Sun-sensitive Origami Blind

Summer Semester 2017

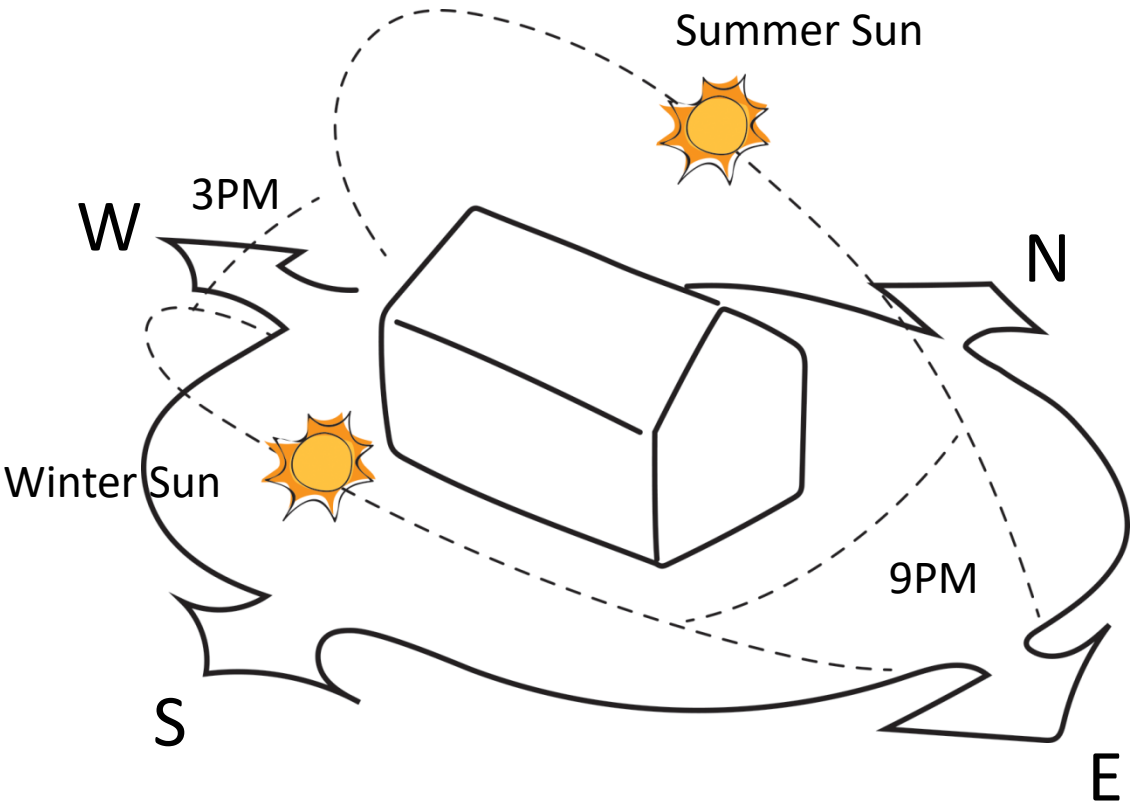
Interdisciplinary International Interface Design Master Class

Prof. Dr. Jens Geelhaar

Presented by: Chananthorn Vinitwatanakhun (117604)

M. Sc. in Media Architecture

Sun Orientation

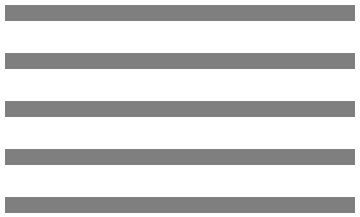


Sun Orientation and Blinding

Low Sun: Horizontal Blinding

Sun Orientation and Blinding

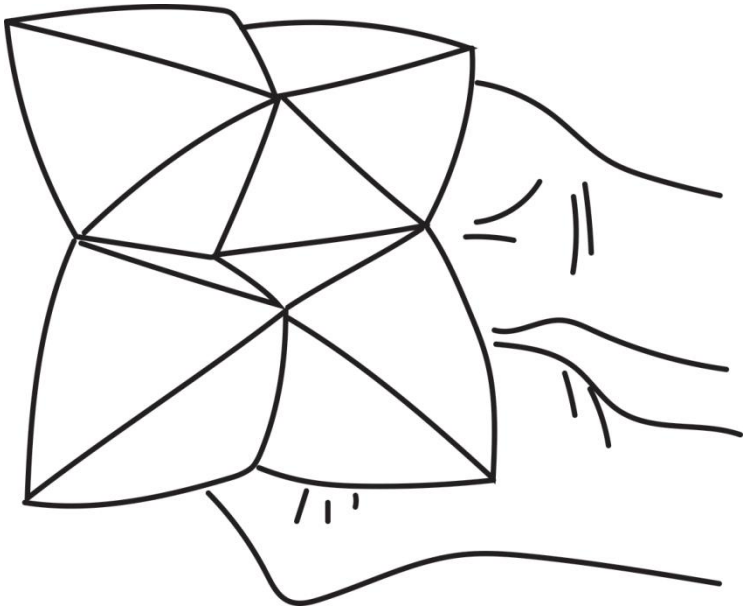
High Sun: Horizontal Blinding



Proposal

- Interface between the Sun and Origami Blind
- Three-dimentional Interaction
- Integrating Media into Architecture

