#### A Map construction

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
				10.00		
1. R	eference system of r	nap face		4.00		
1	G: Standard of reference	e system (max. 10 %)				
	M: 0 - no	Q: Is it possible to set up optionally international/national system	1	0.40	0.40	DATUM - specific properties of reference system (geoid model, including coordinate,
	1 - yes	(DATUMS) of map face?				elevation, gravity/geodetic system and other characteristics)
						Parameter or set of parameters, which serve as reference or base to calculation of other
2	G: Coordinate system (r	max 50 %)				parameters.
	M1: 0 - no	$\Omega$ 1: Is it possible to set up various reference coordinate system of map	1	0.50	0.50	Geography rectangular spatial cartographic coordinate system
	1 - yes	face?		0.00	0.50	
	M2: 0 - 1	Q2: How many coordinate systems is it possible to set up?	2	0.50	1.00	
	1 - two and more					
	M3: 0 - ne	Q3: Is it possible to set up national coordinate system?	1	0.50	0.50	In relation to user's country.
	1 - ano					
3	G: Coordinate grid (max	k. 20 %)				
	M1-2: 0 - no	Q1: Is it possible to set up coordinate grid of map face variously?	1	0.40	0.40	Geographical, cartographical
	1 - yes	Q2: Is it possible to set up auxiliary orientation grid of map face?	1	0.40	0.40	Helping (in kilometres,)
4	G: Elevation system (ma	ax. 20 %)				
	M1-2: 0 - no	Q1: Is it possible to set various reference elevation system of map face?	1	0.40	0.40	International and national.
	1 - yes	Q2: Is it possible to set national reference elevation system of map face?	1	0.40	0.40	
Tota	1				4.00	
<b>2.</b> T	ransformation of ma	p outline		1.00		
1	G: G: Numeric transform	nation (max. 100 %)				
	M1-3: 0 - no	Q1: Is it possible to use indirect numeric transformation?	1	0.33	0.33	Indirect numerical transformation - similar calculation on base of reference (identical)
	1 - yes					point coordinates in source and target system (surface)
		Q2: Is it possible to use indirect numeric linear transformation?	1	0.33	0.33	
		Q3: Is it possible to use affine (similar) first order polynomial	1	0.33	0.33	E.g. Helmert similarly conform transformation
		transformation?			4.00	
Tota					1.00	
3. IV	3. Metadata about map construction					
1	G: Standardisation of ge	eneration of metadata (max. 100 %)		0.50	0.50	
	M1-2: 0 - no	Q1: Is it possible to generate standard information about procedures,	1	0.50	0.50	Metainformation about: reference and coordinate system, reference body (surface),
		methods, sources and other properties of map construction?				elevation system, time system, extent of map face, method of data collection, progress and
	1		4	0.50	0.50	errors or transformations,
Tet	i - yes	Juzz: is it used metadata standard (ISU/UEN/Other)?	1	0.50	0.50	ISO - worldwide, CEN - European, other - Open Source, national,
Tota	1				1.00	

## A Map construction

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
4. C	artometry			4.00		Tools for measuring in maps - by way of coordinates, distances, areas, angels
1	G: Measure and constru	iction tools (max. 90 %)				
	M1-4: 0 - no 1 - yes	Q1: Is it possible to display coordinate location (x,y) of map objects and symbols in map face?	1	0.90	0.90	
		Q2: Is it possible to measure length of map objects and symbols in map face?	1	0.90	0.90	
		Q3: Is it possible to measure area of map objects and symbols in map face?	1	0.90	0.90	
		Q4: Is it possible to measure angles of map objects and symbols in map face?	1	0.90	0.90	
2	G: Map face frame (max	. 10 %)				
	M: 0 - no	Q: Is it possible to generate map face frame automatically?	1	0.40	0.40	
Tota	1 - yes 				4.00	
TOT	AL - A Map construc	tion			10.00	

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
				35.00		Creation, using and location of map symbols in map face.
1. Pa	attern book			2.50		
1	G: Availability of symbo	l types (max. 80 %)				
	M1-3 : 0 - no	Q1: Is it possible to insert point symbol into the map?	1	0.67	0.67	
	1 - yes	Q2: Is it possible to insert line symbols into the map?	1	0.67	0.67	
		Q3: Is it possible to insert area symbol into the map?	1	0.67	0.67	
2	G: Pattern book (max. 2	0 %)				
	M: 0 - no	Q: Can the user supplement the pattern book with new symbols?	1	0.50	0.50	
	1 - yes					
Total					2.50	
2. P	oint symbols			8.00		
1	G: Pattern book of point	t symbols (max. 5 %)				
	M: 0 - no	Q: Is it possible to select any point symbol from predefined pattern book?	1	0.40	0.40	
	1 - yes					
2	G: Associativity of symb	ools (max. 35 %)				
	M1-4: 0 - no	Q1: Does the pattern book contain non motivated point geometric convex	1	0.50	0.50	
		symbols?				
	1 - yes	Q2: Does the pattern book contain non motivated point geometric non	1	0.50	0.50	★▲■¥
		convex symbols?				
		Q3: Does the pattern book contain alphanumeric symbols (letters, names,	1	0.50	0.50	Prague 752 A.3.b
		Q4: Does the pattern book contain motivated point symbols? (i.e.	1	1.30	1.30	Symbols with associations of shape, colour and other properties,
		symbolic/pictogram/iconic/pictorial)?				that symbolizes represented phenomenon or object.
3	G: Graphic variability of	symbols (max. 25 %)				
	M1-4: 0 - no	Q1: Is it possible to change colour of point symbols?	1	0.50	0.50	
	1 - yes	Q2: Is it possible to set size of point symbols?	1	0.50	0.50	
		Q3: Is it possible to change colour or raster fill of point symbols?	1	0.50	0.50	Fill (colour, structure, texture, raster) - graphic elements with various shape, size, colour, arrangement and orientation. □○上日 ■●上日
		Q4: Is it possible to change angle of orientation of point symbols?	1	0.50	0.50	
4	G: Graphic variability of	symbols - outline of point symbols (max. 15 %)		1		
	M1-3: 0 - no	Q1: Is it possible to change thickness of outline of point symbol?	1	0.40	0.40	$\circ \circ \circ$
	1 - yes	Q2: Is it possible to change colour of outline of point symbol?	1	0.40	0.40	000
		Q3: Is it possible to change structure of outline of point symbol?	1	0.40	0.40	000
5	G: Attribute variability o	f symbols (max. 20 %)				
	M1-2: 0 - no	Q1: Is it possible to change parameters of point symbols according value of attribute of represented phenomenon/object?	1	0.80	0.80	Parameters: size, orientation, fill (colour, raster), structure.
	1 - yes	Q2: Is it possible to change gradually symbol parameters according statistic processing of attribute values of represented phenomenon/object?	1	0.80	0.80	Continuous or intervallic graduation.
Total					8.00	

