ArTe – Art and Technology, Research and Dissemination activities at the intersection of Art and Technology

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This presentation

- About me, you, and the message
- New media art
  - Examples and why
- Software technology
  - Open source
    - why? available, open content, user – producer (visitor – artist)
- Experience and ongoing projects

  www.artentnu.com

Norwegian University of Science and Technology

- NTNU

- 4200 staff members

- budget 4.2 bNOK

- 20,000 students

- Trondheim 140.000 persons

- NTNU/IME (1 of 7)/IDI (1 of 7)/Jaccheri (1 of 43++)

Kantega

One of the best working places in Norway/Europe (how many people?)

Software technology and strategy solutions for

- Banking and Finance
- Industry and trade
- Public administration
- Telecom

ArTe

☐ ArTe aims at enhancing the state of knowledge at the interdisciplinary intersection of Information Technology and the arts. The focus is on creativity, cooperation, and openness of processes and content.

Why?

Why do we human beings need technology?

1. to make work more effective. Think about the plow, invented several millenniums B.C, or our beloved computer invented half century ago

2. to make life go faster, think about the train, airplane, telephone, and internet

3. to make life lighter and enjoyable. Think about cinema, radio, television, electronic games, and I-Pod

4. In the ArTe project we see technology as a possibility to introduce more creativity, cooperation, and openness

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Experience (since 2004)

