



Aalto University  
School of Art and Design

# Kinemata

motion memory enhanced

by Jana Pejoska

Learning Environments research group

<http://kinemata.info/>

<http://legroup.aalto.fi/>

Aalto University, Helsinki 2016





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Kinemata

<http://kinemata.info/>

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- Wearable projects at Aalto University
- Kinemata
  - Background and motivation
  - Wearables at Aalto University
  - Technical overview
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# Background

<http://legroup.aalto.fi/>

**LeGroup, MediaLab,**

**@ the school of Art, design and architecture, Aalto University, Finland**

**8 researchers** with backgrounds in: ICT, robotics, education, pedagogy interaction design, serious gaming, app development

## **JANA PEJOSKA**

- **PhD candidate - AR and Wearables in the context of learning**
- **MA Digital culture, University on Jyväskylä, Finland**
- **Serious / learning games designer**





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# Wearables @ Aalto

## Impulse /Control

*Impulse/Control* is a remote-controlled dance costume setup that gives tactile signals to the dancer. The control boxes trigger vibrating pressure in different parts of the dancers' costumes. These vibrating signals function as a motivating force that invites the dancer to action.

**Designers:**

Liisa Pesonen and Forrest Oliphant  
and Hannele Romppanen



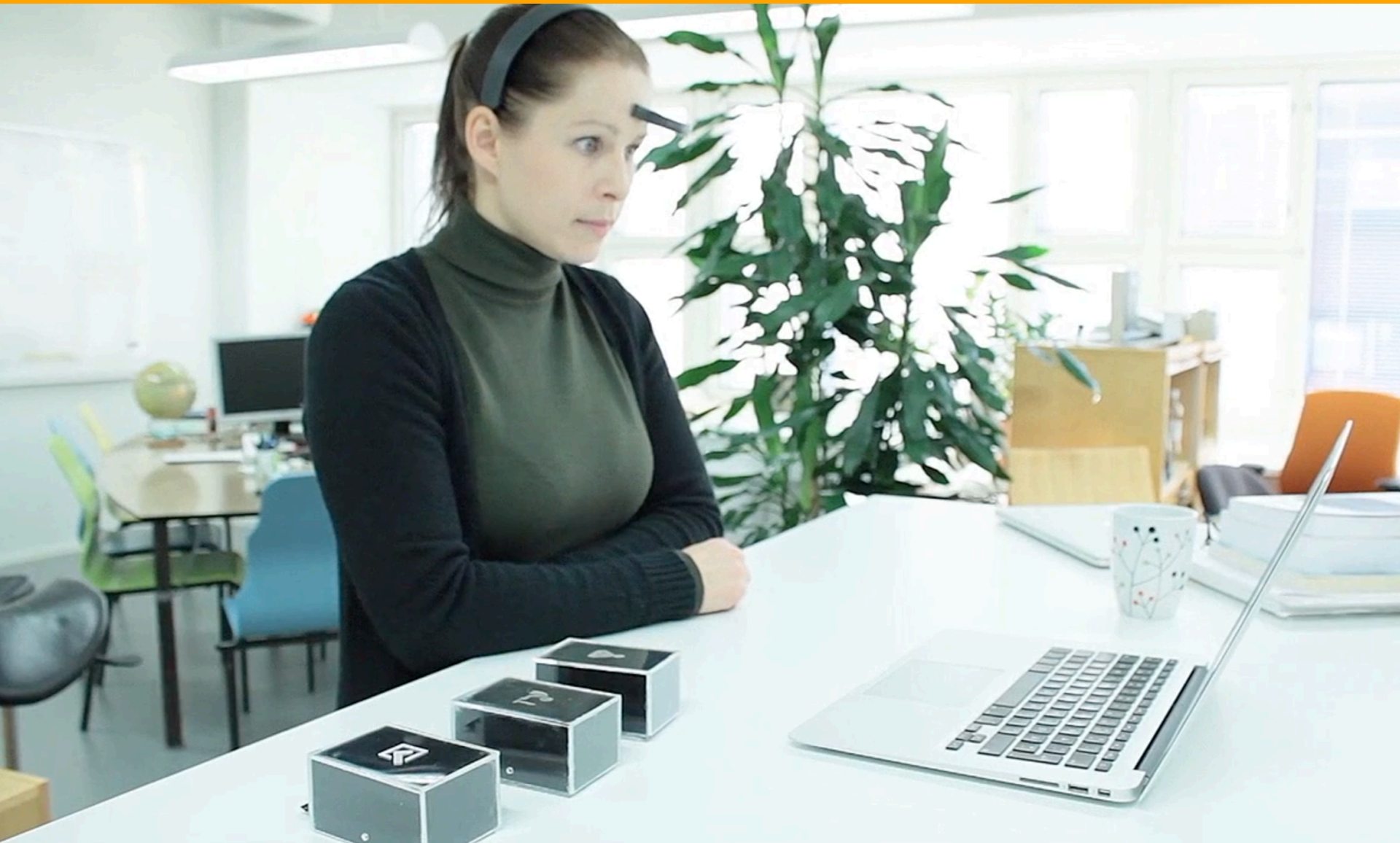




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# Wearables @ Aalto

FEELER – Eva Durrall 2015



## feeler

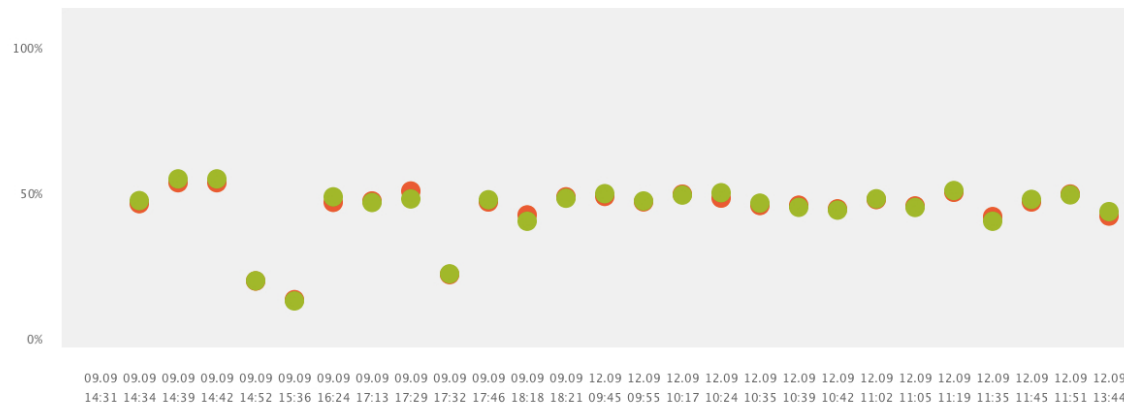
How you feel affects how you learn



Uncover your mind with Feeler and find out when you are attentive and relaxed

## Review

## Your activity



Averaged values of the EEG data and your personal experience