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
3. Li	ne symbols			8.00		
1	G: Pattern book of line s	symbols (max. 45 %)				
	M1-7: 0 - no 1 - yes	Q1: Is it possible to select any line symbol from predefined pattern books?	1	0.18	0.18	Pattern books: number of lines (one-line and multi-line), colour - achromatic, chromatic, colour combine; line with fill - (without fill between lines), with colour fill, with pattern.
		Q2: Does a pattern book contain mono-line symbols?	1	0.54	0.54	Continuous and discontinuous line, including patterned lines.
		Q3: Does a pattern book contain broken line?	1	0.54	0.54	Broken line (periodic and aperiodic): dotted, dashed, dash-and-dot line.
		Q4: Does a pattern book contain line with different thickness?	1	0.72	0.72	Different (various) thickness - continuously or intervallic graduation.
		Q5: Does a pattern book contain patterned lines?	1	0.54	0.54	Pattern: geometric or other symbols; direction, wavy line.
		Q6: Does a pattern book contain a band line?	1	0.54	0.54	Band line is used for boundary line.
		Q7: Does pattern book contain two and more line symbols and other variations?	1	0.54	0.54	Outline, filled with colour, patterned fill, segmented, with protective surroundings, set up background and foreground of symbol, etc.
2	G: Associativity of symb	bols (max 10 %)				
	M: 0 - no 1 - yes	Q: Does pattern book contain motivated line symbols?	1	0.80	0.80	Symbols with association of shape, colour and other properties, that symbolize represented phenomenon/object. কেত কেত কেত
3	G: Graphic variability of	f symbols (max. 25%)				
	M 1-3: 0 - no	Q1: Is it possible to change thickness of line symbols?	1	0.67	0.67	
	1 - yes	Q2: Is it possible to change colour of line symbols?	1	0.67	0.67	Any use (construction) colour tone, brightness, saturation, or to use color from the palette of colours.
		Q3: Is it possible to change filling of line symbols?	1	0.67	0.67	Fill (structure, texture, raster) - graphic elements with various shape, size, colour, arrange and orientation.
4	G: Attribute variability o	f symbols (max. 20 %)		1	1	
	M1-2: 0 - no 1- yes	Q1: Is it possible to change parameters of line symbols according to value of attributes of represented phenomenon/object?	1	0.80	0.80	Parameters: thickness, orientation, fill (colour, raster), structure, length.
	-	Q2: Is it possible to graduate symbol parameters according statistic processing of attribute values of represented phenomenon/object?	1	0.80	0.80	Continuous or intervallic graduation.
Total				•	8.00	

