Hardware interface for Opera Job Management

document version 1.4

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Structure of the hardware driver

The data of the hardware driver is composed by several data files and image files placed in a specific folder structure.

Data file format

The data file is a table file in text or Excel format.

- The text files must have the file extension `.txt` or `.csv`. The fields are separated by TAB characters (ASCII code 9);
- The Excel files can be `.XLS` or `.XLSX` files;
- Unused columns should not be present in the file to simplify the reading;
- Except some mandatory field (like the `item_code`) you can leave empty the cell values for wich you don't want to specify values.

The images can be in BMP, JPG, PNG, PDF or DXF format.

Folder structure

There will be a main folder that contains three directories named:

- `system` - contains the data files of colors, options and operations;
- `images` - contains the images of items, options and operations;
- `sheets` - contains the technical sheets of the different type of windows (ex. DK1, DK2, HS, etc. etc.).

the driver will automatically create other two directories named:

- `obj` - will contains the XML version of your text/Excel files;
- `src` - will contains the compiled XML format files that will be read from Opera JM.

If you delete the `obj` or the `src` directories or their contents these will be automatically rebuilt at the next start of Opera.

The main folder path have to be inserted in the **Input path** field of the driver dialog in Opera JM.

The hardware data file structure

Note: if you are using Excel data files for the hardware you can place your notes (like the version and other comments) in the top of the sheet. The hardware driver will recognize the beginning of the data table looking for a specific cell that contains the token word **`kit_data`**.

Columns description

Column name	Description	Possible values	Notes
`kit_data`	Token for data table position.	not used. You can insert comments about the row	You can write comments and whatever you want above and to the left of this cell.
`item_code`	Code of the item	Text max. 63 chars	
`item_description`	Description of the item	Text max. 255 chars	

`sash`	Frame or sash where the piece is	`frame`
		`sash`
		`opening sash`
		`waiting sash`
		`3th sash`
		`opening side frame`
		`waiting side frame`	

`side`	Side where the piece is	`left`
		`right`
		`top`
		`bottom`
		`lock`
		`hinge`
		`frame`
		`astragal`	

`sashes_count`	Number of sashes	1 to 10	

Column name	Description	Possible values	Notes
hinge_color	Color of the hinges	One of the color codes in the colors data file	see color data file format
custom_color	Customized color	Color type = color color should be one of the color codes in the colors data file. Example: `Rail color=White`	The color will be asked in the general parameters of the window type
handle_color	Color of the handle	One of the color codes in the colors data file	see color data file format
min_sash_height	Minimum sash height. If the sash is shorter than this value the item will be not inserted.	The value will be rounded to 1 mm	Leave empty if the item have no height conditions
max_sash_height	Maximum sash height. If the sash is taller than this value the item will be not inserted.	The value will be rounded to 1 mm	Leave empty if the item have no height conditions
min_sash_width	Minimum sash width. If the sash is shorter than this value the item will be not inserted	The value will be rounded to 1 mm	Leave empty if the item have no width conditions
max_sath_width	Maximum sash width. If the sash is taller than this value the item will be not inserted	The value will be rounded to 1 mm	Leave empty if the item have no width conditions
min_handle_position		The value will be rounded to 1 mm. If the value begins with a `*` will be the standard height	Leave empty if the item have no handle position conditions
max_handle_position		The value will be rounded to 1 mm	Leave empty if the item have no handle position conditions

opening_side	Opening side of the sash	`left`
		`right`
		`top`
		`bottom`	

Column name	Description	Possible values	Notes

`options`	Options to be checked for this item	**group** = **option**
		
		group and **option** should be one of the options codes in the options data file. Multiple options have to be separated by the plus sign (+).
		
		Example:
		`Solution=VK1`
		or
		`Solution=VK1+Gear=Fix`
			see options data file format

`profile_series`	Profile series	**seriesname**
		
		Multiple series have to be separated by the plus sign (+).
		
		Example:
		`MD`
		or
		`MD+HIGH PLUS`
			the series name must to be the same series name in Opera Job Management

`item_price`	Price of the item		

`item_discount_class`	Discount class of the item	Text max. 63 chars
		`A`
		`B2`
			the customer can specify in Opera the value of his discount for each individual discount class

`item_quantity`	Quantity		

Column name	Description	Possible values	Notes
item_function	Function of the item	gear lock hinge	For some specific items Opera JM needs to know the function. If you specify the function gear Opera JM will get the values of min_handle_position and max_handle_position as the possible handle heights for this gear. A fix gear will have te same values in min_handle_position and max_handle_position
item_screws_quantity	Number of screws		
item_icon	Image file of the item	accepted file formats: BMP, JPG, PNG, PDF, DXF	The files have to be placed in the folder images
item_package_quantity	Quantity of the item package		
item_barcode	Barcode of the single item		
item_package_barcode	Barcode of the package		
item_operation_code_1	Code of the operations	One of the operation codes in the operations data file	see operations data file format
item_operation_target_1	Frame or sash where the operation will be performed	frame sash opening sash waiting sash 3th sash opening side frame waiting side frame	