# Wearables@Aalto

FEELER – Eva Durall 2015







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# Wearables @ Aalto

BRAINWISE – Metti Nordin and  
Valtteri Wikström 2011



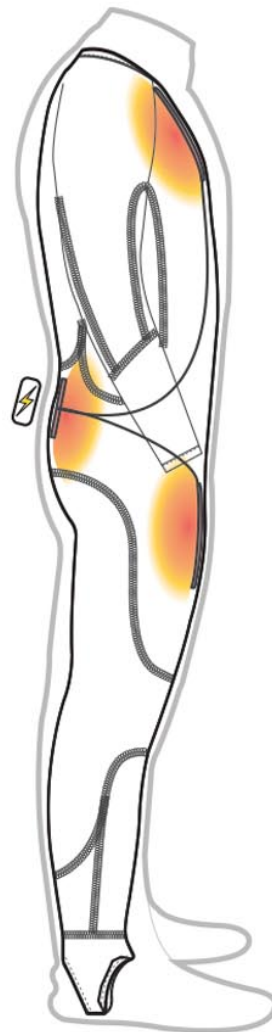
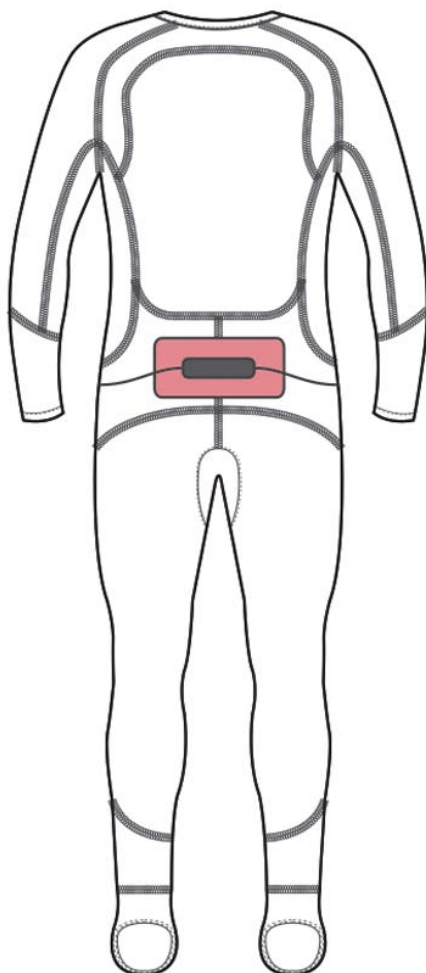
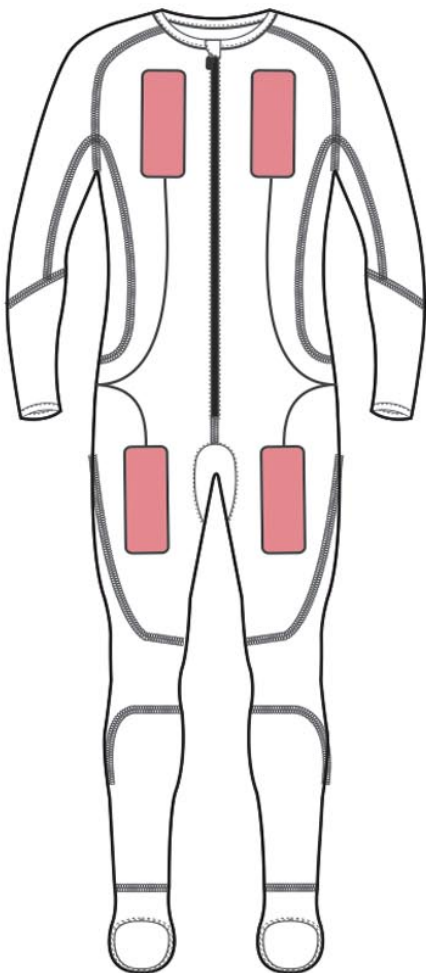




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# Wearables@Aalto

AVANTO - Aino Aarnio-Juurinen  
and Visa Kupias 2014





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# Wearables @ Aalto

HONEST SHOES - YounJung Kwak  
and Tiia Suomalainen 2014

## Honest Shoes

*Honest shoes* assist a person to improve presentation skills. The integrated electronics in the shoes allow for recognising such patterns of a person's behaviour that are apparent signs of nervousness. By recognising these and giving feedback to the users the shoes foster presentation confidence.

### Designers:

YounJung Kwak and Tiia Suomalainen  
Jussi Wäkeä (teacher)