4. Area symbols  8.00    16. Pattern book of area symbols (max. 17,5 %)  0.18  0.18  0.18  0.18  0.18  0.18  0.19    1 - yes  02: Does a pattern book contain only simple area symbols?  1  0.13  0.15  0.15  0.16	Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
I G: Pattern book of area symbols (max. 17,5 %)    M1-3: 0 - no  Q1: Is it possible to select any area symbol from predefined pattern book?  1  0.18  0.18    1 - yes  Q2: Does a pattern book contain only simple area symbols?  1  0.53  0.53  0.53    Q3: Does a pattern book contain only simple area symbols?  1  0.70  0.70  0.70    Q3: Does a pattern book contain composite (compound) symbols?  1  0.70  0.70  0.70    Q3: Does a pattern book contain motivated area symbols?  1  0.70  0.70  0.70    M: 0 - no  0: Does a pattern book contain motivated area symbols?  1  0.60  0.60    M: 0 - no  0: Does a pattern book contain motivated area symbol?  1  0.60  0.60    M: 1 - yes  Q1: Is it possible to change thickness of outline of area symbol?  1  0.67  0.67    M: 1 - yes  Q1: Is it possible to change stokers of utile of area symbol?  1  0.67  0.67    M: 1 - yes  Q1: Is it possible to change stokers of utile of area symbol?  1  0.67  0.67    M: 1 - yes  Q1: Is it possible to change stokers of utile of area symbol?  1  0.67  0.67	4. A	rea symbols			8.00		
M1-3: 0 - no  Q1: Is it possible to select any area symbol from predefined pattern book?  1  0.18  0.18    1 - yes  Q2: Does a pattern book contain only simple area symbols?  1  0.53  0.53  0.53    Q3: Does a pattern book contain composite (compound) symbols?  1  0.70  0.70  0.70    Q3: Does a pattern book contain notivated area symbols?  1  0.60  0.60    M. 0 - no  Q1: Is it possible to change thickness of outline of area symbols?  1  0.60  0.60    M. 0 - no  Q1: Is it possible to change solutine of area (max. 25 %)	1	G: Pattern book of area	symbols (max. 17,5 %)				
1 - yes  Q2: Does a pattern book contain only simple area symbols?  1  0.53  0.53  One of this two types: 1. distinctly and unique demarcate area (by outline, colour, pattern, point symbol) 2. indistinctly demarcate area, without filling or fill up area (by outline, colour, pattern, point symbol).    Q3: Does a pattern book contain composite (compound) symbols?  1  0.70  0.70  Area with outline, with pattern, fill up, segmented, with protective surroundings and second type mentioned above.    Q3: Does a pattern book contain motivated area symbols?  1  0.60  0.60    M 0 - no 1 - yes  Q: Does a pattern book contain motivated area symbols?  1  0.60  0.60    M 14: 0 - no 1 - yes  Q: Does a pattern book contain of area (max. 25 %) M 14: 0 - no 1 - yes  Symbols to change colour of utiline of area symbol?  1  0.67  0.67    M 14: 0 - no 1 - yes  Q1: Is it possible to change structure of ortalline of rarea symbol?  1  0.67  0.67    M 14: 0 - no 1 - yes  Q2: Is it possible to change structure of rates symbol?  1  0.67  0.67    M 14: 0 - no 1 - yes  Q1: Is it possible to change structure of rates symbol?  1  0.67  0.67    M 14: 0 - no 1 - yes  Q2: Is it possible to change structure of rates symbol?  1  0.67  0.67		M1-3: 0 - no	Q1: Is it possible to select any area symbol from predefined pattern book?	1	0.18	0.18	
Q3: Does a pattern book contain composite (compound) symbols?  1  0.70  0.70  Area with outline, with pattern, fill up, segmented, with protective surroundings and second type mentioned above.    2 G: Associativity of symbols (max. 7,5 %)		1 - yes	Q2: Does a pattern book contain only simple area symbols?	1	0.53	0.53	One of this two types: 1. distinctly and unique demarcate area (by outline, colour, pattern, point symbol) 2. indistinctly demarcate area, without filling or fill up area (by color, patter, point symbols).
2 G: Associativity of symbols (max. 7,5 %)  Image: constraint of the properties of the properties that symbols?  Symbols with association of shape, colour and other properties that symbolize phenomenon/object.    3 G: Graphic variability of symbols - outline of area (max. 25 %)  Image: constraint of the properties of outline of area symbol?  Image: constraint of the properties of the phenomenon/object.  Symbols with association of shape, colour and other properties that symbolize phenomenon/object.    M 1-4: 0 - no  Q1: Is it possible to change thickness of outline of area symbol?  Image: constraint of the properties of the phenomenon/object.  Symbols with association of shape, colour and other properties that symbolize phenomenon/object.    M 1-4: 0 - no  Q1: Is it possible to change colour of outline of area symbol?  Image: constraint of the phenomenon/object.  Structure - broken line, pattern line, multiple line, compound line.    M 1-3: 0 - no  Q1: Is it possible to set point structure of raster fill of area symbol?  Image: constraint of the phenomenon/object.  Structure - broken line, pattern line, multiple line, compound line.    M 1-3: 0 - no  Q1: Is it possible to set point structure of raster fill of area symbol?  Image: constraint of the phenomenon/object.  Structure - broken line, pattern line, multiple line, compound line.    M 1-2: 0 - no  Q1: Is it possible to set point structure of raster fill of area symbol?  Image: constraint of the phenomenon/object?  Image: constraint of the phenomenon/object?			Q3: Does a pattern book contain composite (compound) symbols?	1	0.70	0.70	Area with outline, with pattern, fill up, segmented, with protective surroundings. I.e. both first and second type mentioned above.
M: 0 - no  Q: Does a pattern book contain motivated area symbols?  1  0.60  0.60  Symbols with association of shape, colour and other properties that symbolize phenomenon/object.    3 G: Graphic variability of symbols - outline of area (max. 25 %)	2	2 G: Associativity of symbols (max. 7,5 %)					
3 G: Graphic variability of symbols - outline of area (max. 25 %)  1  0.67  0.67    M 1-4: 0 - no  Q1: Is it possible to change colour of outline of area symbol?  1  0.67  0.67    1 - yes  Q2: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    M 1-3: 0 - no  Q1: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    Q2: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    M 1-3: 0 - no  Q1: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80  0.80    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 + yes  1  0.80  0.80  0.80    M1-2: 0 - no  Q2: Is it possible to change gradually (continuously or by intervals) parameters of a symbol on the basis of statistical processing of attribute values displayed the phenomenon / object?		M: 0 - no 1 - yes	Q: Does a pattern book contain motivated area symbols?	1	0.60	0.60	Symbols with association of shape, colour and other properties that symbolize represented phenomenon/object.
M 1-4: 0 - no  Q1: Is it possible to change thickness of outline of area symbol?  1  0.67  0.67    1 - yes  Q2: Is it possible to change colour of outline of area symbol?  1  0.67  0.67    Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    W 1-3: 0 - no  Q1: Is it possible to change colour of fill of area symbol?  1  0.80  0.80    Q2: Is it possible to set line structure of raster fill of area symbol?  1  0.80  0.80    1 - yes  Q2: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80  0.80    Q3: Is it possible to change the graphics of area symbols on the range of  1  0.80  0.80  0.80    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of  1  0.80  0.80  0.80    1 - yes  Attribute values displayed the phenomenon / object?  1  0.80  0.80  0.80    Q2: Is it possible to change gradually (	3	G: Graphic variability of	symbols - outline of area (max. 25 %)				
1 - yes  Q2: Is it possible to change colour of outline of area symbol?  1  0.67  0.67    Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    Q4: Is it possible to change colour of fill of area (max. 30 %)  5  Structure - broken line, pattern line, multiple line, compound line.    M1-3: 0 - no  Q1: Is it possible to set line structure of raster fill of area symbol?  1  0.80  0.80    Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 - yes  0.80  0.80    M1-2: 0 - no  Q1: Is it possible to change the gradually (continuously or by intervals)  1  0.80  0.80    1 - yes  Q2: Is it possible to change gradually (continuously or by intervals)  1  0.80  0.80    1 - yes  Q2: Is it possible to change gradually (continuously or by intervals)  1  0.80  0.80    1 - yes  Q2: Is it possible to change gradually		M 1-4: 0 - no	Q1: Is it possible to change thickness of outline of area symbol?	1	0.67	0.67	
Q3: Is it possible to change structure of outline of area symbol?  1  0.67  0.67    4  G: Graphic variability of symbols - fill of area (max. 30 %)		1 - yes	Q2: Is it possible to change colour of outline of area symbol?	1	0.67	0.67	
4 G: Graphic variability of symbols - fill of area (max. 30 %)			Q3: Is it possible to change structure of outline of area symbol?	1	0.67	0.67	Structure - broken line, pattern line, multiple line, compound line.
M 1-3: 0 - no  Q1: Is it possible to change colour of fill of area symbol?  1  0.80  0.80    1 - yes  Q2: Is it possible to set line structure of raster fill of area symbol?  1  0.80  0.80    Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    5  G: Attribute variability of symbols (max. 20 %)  1  0.80  0.80    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 - yes  0.80  0.80    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 - yes  0.80  0.80    Q2: Is it possible to change gradually (continuously or by intervals) parameters of a symbol on the basis of statistical processing of attribute values of a displayed phenomenon?  1  0.80  0.80	4	G: Graphic variability of	symbols - fill of area (max. 30 %)				
1 - yes  Q2: Is it possible to set line structure of raster fill of area symbol?  1  0.80  0.80    Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    5  G: Attribute variability of symbols (max. 20 %)  -  -    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 - yes  0.80  0.80    Q2: Is it possible to change gradually (continuously or by intervals) parameters of a symbol on the basis of statistical processing of attribute values of a displayed phenomenon?  1  0.80		M 1-3: 0 - no	Q1: Is it possible to change colour of fill of area symbol?	1	0.80	0.80	
Q3: Is it possible to set point structure of raster fill of area symbol?  1  0.80  0.80    5  G: Attribute variability of symbols (max. 20 %)  -  -    M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 - yes  0.80  0.80    1 - yes  Attribute values displayed the phenomenon / object?  1  0.80  0.80    Q2: Is it possible to change gradually (continuously or by intervals) parameters of a symbol on the basis of statistical processing of attribute values of a displayed phenomenon?  1  0.80  0.80		1 - yes	Q2: Is it possible to set line structure of raster fill of area symbol?	1	0.80	0.80	
5 G: Attribute variability of symbols (max. 20 %)			Q3: Is it possible to set point structure of raster fill of area symbol?	1	0.80	0.80	
M1-2: 0 - no  Q1: Is it possible to change the graphics of area symbols on the range of 1 with the values displayed the phenomenon / object?  0.80    1 - yes  Attribute values displayed the phenomenon / object?  1 0.80  0.80    Q2: Is it possible to change gradually (continuously or by intervals) parameters of a symbol on the basis of statistical processing of attribute values of a displayed phenomenon?  1 0.80  0.80	5	G: Attribute variability of	f symbols (max. 20 %)				
Q2: Is it possible to change gradually (continuously or by intervals)  1  0.80  0.80    parameters of a symbol on the basis of statistical processing of attribute  1  0.80  0.80    values of a displayed phenomenon?  1  0.80  0.80		M1-2: 0 - no 1 - yes	Q1: Is it possible to change the graphics of area symbols on the range of attribute values displayed the phenomenon / object?	1	0.80	0.80	
Total 8.00	Tota		Q2: Is it possible to change gradually (continuously or by intervals) parameters of a symbol on the basis of statistical processing of attribute values of a displayed phenomenon?	1	0.80	0.80	

