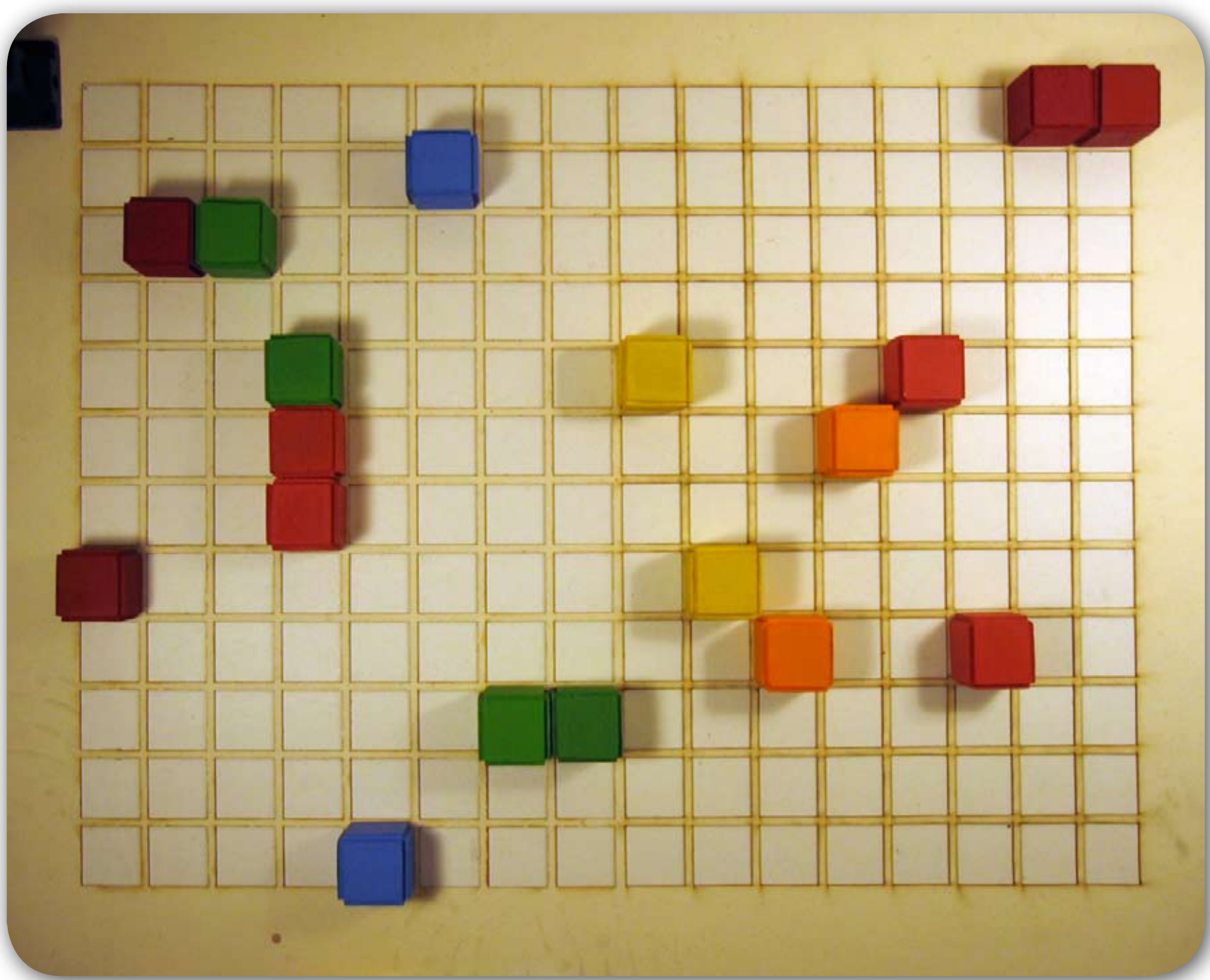
