Print Options in MarushkaDesign

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# 1   Aim of the Example

In this example we will demonstrate Print options in MarushkaDesign. This example was created in version 4.0.1.0, so it does not have to be compatible with older versions.

2   Working with Example

o   Unzip the **Print_EN.zip** into **c:\MarushkaExamples** folder. The target folder must be respected due to interconnection of paths with the project. In the case of placing the files in the different folder, it would not be possible to work with the project.

o   Open the **Print_EN.xml** in MarushkaDesign environment.
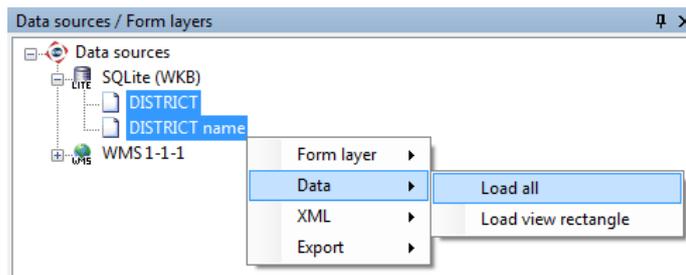
o   Select form layer *DISTRICT* and *DISTRICT name* from SQLite (WKB) data store, in the context menu choose Data – Load all:

o   In map window choose "Fit All":

o   Launch the local web server:

3 Dialog Box Sample

Fig: 1 Print step 1
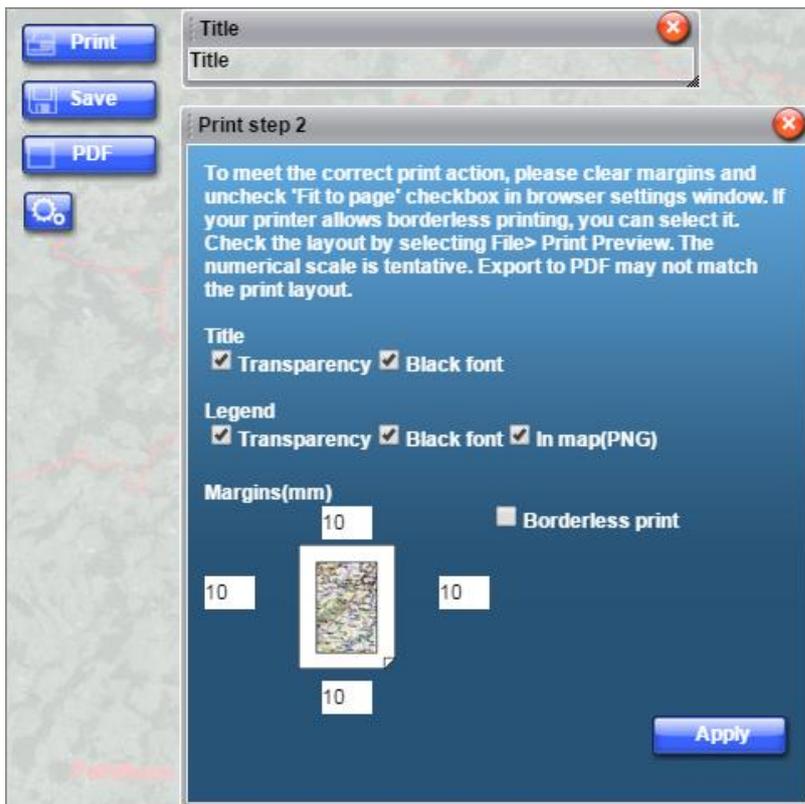

Fig 2: Print step 2

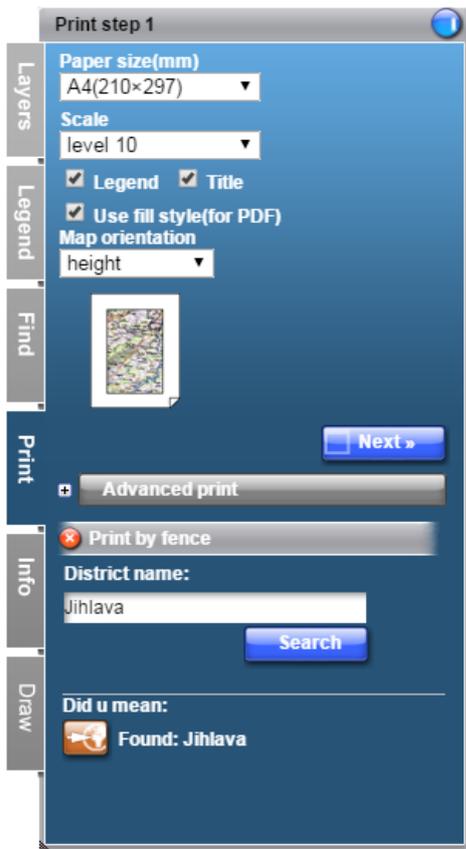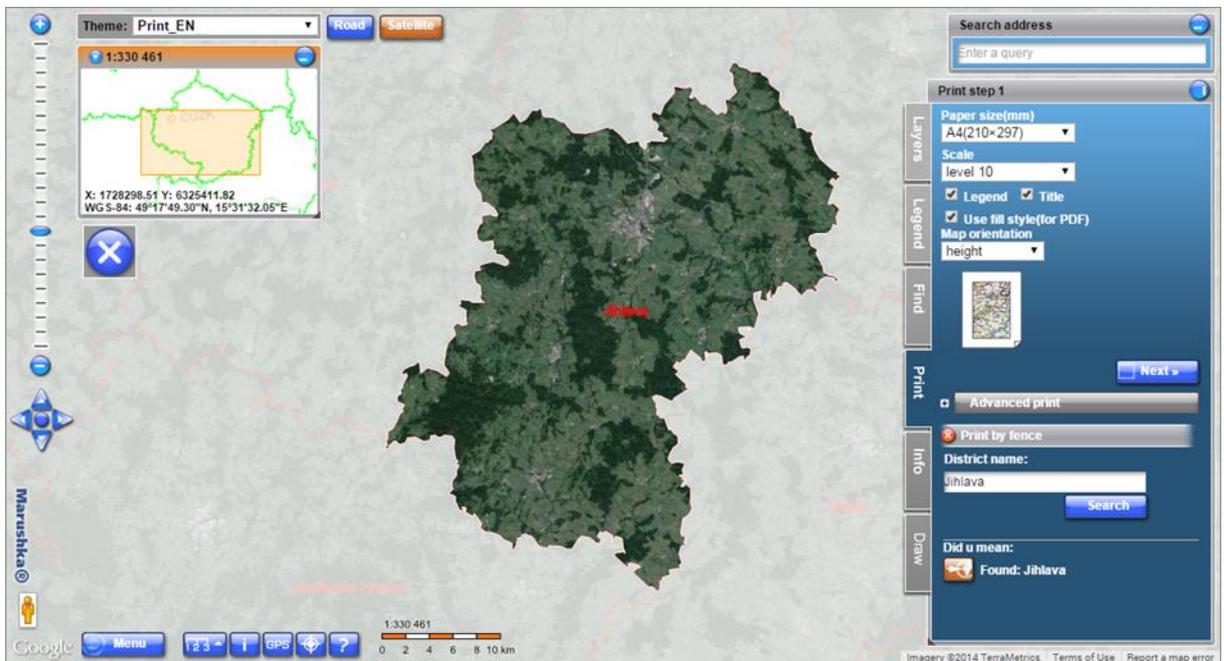Fig 3: Dialog box sample for Print by fence (in the lower part of the figure)

Fig 4: Example of map result window after performing the Print by fence before invoking Print step 2

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4 A Brief Description of the Example in MarushkaDesign

The print dialog box is by default started in a local web server by clicking on the Print tab.

Print is done in three steps. In the first one, the user defines the paper size, paper orientation, scale and other parameters, example of this dialog box is shown in Fig 1.

In the second step, the user adjusts the map area using the same map operations as in the main map window (except for zooming with the mouse wheel), fills the title, he can also choose the width of the borders or borderless print, etc. Example of this window is shown in Fig 2.

In the last step, choose Print from the browser menu; save the map image on your hard drive or into PDF. The PDF file is in the vector form, thus no deformation of the data depending on the resolution of the printer / terminal device occurs.

An advanced function is print by Localization result. In this case the "*Print*" tab also contains the tree of queries, after evaluating the selected query may the resulting fence create a print mask or can add a print into localization result. The sample dialog box when printing by fence is shown in Fig 3.

4.1 Print Options in General

After clicking on Print tab in the local web server, the dialog box with several options is invoked.

The first option is selection of paper size defined in millimeters. Predefined formats are A4 and A5, other paper sizes may the user set on his own by setting paper sizes in millimeters.

Another option is selection of scale, if there are any underlying Google map layers in the theme, the scales are listed in range of values 2 – 23, when the permitted values are associated with individual degrees of approximation of Google layers, not with real scales. Value 2 is the highest zoom out level, value 23 represents the closest zoom in. If there are not included underlying Google map layers in the project, the scales are in the standard format and are offered pre-defined values and the last scale value is user-definable.

Other three options are set using checkboxes, namely whether the following items will be used for print: *Legend*, *Title* and *Fill style in PDF format*. The last setting of this menu is possibility to set *Map orientation*; it can be set either to *width* or *height*.

After clicking the *Next* button, a new browser window with a map preview is invoked. In this preview, you can except zooming with mouse wheel button perform the same map operations as in the main map window.