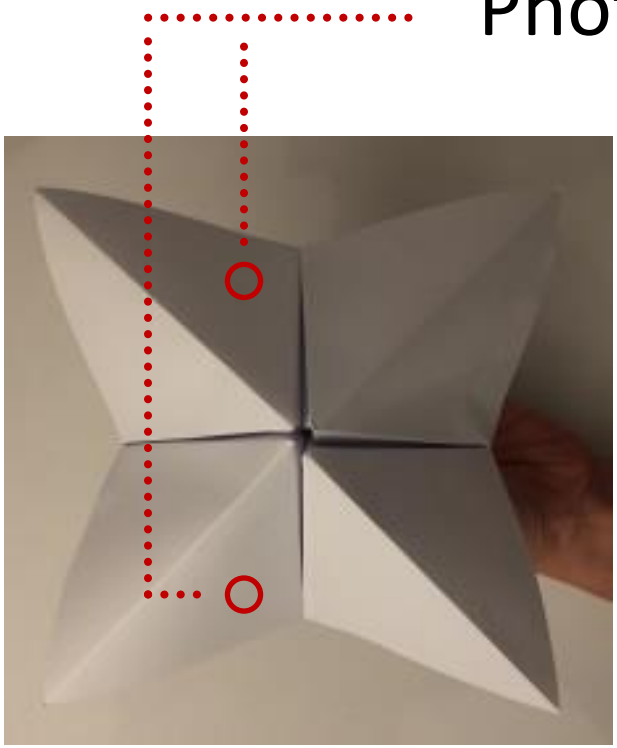
Form Inspiration: Cootie Catcher



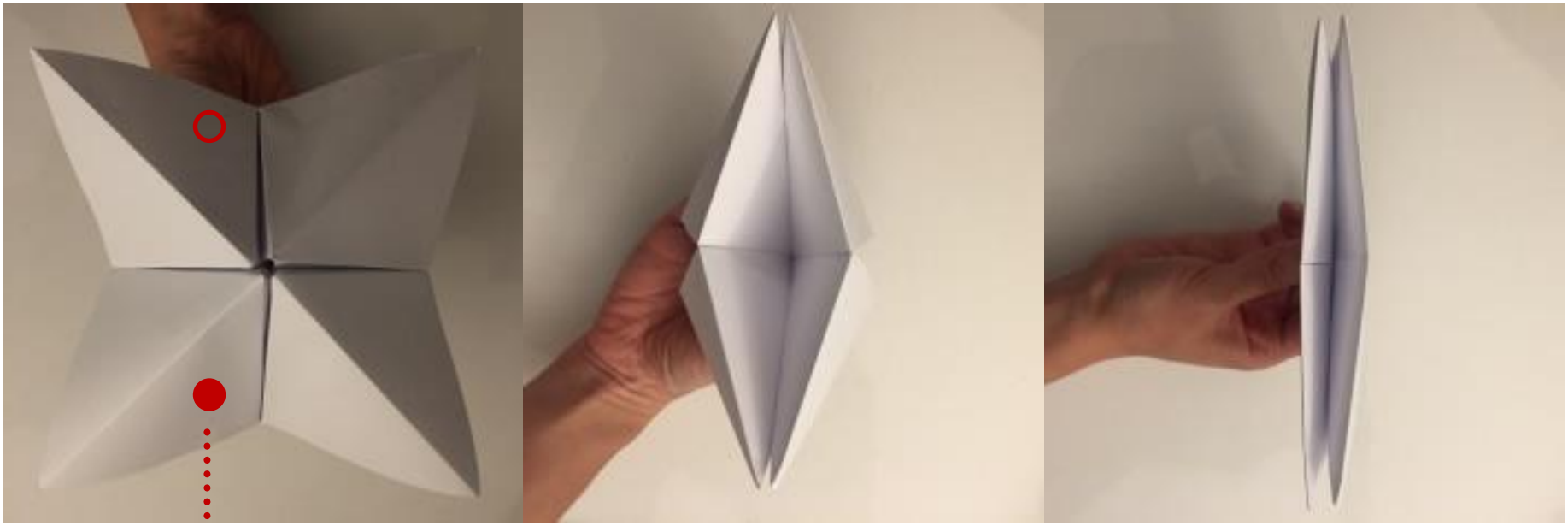
- Fortune-telling as a metaphor of weather forecast
- Flexible movement
- Angled

