Context Awareness

Affective Computing

Larissa Müller

Gliederung

- Einleitung

- Context Awareness

- Interactive Art

- Affective Computing

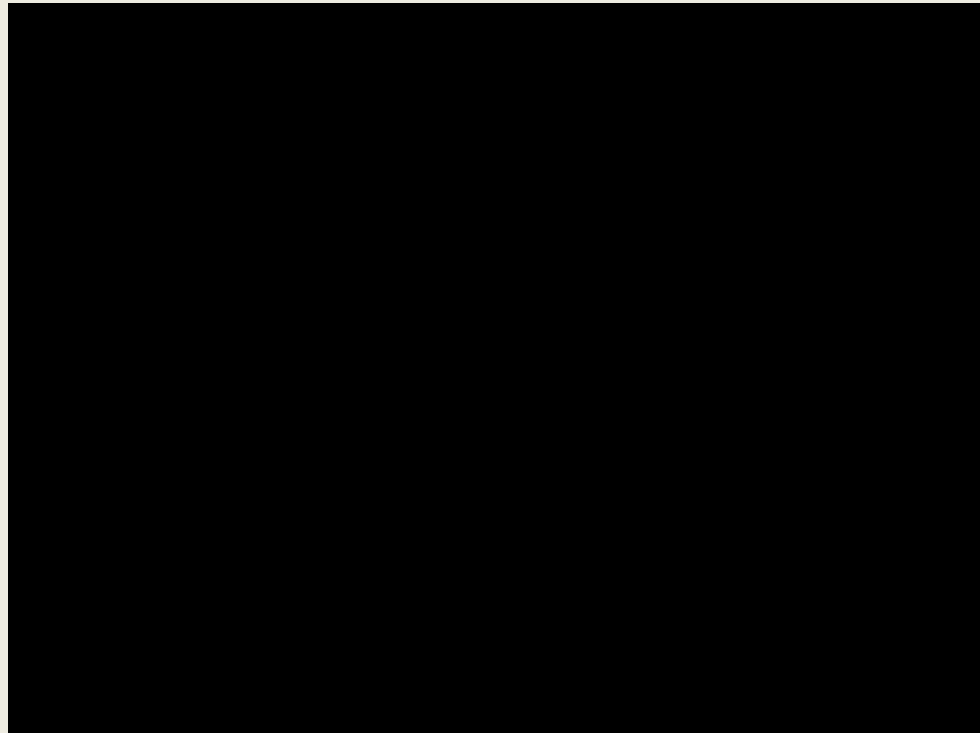- Ausblick

Motivation

[1]

Vorarbeiten

- Bereits bestehende Kooperationen
  - Ambient Awareness
  - Toaster Edwin
  - Intelligent Garnment
  - Bachelorarbeit Svenja Keune & Larissa Müller
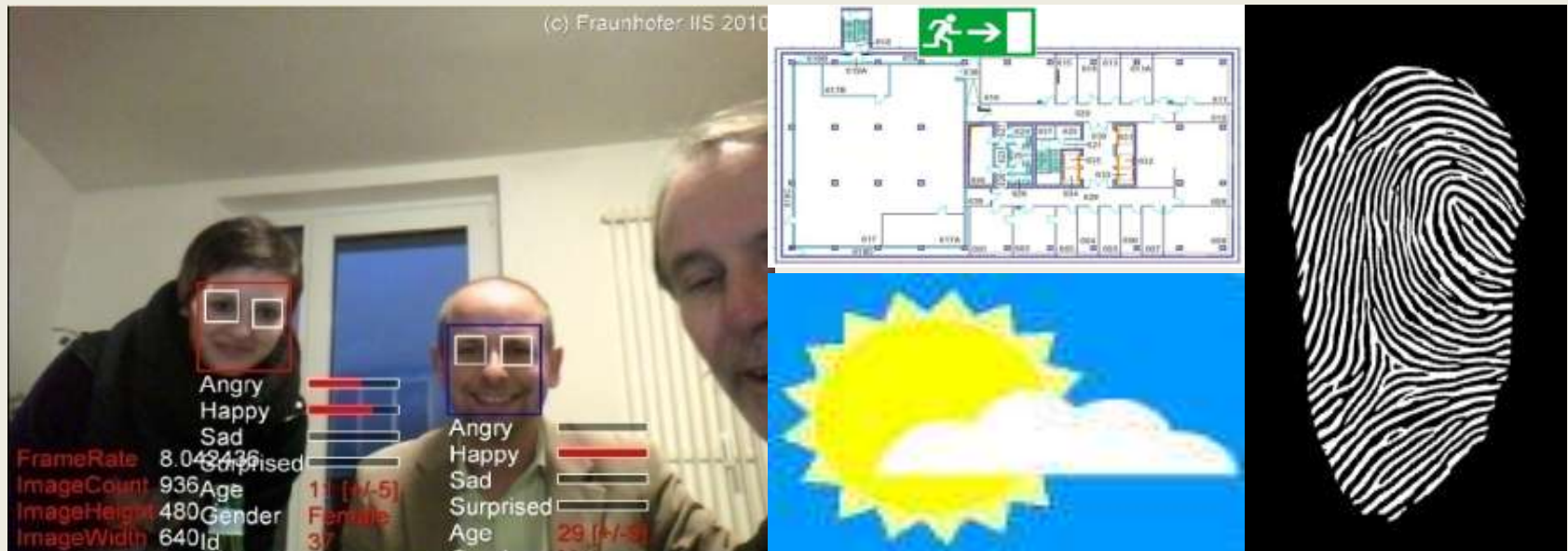 - Schülerkurse

