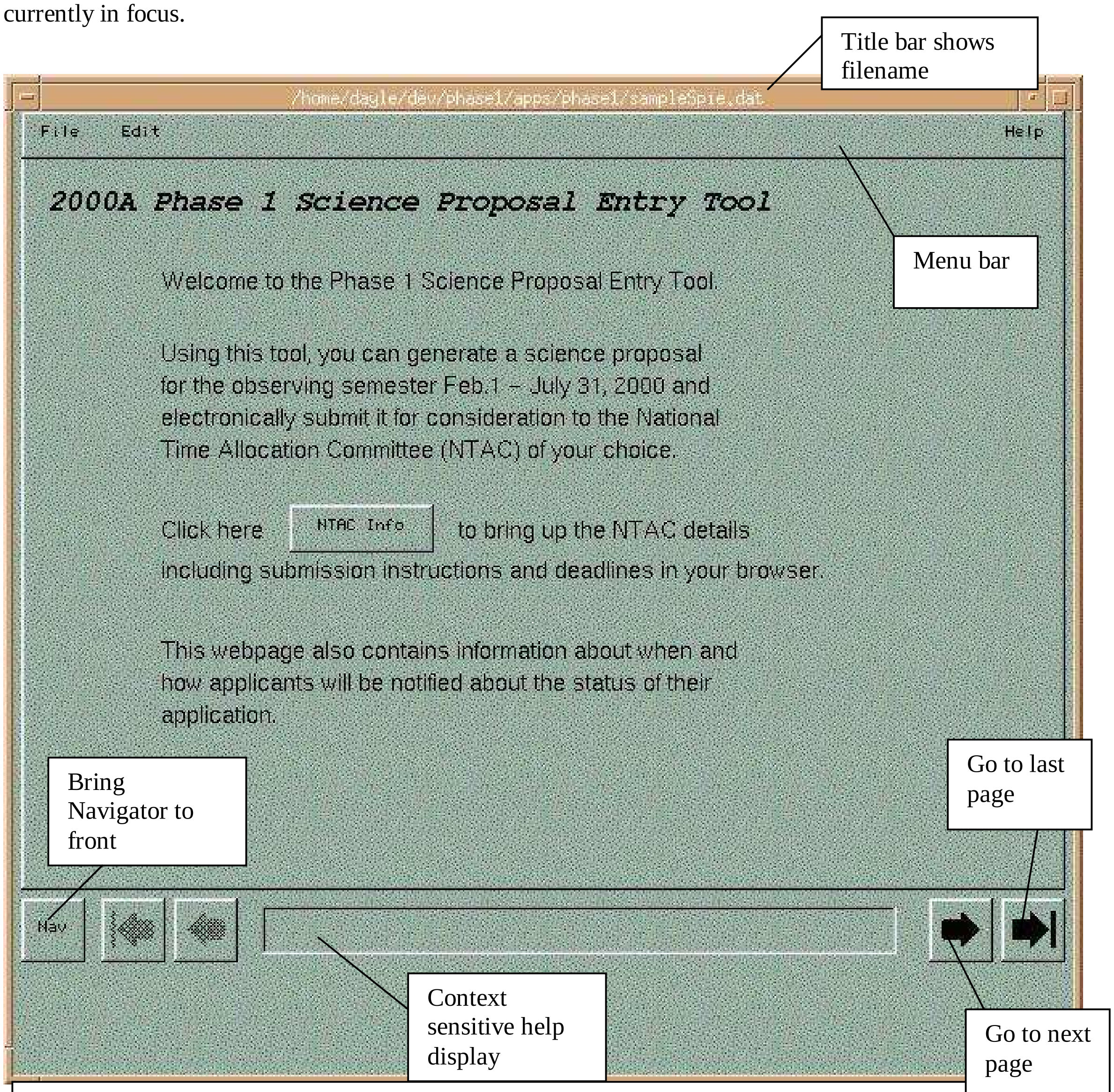

Figure 1

4 Navigator

In addition to using the arrow buttons (see Figure 1) to change the display, the user can also click an item in the P1 Navigator window to change to the desired display. The P1 Navigator also keeps track of the state of each page. .Completed pages are marked by a red check mark. User overrides, shown as black crosses, can be set to flag pages that the user wishes to flag as incomplete to remind herself to come back to later. In Figure 2 the user has completed the *Proposal Top Level Details, Scientific Category and Keywords, Submission Details* and *Resources* pages. The user has overridden the completed setting for the Investigators and Observation Set pages so as to mark them as incomplete. The *Scientific and Technical Case, Scheduling Details* and *Publications, Grants and Travel* pages have not yet been filled in. The *Summary* and *Reserved for NTAC* pages are complete, but since there are no mandatory fields on these two pages, these pages are complete without entering any data.