Movements of Origami: Original

Photoresistors

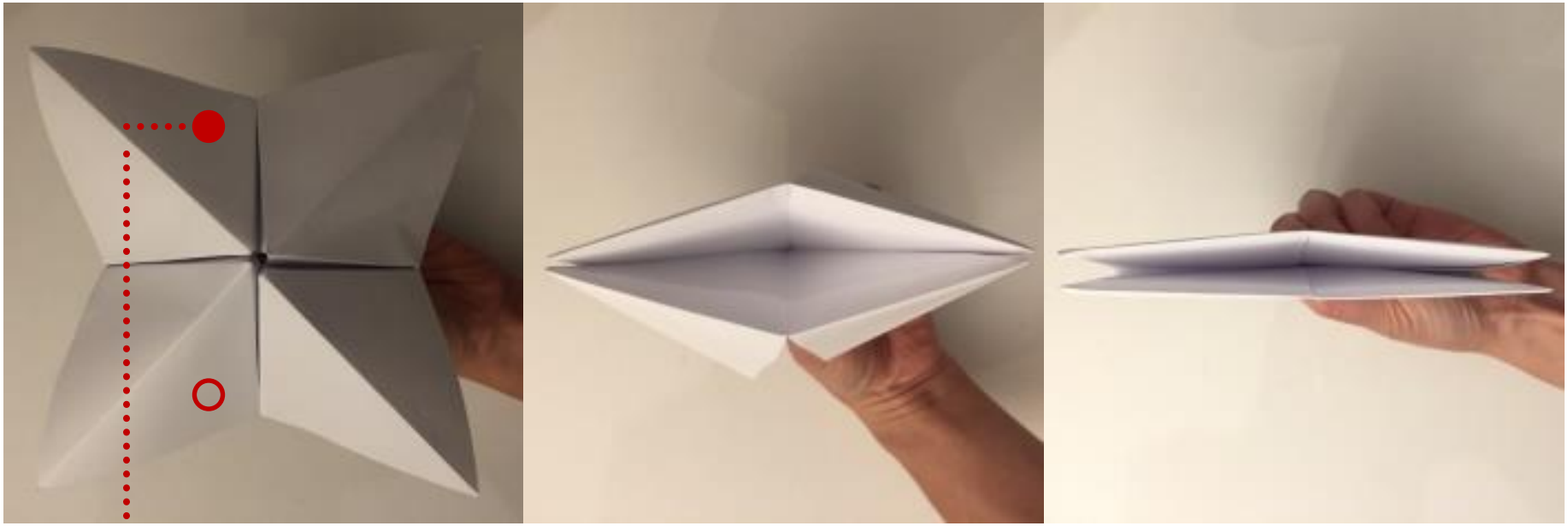


Movements of Origami: Vertical



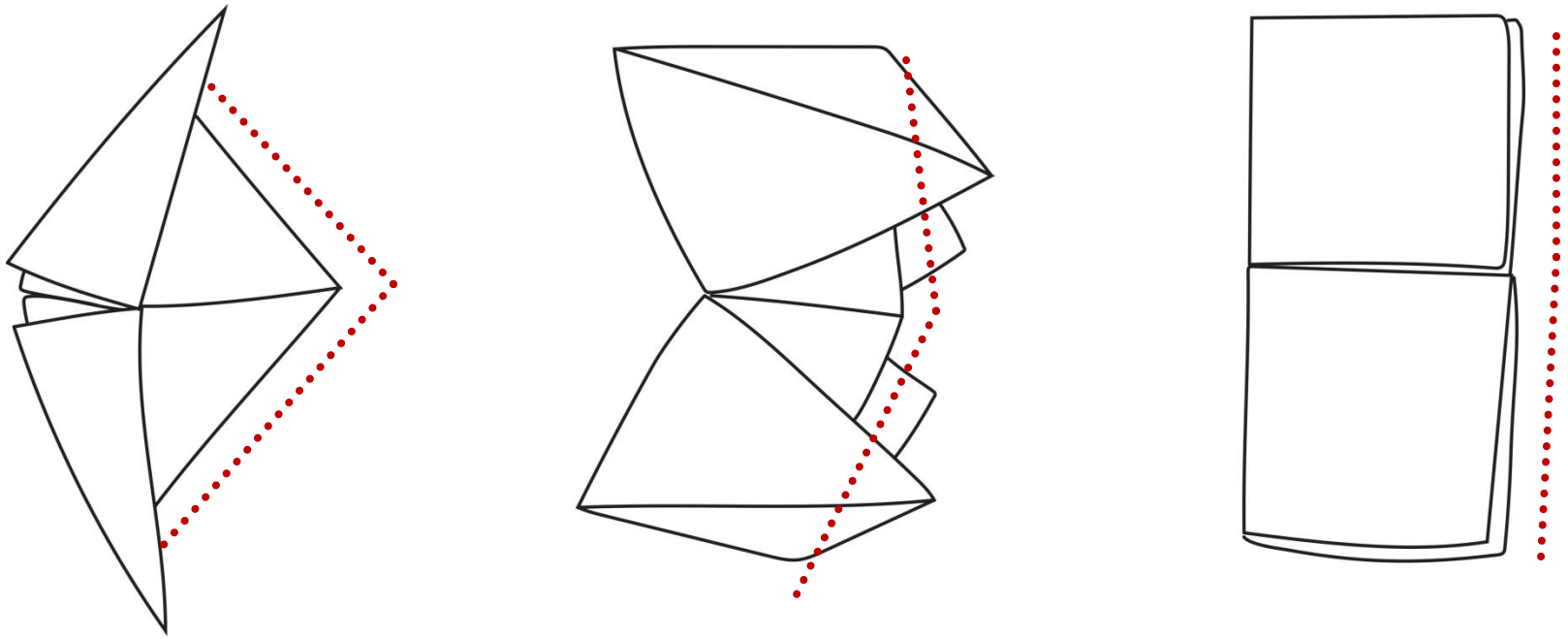
When the Sun is low, the lower Photoresistor will be activated, causing the origami to change to vertical form