Ρ	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
5. C	olour setting		8.00			
1	G: Colour palette (max.	30%)				
	M1-3: 0 - no	Q1: Are there predefined colour palettes?	1	0.80	0.80	
	1 - yes	Q2: Can you choose the colour interactively from continuous color scales?	1	0.80	0.80	
		Q3: Can you add custom colours to the color palette for reuse?	1	0.80	0.80	
2	G: Colour models (max.	. 30%)				
	M1-4: 0 - no	Q1: Can you set the colour code in RGB model?	1	0.80	0.80	Red, Green, Blue.
	1 - yes	Q2: Can you set the colour code in HSV model?	1	0.80	0.80	Hue, Saturation, Value/Luminance (tone, saturation, brightness).
		Q3: Can you set the colour code in CMYK model?	1	0.80	0.80	Cyan, Magenta, Yellow.
3	G: Transparency (max.	5%)				
	M1-2: 0 - no	Q1: Is it possible to set transparency colour?	1	0.20	0.20	
	1 - yes	Q2: Is it possible to set transparency symbol or layer?	1	0.20	0.20	
4	G: Setting "No colour" (	max. 10%)				
	M: 0 - no	Q: Can you set the option "No colour" for the symbol, fill, border,?	1	0.80	0.80	
	1 - yes					
5	G: Colour scales (scher	nes) (max. 25%)				
	M1-3: 0 - no	Q1: Are there predefined qualitative (categorical) colour schemes (various colors)?	1	0.67	0.67	
	1 - yes	Q2: Are there predefined sequential colour schemes?	1	0.67	0.67	
		Q3: Are there predefined bipolar (diverging) colour schemes?	1	0.67	0.67	
Tota	: 				8.00	
6. M	etadata information	about creation and structure of maps symbols		0.50		
	G: Metadata (100%)			1	1	
1	M1-2: 0 - no	Q1: Can you generate standardized information about methods, sources, composition, steps of creation and others properties of construction for map symbols?	1	0.25	0.25	E.g. type of map symbol, symbol identifier, (generating way of identification label of connection to attribute), characteristic of symbol (geometric, graphic, topological, attribute, time), distinguishing level of symbol (scale of maximum detail), annotation/labels of symbol, way and accuracy of localisation of symbol (accuracy of position and elevation,), digitalisation method, steps for symbol creation, static and dynamic of symbol, cartographical methods for processing of symbol , etc.
	1 - yes	Q2: Is it international metadata standard (ISO/CEN/other)?	1	0.25	0.25	Other - national, Open Source,
Tota					0.50	
ΤΟΤ	AL - B Map symbols				35.00	

