

Sea of Genes: A Reflection on Visualising Metagenomic Data for Museums

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Abstract

We examine the process of designing an exhibit to communicate scientific findings from a complex dataset and unfamiliar domain to the public in a science museum. Our exhibit sought to communicate new lessons based on scientific findings from the domain of metagenomics. This multi-user exhibit had three goals: (1) to inform the public about microbial communities and their daily cycles; (2) to link microbes' activity to the concept of gene expression; (3) and to highlight scientists' use of gene expression data to understand the role of microbes. To address these three goals, we derived visualization designs with three corresponding stories, each corresponding to a goal. We present three successive rounds of design and evaluation of our attempts to convey these goals. We could successfully present one story but had limited success with our second and third goals. This work presents a detailed account of an attempt to explain tightly coupled relationships through storytelling and animation in a multi-user, informal learning environment to a public with varying prior knowledge on the domain and identify lessons for future design.

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