Movements of Origami: Horizontal

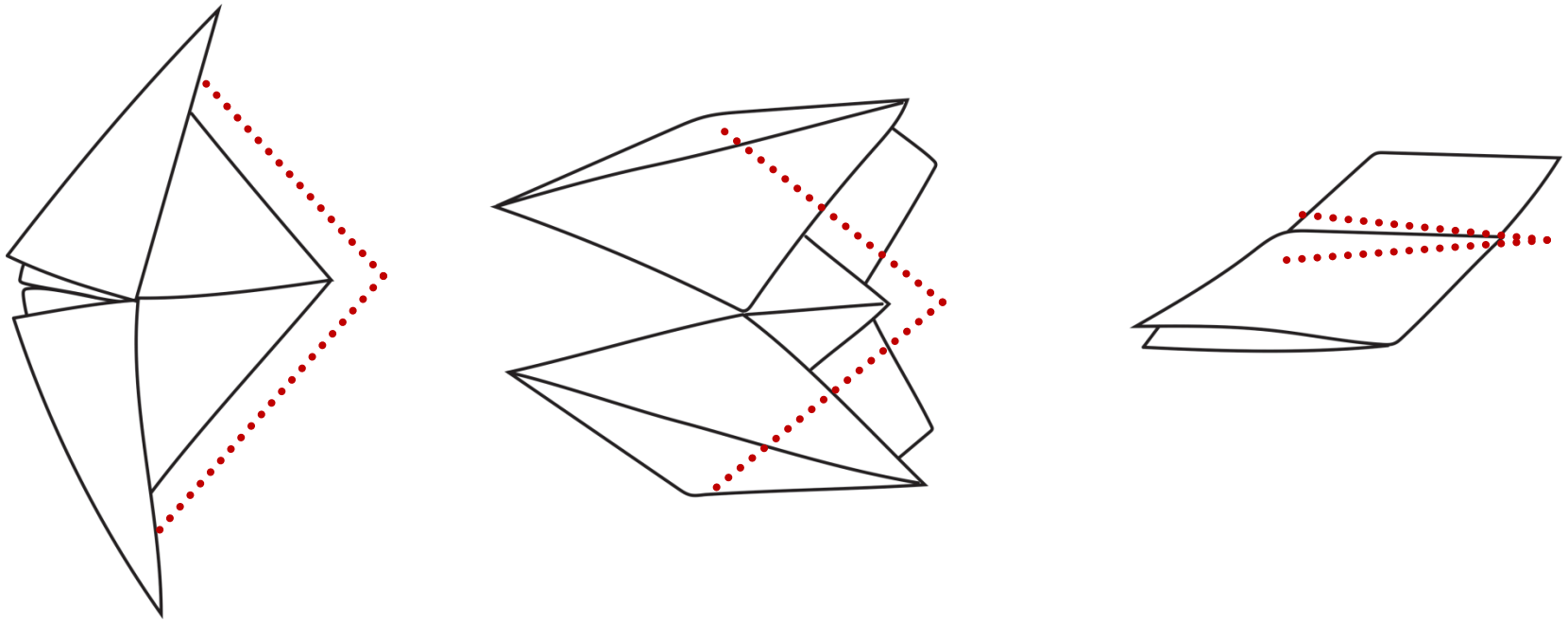


When the Sun is high, the higher Photoresistor will be activated, causing the origami to change to horizontal form

