# Live Sentiment Annotation of Movies via Arduino and a Slider Thomas Schmidt & David Halbhuber **Universität Regensburg** Media Informatics Group, University of Regensburg Digital Humanities in the Nordic Countries 5<sup>th</sup> Conference (DHN 2020) – Late Breaking Poster Contact: Thomas.Schmidt@ur.de

### **1 Motivation & Background**



**Annotations** of sentiment are important for machine learning based sentiment analysis

#### Current approaches:

DER PRINZ

Der denkende Künstler ist noch eins so viel wert. – Aber das Original, sagen Sie, fand dem ungeachtet

However textual sentiment annotation is

- Tedious and time consuming
- Challenging
- Prone to the subjectivity of annotators

Sentiments and emotions are an important aspect for the analysis and understanding of **movies** and narrative art in general

Differentiated polarity						
Negative	Positive	Neutral	Mixed	Uncertain	Other	
		x				

ID	Subtitle	Annotation
1	The Tesseract has awakened	0
2	It is on a little world. A human world.	-3
3	They would wield ist power,	2

But our ally knows its workings as they

Annotation of **text** e.g. speeches or subtitles

Neglects the multimodality of the medium

We argue that live sentiment annotation while watching the movie is

- Easier and more fun
- More intuitive
- Inclusive of all modalities

## **2** Live Sentiment Annotation



Arduino (blue) connected to a slider with integrated potentiometer (red)





#### Prototype of the slider casing

# User Interface of the live application

### **3 Feedback**



#### **4 Further Reading**

- Schmidt, T., Burghardt, M., Dennerlein, K. & Wolff, C. (2019). Sentiment Annotation in Lessing's Plays: Towards a Language Resource for Sentiment Analysis on German Literary Texts. In: 2nd Conference on Language, Data and Knowledge (LDK 2019). LDK Posters. Leipzig, Germany.
- Ortloff, A.-M., Güntner, L., Windl, M., Schmidt, T., Kocur, M. & Wolff, C., (2019). SentiBooks: Enhancing Audiobooks via Affective Computing and Smart Light Bulbs. In: Alt, F., Bulling, A. & Döring, T. (Hrsg.), Mensch und Computer 2019 - Tagungsband. New York: ACM. DOI: 10.1145/3340764.3345368

### We are currently conducting first preliminary tests comparing our approach to textual annotation and computational approaches

Feedback: more enjoyable, sentiment rating is easier, no "overthinking" possible

Schmidt, T. & Halbhuber, D. (2020). Live Sentiment Annotation of Movies via Arduino and a Slider. In *Digital Humanities in the Nordic Countries* 5<sup>th</sup> Conference (DHN) 2020). Late Breaking Poster. Riga, Latvia.

- Schmidt, T., Burghardt, M. & Wolff, C. (2019). Towards Multimodal Sentiment Analysis of Historic Plays: A Case Study with Text and Audio for Lessing's Emilia Galotti. In: Proceedings of the DHN (DH in the Nordic Countries) Conference (pp. 405-414) Copenhagen, Denmark.
- Schmidt, T. & Burghardt, M. (2018). An Evaluation of Lexicon-based Sentiment Analysis Techniques for the Plays of Gotthold Ephraim Lessing. In: *Proceedings of the Second Joint* SIGHUM Workshop on Computational Linguistics for Cultural Heritage, Social Sciences, Humanities and Literature (pp. 139-149). Santa Fe, New Mexico: Association for Computational Linguistics.
- Schmidt, T., Burghardt, M. & Dennerlein, K. (2018). Sentiment Annotation of Historic German Plays: An Empirical Study on Annotation Behavior. In: Sandra Kübler, Heike Zinsmeister (eds.), Proceedings of the Workshop on Annotation in Digital Humanities (annDH 2018) (pp. 47-52). Sofia, Bulgaria.