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# Wearables @ Aalto

KINEMATA – Jana Pejoska and  
Johannes Neumeier 2015



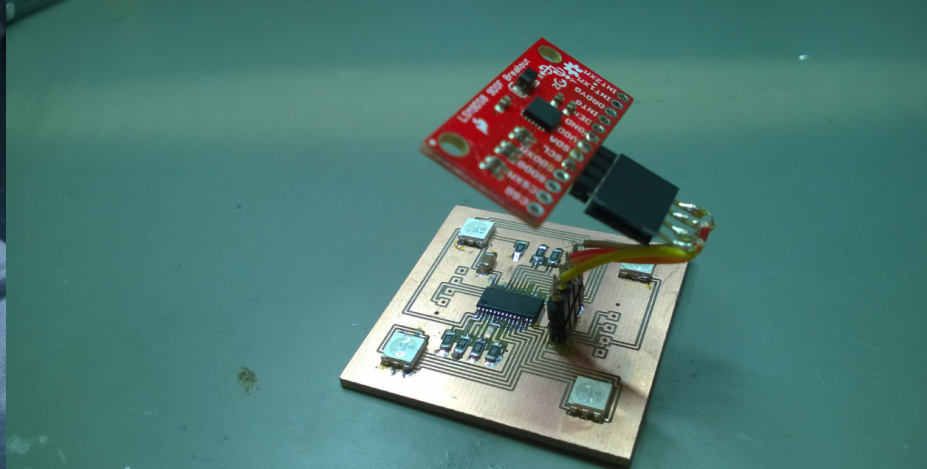
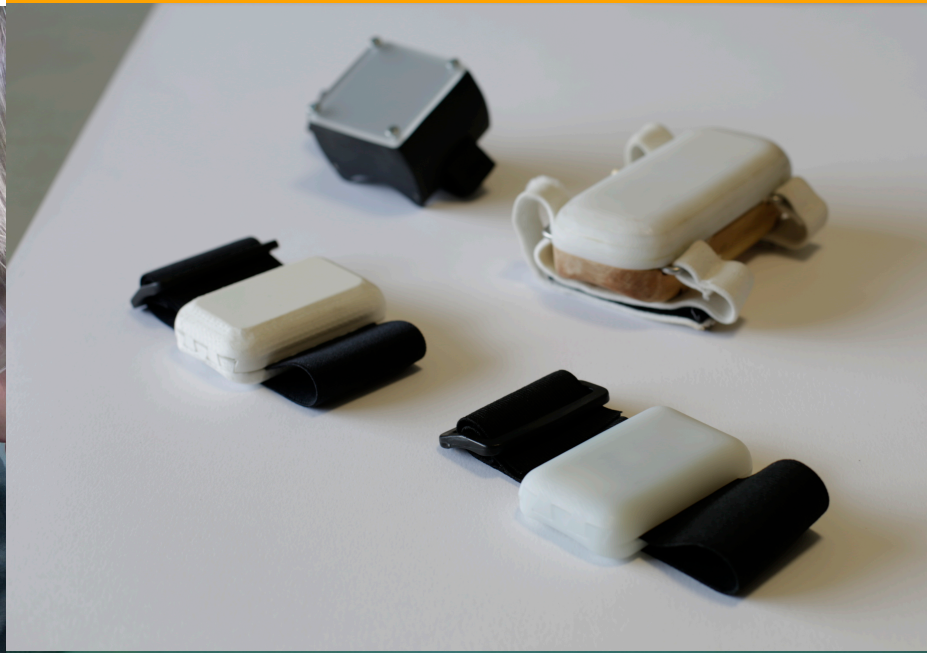
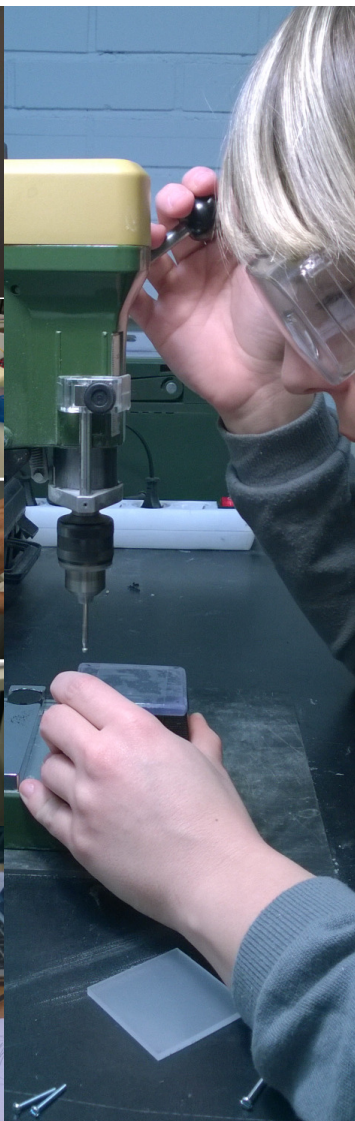
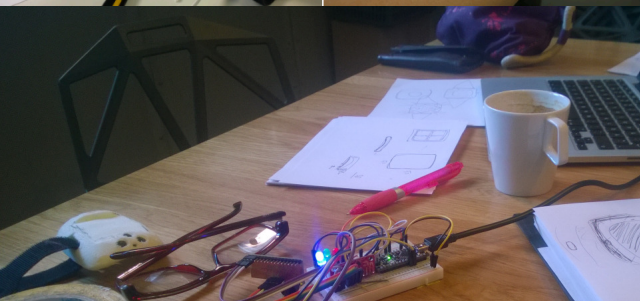
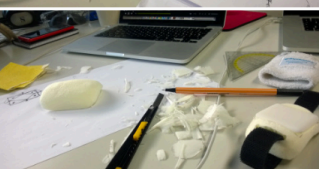