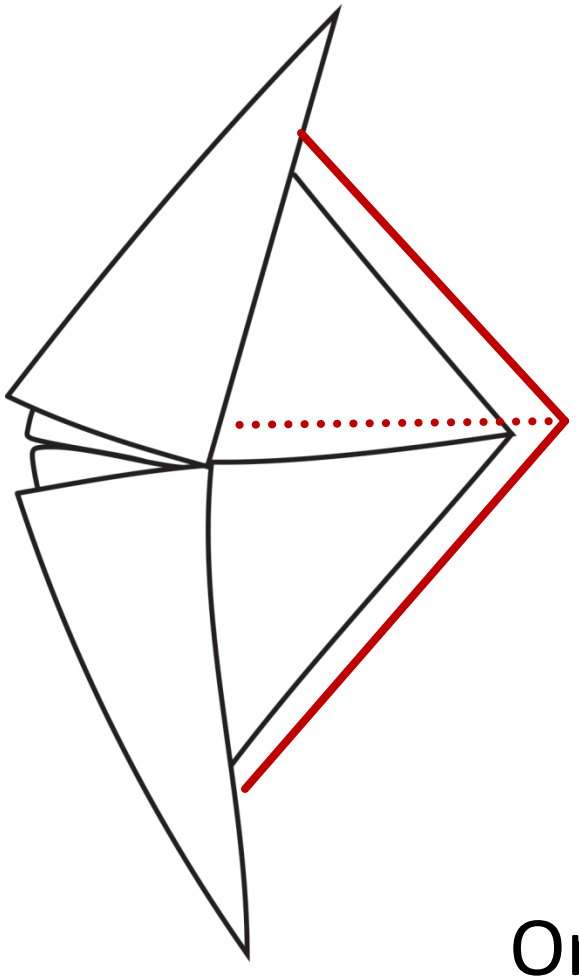
Movements of Origami: Vertical



Movements of Origami: Horizontal

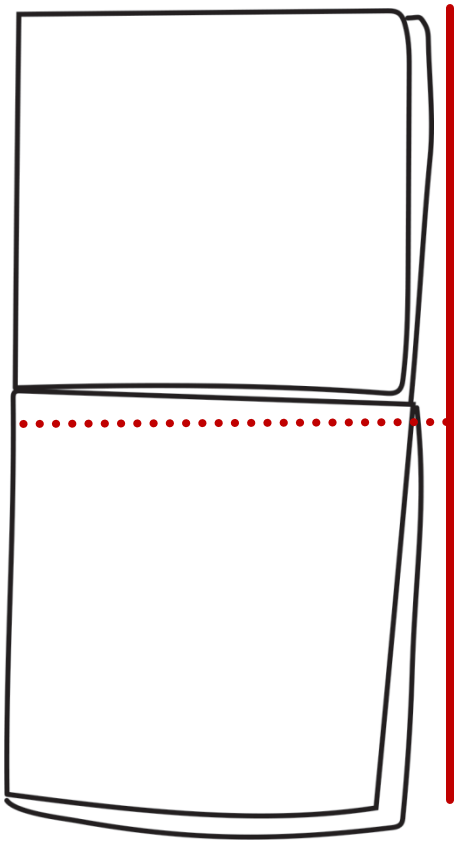


Mechanism: y-axis



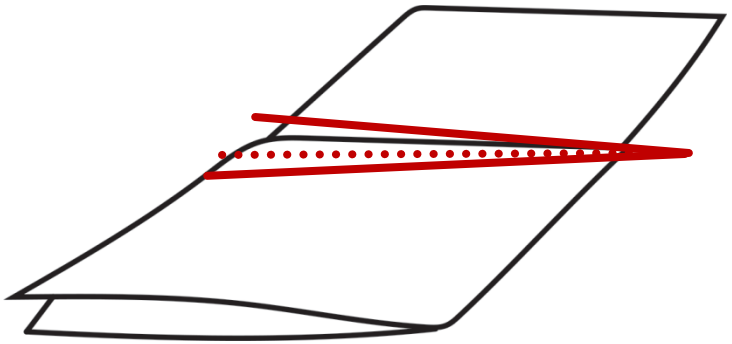
Original Form: 45˚

Mechanism: y-axis