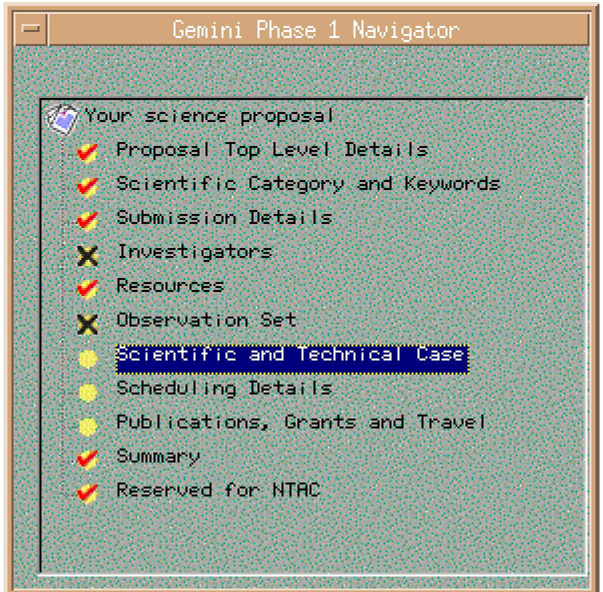

Figure 2

5 Proposal Entry

Proposal entry consists of entering data on a set of nine pages in the P1. Pages are checked for completion each time the page is changed and completed pages are marked on the P1 Navigator. The final two pages require no input from the user. One is a summary page that displays a summary of the proposal. The summary is written as an html file and can be printed. The last page is reserved for the NTAC; it is where information concerning proposal ranking is stored.

5.1 Title and Abstract

Figure 3 shows the first page where data is entered on the P1. All fields on this page must be filled in for this page to be complete. Setting the observing type affects what is displayed on later pages, since the required data is not the same for both queue and classical observing.

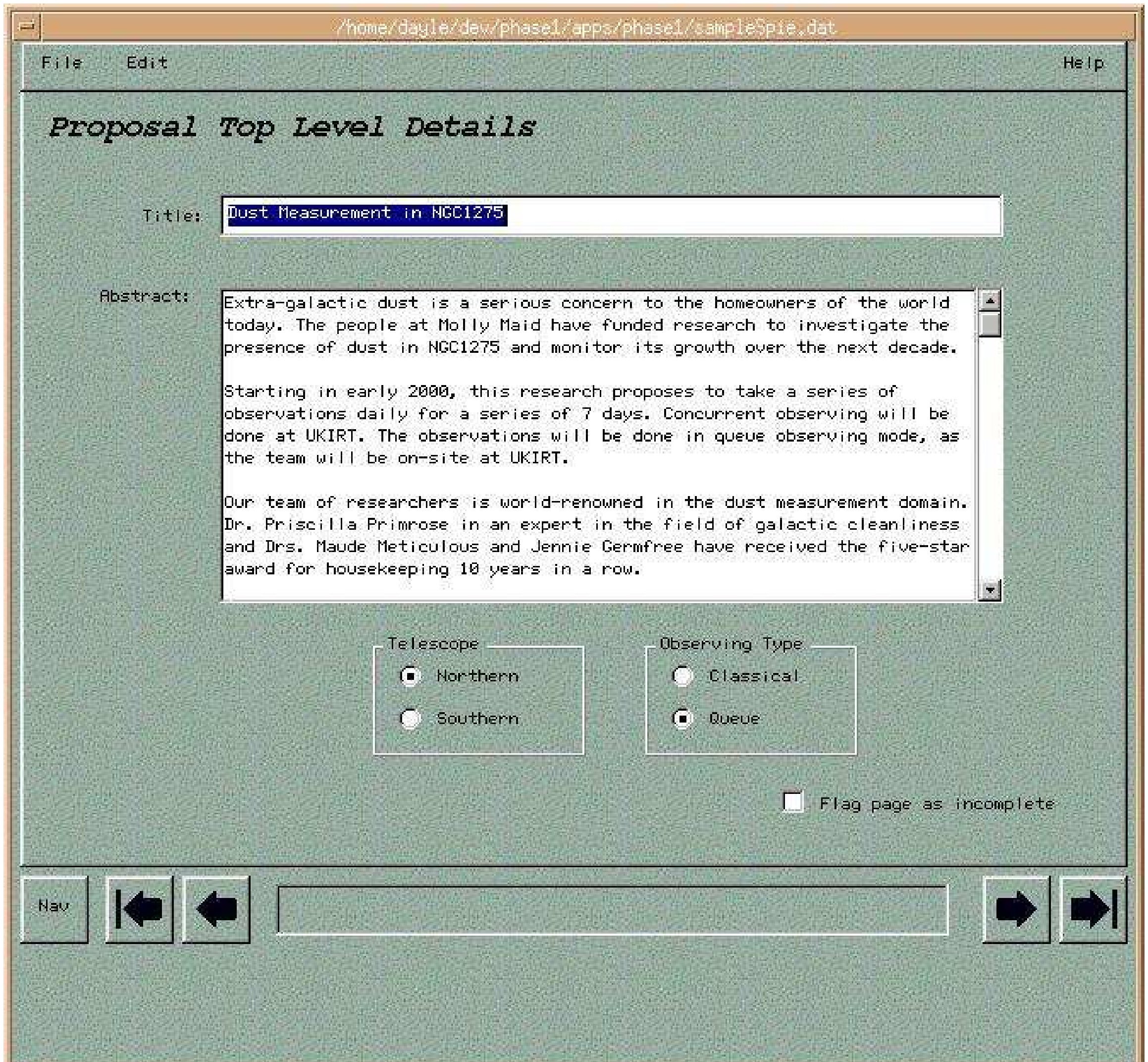

Figure 3

5.2 Scientific Category and Keywords

Figure 4 shows the scrollable list of keywords for the *extra-galactic* scientific category. The list of keywords changes depending on which science category is selected. The user selects a keyword by clicking on it and then pressing the *hand* button to transfer the keyword to the list of selected keywords. Keywords can be removed from the list of selected keywords by clicking on them and pressing the other *hand* button. A maximum of five keywords can be selected. If the user has already chosen five keywords and tries to select another, a popup alert box appears. For this page to be complete, at least one keyword must be chosen.