Column name	Description	Possible values	Notes
item_operation_side_1	Side where the operation have to be performed	left right top bottom lock hinge frame astragal	
item_operation_X_ref_1	Reference from where the X position is referred	left right top bottom center center hinge handle hinge side handle side	
item_operation_X_1	Position of the operation		
more operations...			change te suffix 2, 3 etc. in the operation column names. Example: **item_operation_code_2** **item_operation_side_2** etc. etc.

Condition columns

The following columns in the file are the conditions from where the item will be added or not to the result. If there is no values in these columns there will be no condition.

Column name	Notes
hinge_color	If a color code is present in this column, Opera JM will ask the user about the hinges color and this item will be added to the result only if the hinge color of the windows match with this code. This columns is used mainly for the covers.
custom_color	If a combination of "`color type = color code`" is present in this column, Opera JM will ask the user about the "`color type`" color and this item will be added to the result only if the "`color type`" of the windows match with this color code. This column is used for custom colors of the fittings as rail colors or caps colors. An example of colum value coud be: `Rail color=WHITE`
handle_color	If a color code is present in this column, Opera JM will ask the user about the handle color and this item will be added to the result only if the handle color of the windows match with this code.
min_sash_height	
max_sash_height	
min_sash_width	
max_sath_width	
min_handle_position	For fix gears the value of `min_handle_position` and `max_handle_position` should be the same.
max_handle_position	
opening_side	
options	
profile_series	The item will be added to the result only for a specific proflie series. This columns is commonly used for keepers and hinges wich depends from the shape of the frame.

The colors data file format

Columns description

Column name	Description	Possible values	Notes
col_name	Code of the color	Text max. 63 chars	
col_description	Description of the color	Text max. 255 chars	
R	Red component of the color preview	0÷255	
G	Green component of the color preview	0÷255	
B	Blue component of the color preview	0÷255	

Example of color data file

col_name	col_description	R	G	B
SILVER	Silver	192	192	192
RAL7035	Silver Ral7035	160	160	180
WHITE	WHITE Ral9001	255	252	240
BROWN	Brown	128	40	0

The options data file format

The options data file contains the list of the options and the group of options. The connection beetween options and their groups is made in the hardware data file. For options naming you could use a specific prefix for you brand of hardware (ex. MACO_ or G_U_ etc. etc.) to avoid naming collisions on customers wich use more than one driver.

Columns description

Column name	Description	Possible values	Notes
opt_type	Type of the option	`group` or `option`	
opt_name	Code of the option	Text max. 63 chars	
opt_description	Description of the option	Text max. 255 chars	
opt_standard	Indicates that this options is the standard value in his group	`true`, `false` or empty (empty means false)	
opt_icon	Image file of the option	accepted file formats: BMP, JPG, PNG, PDF, DXF	The files have to be placed in the folder `images`
opt_position	Number used to sort the options in the dialogs of Opera JM	number	

Example of options data file

opt_type	opt_name	opt_description	opt_standard	opt_icon	opt_position
group	MACO_gear	Type of gear		gears.png	1
group	MACO_central_hinges	Type of central hinges			2
option	MACO_fix	Fixed handle height gear	true	fixgear.png	1
option	MACO_variable	Variable handle height gear		vargear.png	2
option	MACO_central_hinges_hide	Invisible hinges	true	inv_hinge.jpg	1
option	MACO_central_hinges_show	Normal hinges		center_hinge.jpg	2

The operations data file format

For operations naming you could use a specific prefix for you brand of hardware (ex. MACO_ or G-U_ etc. etc.) to avoid naming collisions on customers wich use more than one driver.

Columns description

Column name	Description	Possible values	Notes
op_name	Code of the operation	Text max. 63 chars	
op_description	Description of the operation	Text max. 255 chars	
op_icon	Image file of the operation	accepted file formats: BMP, JPG, PNG, PDF, DXF	The files have to be placed in the folder `images`
R	Red component of the operation preview	0÷255	
G	Green component of the operation preview	0÷255	
B	Blue component of the operation preview	0÷255	

Example of operations data file

col_name	col_description	op_icon	R	G	B
G-U_K1	Silver EV1	keeper.jpg	255	0	0
G-U_HH	Handle hole		0	64	255