Towards Metrics for Evaluating Creativity in Visualisation Design

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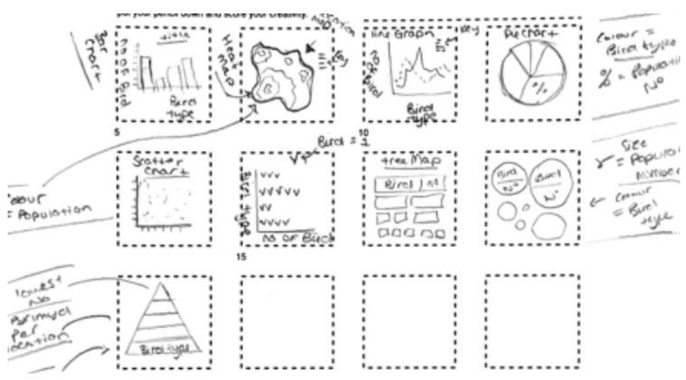
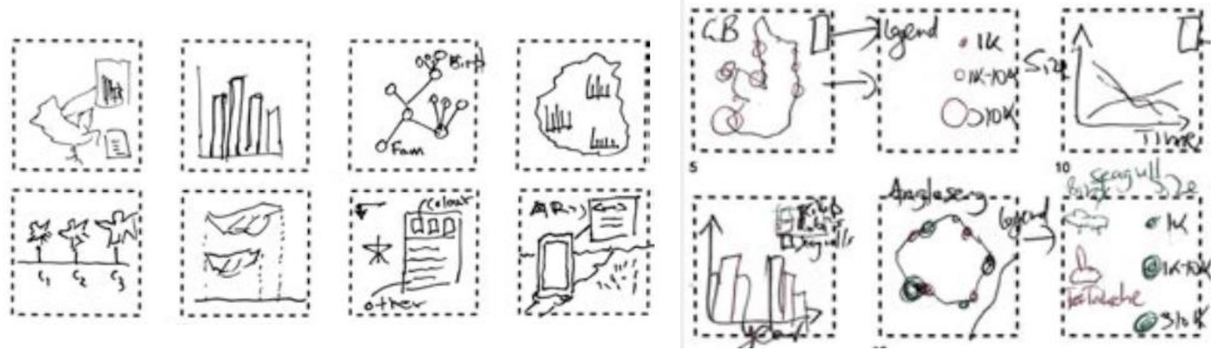


We introduce the Rowen Test, a creativity for visualisation design. The Rowen Test evaluates and enhances visual thinking and design skills. Using four criteria—quantity, Correctness, Novelty, and Feasibility—this test objectively assesses innovation in a low-fidelity sketch visualisation and its scoring system and results from testing with eight visualisation experts.

Unlock your creative potential and elevate your visualisation skills with the Rowen Test.

When confronted with a problem, most people quickly jump to a solution without exploring a range of possible ideas. This tendency to rush into the first apparent answer often limits the depth and creativity of the solution. Visualisation designers are no exception to this pattern; they frequently leap to familiar chart styles or conventional approaches without fully considering alternative possibilities. This shortcut thinking can constrain their creative potential, leading to predictable and less innovative designs. By pausing to explore a more comprehensive array of ideas, designers can break free from these self-imposed boundaries and develop more inventive and compelling visualisations.



The Rowen Test is a work in progress, designed to spark a conversation about an often overlooked aspect of visualisation: creativity. Creativity plays a vital role in every facet of visualisation—from capturing attention to explaining data correlations to telling compelling stories through visuals. Nevertheless, despite its importance, creativity is frequently left out in the metaphorical cold, overshadowed by technical skills and conventional approaches. It is time we acknowledge, nurture, and harness the limitless power of creativity in visualisation, ensuring it receives the recognition and development it deserves.

The Rowen Test

Stage 1 – The Setup

The set-up section is designed to introduce the test to potential users. The test itself is intuitive and hard to go wrong. In this first section, the user is expected to understand the test, set an acceptable time limit for themselves, and outline their task, such as what dataset.

When assessing the creativity of an idea, it's crucial to have a comprehensive set of evaluation metrics. While the evaluation of complex works of art is a well-established practice, low-fidelity sketches are often overlooked. Consider the early sketches of Walt Disney's Mickey Mouse. Despite their initial simplicity and rudimentary nature, these low-fidelity sketches have evolved into an iconic character with a legacy spanning nearly a century. This example underscores the need for a comprehensive evaluation process that includes low-fidelity sketches, as even basic, preliminary ideas can possess significant creative value and influence.

