

Project n°1: Dancing screens

Proposed by:

Foldaway Haptics

Company description:

FOLDAWAY is innovating the field of robotics with the use origami micromachining, a new manufacturing technique allowing to miniaturize and streamline the production of the complex mechanical assemblies found in robots. As a result, FOLDAWAY robots can be manufactured by cutting and folding without resorting to complex and time-consuming assembly procedures. FOLDAWAY robots find application in different fields, from haptic feedback to 3D positioning.

Web: <http://www.foldaway-haptics.com>

Youtube: <https://www.youtube.com/channel/UCx4v3QiMSk67ZnWpgYiPH1Q>

Project description:

At FOLDAWAY haptics we are developing a new generation of interactive multi-screen display. A FOLDAWAY origami robot under each screen can control its height and inclination thus creating coordinated motion patterns within the display. We aim to combine images and movies played on the screens with the 3D motions of the individual screens to create appealing visual effects for the advertisement market.

Project proposal:

The goal of this project is to combine 9 FOLDAWAY robots and 9 screens to create a 3x3 display with moving screens.

- 1) The candidates will integrate an existing FOLDAWAY robot with a small 3-5 inches screen and screen controller (Raspberry Pi).
- 2) The candidates will control the 9 robots and screens to play a synchronous video and motion pattern.

The project requires familiarity with basic electronic knowledge, and programming skills. Experience with Raspberry Pi is a plus.

- 80% programming (40% robot control + 40% multiscreen video management (Piwall))
- 10% electronic integration
- 10% mechanical design and assembly