Education

      Experts in team

      Artistic software

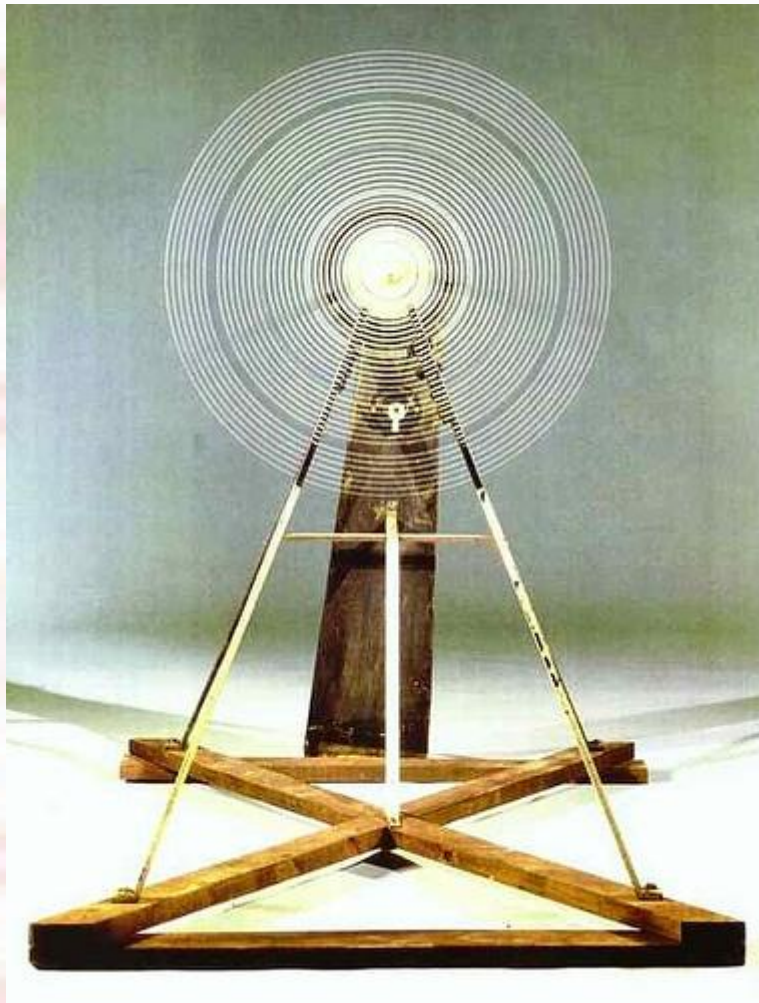   Master students

Research

      2 phd's, 2 post doc, papers, book chapters

Dissemination/art

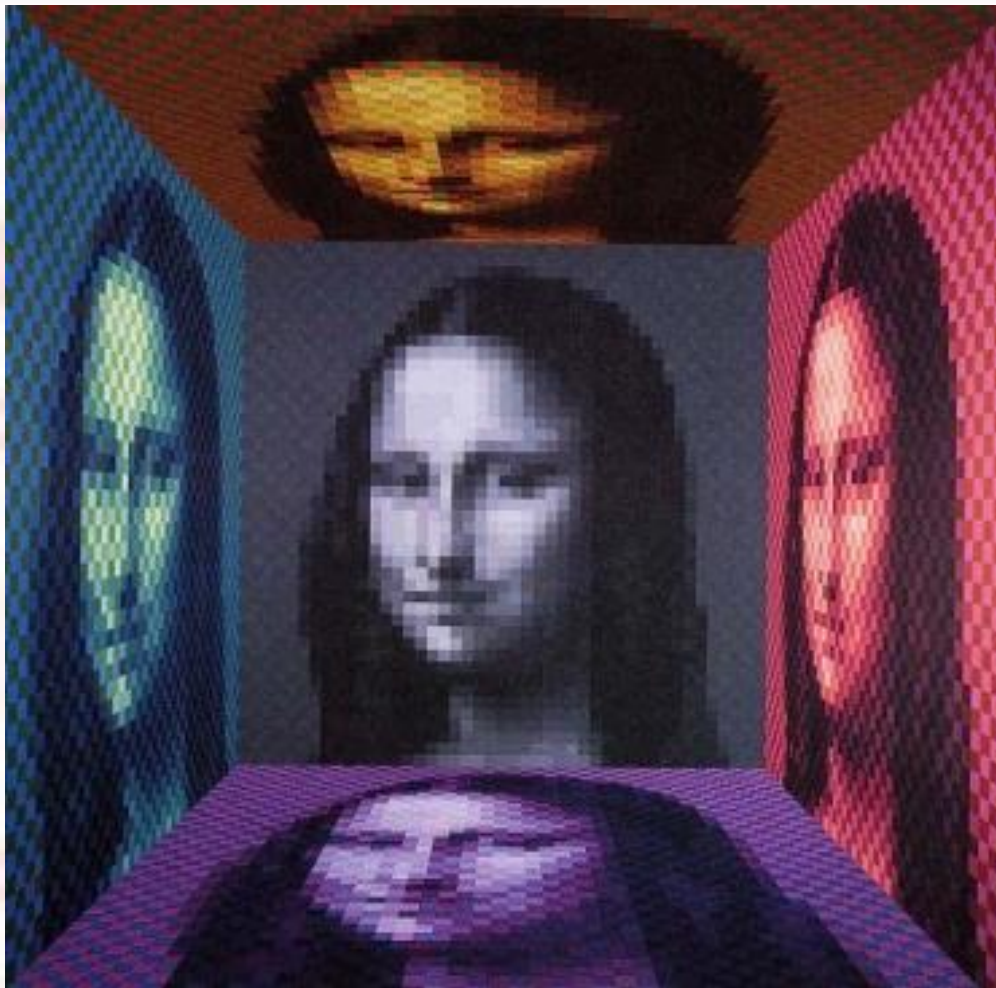   the open wall, various events

New media art

Artworks: digital images, animations, digital music, computer games, digital poetry and literature, computer based installations, and robots

[Rotary Glass Plates,
Precision Optics,](link) a motorized sculpture,
built by Marcel Ducham in 1921,
with help from Man Ray.

Warhol's Marilyn Monroe Diptych, 1962

Picture of Yvaral's [Mona Lisa, 1989.](#)

Picture of Laura Beloff's tratti, 2006.

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Software technology - criteria

- 1. Openness
- 2. Support for teenagers
- 3. New media art
- 4. Cooperation and sharing
- 5. Information Technology
- does this tool make its users aware of IT issues, such as programming?".

Tool - Arduino

Arduino
beautiful and tangible


```
void loop()
{
    //Turn on the output
    //signal for pin 10
    digitalWrite(pin,
    HIGH);
    delay(d);
    //Turn off the ouput
    //signal for pin 10
    digitalWrite(pin,
    LOW);
    delay(d);
}
```

Tool: Audacity

Audacity supports sound recording, editing, and saving in different formats. It is simple to use with its tape-style layout which offers rewind, fast forward, play, and record functions.

Tool: GIMP

GIMP supports picture manipulation and retouching. The program comes with several languages in addition to English. It supports the majority of picture file formats, such as jpeg, png, gif, xcf (which is the native format of GIMP) and the native format of photoshop, PSD.

Tool: Processing

Processing is a text programming language designed to generate and modify images, animation, and interaction. Beginners are able to write their own programs after only a few minutes of instruction.

www.processing.org
http://www.openprocessing.org

Tool: Scratch

Scratch is a programming language which makes it easy for pupils from the age of 8 to create their own interactive stories, animations, games, music, and art — and to share their creations on the web. Scratch is developed by the Lifelong Kindergarten Group, at MIT Media Lab.

http://scratch.mit.edu/

Tool: Inkscape

Inkscape is a graphics editor using vectors. The main difference between a file created with a vector based editor compared to a filecreated with pixel based editors (like GIMP), is that images can be scaled up more easily. Inkscape uses the W3C standard Scalable Vector Graphics (SVG) file format, although it is possible to save in other formats as well.