#### C Cartographic expression methods

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
	•			20.00		
1. B	asic methods			3.50		
1	G: Method of point qual	itative symbols (max. 30 %)				
	M: 0 - no 1- yes	Q: Can be used method of qualitative point symbols?	1	0.70	0.70	Creation and location point symbol from the statistical processing of the qualitative attribute values displayed objects / phenomena.
2	G: Line qualitative meth	nod (max. 30 %)				
	M: 0 - no 1- yes	Q: Can be used method of qualitative topographical line symbols?	1	0.70	0.70	Creation and localisation of line symbols in map face according qualitative attribute value. Topographic shape express natural shape of object (river, road, boundary).
3	G: Area qualitative meth	nod (discrete Areal) (max. 40 %)				Chorochromatic method, method of colour tones
	M1-5: 0 - no 1- yes	Q1: Can be used method of qualitative area symbols?	1	0.70	0.70	Creation of discrete area symbols according qualitative attribute values.
		Q2: Is it possible to determine area by colour?	1	0.35	0.35	
		Q3: Is it possible to determine area by raster?	1	0.35	0.35	
		Q4: Is it possible to determine area by label?	1	0.35	0.35	(plateau)
		Q5: Is it possible to determine area by point symbol?	1	0.35	0.35	
Tota					3.50	
2. D	iagram map (Cart dia	agrams)		3.50		Diagram methods
1	G: Point diagram (max.	20 %)		1	I	Viewing only a quantitative point of absolute values of attributes of objects / phenomena.
	M: 0 - no 1- yes	Q: Is it possible to create simple point diagram (one parameter) according attribute data of point object / phenomenon?	1	0.70	0.70	Point localisation
2	G: Line diagram (ribbor	)) (max. 20 %)		I		
	M: 0 - no 1- yes	Q: Is it possible to create simple line diagram according attribute data of line object / phenomenon?	1	0.70	0.70	Expression quantity by thickness of lines.
3	G: Areal diagram (max.	20 %)		1	l	
	M: 0 - no 1- yes	Q: Can it create simple areal diagram (one parameter) according attribute data of point object / phenomenon?	1	0.70	0.70	Areal localisation
4	G: Types of multi-param	neter point and areal diagrams (max, 20 %)		1		
	M1-3: 0 - no 1- yes	Q1: Can it create structural diagram?	1	0.23	0.23	One diagram with the same size expresses more parameters, part is expressed in %
		Q2: Can it localize a multi-parameter diagram to point?	1	0.23	0.23	Point diagram
		Q3: Can it localize a multi-parameter diagram to the area?	1	0.23	0.23	Areal diagram.
5	G: Localisation and pro	perties of point and areal diagram (max 20%)		I	1	
	M1-3: 0 - no	Q1: Can it automatically avoid overlapping area of diagrams?	1	0.23	0.23	
	1- yes	· · · · · · · · · · · · · · · · · · ·	1	0.23	0.23	
1		Q2: Does diagram redraw automatically when the attribute values change?		0.20	0.20	
		Q3: Are the same types of diagrams available for point and area diagrams?	1	0.23	0.23	
Tota					3.50	