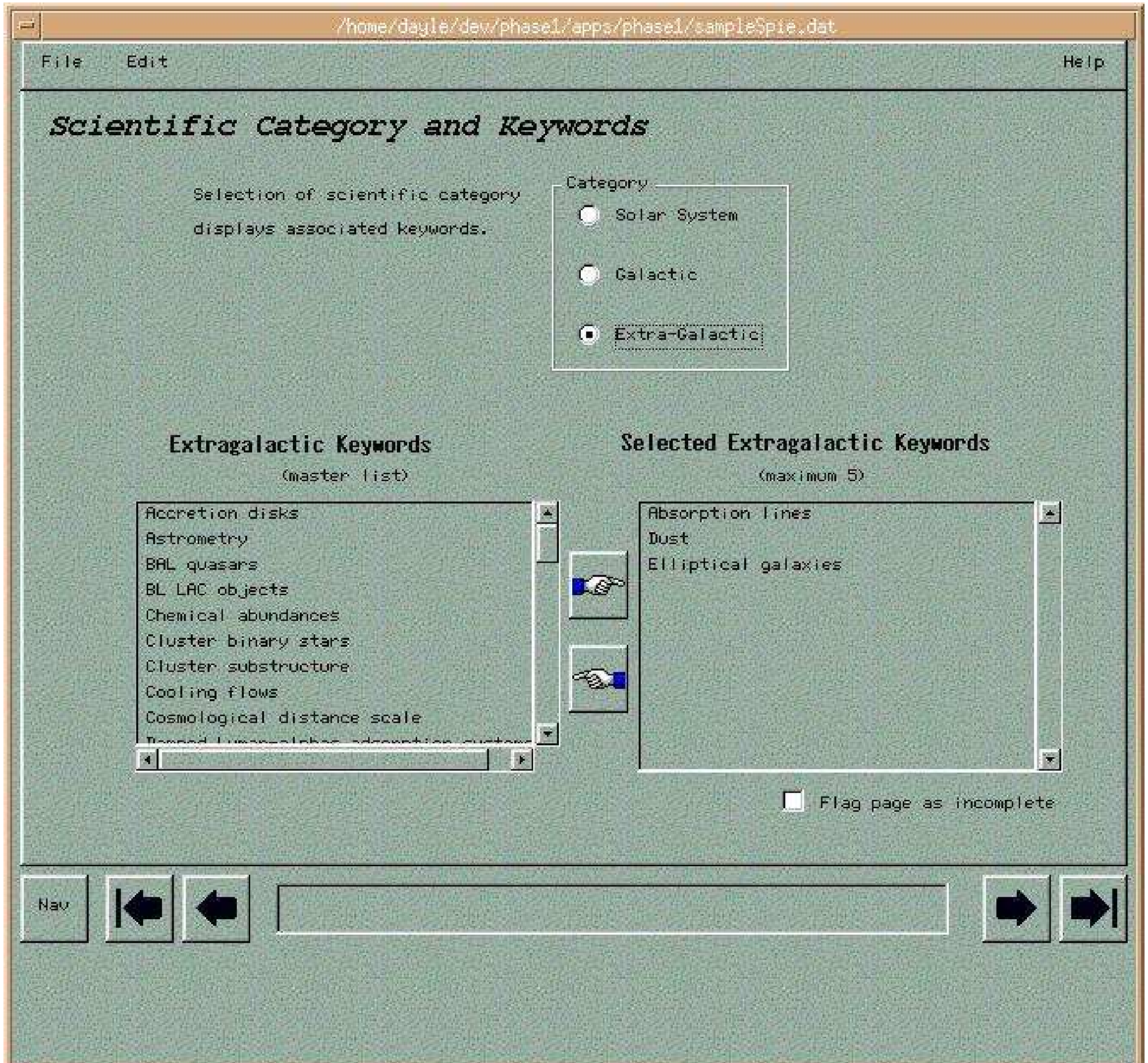

Figure 4

5.3 Submission Details

On the page shown in Figure 5, the user selects partner country to whose NTAC the proposal will be submitted. The selection of a partner country is mandatory for this page to be complete. It is possible to submit a proposal to more than one country.