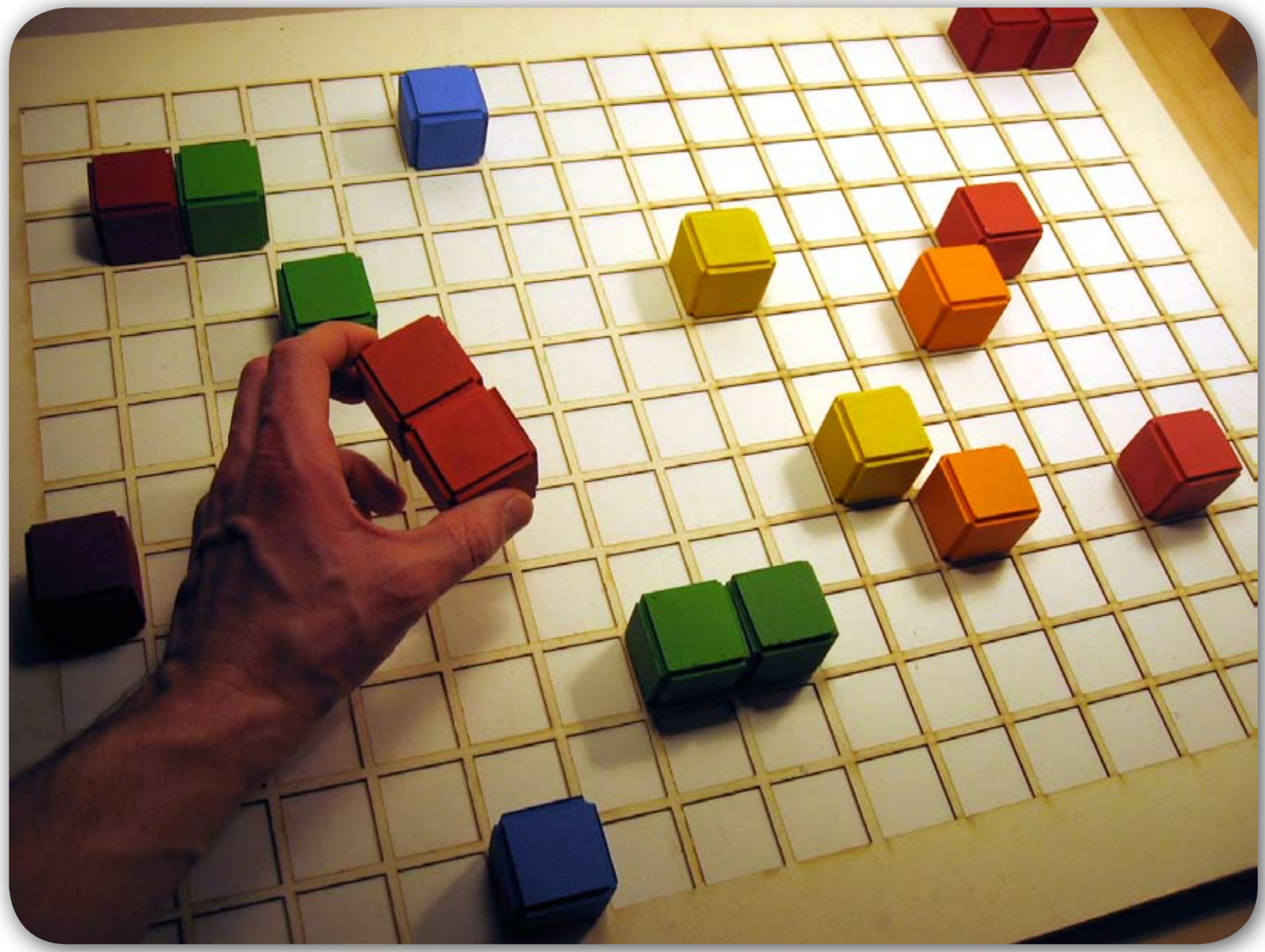