Ziel

- Interaktive Installationen, die
  - Einflüsse aus der Umgebung einbeziehen
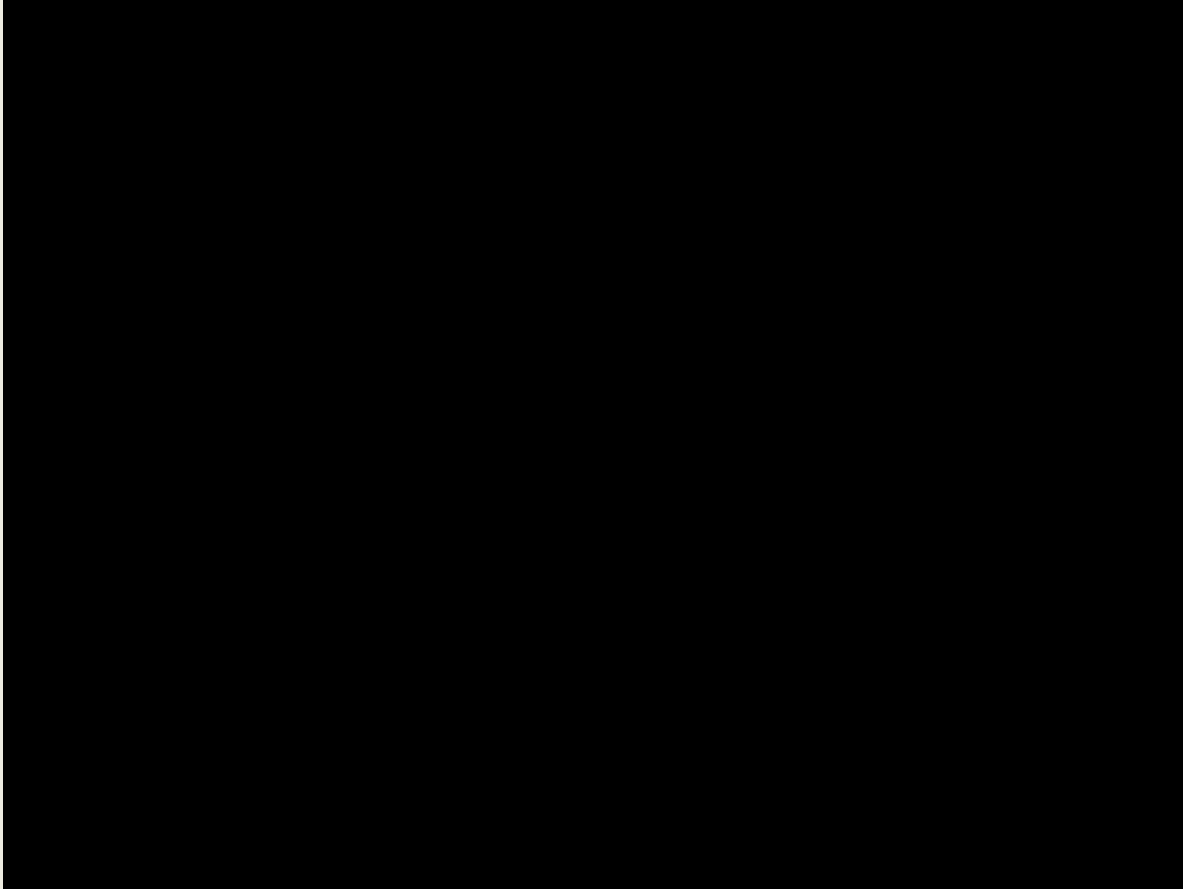 - verarbeiten
  - beeinflussen

