Instruction Manual

Introduction.

Analyzing log files is a very common technique for embedded software debugging. This technique has three steps:

1. The embedded software of the device under test generates a file with information about its execution.
2. When a defect is found the corresponding log file is attached to the report.
3. The developer reviews the log file to determine the root cause of the problem.

Developers use their favorite text editor to review the logs. Unfortunately not all the information on a log file is relevant to a particular failure. And extracting the relevant information with the search tools of a text editor is a labor intensive and error prone task.

A Log Analyzer is a tool specifically designed to highlight the relevant information of a log file.

Building blocks.

The log analyzer has three main components:

1. **Log Viewer:** Displays a section of the original log file. (Upper right)
2. **Rule Set:** Manages the rules available to analyze the log. (Left)
3. **Index:** Provides an ordered list of the rule matches found on the log. (Lower right)

Rules are the key element of this tool. When a rule is applied to a log file each line of the log file will be tested against it. For each line that contains all the rule patterns a new match is added to the index.

A rule has the following elements:
1. **Name:** Unique identifier for each rule.
2. **Example:** A line of text that matches the rule criteria.
3. **Patterns:** A list of strings that must be present on a log line for the rule to match.
4. **Variables:** A list of strings "trapped" between patterns on lines that match.
5. **Format:** How a match will be added to the index.

Match index can be used to browse through the log file or exported to document the signature of the defect.

Instruction Manual

Log Viewer.

This component displays a section of the log file. The menu can be found at the left of the menu bar and provides the following operations:

1. **Load:** Opens a dialog to select the log file and displays its first section.
2. **Top:** Displays the first section of the current file.
3. **Up:** Displays the previous section of the current file.
4. **Down:** Displays the next section of the current file.
5. **Bottom:** Displays the last section of the current file.
6. **Previous:** Finds the previous line containing with the target string.
7. **Find:** Opens a dialog to define a target string and finds the next line that contains it.
8. **Next:** Finds the next line containing the target string.
9. **Text Size:** Changes the font size.
10. **Exit:** Closes the tool.

Rule set.

The rule set manages the list of rules of each project. Its menu contains the following operations:

1. **New Set:** Asks the name of the rule set and creates a new set without rules.
2. **Load Set:** Opens the selected file to manage its rules.
3. **Add:** Takes the highlighted log line as the example to create a new rule.
4. **Modify:** Opens a dialog to change the elements of the highlighted rule.
5. **Remove:** Deletes the highlighted rules.
6. **Execute:** Applies the highlighted rules on the current log file adding the matches to the results list.

The rule set also provides the following shortcuts:

- Double click on a log line => Add.
- Double click on a rule => Execute.

Match Index.

The match index contains all the rule matches of the current log file. Its menu provides following operations:

1. **Add Comment:** Adds an index entry for the highlighted log line without a creating a rule.
2. **Edit:** Changes the output of the highlighted match.
3. **Goto:** Shows the line that generated the match on the log display.
4. **Delete:** Removes the highlighted matches from the list.
5. **Undo Rule:** Removes all the matches generated by the rule of the highlighted match.
6. **Clear:** Clears the index.
7. **Copy:** Copies the highlighted matches to the clipboard.
8. **Copy All:** Copies the full result list to the clipboard.

The results list also supports the following shortcuts:

• Double click on a match => Show Context.

Instruction Manual

Frequently Asked Questions.

1. Why I don't see all the log as I use the scroll bar in the log viewer?

   To provide good performance while reviewing big logs the log viewer only shows 1000 lines at analyzer only

2. How can I browse trough the full log?

   Please use the following options from the [Log] menu:
           [Top] : Shows the first line.
           [Bottom] : Shows the last line.
           [Up] : Displays the previous 1000 lines.
           [Down] : Displays the next 1000 lines.

3. How big is the log?

   The title ends with two numbers " ... X/Y. " Y shows the number of lines of the log.

4. What is the current line number?

   At title ends with two numbers " ... X/Y. " X shows the current line number.

5. How can I buy a license for this tool ?

   Please use the [Buy] option from the [Help] menu.

6. Once I have the license how do I activate it ?

   Please use the [Enter License] option from the [Help] menu.

     LogAnalyzer 1.2