

# SECRET BODY

## An Interactive Art Installation

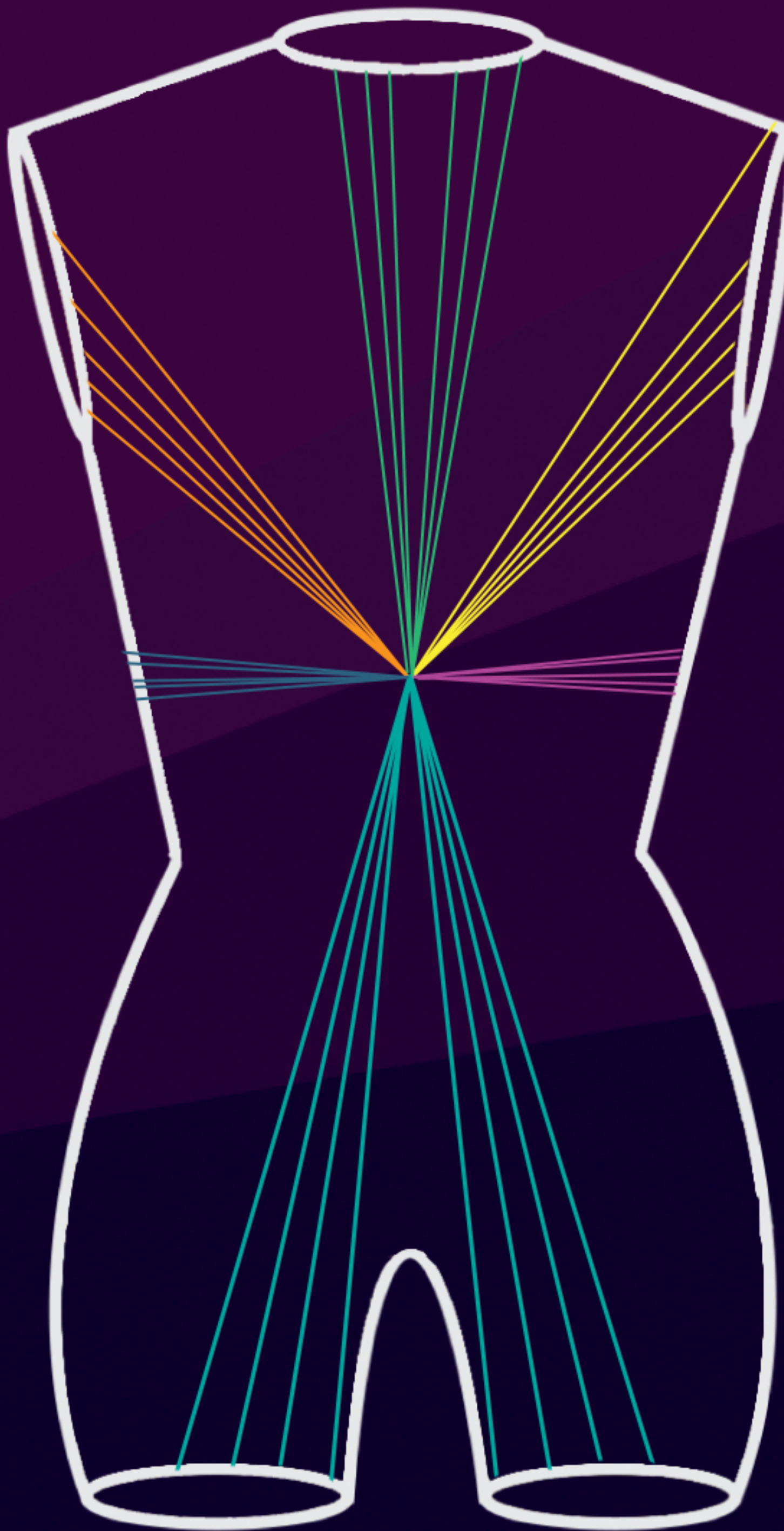
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### ABSTRACT

There exists a section in every person that is tucked away purposefully due to fear of social stigma. SECRET BODY is an interactive art installation that explores themes of stigma and social interaction. The piece attempts to display human emotion through data visualization and measure emotion through affective science methods. The piece uses biometric data to create a light pattern within ten human-shaped models, and uses the same data to create an interactive platform between the piece and the audience.