# C Cartographic expression methods

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
3. Se	cale of values			2.00		Creation of various scales of quantitative value. Quantitative scale determines the parameters of the point, liner, area symbols (size, colour, fill).
1	G: Classification- Interv	al scale of values (max. 100 %)				· · · · · · · · · · · · · · · · · · ·
	M1-6: 0 - no	Q1: Can be defined limits of interval of scale manually?	1	0.33	0.33	Any determination of the limits of the intervals by decision of the user
	1 - yes	Q2: Can be automatically created a scale which is consists of the same intervals of values?	1	0.33	0.33	Constant (equal) intervals.
		Q3: Limits of intervals are natural breaks?	1	0.33	0.33	Irregular scale - Natural breaks - Jenks. Grouping close values in one interval.
		Q4: Can be automatically created a scale by method of quantile?	1	0.33	0.33	Each interval contains the same number of elements. The method is suitable for linearly distributed data.
		Q5: Can be automatically created a scale by method of standard deviation?	1	0.33	0.33	The method is suitable for normal distribution of data.
		Q6: Can be defined a discrete interval scale, which contains a jump (hiatus) between the values?	1	0.33	0.33	Jump scale - with hiatus. • 10 - 30
Tatal					2.00	00-90
Total	-				2.00	
4. La	Inde			10.00		
1	G: Manual creation of la	abels (max. 5 %)				
	M: 0 - ne	Q: Can be manually created the individual labels of feature?	1	0.50	0.50	By pointer (by mouse).
	1 - yes					
2	G: Automatic creation of	of labels (max. 15 %)		4.50	4.50	
	IVI: U - NO	Q: Can be automatically created the labels of feature from attribute data?	1	1.50	1.50	
2	1 - yes	ith attribute (max 2.8()				
3	M: 0 no	A la content of lobels outemptically undeted when the value	1	0.20	0.20	
	1 voc	Q: Is content of labels automatically updated when the value	1	0.20	0.20	
4	G: Conditional selection	n of elements for labeling (max 2 %)				
-	M: 0 - no	O: Can be create condition for labeling selected features according	1	0.20	0.20	
	1 - ves	attribute value?	'	0.20	0.20	
5	G: Parameters of auton	natically created labels (max. 40 %)				
-	M1-7: 0 - no	Q1: Can be set font family?	1	0.57	0.57	Antiqua, Medieval, Grotesque, Egyptiek,
	1 - ves	Q2: Can be set font face?	1	0.57	0.57	Bolt. Semi bolt. Italic
	<b>,</b>	Q3: Can be set size of letters?	1	0.57	0.57	
		Q4: Can be set colour of letters?	1	0.57	0.57	
		Q5: Can be set any slant of letters?	1	0.57	0.57	
		Q6: Can be set other parameters of fonts (underline, capital letters)?	1	0.57	0.57	
		Q7: Can be rotate label of a certain angle according to the attribute value?	1	0.57	0.57	
6	G: Symbol function of I	abel (max. 5 %)		•	•	
	M: 0 - no	Q: Can be set parameters of labels depending on attribute value	1	0.50	0.50	
	1 - yes	(e.g. size of letter)?				
7	G: Label of point featur	e (max. 5 %)				
	M1-3: 0 - no	Q1: Can be optionally set the placement of label of point feature?	1	0.10	0.10	
	1 - yes	Q2: Can be set label directly to the point feature?	1	0.10	0.10	
		Q3: Are the placement of label predefined?	1	0.10	0.10	
	M4: 0 - only 1 place	Q4: How many predefined placements of label are?	2	0.10	0.20	
	1 - 1 to 4 placements	5				
	2 - 5 and more place	ements				

## C Cartographic expression methods

Ρ	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
8	G: Label of line feature	(max. 5 %)				
	M1-4: 0 - no	Q1: Can be set optionally placement of line feature?	1	0.13	0.13	
	1 - yes	Q2: Can be set label on line?	1	0.13	0.13	
		Q3: Can be place label above line?	1	0.13	0.13	
		Q4: Can be place label under line?	1	0.13	0.13	
9	G: Label of area feature	(max. 5 %)			-	
	M1: 0 - ne, 1 - yes	Q1: Can be set optionally placement of area feature?	1	0.17	0.17	
	M2: 0 - only 1 place	Q2: How many predefined placements of label are?	2	0.17	0.33	
	1 - 1 to 4 placements	3				
	2 - 5 and more place	ments				
10	G: Offset of label from f	eature (max. 2 %)				
	M1-2: 0 - no	Q1: Can be set numeric value of offset of label from point feature?	1	0.10	0.10	
	1 - yes	Q2: Can be set numeric value of offset of label from line feature?	1	0.10	0.10	
11	G: Masking of backgrou	und under label (max. 5 %)				
	M: 0 - no	Q1: Can be create halo mask around label?	1	0.50	0.50	Hodolany
	1 - yes					Hodolany
12	G: Display of label depe	ending on the map scale (max. 2 %)				
	M: 0 - no	Q: Can be set displaying of labels only in specific map scales?	1	0.20	0.20	
	1 - yes					
13	G: Multi-line label (max.	. 2 %)				
	M: 0 - no	Q: Can be create multi-line label?	1	0.20	0.20	
	1 - yes					
14	G: Hypertext (max. 5 %)					
	M: 0 - no	Q: Can be insert hypertext?	1	0.50	0.50	
	1 - yes					
Tota	I				10.00	
5. S	pecific methods			1.00		
1	G: Satellite method (ma	ix. 100 %)				
	M: 0 - no	Q: Can be insert in map face aerial and satellite photograph of remote	1	1.00	1.00	
		sensing?				
	1 - yes			1		
Tota	i i		1.00			
TOT	AL - C Cartographic	expression methods	20.00			