Context Awareness

- *„In general, location information enables software to adapt according to its location of use, the collection of nearby people and objects, as well as the changes to those objects over time. We use the term context-aware computing... „* [Schilit 94]
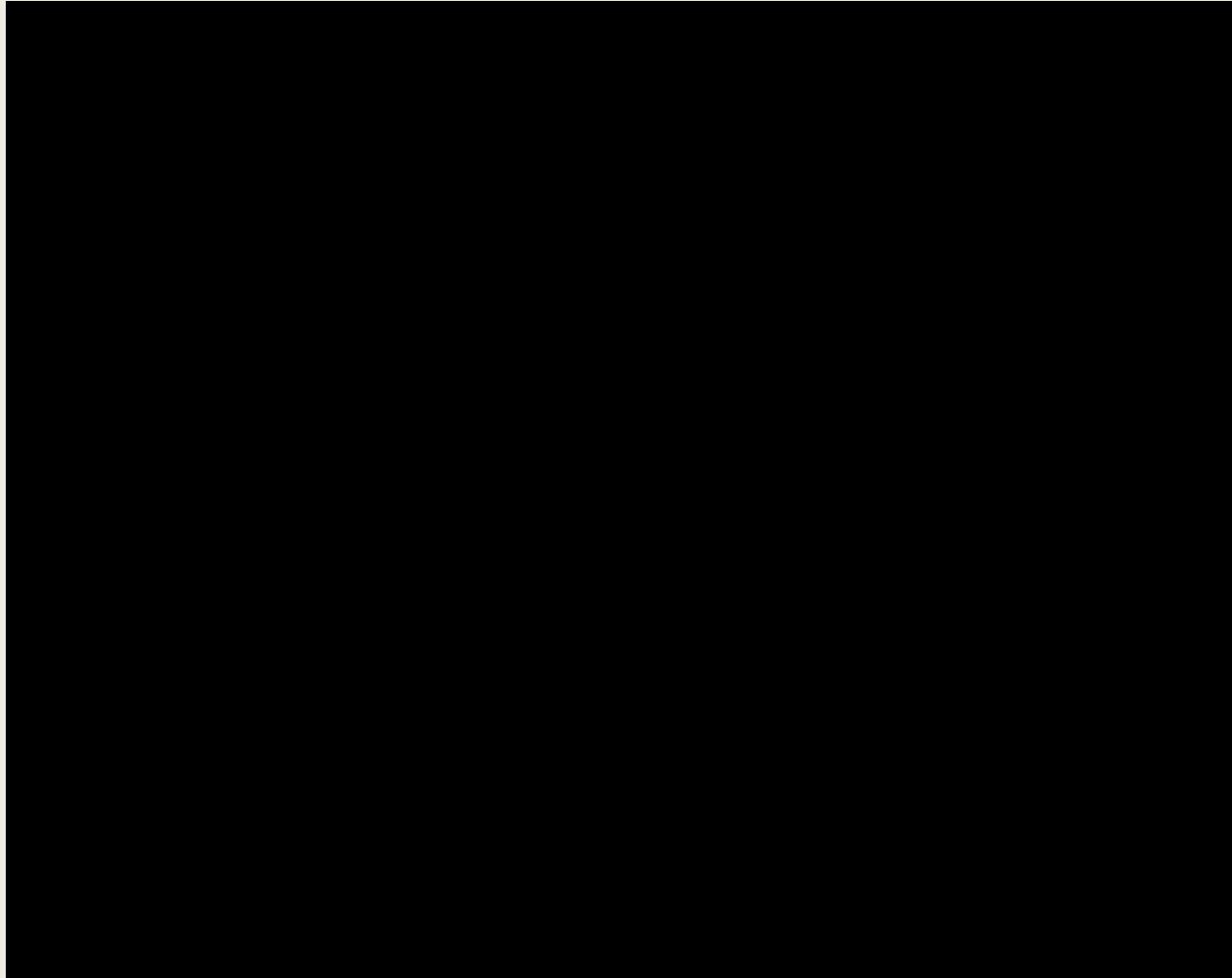