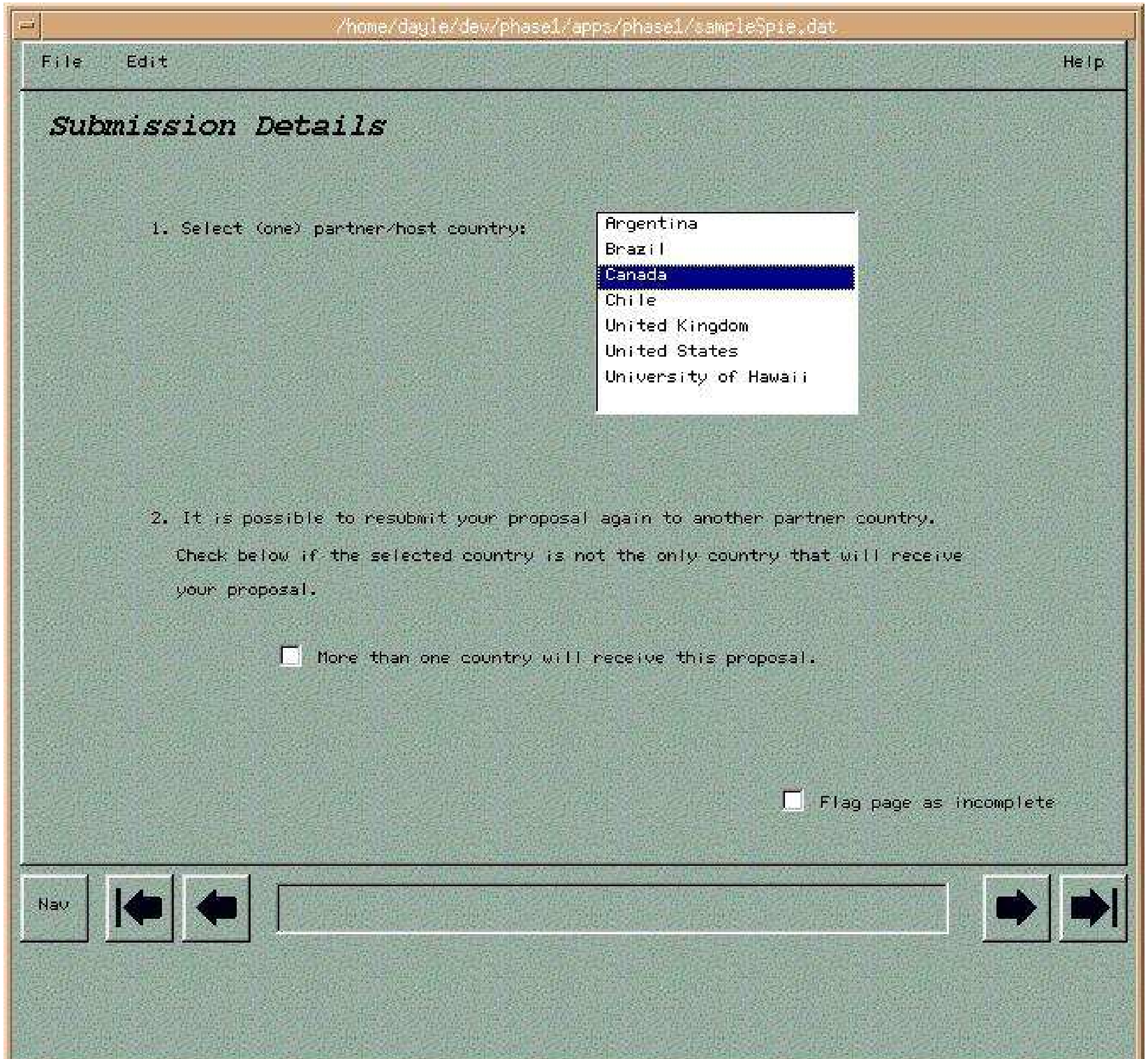

Figure 5

5.4 Investigators

Figure 6 shows the page for entering the team of researchers. It is mandatory that a science proposal has at least a principal investigator (PI) with complete contact information, so for this reason, it is not possible to create a proposal without a PI. In Figure 6, the team consists of a PI and two co-investigators. Contact information for many astronomical institutions worldwide is contained in the pull-down box labeled *Institution.* Selecting an institution, fills in all the other fields (i.e. *Address, Country, Phone, Fax and E-mail).*By clicking the top of the tree of investigators where it is labeled *Team*, the summary of all the investigators is drawn on the right hand side of the page.