Tool: Tuxpaint

Tux Paint is a free drawing program for children ages 3 to 12, which combines an easy-to-use interface with fun sound effects. It is ideal for those who want a basic drawing tool with which one can be creative from the first minute.

Which software?

    – processing, arduino, scratch, wordpress, GIMP

for live performances and interactive installations

    – Fluxus http://www.pawfal.org/fluxus/

    – Pure Data http://puredata.info/

    – Animata http://animata.kibu.hu/

for multitouch devices

    – tisch http://tisch.sourceforge.net/

    – tbeta http://ccv.nuigroup.com/

for creating networks visualizations

    – gephi http://gephi.org/
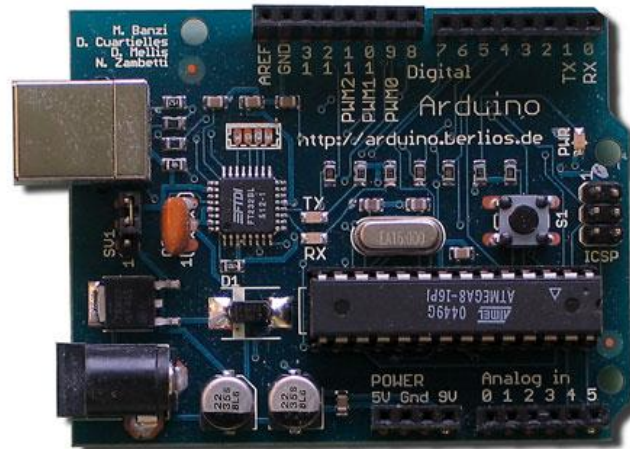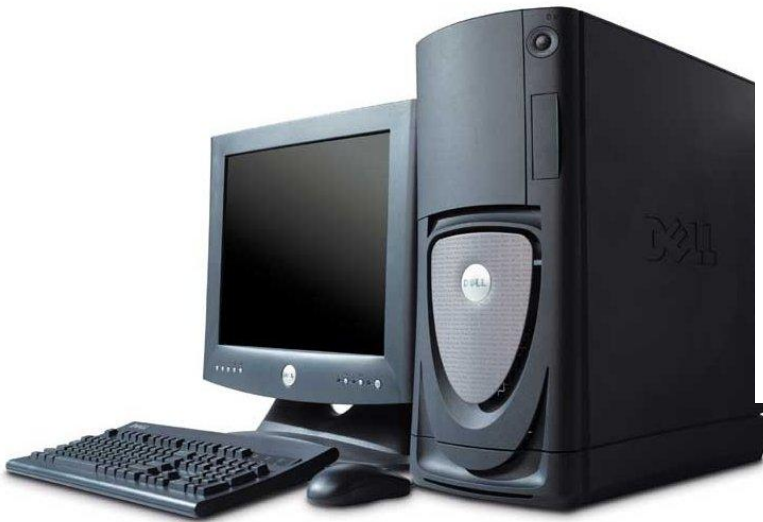
Which Hardware?

Experience (since 2004)

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Dissemination/art

      the open wall, various events

The open wall

Research questions

The research questions explore the interplay between artwork, technology, artist, and audience

How can *we* improve the development process of software dependent artworks and projects, in terms of software development, maintenance, upgrade and usability of the artwork?