[3,4,5]

Piano Stairs

Deep Walls

Affective Computing

- Definition:

  „Affective computing [1] is a new and innovative research area, which combines the efforts of psychologists, computer scientists, linguists, and neuroscientists in an attempt to enhance the manmachine interaction by taking into account user's emotions and providing the appropriate feedback to the user according to her/his emotional state." [Stanojevic und Vranes 2008]

Affective Computing

- Emotionen
  - Darstellung
  - Messbarkeit
  - Kommunikation und Verständnis
  - Anpassung
  - Verändern von Emotionen
    - → klügere Technologie

Affective Computing

1. Erfassen und erkennen von Emotionen

2. Emotionale Zustände modellieren

3. Emotionen ausdrücken

4. Private Belange

- Beispiel: Mimik, Gestik, Hautwiderstand, Herzschlag, Atmung…
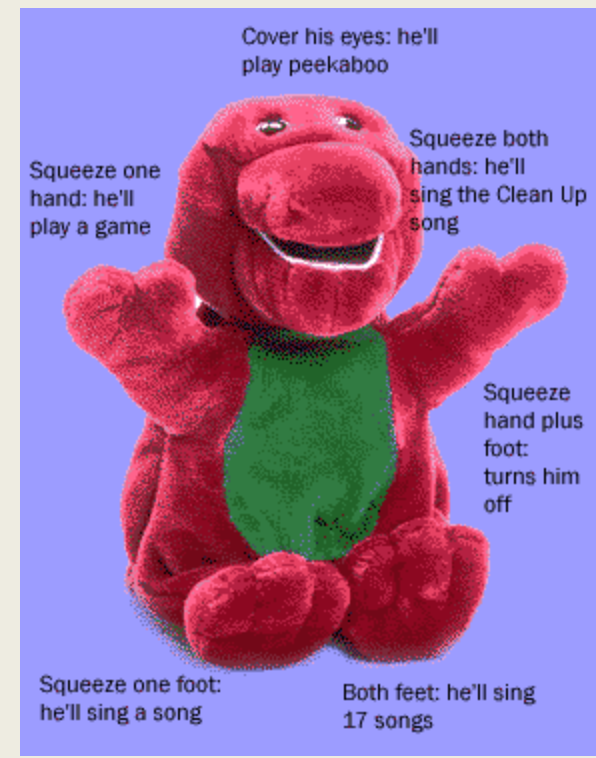
Affective Computing

- Empathie, mitfreuen, mitfühlen
- Emotionen erzeugen, projizieren, provozieren

[5,6,7]

