We model the display as springs on a net. Each node $Z_{i,j}(t)$ can move up or down, and four tiny coupling springs pull on its nearest neighbours. Together they obey the damped two-dimensional wave equation

$$\frac{\partial^2 Z_{i,j}}{\partial t^2} = c^2 \nabla Z_{i,j} - \gamma \frac{\partial Z_{i,j}}{\partial t} \tag{1}$$

By simply removing selected coupling springs we carve out boundaries, so any outline (heart, body pose, etc.) can sculpt the motion. In this piece a heart-shaped "muscle" sits at centre; it bends, reflects and gently absorbs passing ripples.

The springs are externally excited by any signal source, e.g. a microphone or plugged-in instrument.

This piece is designed to be interactive. For now, we present a recorded video of a live interaction, but we hope to install the fully interactive version during the exhibition month.

You are welcome to install the software on your own machine via the GitHub repository linked below. If you encounter any issues, feel free to raise an issue or contact us.

`https://github.com/EternalGoldenBraid/Ripples`