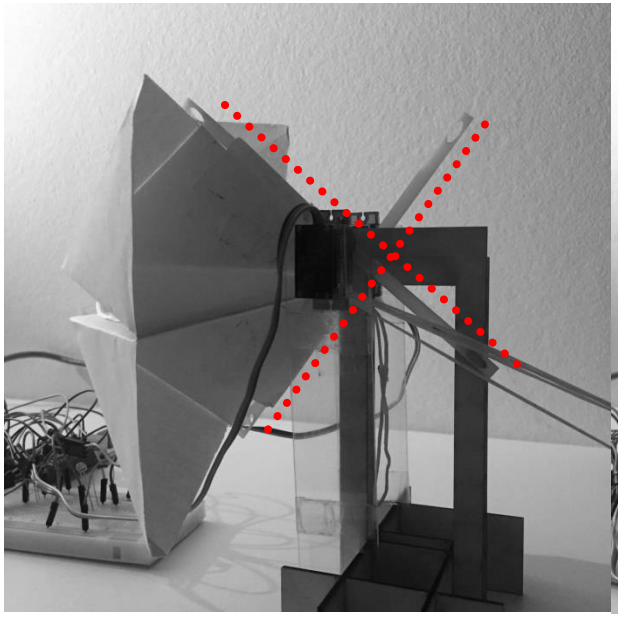
Vertical Form: 90˚

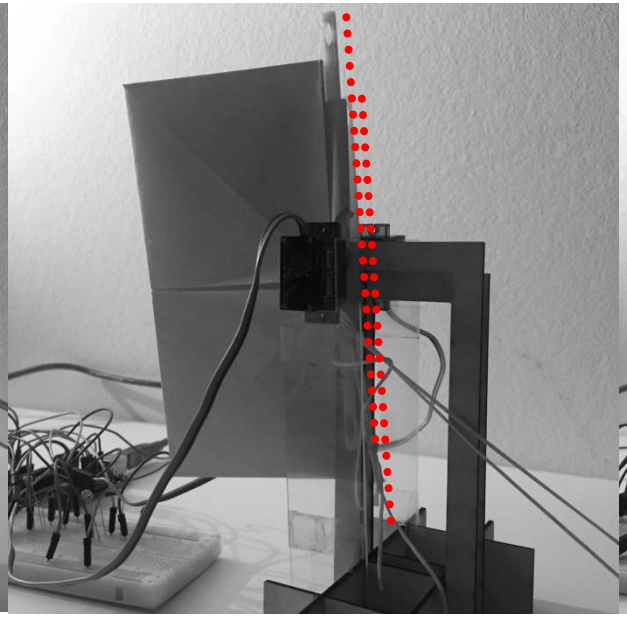
Mechanism: y-axis

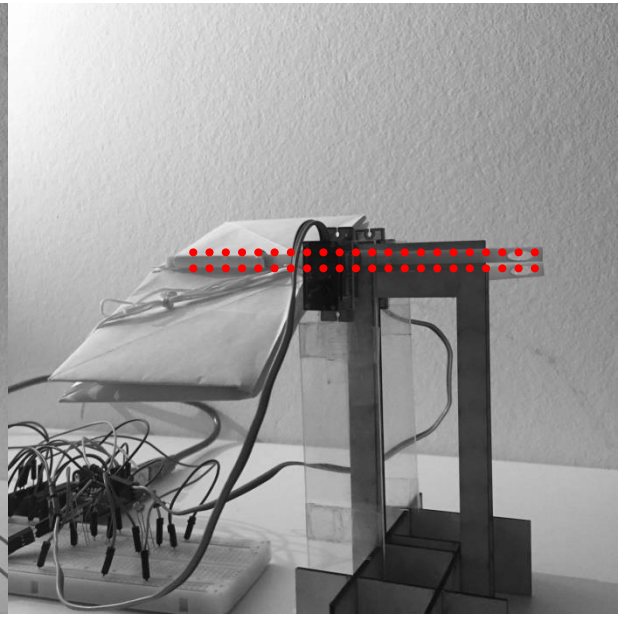


Horizontal Form: 0˚

Mechanism

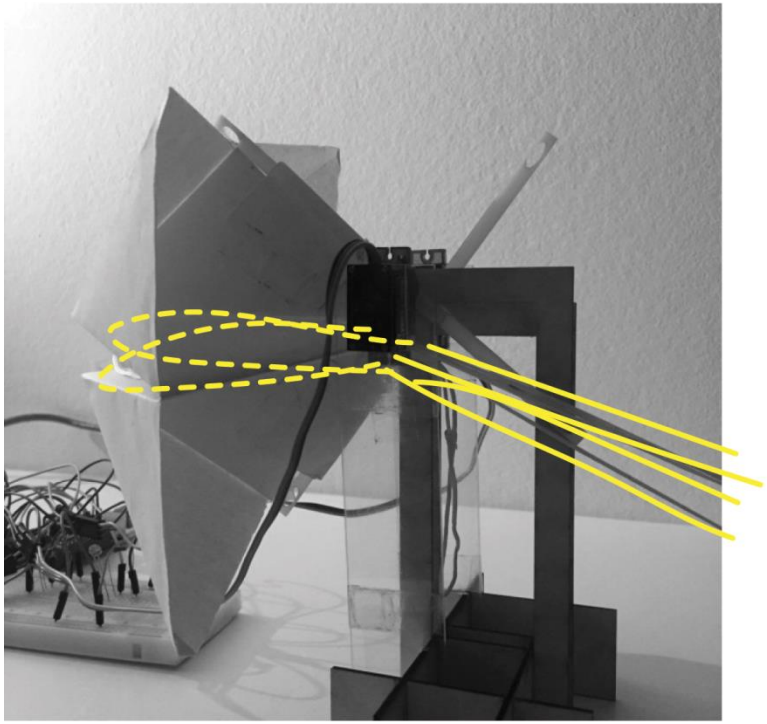




