

## KNOWLEDGE VISUALISATION RUBRICS

These are generic guidelines that need to be adapted and tested for specific contexts. Therefore, not all the criteria may apply in your context, the priorities (reflected in the allocated weights) may be different and moreover there may be additional criteria to consider. As a point of departure, we assume that this is to be used by lecturers who want students to use knowledge visualisation in a project. In that case both rubrics, *content* and *format* would be shared and discussed but when marking the visualisation only the content will actually receive marks. That is to make the evaluation more efficient while alerting the students to the fact that the format may subjectively influence the mark. These guidelines may be used and adapted for academic purposes but we request that our contribution as the developers is acknowledged in related publications. We welcome your feedback and we are willing to engage in adapting and evaluating these for a specific module, with the aim of providing evidence-based tuition and furthering research by publishing the findings in an accredited academic publication.

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Knowledge visualisation guidelines: CONTENT			
Criteria	Guideline(s)	Weight	Explanation and examples
<i>Effectiveness</i>	Does it capture the essence of the knowledge to be transferred (product or process)?	10	Based on first impression
<i>Overview and detail</i>	Does it present the knowledge on different levels of detail?	5	Concepts of a layer - similar in nature and granularity, supported by colour and font size. May require additional visualisations on other levels.
<i>Accessibility</i>	Is it appropriate for the target audience's domain-specific education level?	5	Consider education level.
	Is it appropriate for the target audience's prior knowledge of the knowledge subject area?	5	Consider pre-requisite knowledge for the module.
<i>Completeness</i>	Does it represent all the relevant elements (could be components of processes)?	5	
<i>Parsimony</i>	Are the concepts presented without redundancy?	5	
	Are the concepts presented without decoration?	5	All the graphic elements are functional.
<i>Clarity</i>	Is the visualisation without ambiguity?	5	
<i>Connectedness</i>	Are the relationship between concepts clearly shown?	5	
<b>Total</b>		<b>50</b>	
Note: There are always trade-offs involved, this could make the guidelines seem contradictory. For example, visualisations essentially balance comprehensiveness and parsimony. This challenge that is sometimes solved by using multiple visualisations of different levels of detail.			

**Knowledge visualisation guidelines: FORMAT**

<b>Criteria</b>	<b>Guideline(s)</b>	<b>Weight</b>	<b>Explanation and examples</b>
<i>Focus and balance</i>	Are the visual elements positioned to support the understanding of the prominence of specific elements and the direction of the flow (if relevant)?	5	
<i>Consistency</i>	Are visual elements such as colour, symbols, shapes etc. used consistently?	5	So, for example, if you need to depict human agents, and computer systems, you might use a circle for the former and a square for the latter
<i>Simplicity</i>	Is the number of concepts on each level of visualisation a maximum of $7 \pm 2$ objects	5	
	Are the visualisation elements distributed to use the space optimally and avoid links crossing?	5	
<i>Legend</i>	Is there an accompanying item to provide detailed explanations on the symbols used?	5	
<i>Colours</i>	Are colours used to support the relating and differentiating of images?	5	
	Are colours used aesthetically?	5	Context will prescribe - also consider colour-blind viewers, i.e. don't use red on green or variations of red to depict levels of importance.
<i>Natural Representation</i>	Are the visual images based on recognisable, familiar representations to support a recognition?	5	This, will be based on images in the coursework e.g. money, time etc.
<i>Dual coding</i>	Are both textual and visual representations used to present the knowledge?	5	Add text to label components where relevant. Possibly money and time are known but other may need textual description.
<i>Boundaries</i>	Are the boundaries clear?	5	The boundaries around elements and the connections to other elements should be clear.
<b>Total</b>		<b>50</b>	