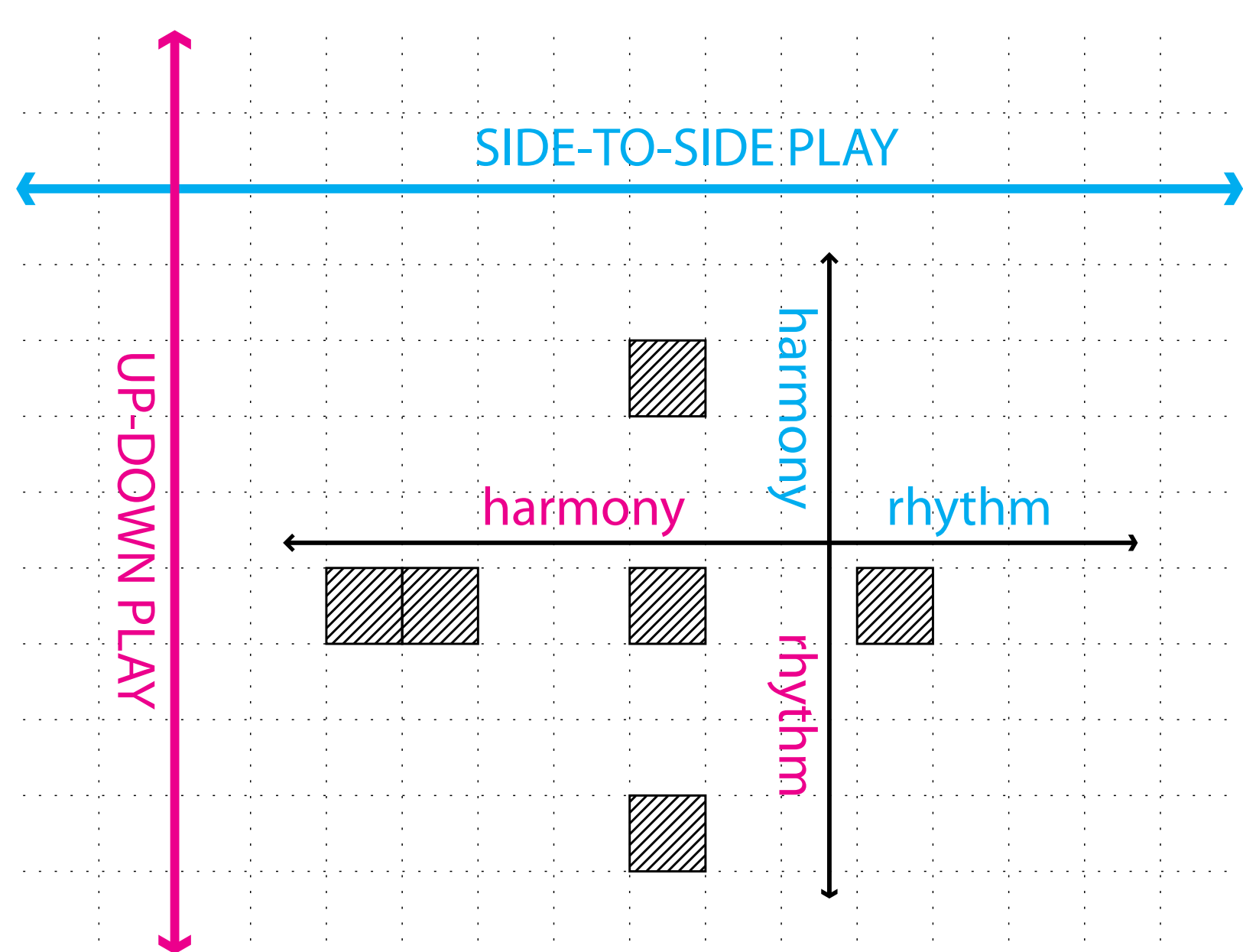
# Thinking with your hands:

PI S: Ellen Yi-Luen Do, Mark D. Gross, Susan Finger



Bach Blocks is a dual-dimension game of music composition. Placing blocks on the play board simultaneously affects two songs: the x-axis and y-axis tunes.

Harmony in the x-axis tune is represented by blocks in the same column. In the y-axis tune, chords are represented by blocks in the same row.



## Bach Blocks

by:

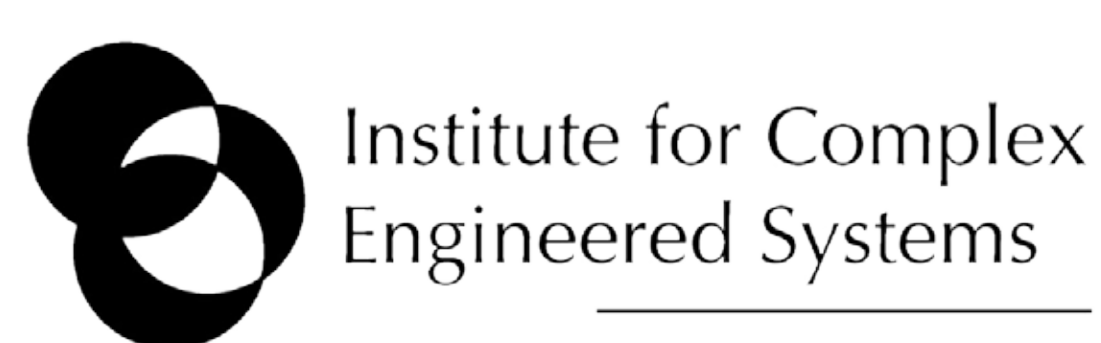
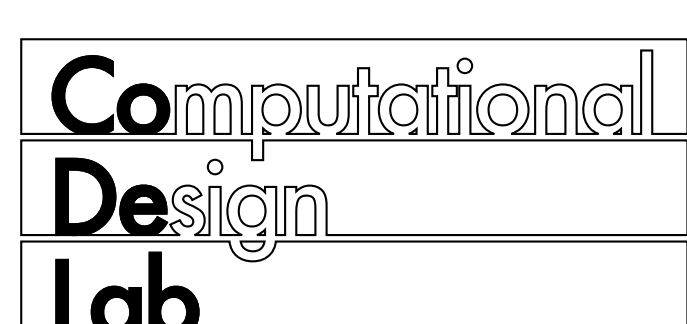
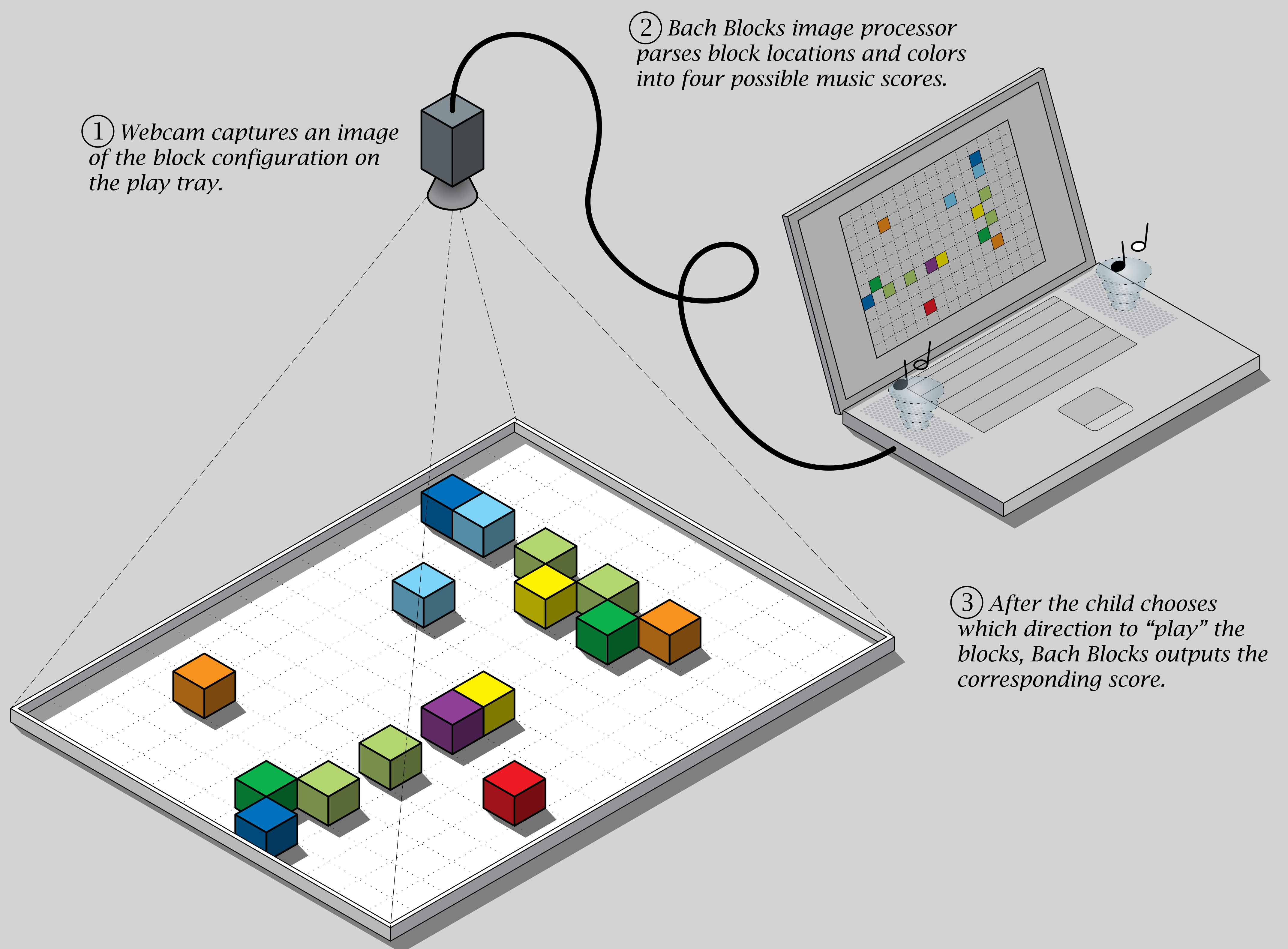
Shaun Moon, Gabe Johnson

Bach Blocks is a music composition toy where musical notes are represented by blocks of different colors. The color of a block indicates the pitch of the note and the size of the block determines a note's duration. Notes with longer durations can be created by placing blocks of the same color one after another.