## D Map syntax: stratigraphic, component and composition

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
				15.00		
1. Ir	ntracomposition - over	all design and layout of symbols in the map face		2.0		
1	G: Editor of map face (ma	x. 100 %)				
	M1 - 7: 0 - no	Q1: Exist tools for editing/management of map face (management of	1	0.25	0.25	
		content or layers)?				
	1 - yes	Q2: Can be create copy/replica of map face?	1	0.50	0.50	
		Q3: Can be fixed location of map face?	1	0.25	0.25	
		Q4: Can be fixed size of map face?	1	0.25	0.25	Adjustment of dimension of map face.
		Q5: Can be fixed scale of map face?	1	0.25	0.25	
		Q6: Can it create cut-out box of map face?	1	0.25	0.25	Side overview map or detail map.
		Q7: Can be export the content of map face?	1	0.25	0.25	
Celk	em				2.00	
2. N	lap layers			4.0		
1	G: Number of map layers	(max. 20 %)				1
	M: 0 - no layer	Q: How many map layers can be worked with?	2	0.40	0.80	
	1 - 1 layer					
	2 - 2 layers and more					
2	2 G: Founding of new map	layer (max. 10 %)				
	M: 0 - no	Q: Can be founded new map layer?	1	0.40	0.40	
	1 - yes					
3	G: Components of map (n	nax. 10 %)				Syntax of map: horizontal and vertical arrangement of content of map face.
	M: 0 - no	Q: Can it change the content (syntactic components and elements) of map	1	0.40	0.40	Syntactic element - a set of objects/phenomena or their attributes in the map face marked
	1 - yes	face in different ways?				with one symbol in the legend of the map.
		flevers (mey 20.0/)				Syntactic component - the group of syntactic elements of map.
4	M1 - 3: 0 - po	01: Cap it variously change vertical arrangement (of layers) in map face?	1	0.40	0.40	order of layers, layering of content of map field
	1 - ves	$\Omega$ ? Can it variously switch on or switch off displaying of layers in map	1	0.40	0.40	order of layers, layering of content of map field.
	r - yes	$Q_2$ . Can it value by switch on or switch on displaying of layers in map	1	0.40	0.40	Possibility of changing the properties of symbols (groups of symbols, selected symbols) in
		depending on their vertical arrangement?	1	0.40	0.40	one layer, depending on the vertical arrangement of layers
5	G: Components of lavers	(max. 30 %)		1		Svotaxe mapy uspořádání obsahu mapového pole
	M1-3: 0 - no	Q1: Can it variously change the content (components and elements) of one	1	0.40	0.40	Selecting only some elements of laver in the view of the map face.
		map laver?	-			
	1 - yes	Q2: Can it variously change the order of symbols in layer?	1	0.40	0.40	
	-	Q3: Can it variously change parameters of selected symbols and groups of	1	0.40	0.40	More various symbols in one layer.
		symbols in the layer?				
Tota	1				4.00	
3. E	xtra composition - ove	erall graphic arrangement of map		1.5		
1	G: Composition options (	max. 100%)				
	M: 0 - no composition	Q1: How many types of graphic composition of map can be used?	2	0.38	0.75	Separate (one map), more sheet (map sheet from sheet lines), atlas, editorial, different
						composition.
	1 - one composition					
	2 - two and more					
	M2-3:0 - po	02: Can be used a standardized composition?	1	0.20	0.20	Topographic composition (base topographic man) or composition with themetic content
	1 - 10	Q2. Can be used a standardized composition?		0.30	0.30	(road deological soil map)
	1 - yes	Q3: Can it create and store template of composition for reusable?	1	0.38	0.38	(road, geological, soil map).
Tota	1	de carriere de la store template el composition for reasable:		0.00	1 50	4
1010					1.50	

## D Map syntax: stratigraphic, component and composition

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
4. B	asic composition elem	nents - title and colophon		0.5		
1	G: Title and colophon					
	M1-2: 0 - no	Q1: Can be created a title and subtitle maps?	1	0.25	0.25	
	1 - yes	Q2: Can be created colophon of map?	1	0.25	0.25	Map author, year, place of publication, are in colophon (imprint).
Tota	Ì				0.50	
5. B	asic composition elem	nent - legend		4.0		
1	G: Accessibility of legend	(max. 10 %)				
	M: 0 - no	Q: Can be displayed legend, e.g. view of all map symbols with their	1	0.40	0.40	
	1 - yes	meaning or view of map layers?				
2	G: Automation of legend of	creation (max. 35 %)				
	M1-3: 0 - no	Q1: Can it automatically generate a legend of map (map layer)?	1	0.47	0.47	
	1 - yes	Q2: Can the legend be segmented according vertical or horizontal	1	0.47	0.47	
		composition (layers)?				
		Q3: Will automatically change the contents of the legend when change the	1	0.47	0.47	Everything in the map (map cut-box) is also in legend.
		content of the map and when change symbols?				
2	G: Cartographic rules of t	he legend (max. 55 %)				
	M1-4: 0 - no	Q1: Can be arranged the symbols in the legend according importance and	1	0.55	0.55	Requirement of arrange (order) of the legend.
		according logical association independently order of layers in the map				
		face?				
	1 - yes	Q2: Is automatically generated legend complete?	1	0.55	0.55	
		Q3: Do symbols in the legend correspond to symbols in the map face (size,	1	0.55	0.55	
		Shape,)?	1	0.55	0.55	
Tota				0.55	4 00	
6 B	asic composition alon	pent - man scale		1.0	4.00	
0. 0	Composition elen			1.0		
1	G: Graphic map scale (ma	(X. 70%)	4	0.40	0.40	
	M1: 0 - no (manual	Q1: Can it automatically generate and put into map layout graphic scale?	1	0.18	0.18	
	M2: 0 - one shape	Ω2: How many shapes of graphic scale are?	1	0.18	0.18	
	1 - 2 and more shape		•	0.10	0.10	
	M3-4: 0 - no	Q3: Is the scale automatically placed outside map face?	1	0.18	0.18	Expert location is outside the map face (not in the middle), in standard composition is placed
						standardly.
	1 - yes	Q4: Is there an automatic change of graphic scale when map face (cut,	1	0.18	0.18	
		window) changes scale?				
2	G: Numeric map scale (m	ax. 30 %)				
	M1-2: 0 - no	Q1: Can it automatically generate and put into map layout numeric scale?	1	0.10	0.10	
	1 - yes	Q2: Can it set parameters (size) of font of numeric scale?	1	0.10	0.10	
	M3: 0 - no	Q3: Is there an automatic change of numeric scale when map face (cut,	1	0.10	0.10	
		window) changes scale?				
	1 - yes					
Tota	1				1.00	

## D Map syntax: stratigraphic, component and composition

Р	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
7. Additional composition elements				2.0		
1	G: North arrow (max. 20 %	6)				
	M1-2: 0 - no	Q1: Can it insert the north arrow in layout of the map?	1	0.20	0.20	North arrow is a graphical expression of orientation of map to the North (South,).
	1 - yes	Q2: Can it change size of symbol of north arrow?	1	0.20	0.20	
2	G: Additional composition	elements (max. 80 %)				
	M 1-4: 0 - no	Q1: Can it create a text as the additional composition element?	1	0.40	0.40	
	1 - yes	Q2: Can it create a table the additional composition element?	1	0.40	0.40	
		Q3: Can it create a picture, a photograph, a logo as the additional	1	0.40	0.40	
		composition elements?				
		Q4: Can it insert side map?	1	0.40	0.40	
Tota	Total				2.00	
TOT	AL - D Map syntax				15.00	

