

Bringing UX To The Table: Using Context To Turn The Art of UX Into a Science

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Three hundred years ago, Chemistry was an art, not a science [1]. Chemists studied the properties of individual elements, combined them experimentally, and worked to better understand how they might be used [2]. They published their findings in descriptive lists [3]. In 1718, Étienne François Geoffroy published his “Affinity Table,” arranging the known elements in columns according to “species” [4]. Antoine and Marie-Anne Lavoisier took the idea of classification even further, trying to order the 33 known elements not only by general category, but also according to their properties [5]. In 1889, their work was published as the French-language textbook “Traité élémentaire de chimie” (Elementary Treatise on Chemistry), and a year later Robert Kerr’s translation into English was published as “Elements of Chemistry in a New Systematic Order containing All the Modern Discoveries [6, 7]. Many chemists and scientific historians would agree that these two publications mark the beginning of a transformation that turned the practicable art of Chemistry into a formal science [8].

For more than six decades, Psychologists and other experts in Human Factors, Cognitive Ergonomics, and User Experience have been using the anglicised Greek word “heuristics” to describe the mental shortcuts involved problem-solving, reflective self-examination, design, and engineering [9, 10, 11]. However, the professional application of heuristics to defining, quantifying, and mitigating flaws in designs and processes is still practised as more of an opinionated art than an empirical science, and our most-used heuristics are still published in lists that make little if any attempt to describe how they might be interrelated or how those relationships might offer improved insights into the problems and remedies under discussion [12].

Like the list books of elements that predate modern chemistry, the presentation of lists of heuristics helps in the identification of isolated elements, but fails to inform any understanding of the compound interactions of those elements and their variants in the complex settings of real life. After more than a decade of development in academic and business environments, this paper introduces a periodic table of user experience heuristics. *[PLEASE NOTE: working examples to be presented at MOBIUK 2025 will gladly be shared with the reviewers upon request. These examples have been used to facilitate both UX design and UX research while the author was working as a consulting researcher in Silicon Valley.]*

Placing listed heuristics into a grid of rigidly-defined periodicity clarifies the similarities and differences between them, freeing the individual practitioner from the need to either infer context from first principles, or to resort to unthinking habits [13]. Performed honestly, this rigidly-structured process reveals gaps in our understanding. As with the original periodic tables of the elements, some of the larger gaps thus revealed illustrate the need to reimagine the ordering of the overall table into rows and columns that better reflect the underlying structures and strictures of the real world [14]. Other, smaller gaps simply point out the coordinates at which we should anticipate the discovery of one or more heuristics that have not yet been defined [15].

We present this work in progress, with the hope that the concept will be improved by the constructive criticism of a community of experts, and so serve as a step towards a richer and more thoroughly understood practice.