On one level, this system is analogous to a player piano with scrolls of punched paper representing a melody. The difference is that instead of playing the melody along one axis, Bach Blocks can

play a tune from side-to-side (like the player piano) or along the y-axis. In this way children can compose multiple tunes with the same arrangement of blocks. (See images below.)

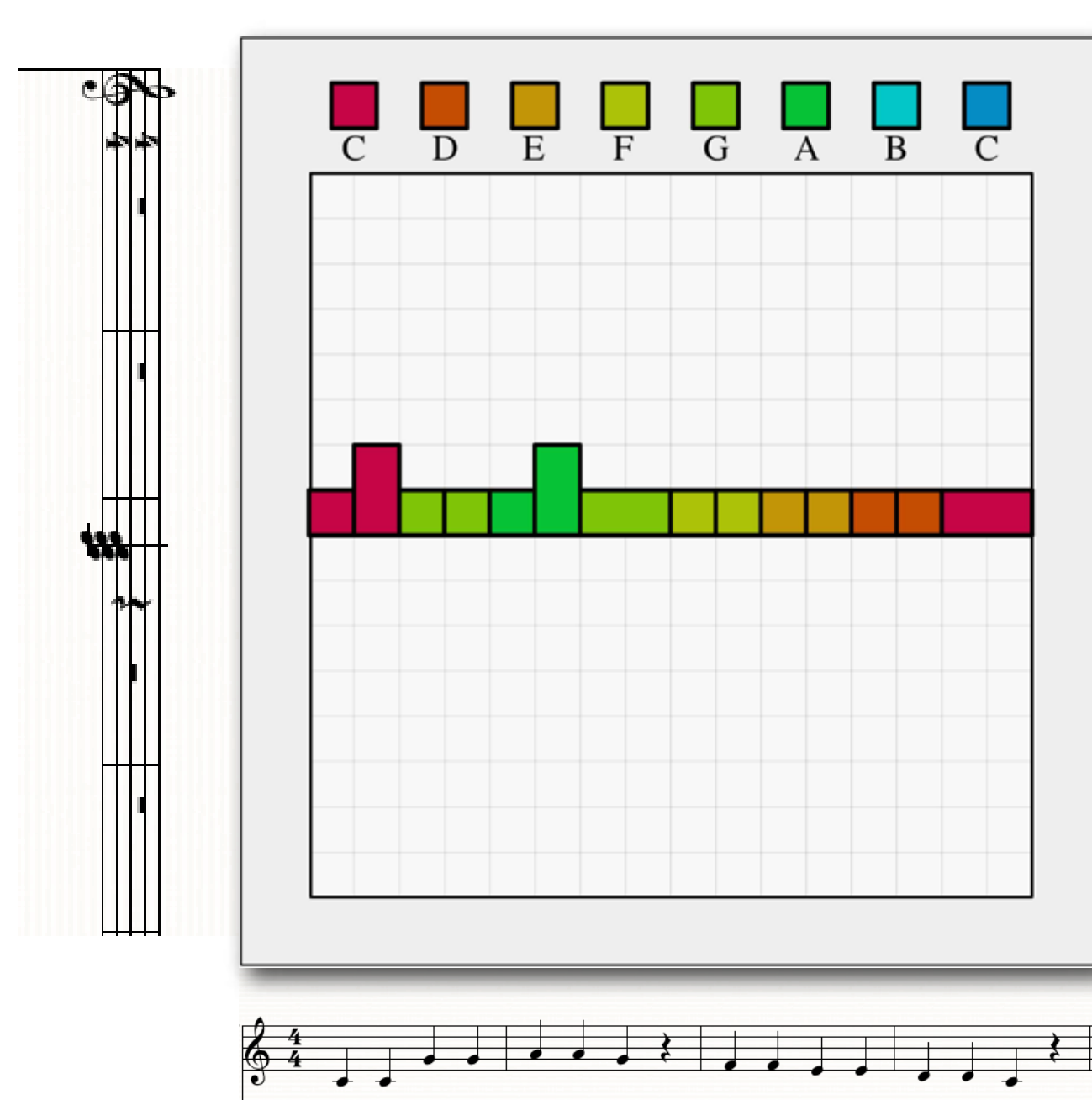
Bach Blocks also encourages harmonic exploration. Blocks in the same column (or row) are played simultaneously when a tune is generated along the x-axis (or y-axis). In this way the rhythm from one tune becomes the harmony of the other, and vice versa. (See the diagram on the left.)