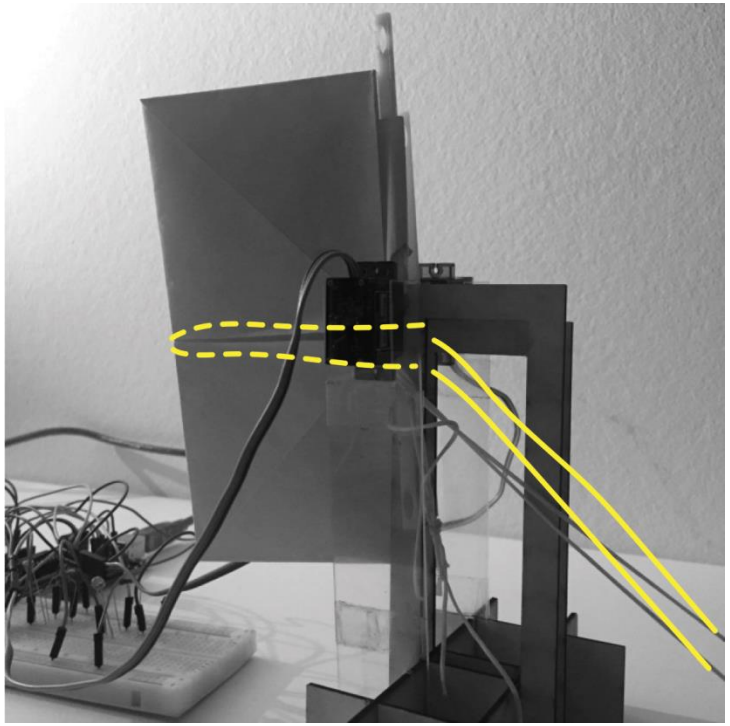


Two supports on y-axis
controlled by two Servo motors

Mechanism: Drawing Strings

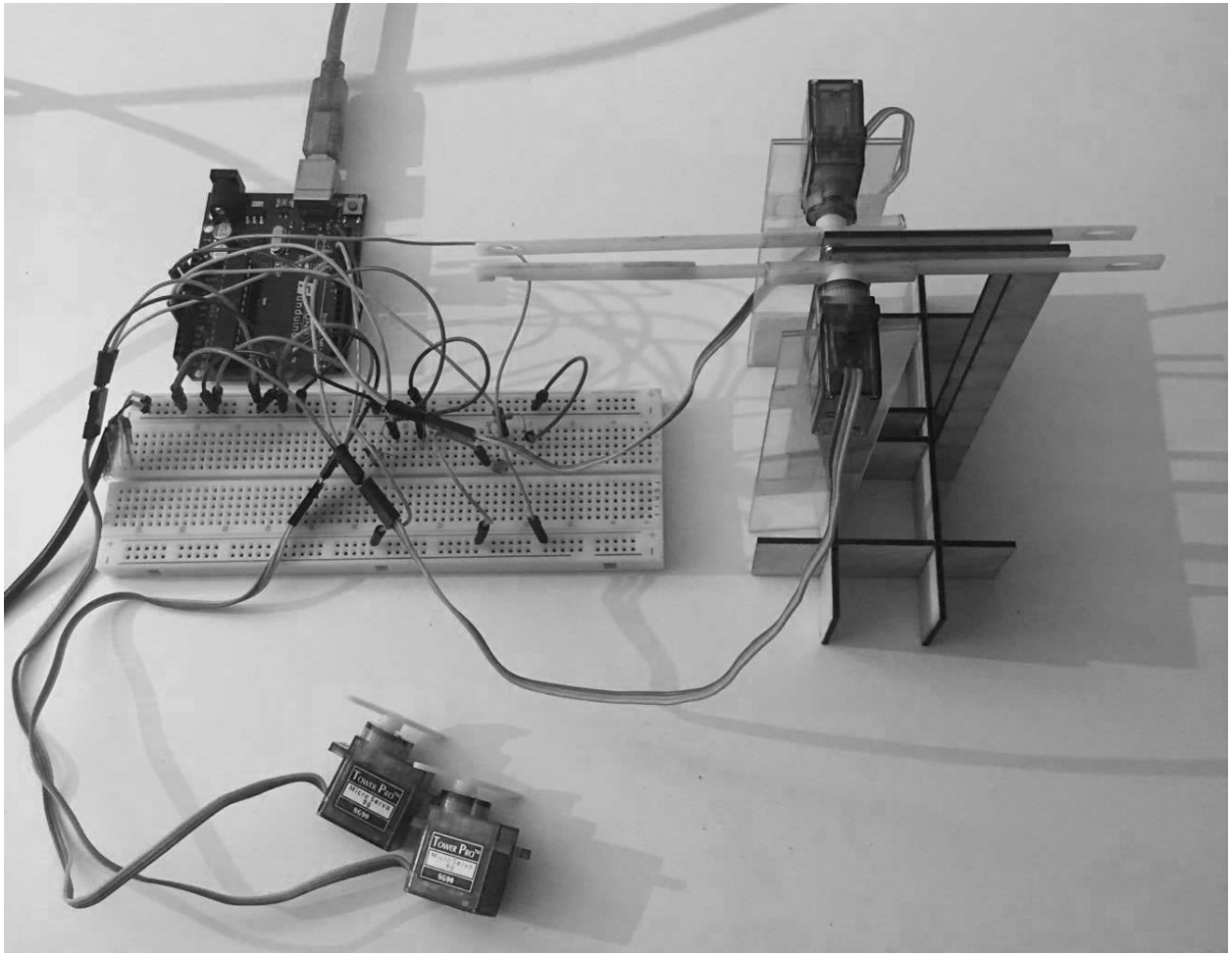


One Servo motor
pulling the corners
of the Original Form

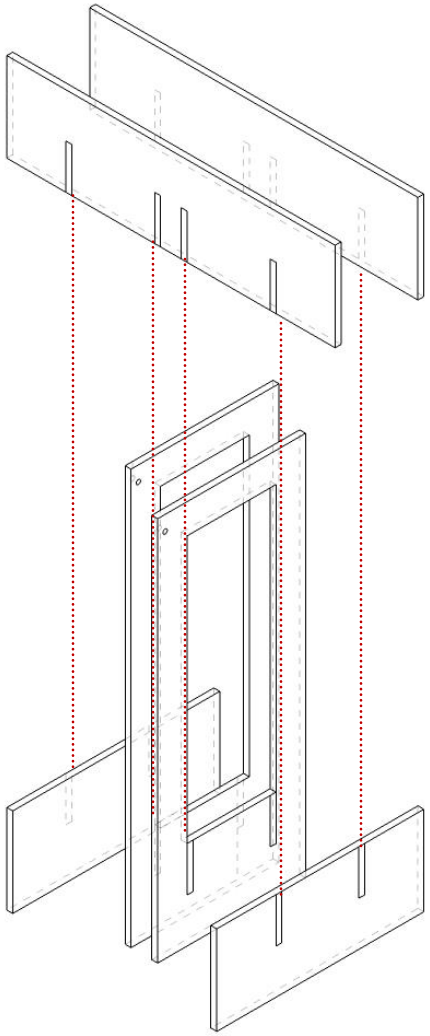