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## KINEMATA – Jana Pejoska and Johannes Neumeier 2015







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EXERCISE NO.1



EXERCISE NO.2



EXERCISE NO.3



EXERCISE NO.4



EXERCISE NO.5

Figure 4. Physical therapy exercises.



Figure 5. Beginner testing Kinemata while performing archery.

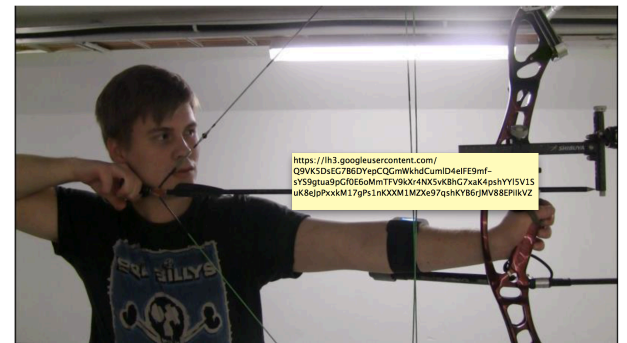


Figure 6. Professional archer, standing with the bow ready to shoot.

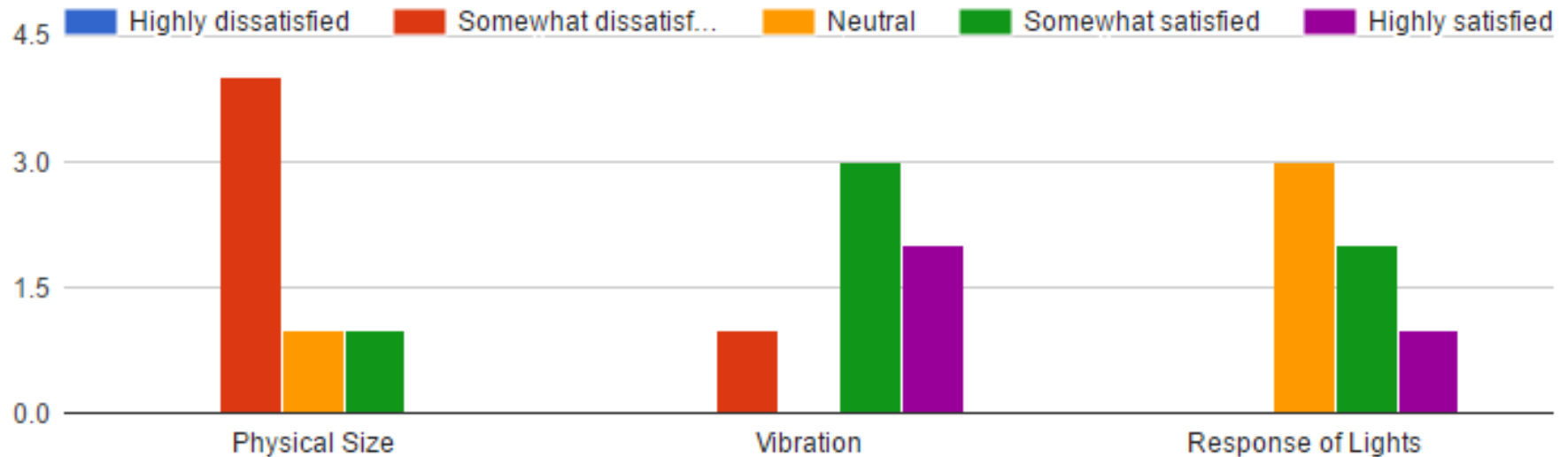




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# The future of Wearables





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# Thank you!

I'd love to hear from you  
**Jana.pejoska@aalto.fi**





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# **Wearables @ Aalto**

**KINEMATA – Jana Pejoska and  
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