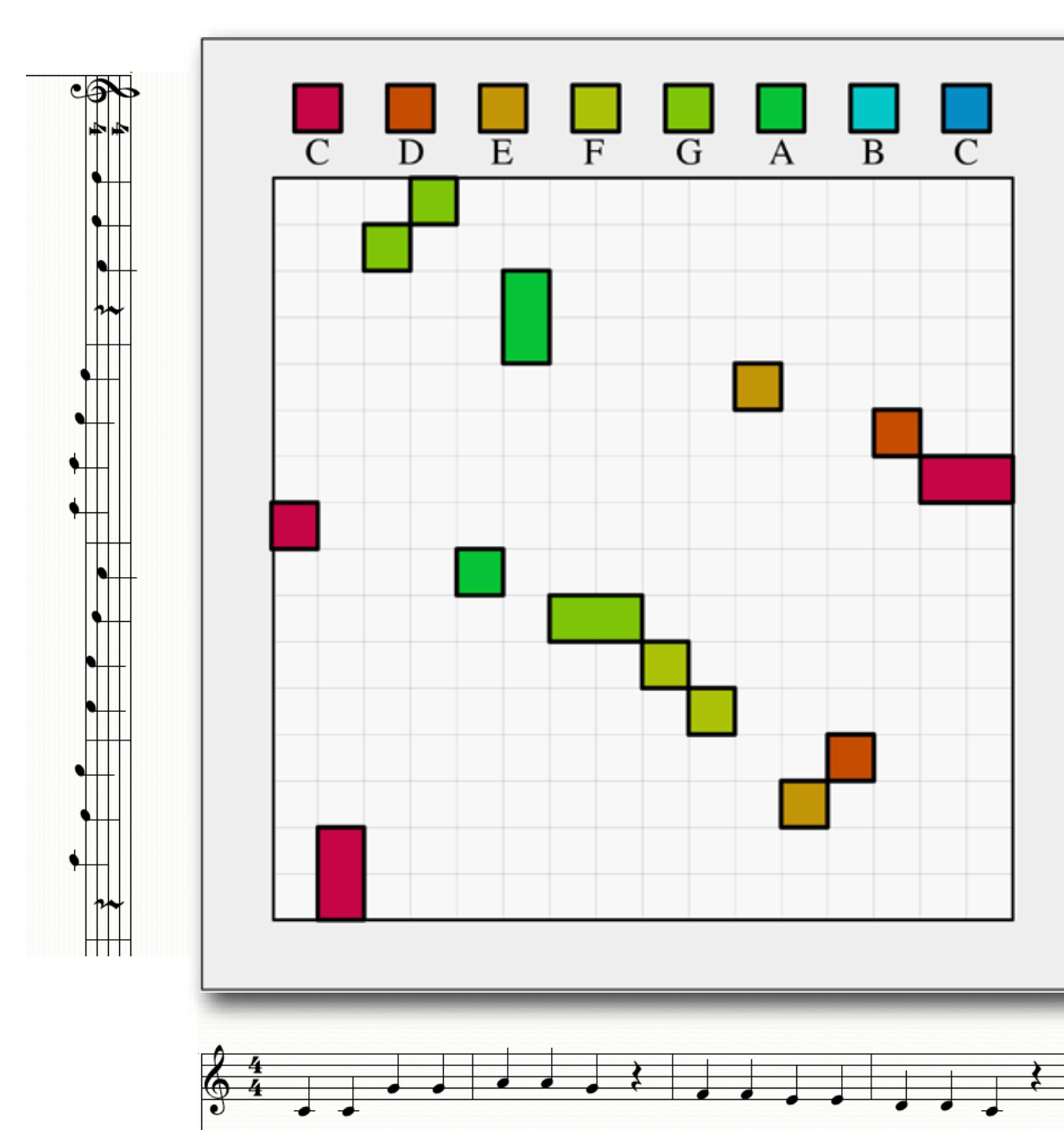
Carnegie Mellon



(A) Twinkle, Twinkle, Little Star arranged to play from left to right.



(B) Only moving blocks up or down maintains original tune and creates new Twinkle Remix.



(C) Moving blocks sideways "erases" original Twinkle, Twinkle leaving only the Remix.