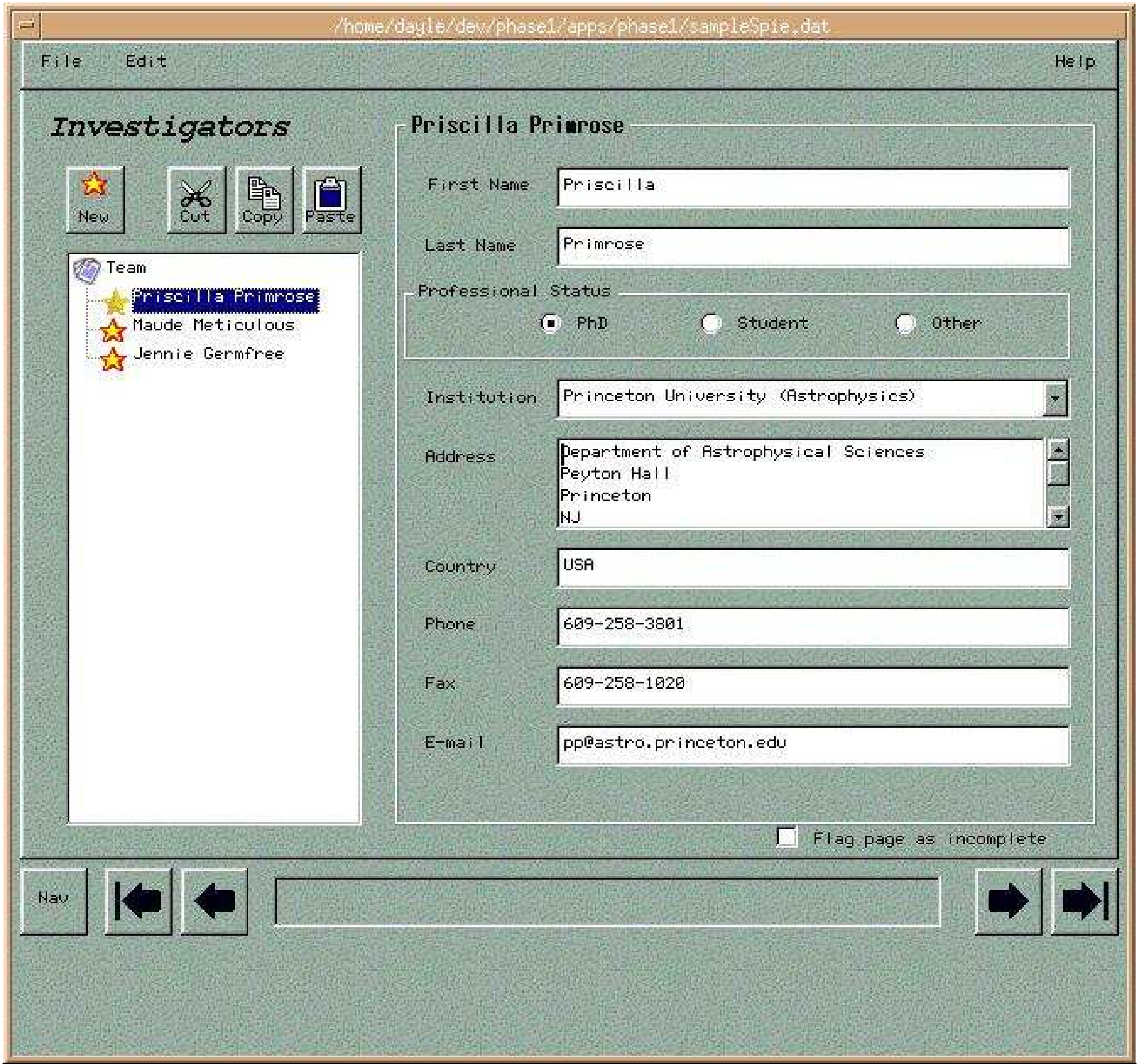

Figure 6

5.5 Resources

All resources required for the proposed research are specified on the page shown in Figure 7. This includes instruments, cameras, filters, dispersion and masks. The available resources are read from a configuration data file and is expected to change with each semester of observing. To be complete, a proposal must specify at least one instrument. Resources are specified by traversing the tree and then clicking on the desired resource to set the red check mark. The resource can be de-selected by clicking it again. Instruments are not specified directly, but rather, they are selected when one of their components is selected.