Barney

- Emotionen aufbauen

- Personifizieren

- Emotionale Bindefähigkeit

- Emotionale Qualitäten
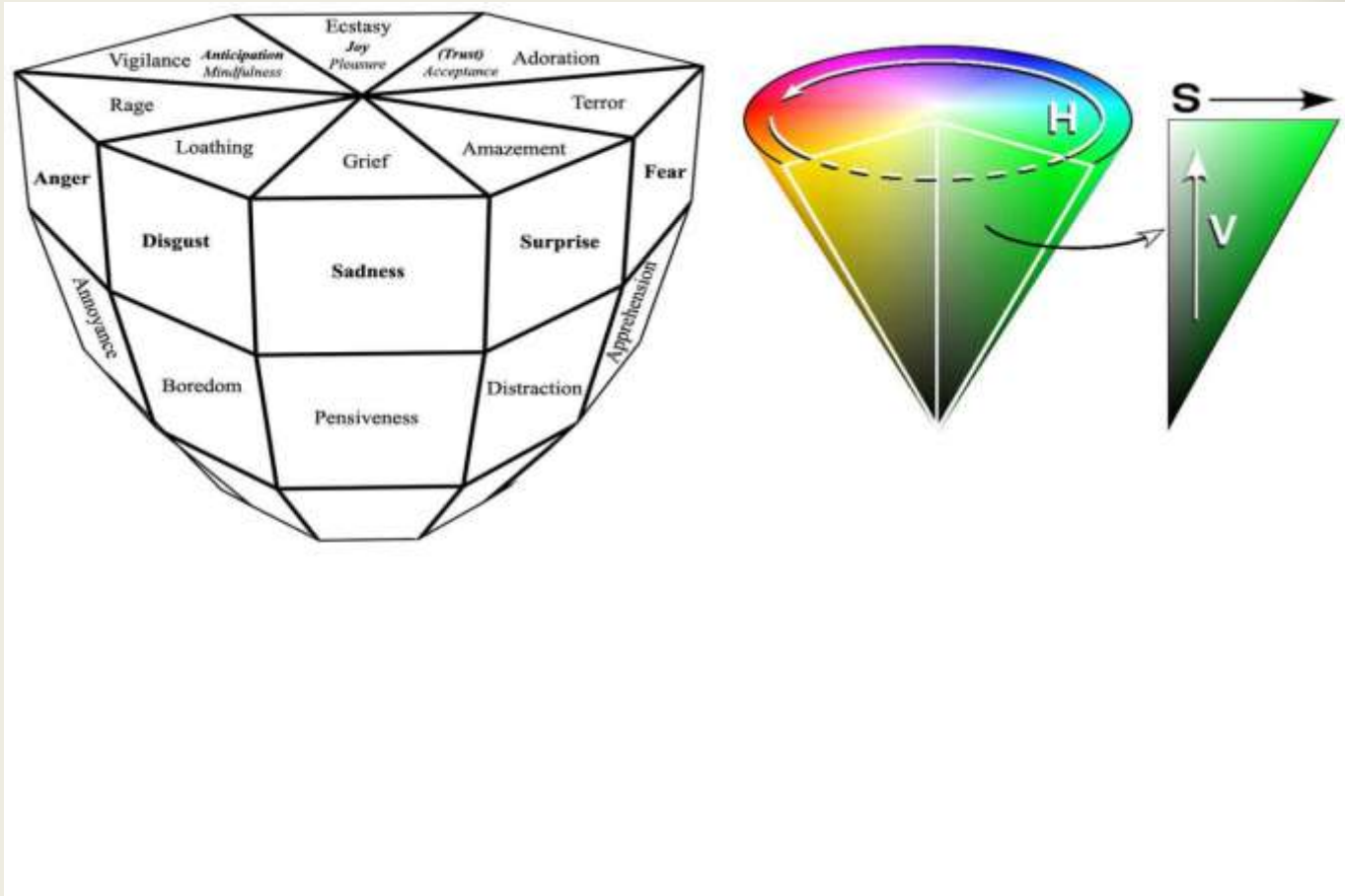
- Lebendigkeit

[8]

Affective Computing

- Adaptive Depression

[9]

Darstellung

[10]

Affective Computing

Abbildung 5: Grobarchitektur von SmartKom

[11]

Risiken

- Große Menge an Sensordaten

- Geringe Vorhersagbarkeit

- Kombination vieler verschiedener Bereiche

- Hohe Anforderungen für intelligentes Verstehen und Antworten in Echtzeit

Ausblick

- Creative Playground
- Fakultätsübergreifend (CC2M)
  - Medientechnik
  - Design
  - Medieninformation
  - Informatik
- Interaktive Installationen
- n-mögliche Installationen
- EmotionML

Quellen

- [1] http://www.welt.de/multimedia/archive/00734/ie_r3_Positano2_DW__734387p.jpg
- [2] http://www.hopfenschlaufe.de/assets/images/besch_wetter.jpg
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- [7] http://www.dailygalaxy.com/photos/uncategorized/2008/11/23/helsinki_city_wall_2.jpg
- [8] http://www.current.org/tech/tech801b.gif
- [9] http://www.artsjournal.com/popcorn/Wall-E%20and%20Eve.jpg
- [10] Becker-Asano, 2008, "WASABI: Affect Simulation for Agents with Believable Interactivity", PhD thesis, Faculty of Technology, University of Bielefeld (IOS Press (DISKI 319))
- [11] http://www.smartkom.org/start_de.html
- Video 1: http://www.youtube.com/watch?v=xL1yApbYQW8
- Video 2: http://www.thefuntheory.com/piano-staircase
- Video 3: http://www.snibbe.com/projects/interactive/deepwalls

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