ABSTRACT

Many traditional and new musical instruments make use of an isomorphic note layout across a uniform planar tessellation. Recently, a number of hexagonal isomorphic keyboards have become available commercially. Each such keyboard or interface uses a single specific layout for notes, with specific justifications as to why this or that layout is better. This paper is an exploration of all possible note layouts on isomorphic tessellations. We begin with an investigation and proof of isomorphism in the two regular planar tessellations (Square and hexagonal), we describe the history and current practice of isomorphic note layouts from traditional stringed instruments to commercial hex keyboards and virtual keyboards available on tablet computers, and we investigate the complete space of such layouts, evaluating the existing popular layouts and proposing a set of new layouts which are optimized for specific musical tasks.