

# Data Sonification Canvas

1 Use Case: Who are your users, what are the goals and the context of your sonification?

2 Mapping Choices: How do you map data parameters to sound parameters?

<p><b>Users</b></p> <p>Who are the users of your sonification? What role do they have in relation to the phenomenon? Do they have a specific opinion about it? Do they have any specific competence or knowledge of the phenomenon? How much are they affected by the phenomenon?</p>	<p><b>Goals</b></p> <p>What are the specific goals you want to achieve with the sonification? Which specific needs does it address? Is it for analysis, explanation, communication, advocacy...</p>	<p><b>Context</b></p> <p>In which context will the sonification be experienced? Is it a web application? Is it used in a security operations center or in a public venue? Is it played through headphones or speakers? Is it a global or a local project? Does it have any specific cultural connotations?</p>	<p><b>Type of Sounds</b></p> <p>Synthesised: are the sounds generated with a synthesizer? Is it intended to mimic an existing sound? Concrete: is the sound from nature or from human activities? Is it sourced from analogue musical instruments?</p>		<p><b>Behaviour</b></p> <p>What are the rules that link changes in the dataset to changes in the sounds?</p>
			<p><b>Functions</b></p> <p>Indexical: is sound directly produced by the phenomenon you want to represent? Iconic: is sound similar to the phenomenon you want to represent? Symbolic: is sound arbitrarily related to the phenomenon you want to represent?</p> <p>e.g. Indexical: the intensity of rain is detected by listening to the sound it emits. Iconic: the intensity of rain is mimicked by the sound of rice grains falling on a surface. Symbolic: the intensity of rain is represented by the sound of different musical instruments.</p>	<p><b>Multi-modality</b></p> <p>Are you using only sound or is sound coupled with other sensory modalities?</p>	
<p><b>Analytical</b></p> <p>Are you representing hard values from a dataset?</p> <hr/> <p style="text-align: right;"><b>Narrative</b></p> <p>Do you want to communicate a message or tell a story?</p>		<p><b>Causal</b></p> <p>Will they gather information on the phenomenon that produced the sounds?</p> <p>e.g. when you tap a container and the sound it makes give you information on how full it is.</p>	<p><b>Semantic</b></p> <p>Will they apply a code to interpret the sounds?</p> <p>e.g. when you need to apply Morse code to decipher the message contained in a sound</p>	<p><b>Reduced</b></p> <p>Will they focus on the sound itself and its inner characteristics?</p> <p>e.g. when we distinguish the interval between two notes or the pitch of a birdsong.</p>	

3 Sonification Approach: How would you position your approach to the sonification?

4 Listening Experience: How do you imagine your users will listen to the sonification?

