

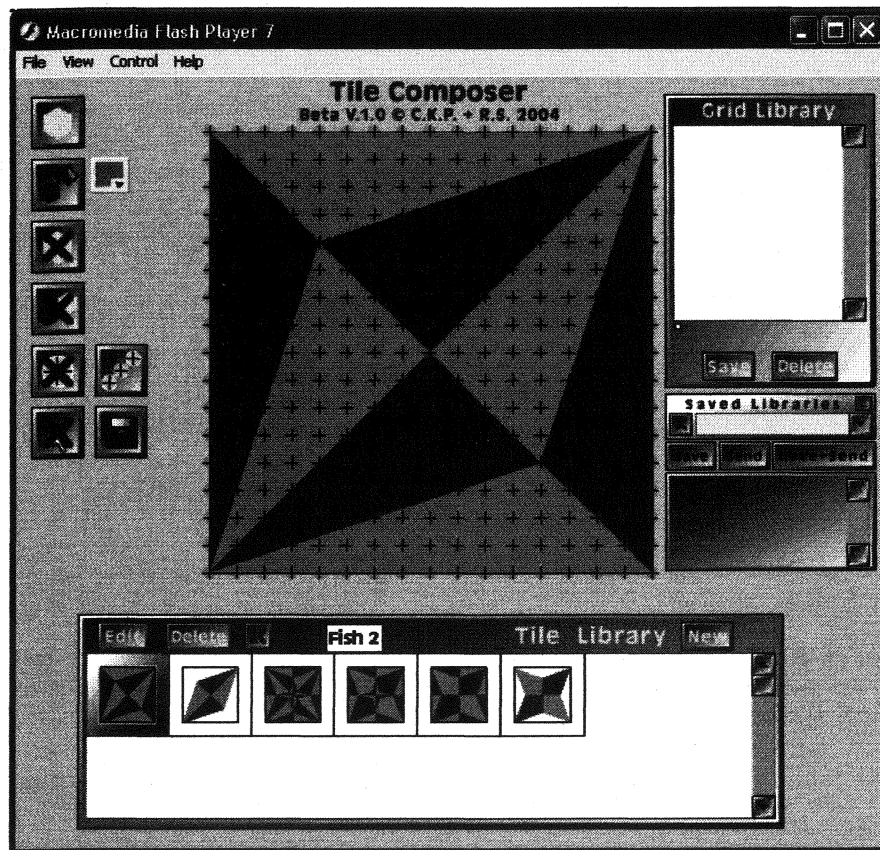
## Applications for the Study of Tilings Tile Composer - FonTiler - GridTiler Using Combinatorics to Build Tiles Sets