### MEASURING EMOTION

There are three ways in which emotional responses can potentially be measured – physiological reactivity, self-reports, and overt behavioural actions [Bradley and Lang 1994]. The models' backstories and emotional responses are translated into data to be visualized through RGB LEDs within the models through the three methods. The first method for measuring emotion is through galvanic skin response (GSR) and heart rate sensors. Interviews with ten willing volunteers will be conducted to gather data for the models. As the volunteers tell their stories, they will be attached to GSR and pulse sensors and required to fill out self assessments. (See Fig. 2)



### ALGORITHMS

Each model has a base emotional state (BSE), and a receptivity coefficient (RC). These need to be taken into account, with the participant's emotional state (PES) and the emotional deviance (ED) when we attempt to calculate the emotional state. (See Fig. 3)

$$\text{Emotional State} = \frac{\text{Participant Emotional State} - \text{Base Emotional State}}{\text{Receptivity coefficient} - \text{Emotional Deviance}}$$

Fig 3: Emotional Algorithm

The emotional deviance makes the model more or less receptive depending on interactions. If there is a slight deviance it makes the model much more receptive to emotional stimulus. The formula attempts to capture the difference between the two emotional states, depending on how receptive the model is to map this to a new emotional state.

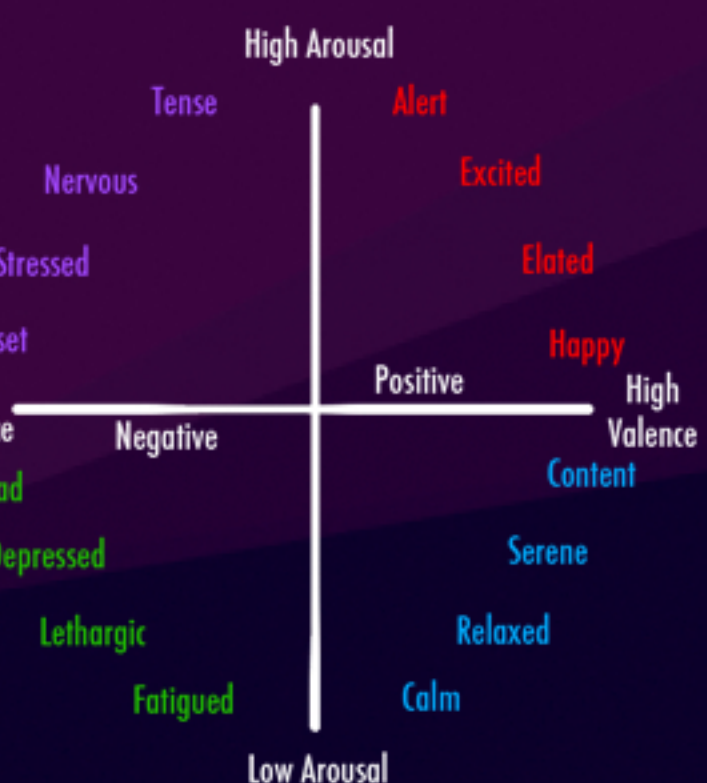


Fig 1: Valence-Arousal Chart



Fig 2: A Modified GEW Chart For Self-Assessment

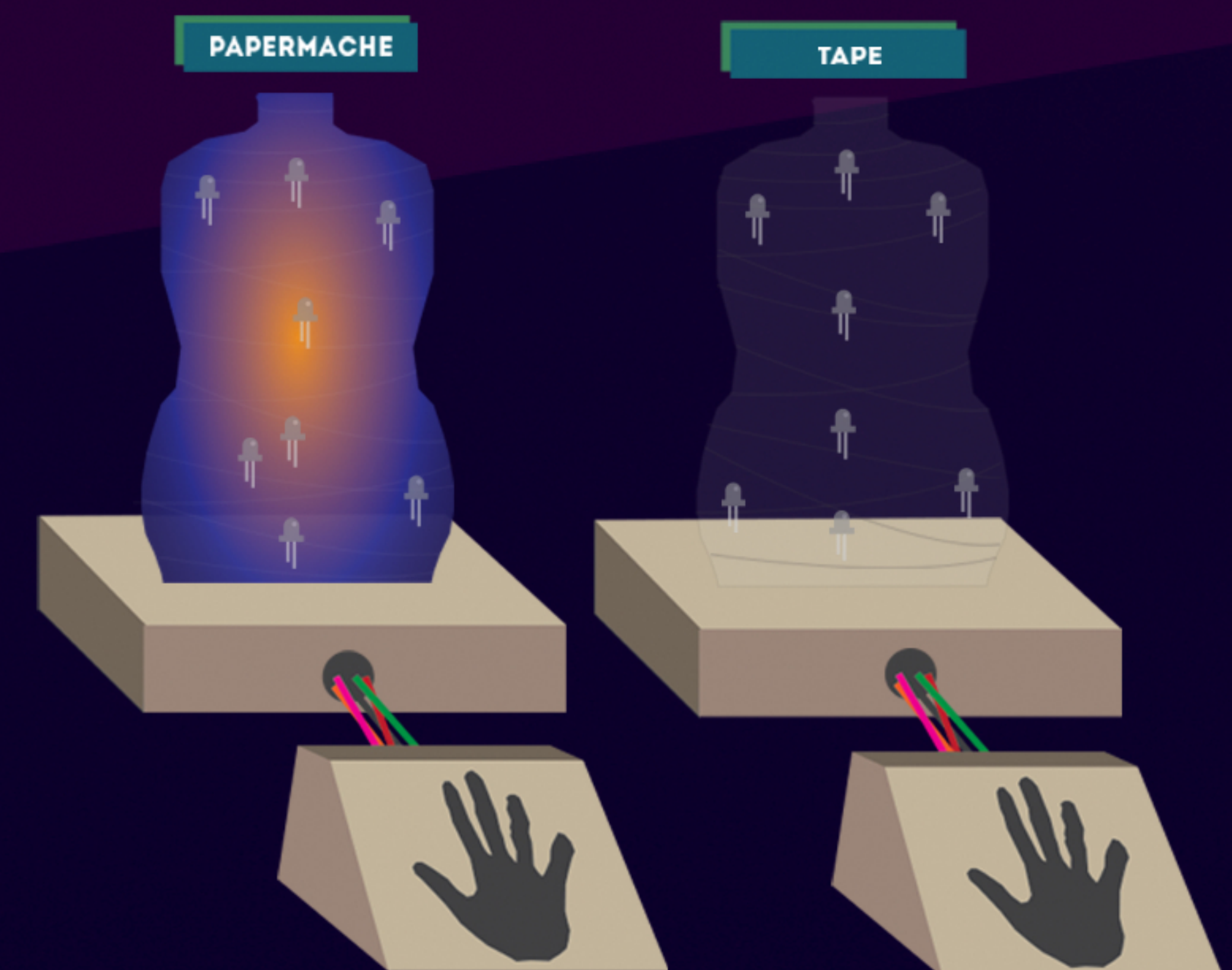


Fig 4: Diagrams Of Completed Models

Using this data, the group will reference the Valence-Arousal chart (See Fig. 1) ("arousal" being the physiological and psychological state of being reactive to stimuli, from low to high arousal, and "valence" being the emotional direction of the corresponding emotion) [Feldman 1995]