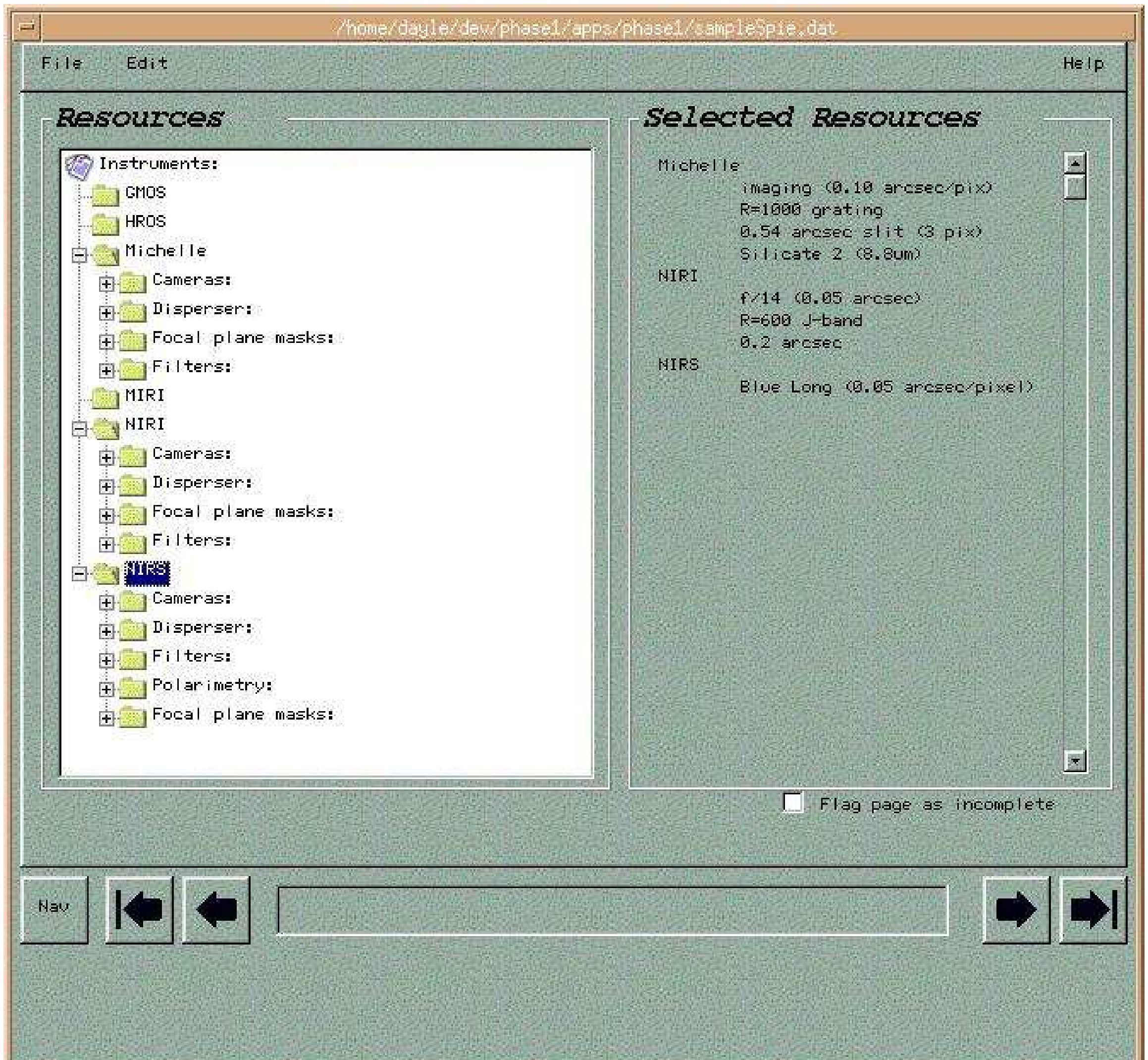

Figure 7

5.6 Observation Set

The set of observations is described on the page shown in Figure 8. To be complete a proposal must have at least one observation. Further, each observation entered, must have at least one guide star. Proposal-wide site quality conditions must be specified as well, although the user is free to add a site-quality entry specific to each observation as well. Guide stars can be found by querying the guide star catalog, provided the position of the base has been entered. Two kinds of guide stars will be retrieved: principal wave-front sensor and on-instrument wave front sensor guide stars. In order to retrieve an on-instrument wave-front sensor guide star, the instrument must be specified for the observation. The contents of the instrument drop-down box are restricted to those instruments selected on the *Resources* page. The coordinate system defaults to FK5 (J2000).