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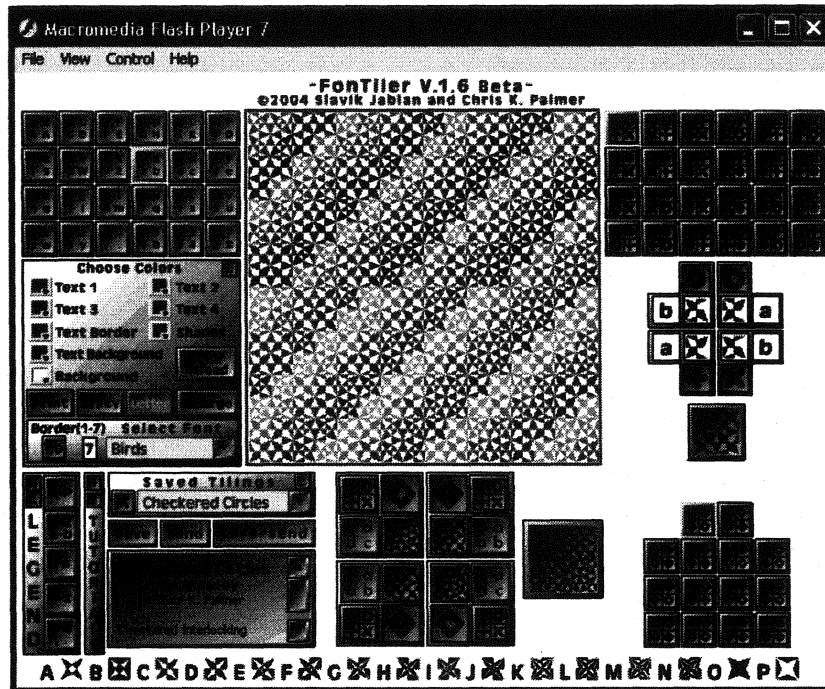
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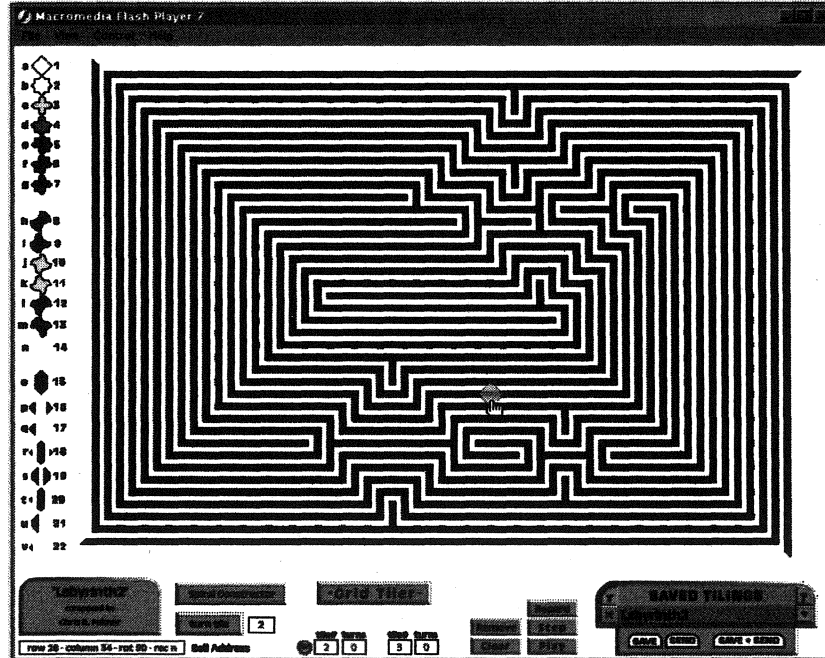
The Tile Composer application is a vector based drawing program that has two components. The first shown below is an editing environment that allows the user to compose "tiles" based on the idea of modularity that are assembled into libraries. The tiles from these libraries are then used in the second environment to tessellate a plane. Features include the ability to create and save custom grids as well as a collection of traditional grids that aid the user in understanding how traditional constructions can be accomplished. Tutorials include lessons that demonstrate the tile cutting concepts presented in [1].



The FonTiler application (shown on the next page) is based on tile sets created as dingbat fonts. The user types into a textfield to create compositions or enters characters into a 2x2 or 4x4 array which is then tiled into the main 16x16 textfield by the click of a button. Tile sets include a series by Chris K. Palmer based on checkered coloring combinations of traditional origami bases; Kites, Fish and Birds. Sets by Slavik Jablan include his Labyrinth Tiles, OpTiles and SpaceTiles. [2]



The GridTiler application (shown below) is based on vector graphics instead of fonts. It contains a recording function to demonstrate the properties of Slavik Jablan's Labyrinth Tile system. One traditional and another semi-traditional combinatoric tile sets composed by Chris K. Palmer are also included.



### References

- [1] Reza Sarhangi, Slavik Jablan and Radmila Sazdanovic, *Modularity in Medieval Persian Mosaics: Textual, Empirical, Analytical and Theoretical Considerations*, 2004 Bridges, pp.281-292
- [2] Ljiljana Radovic and Slavik Jablan, *Antisymmetry and Modularity in Ornamental Art* <http://www.mi.sanu.ac.yu/vismath/radovic/index.html>