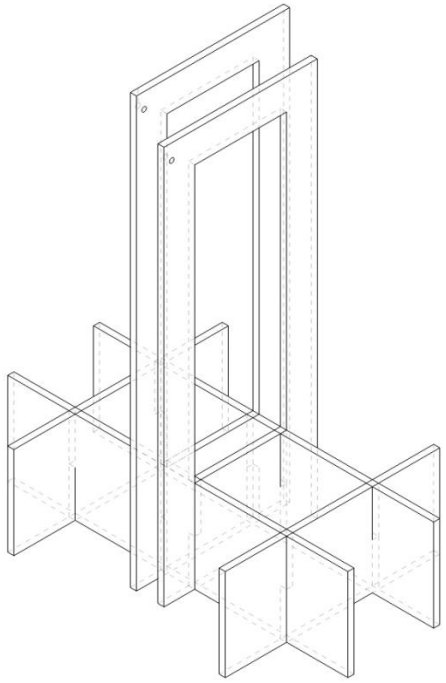
One Servo motor
pulling the sides
of the Vertical Form

Mechanism

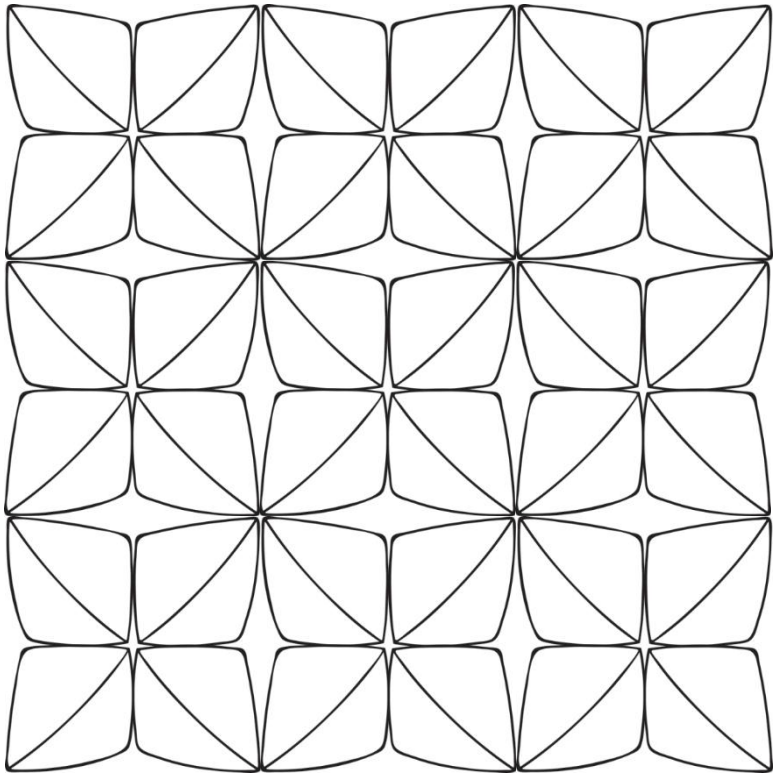


Structure





Modular System



Finally, many origamis will panel
that will complete a blind