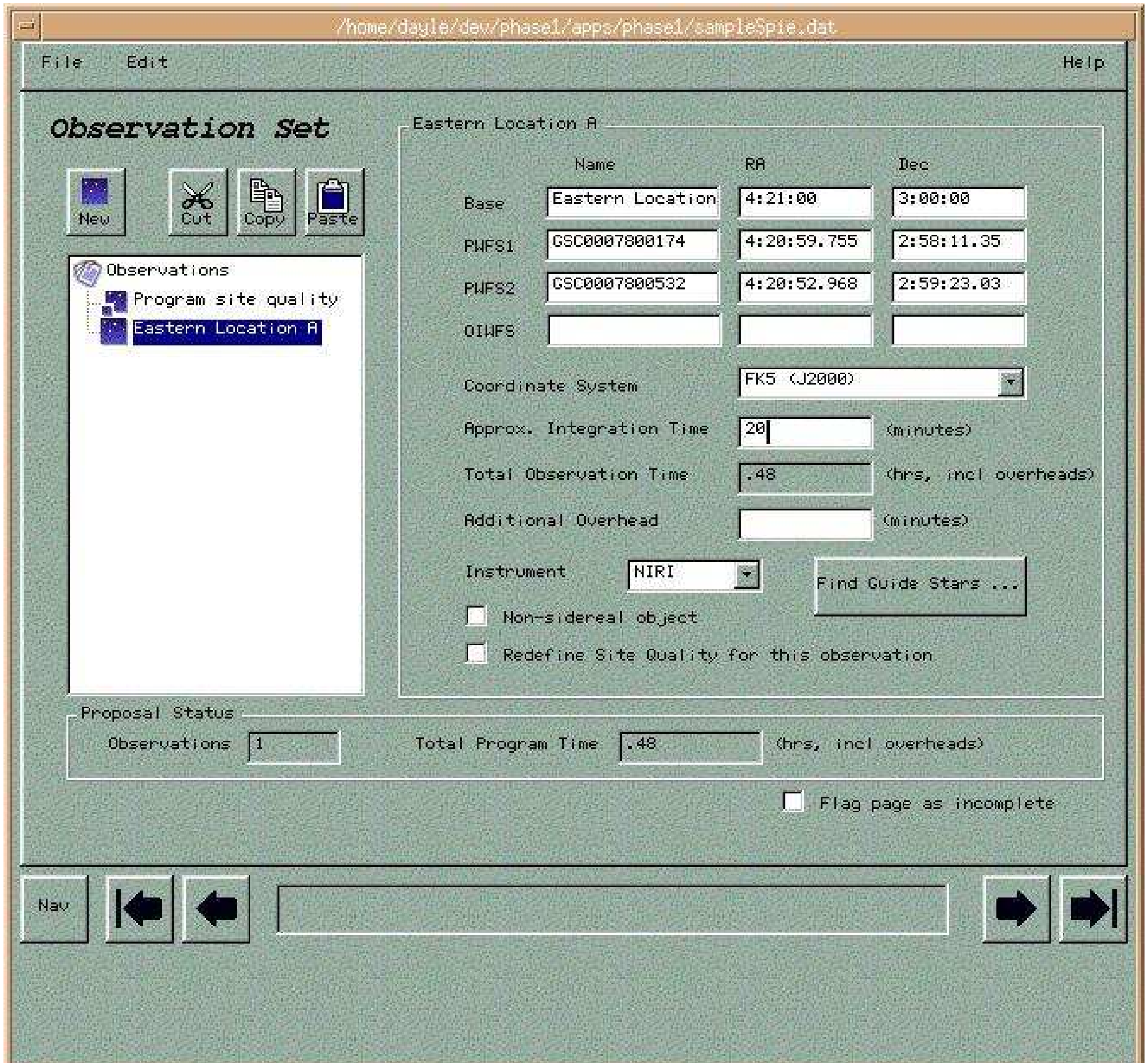

Figure 8

Pressing the *Find Guide Stars* button in Figure 8, leads to the pop-up window shown in Figure 9. With the base position specified on the page shown in Figure 8, and a guide star catalog chosen from the drop-down list of catalogs, pressing the *Search* button sends a query out over the net and displays the results in the tables shown in Figure 9. The best stars are loaded automatically into the observation's wave-front sensors (on Figure 8), but you can also manually specify which guide star you want by clicking on it in the table and then pushing a the appropriate *Select* button.

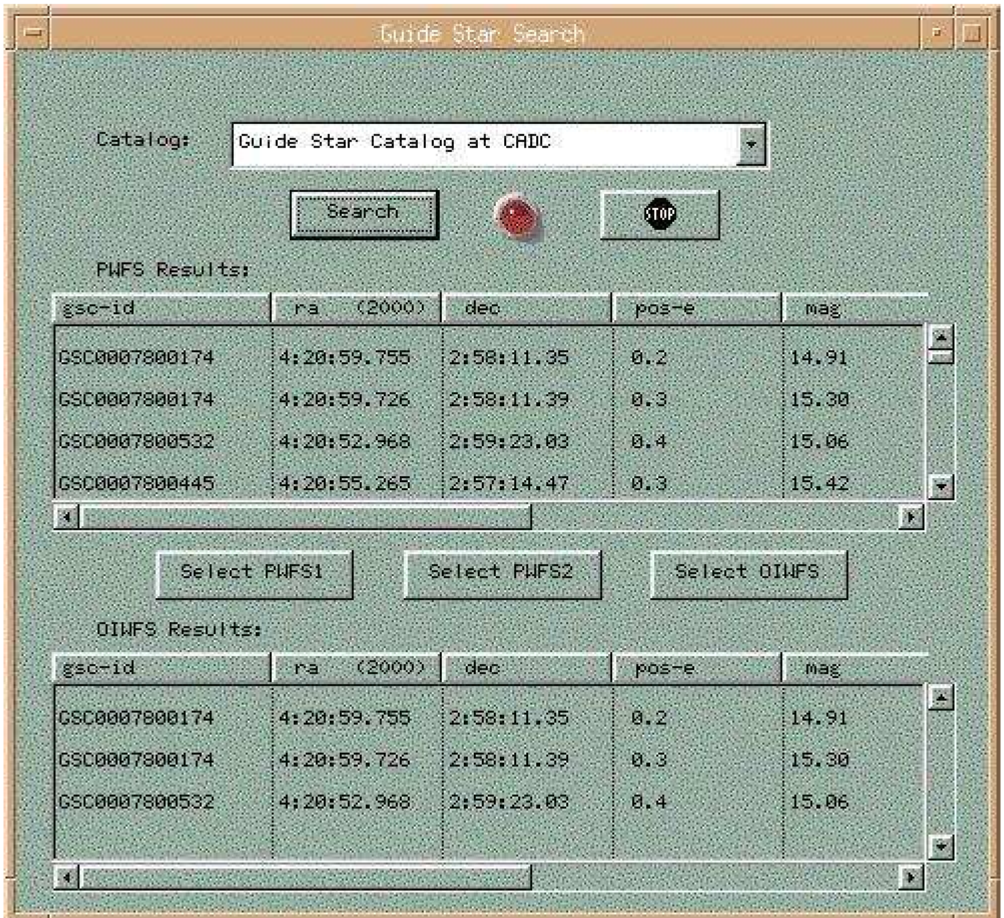

Figure 9

5.7 Scientific and Technical Case

On this page of the P1 (not shown), the user attaches files (e.g. images or other documents) that are necessary to explain the purpose of the proposed research. Pressing the *Attach* button, displays a file pop-up box from which the user selects the desired file to attach.

5.8 Scheduling Details

The *Scheduling Details* page (not shown), is where an additional request for observing time can be made. Schedule constraints as far as the latest possible observing date as well as information describing simultaneous observing at other telescopes can be entered here. Also, for classical observing, preferred dates for when observing is done can be specified.

