Recognizing emotions with technology and starting discussions

Research in Emerging Technologies 2017-2018, final paper

Randall Theuns
Amsterdam University of Applied
Sciences
Software Engineering
Amsterdam, The Netherlands
randall.theuns@hva.nl

Max Beije
Amsterdam University of Applied
Sciences
Business IT & Management
Amsterdam, The Netherlands
max.beije@hva.nl

Frank Portengen
Amsterdam University of Applied
Sciences
Business IT & Management
Amsterdam, The Netherlands
frank.portengen@hva.nl

Abstract

According to Waag Society and the Research Group Crossmedia, recent studies have shown that young adults are hard to reach when it comes down to (cultural) heritage. Waag Society is researching how cultural heritage institutions can connect to these groups and how heritage objects can be relevant to (young) people. Both parties believe that a better understanding of the emotions people have, is very important to learn more about the way people value cultural heritage. Therefore, Waag Society and the Research Group Crossmedia asked students of the HvA to design an interactive tool that captures young adults emotions and enables them to discuss these emotions with their peers when looking at (cultural) heritage.

1. Keywords

Facial recognition, prototype, emotions, heritage, discussion, expressions

2. Introduction

During the minor 'Research in Emerging Technologies', we've chosen the project 'Emotions in Heritage' that is commissioned by the Research Group Crossmedia (HvA) and the Waag Society. The Waag Society explores emerging technologies not only related to the internet, but also related to biotechnology and cognitive sciences. Art and culture often plays a central role in our research as well.

Our project involves systematically collecting the different emotions people experience when they perceive (cultural) heritage, and use this information to spark meaningful conversations between different parties by visualizing the different emotions. Cultural heritage could, for example, mean a painting, a building, or even a tradition. Earlier research regarding emotion recognition has already been conducted. However, these researches were mostly conducted from a psychological point of view; what emotions are being expressed and why do young adults express a specific emotion? As such, models to define the emotions already exist. Currently, there is a lack of instrumentation to capture these emotions and allow young adults to openly discuss their emotions regarding heritage.

There are many options available to recognize emotions. For example, facial expression recognition, voice recognition, text recognition, and wireless signals. Initially, we did research regarding these different methods. We found a paper (REFERENCE HERE) which contained the various recognition methods and also included the accuracy with which they were able to recognize emotions. Using these measurements, we made the choice to limit how our project will recognize emotions to the method with the highest accuracy.

3. Methods

Kek2

4. Results

Kek3

5. Discussion

Kek4