Table Viewer Requirements.

Overall

Enables any VOTable publishing entity to render the VOTables through a searchable interface. Installation of the code shall be very simple, but the code shall be scalable to support tables with arbitrary numbers of rows.

A. User Interface

1. A user shall be able to sort the table in either direction by clicking on a column.
2. A user shall be able to see how the table is sorted.
3. A user shall be able to filter the table using search criteria including at least:
   1. Text matches
   2. Text matches with wildcards
   3. Numeric equality, ranges and > and <.
4. A user shall be able to page to a specific location in the document.
5. A user shall be able to control the number of rows displayed in the current page.
6. A user shall be able to control the order and number of columns to be displayed.
7. A user shall be able to view the names and characteristics of all columns in the table including columns not currently displayed.
8. A user shall be able to select one or more displayed rows.
9. A user shall be able to clear all selected rows (including those which may not currently be displayed).
10. A user shall be able to see selected rows.

B. Programmatic interface

1. A program shall be able to request the original VOTable input as a String.
2. A program shall be able to request the original VOTable as a parsed XML document.
3. A program shall be able to request the original VOTable as a rendered HTML document.
4. A program shall be able to request a range of rows with columns in a specified order in any of the three formats above.
5. A program shall be able to request the names and characteristics of all columns in the VOTable.
6. A program shall be able to request the characteristics of all INFO and PARAM elements in the VOTable.
7. A program shall be able to request rendering of a VOTable specified as a URL.
8. A program shall be able to request rendering of a VOTable specified as a String.
9. A program shall be able to request rendering of a VOTable specified as a parsed XML document.
10. A program shall be able to set limits above which rendering operations are to be performed on the server.
11. A program shall be able to render a single row of a VOTable as an HTML or as a parsed XML fragment.
12. A program shall be able to independently render a column selection widget which allows users to see all available columns and select which of these are to be displayed and in which order.
13. A program shall be able to send a filtered VOTable as a string to another Web page as a string. The program may also specify other parameters that are to be set.
14. A program shall be able to display selected rows as HTML or in as a parsed XML fragment.

Add ons.

1. Developers shall be able to specify a callback to be executed whose content will be rendered as one or more column headers at the beginning of the table header. This function shall have access to information about all fields in the table.
2. Developers shall be able to specify a callback to be executed whose content will be rendered as one or more column headers at the end of the of the table header. This function shall have access to information about all fields in the table.
3. Developers shall be able to specify a callback to be executed whose content will be rendered as one or more columns at the beginning of a row. This function will have access to the all fields information and the content of the row.
4. 3 for the end of the row.
5. Developers shall be able to specify a class to be added to a column (i.e., all entries in the column) based upon the UCD, name, UTYPE or index of the column.
6. Developers shall be able to specify a class to be added to a row based upon the index of the row.
7. Developers shall be able to specify a column filter to be added to a column based upon the UCD, name, UTYPE or index of the column. When rendering the column the output of the column filter is used instead of the input. The column filter has access to both the input value and metadata of the column.
8. Developers shall be able to specify a callback to be used in rendering INFO and PARAM elements, overriding any default processing of these elements.