Stage 2 – The Test

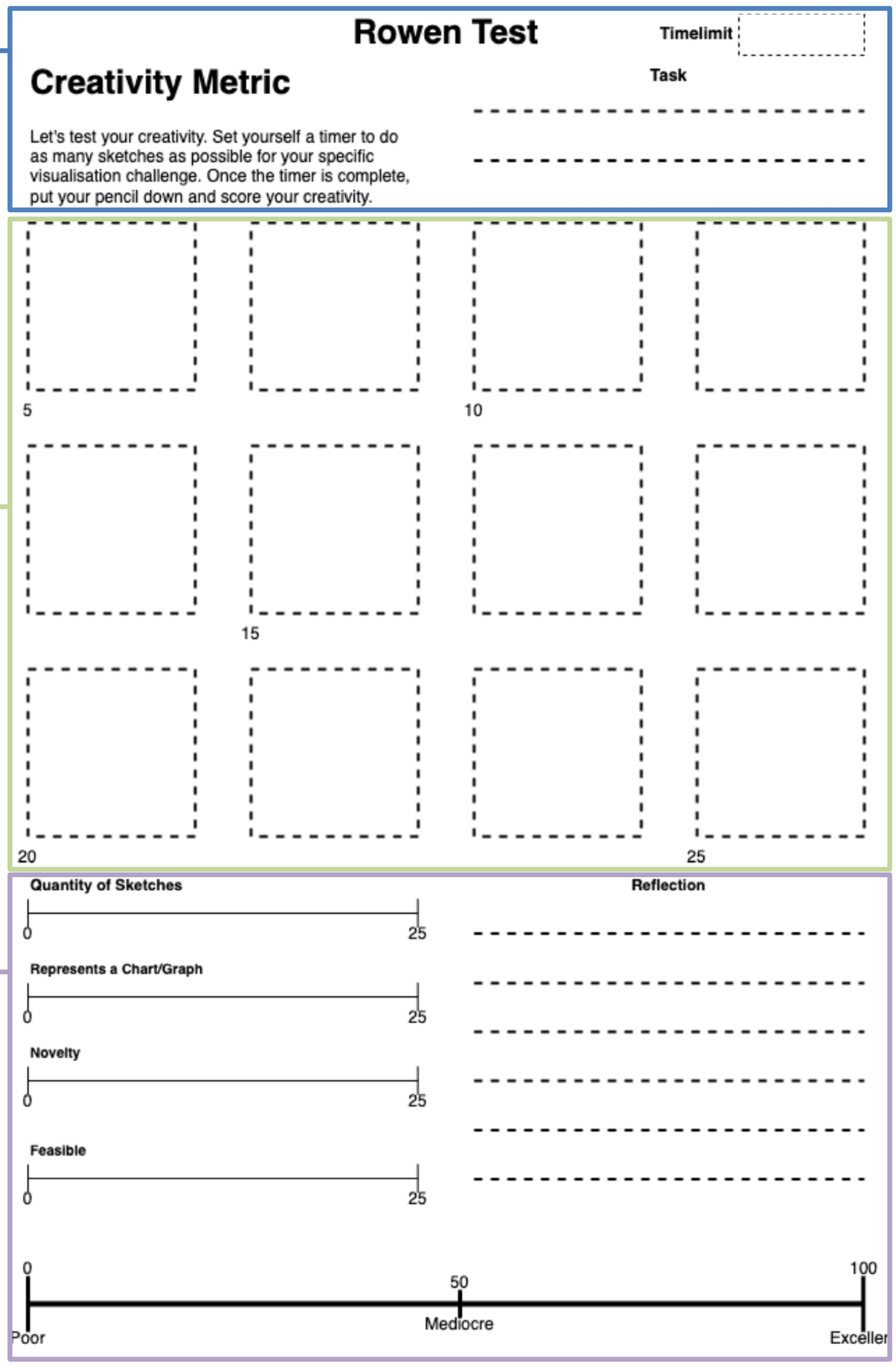
Use the 12 boxes provided to sketch out charts or parts of charts. This stage is designed for you to explore and experiment with different ideas visually. By generating multiple sketches, you can creatively engage with your task, assess various approaches, and eliminate less effective options to arrive at a more innovative solution.

When pressured to develop an idea, it's common to find ourselves at a standstill, unable to take the first step—much like the challenges often faced in design. This is especially true when considering charts; the initial concepts might not always make immediate sense. However, the value lies in pushing beyond the obvious, such as defaulting to a simple bar chart. By exploring various sketches, even if they seem unclear at first, you broaden your creative horizon and consider a broader range of possibilities, paving the way for more innovative and effective solutions.

Stage 3 – The Finale

In this final section, you will self-score your sketches using the four metrics: Quantity, Representation, Novelty, and Feasibility. It is crucial to ensure that you fully understand these metrics and their definitions as they apply to your work. For instance, consider what "novelty" means in the context of your sketches and how important it is to recognize if a bar chart was used. Reflect on how these aspects contribute to your overall evaluation. This process of reflection and scoring will help you critically assess your sketches, making it easier to identify strengths and areas for improvement in your creative approach.

Creativity is the central theme of this poster, with the test as a tool to spark essential discussions. This tool is designed to initiate a meaningful dialogue while developing a comprehensive test to evaluate creativity, which may remain a distant ideal—given its many facets and the subjective nature of its assessment. Every designer will have their perspective on what constitutes creativity, but it is crucial to remember that creativity is our most valuable asset. Engaging in conversations about how to harness best and evaluate this vital quality helps us grow and improve as designers.



If you have enjoyed this poster on creativity, you may enjoy another poster that uses a unique tool to enable us to be more creative.

[1] Owen, A.E, Roberts J.C. Inspire and create: Unveiling the potential of VisDice in visualisation design. In VIS 2023 Posters, 2023.

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