

PERIPS Manual

Goal

The goal of this program is to demonstrate the capabilities of SPIFe programs in scheduling activities for a Personal Exploration Rover (PER) and to have the PER execute these planned activities.

Program Creation

The Java objects created that would allow the planned activities to be executed by the PER, were designed, created, and tested, but were not in a form easily accessible or understandable by the user. A GUI environment was thus created called Personal Exploration Rover Integrated Planning Software (PERIPS). The folder outline of PERIPS is detailed in figure #1. This folder outline was chosen because the folder PERIPS can simply be imported into Eclipse as a complete plan for easy editing.

Figure #1 The Folder Outline.

- PERIPS – The main folder containing the program and all of its resources (ignore metadata, .project, and .classpath; they are only used internally)
 - PER – The program folder
 - src – The source files that the binary files are compiled from
 - bin – The folder containing the Java binary files used by the application
 - PERIPS.jar – The executable program
 - SystemData – The folder containing the resources needed for the program to operate
 - PutPlanHere – The folder the user will put their plan into before running the Java applet
 - Pic – When the PER takes a picture or panorama the images will be saved here. NASA logo image also saved here.
 - Log – Where the log file for the PER's activities will be stored
 - AD – Contains the activity dictionary used to create a plan in a SPIFe program.

Notice the highlighted portions are those folders and files that are of most interest to the users of PERIPS. How a user is supposed to use the program is detailed in a step-by-step process shown in figure #2.

Figure #2 How PERIPS is Designed to Work

1. Create a plan using the PER's activity dictionary contained in the **AD** file
2. Export the plan as a .plan file
3. Put the .plan file into the **PutPlanHere** folder
4. Run the PERIPS program by double clicking **PERIPS.jar**
5. Enter the PER's unique IP address into the PERIPS program
6. Enter the name of their plan file into the PERIPS program
7. Hit the run button

Although functional as a standalone program it would be preferable to have PERIPS as a plug-in for a SPIFe program. With this future editing in mind Figure #3 shows the steps needed to editing PERIPS in

Figure #3 Instructions for Editing PERIPS Using Eclipse

1. Open eclipse
2. Import *Existing Projects into Workspace*
3. For the *root directory* select the PERIPS folder (the top level folder in figure #1)
4. Select the check box Copy projects into workspace
5. Hit Finish, you are done.

After running a plan on the PER, a log file will be generated inside the Log folder which explicitly states all of the tasks the PER was able to perform and information about each task. If any pictures or panoramas were taken they will be stored in the folder Pic (see the log file for the picture names).