#### E Formats, GPS and other

Ρ	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES	
		20.00					
1. Fc	ormat support - Off-line services			5.5		Vector, raster, text format support	
1	G: Vector formats (max. 30 %)						
	M1 - 6: 0 - no	Q1: Can it work with data in shapefile format?	1	0.32	0.32		
	1 - yes	Q2: Can it work with data in GML format?	1	0.32	0.32		
		Q3: Can it work with data in KML format?	1	0.32	0.32		
		Q4: Can it work with data in GPX format?	1	0.32	0.32		
		Q5: Can it work with data in DGN format?	1	0.32	0.32		
		Q6: Can it work with data GeoRSS XML formats?	1	0.32	0.32		
2	G: Raster formats (max. 50 %)						
	M1 - 8: 0 - no	Q1: Can it work with data in IMG format?	1	0.32	0.32		
	1 - yes	Q2: Can it work with data in GIF format?	1	0.32	0.32		
		Q3: Can it work with data in PNG format?	1	0.32	0.32		
		Q4: Can it work with data in bitmap BMP format?	1	0.32	0.32		
		Q5: Can it work with data in ECW format?	1	0.32	0.32		
		Q6: Can it work with data in MrSID/SID format?	1	0.32	0.32		
		Q7: Can it work with data in JPEG/JPEG2000 format?	1	0.32	0.32		
		Q8: Can it work with data in TIF format?	1	0.32	0.32		
3	G: Other formats (max. 20 %)						
	M1 - 3: 0 - no	Q1: Can it work with data in TXT text format?	1	0.32	0.32		
	1 - yes	Q2: Can it work with data in CSV text format?	1	0.32	0.32		
		Q3: Can it work with map tiles off-line?	1	0.32	0.32		
Total					5.50		
2. Fo	ormat support - On-line services			1.5			
1	1 G: On-line services (max, 100 %)						
	M1 - 3: 0 - no	Q1: Is it possible to work with WMS services?	1	0.50	0.50		
	1 - yes	Q2: Is it possible to work with WFS services?	1	0.50	0.50		
		Q3: Can it work with map tiles on-line?	1	0.50	0.50		
Total					1.50		
3. GI	. GPS support 9.0					Work and support of GPS	
1	G: GPS support (max. 20 %)						
	M1 - 2: 0 - no	Q1: Is it possible to work with GPS receiver?	1	0.90	0.90		
	1 - yes	Q2: Is it possible to display current location in the map with GPS support?	1	0.90	0.90		
2	G: Information about quality of GPS signals (ma	ax. 40 %)					
	M1 - 3: 0 - no	Q1: Are available information about GPS signal?	1	1.20	1.20	DOP (Dilution of Precision – indicates the influence	
	1 - yes	Q2: Are available information about satellites?	1	1.20	1.20	of satellite geometry on positioning accuracy (PDOP	
		Q3: Are available information about dilution of precision - PDOP, HDOP, VDOP	1	1.20	1.20	- position, HDOP - horizontal, VDOP - vertical	
		etc.?	· · ·	0		precision).	
3	G: Collecting of GPS data (max. 40%)			1.00	4.00		
	IVIT - 3: U - NO	Q1: Can be recorded points with using GPS (waypoints)?	1	1.20	1.20		
	i - yes	Q1: Can be recorded lines with using GPS (tracklogs)?	1	1.20	1.20		
_		Q3: Can be edited GPS data?	1	1.20	1.20		
Total							

#### E Formats, GPS and other

Ρ	GOAL	QUESTION	ANSWER	WEIGHT	SCORE	EXPLANATORY NOTES
4. At	4. Attributes			0.5		
1	G: Availability of attributes (max. 100 %)					
	M1 - 2: 0 - no	Q1: Is it possible to display the attributes of map features in map layer?	1	0.50	0.50	Availability of attributes of map features
	1 - yes					
Total					0.50	
5. Ed	liting			1.0		Editing functions
1	G: Editing functions (max. 100 %)					
	M1 - 3: 0 - no	Q1: Can it edit geometry of feature in map layer?	1	0.33	0.33	
	1 - yes	Q2: Can it edit attributes of feature in map layer?	1	0.33	0.33	
		Q3: Is it possible to use editing functions (cut, split, union, snapping)?	1	0.33	0.33	
Total					1.00	
6. Se	6. Searching			1.0		Searching functions
1	: Searching functions (max. 100 %)					
	M1 - 3: 0 - no	Q1: Can be find features in map layer by attributes?	1	0.33	0.33	
	1 - yes	Q2: Can be find a route from start destination to finish destination?	1	0.33	0.33	
		Q3: Can be find the location in the map by address geocoder?	1	0.33	0.33	
Total					1.00	
7. Ad	7. Added functions					
1	G: Additing functions (max. 100 %)					
	M1 - 3: 0 - no	Q1: Is it possible to display StreetView?	1	0.50	0.50	
	1 - yes	Q2: Is it possible to display overview of map face?	1	0.50	0.50	
		Q3: Is it possible to add other functions in extension forms?	1	0.50	0.50	
Fotal						
TOTAL - E Formats, GPS and other					20.00	

#### Summary evaluation

Goal		%	Score
A	Map construction	10	10.00
В	Map symbols	35	35.00
С	Cartography methods	20	20.00
D	Map syntax (stratigraphic, componential and compositional)	15	15.00
E	Formats, GPS and other	20	20.00
Total		100	100.00