It is possible to define here *Title* (also multiline); using the checkbox is possible to set *Transparency* or *Black font* for title. There is also an option to set *Margins* in mm or select *Borderless print.*

After clicking on the *Print* button, the Windows dialog box for printer selection opens. After clicking on *Save* button, the current map image is saved into PNG format. When clicking on *PDF* button, the new browser tab with map window in PDF format displays, where it is possible to save or print the document.

4.2 Print Settings in Theme Editor

In *Theme editor* are print settings set in section *Print*. Using the *PrintFormat* item can be set the resulting print format, where it is possible to choose *PDF*, *PNG* or both formats between which can be after print initialization chosen.

Item *ShowFillAreaCheckBox* sets whether in the panel *Print* will be displayed checkbox to use the fill style in PDF format. If the checkbox is not checked, the fill style will not be used for print.

Using the item *ShowLegendPrintCheckBox* is set whether in the *Print* panel will be displayed checkbox for displaying legend.

Item *ShowScalePrintCheckBox* sets whether in the panel *Print* will be displayed checkbox for graphic scale.

Using item *ShowTextScaleGraphicScaleBar* is set, if in panel *Print* will be displayed checkbox to display also text scale in addition to graphic scale.

Another group of print settings is *Service restrictions*. It is possible to set max print size with item *MaxClientPrintSize*, with size options from A5 up to A0, or the maximum print size can be taken from the following item (choice *AsClientMaxSize*).

Then there is another item *MaxClientSize* where the client sets the maximum client size in pixels.

4.3 Example of Print by fence

In MarushkaDesign is available an option print by fence. But it is a non-standard print and therefore is not placed by default in the Print window. This print is provided by localization query, which is in this project called *Print by fence* and its list of values is called *List of values*.

For the list of values it is recommended to set in category *2. Query properties* item *Dependency* on value '*True*', otherwise the list of values would not be properly tied with the localization query. Item *QueryBuff* sets number of returned list of values results. Item *QueryLV* contains *Id* of the parent localization query and item *QueryLVNUM* contains order of parameter in the parent localization query; without filling in these two items, the list of values would not correctly assign to the localization query and it would not work properly. The item *SqlStmtTemplate* is the SQL query itself, using which is chosen the matching *NAME* from the table *DISTRICT*, satisfactory results are sorted in alphabetical order.

It is also necessary to set up for list of values in category *3. Marushka HTML publication* item *HTMLVisible* to value '*True*', so that the query would be visible in the web publication.

For the localization query itself, it is necessary to fill in category *2. Query Properties,* item *LayerName*, which assigns the query to the specified form layer name. It is recommended to set item *QueryBuff* to value 1, because it is possible to simultaneously display just one localization result. With the higher value, the query would still work, but it will always display just one result at the time, because this type of query won't display more than one result at the time. Using item *QueryParameters* are set query parameters, in this project is entered just one parameter, specifically *District name*. Item *SqlStmtTemplate* contains the localization query itself. In this query is in addition to standard localization query columns defined using pseudo column `SET_PARS_RGBFCOLOR` fill color, using pseudo column `SET_PARS_RGBCOLOR` line color. Using pseudo column `SET_PARS_MASK_FROM_AREAL` is created the mask, which is defined by the limiting rectangle extending all over the area of Czech Republic and after invoking the Print by fence, only the cutout for the given districts is visible.

In category *3. Marushka HTML publication* it is necessary to set the *AllowLocalizeService* to value '*True*', using which is enabled localization the service. Set item *DynamicCodeList* also to '*True*' to allow function search suggestion. Setting the item *HTMLVisible* to value '*True*' allows its visibility in the web publication. It is possible to set which publish layers will be initialized when displaying localization query result in item *CheckPubLayers*. It is very important to set item *SetQueryAsPrint* to value '*True*', otherwise the option *Print by fence* would not display in a web publication int the tab *Print*.

For this type of print (localization query) is required to prepare polygons of the specific areas that will be used as individual Fences for print.

This localization query contains in this case only one parameter called *District name*, however, in another project it can have defined unlimited number of parameters.

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After creating a functional localization query and after launching the project in the local web server, in the *Print* tab will appear the node titled *Advanced print*. After clicking on it, it will display the option *Print by fence* with possibility to find any district within the Czech Republic. After entering the district name (or the name fragment) and clicking on the *Search* button will be localized the selected district and around its borders will be created a mask, thus in a map window will be visible only the area of the given region. In this project was not set an absolutely opaque mask because of clarity, to see that under the mask is still drawn the underlying *Google map layer*. Alternatively, it is possible to select a mask of absolutely opaque color and de facto to print data just for the given region area.

The resulting map window after invoking *Print by fence* for district Jihlava (after localization of Jihlava district) is shown in Fig 4.