6 Summary Page

At any time during data entry, a summary of the data entered can be viewed and printed. Figure 10 shows the summary page of the P1. The user scrolls through to check the data that has been entered and can print the file (an HTML document) using the *Print* option under the *File* menu. Note that the HTML file is for the user only. I.e., this is not the file which gets sent to the NTAC. Rather, the file sent to the NTAC is an ASCII data file which conforms to a Gemini Interface Control Document such that the Gemini Observatory Control System (OCS) can read it as well.

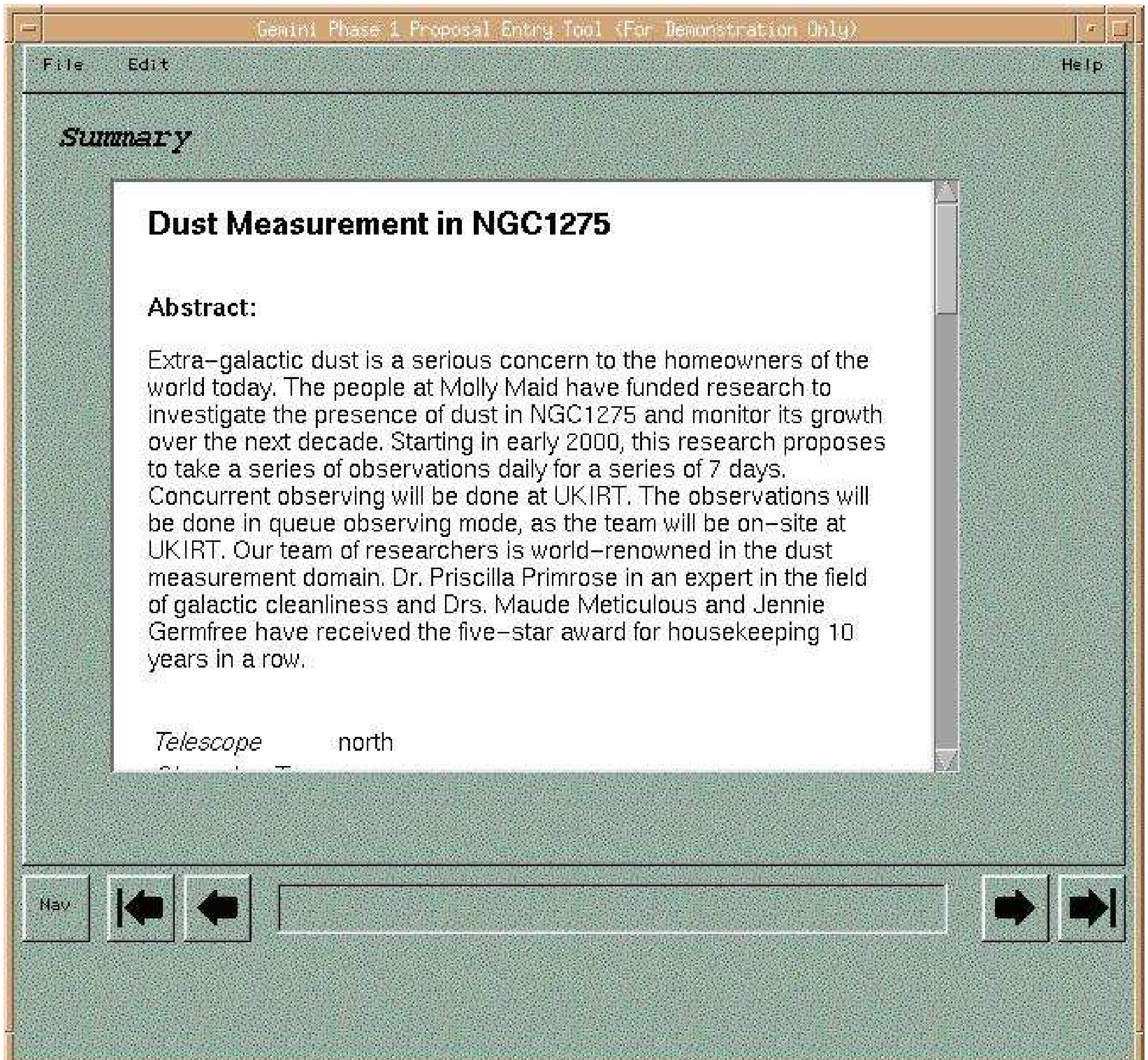

Figure 10

7 Completed Science Proposal

Once the science proposal is complete (i.e. all pages are checked as complete in the *Navigator* window), the proposal can be submitted to the NTAC of choice via the *Send* option on the *File* menu. At the NTAC office, proposals are evaluated and the last page (not shown) of the P1 may be filled in to indicate ranking information and comments. Once rankings are complete, the NTAC notifies the principal investigators and successful proposals are forwarded to the OCS where they will be planned.

8 Conclusions

The Gemini Phase 1 Science Proposal Entry Tool is currently being beta-tested and will be available as a tool for proposal entry for the semester beginning in January, 2000.

9 References

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2. P.Puxley, “Scientific User Requirements for the Gemini Phase 1 Applications Tool”, TN-PS-G0049 PH1UR.doc, V1.2, April 1997.
3. D. Goodman, “Official Marimba Guide to Bongo”, Sams Net, 1997.