Artist Samir M'kdami
PhD st. Salah U. Ahmed
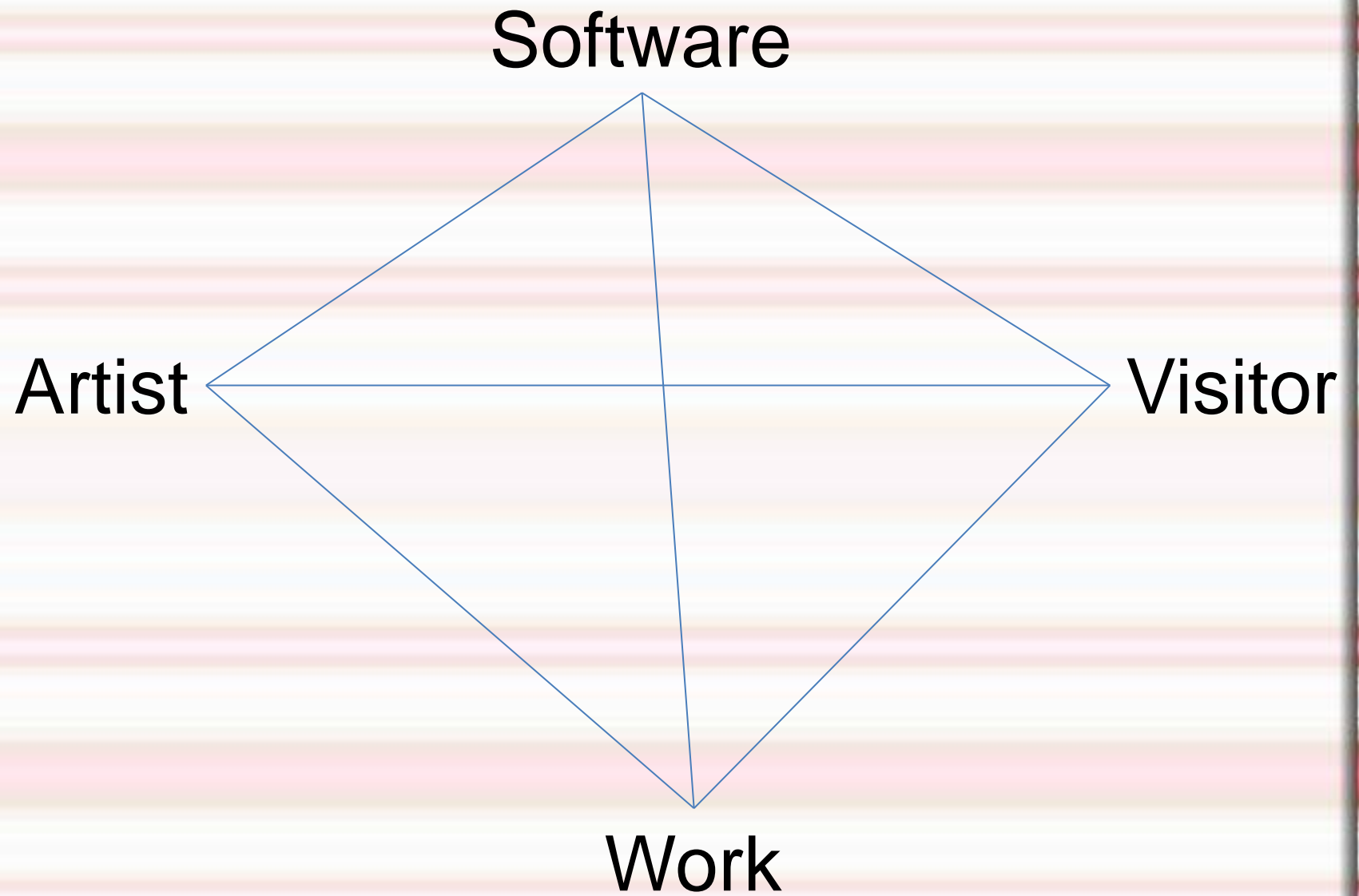
visitor- work

artist- software artist – (art)work artist - artist

visitor – work artist – work visitor - software

software- work

Norwegian Research Council – PROREAL 2009-2010

- Increase interest in science, focus on recruitment
  - Computer science
  - Girls
  - 13-15 (Norwegian Ungdom school)

Forskningsdagene 2008 2009

Forskningnatt 2009 Sewing as a way of seeing

artentnu.com

the lillac gown

The LED on the lillac gown displays a beautiful yellow color to symbolize day light. The LED switches to a deep blue night color and again to yellow. Day after day. By moving my arms, jumping, walking, falling down I alter this cycle. The more I stress the less I am able to observe the cycle of life. I cannot really observe myself. I need somebody else to tell what they see on my gown LED. Beautiful or less beautiful patterns can arise while I busy myself. These patterns do not always match the lilac color of my gown.

the lillac gown (cont.)

I understand more and more the programs that govern my gown but I do not fully understand the relationships between my movements and its effects. I needed the help of both my student Hallgeir to write the code and my friend, fashion design Urd, to find my unique lilac Lilypad gown, and I need Daniela who believes in science, to observe my gown and its program to find the motivation to change. I do not fully understand the details of acceleration but I am aware I will. I know that the beautiful cycle of yellow and deep blue will come again and again.

http://www.idi.ntnu.no/~letizia/arduino/kape_itovation_letizia2.pde

Ongoing projects (1)

- K+K=K week 41 and Saturday 6th November
  - Remida, meta.morph, Mesen
  - Scratch, arduino, reuse technology
  - Kulturråd (Culture Council of Norway)
- NTNU Fest 14th/15th September
  - ArTime, Objekt Prosjekt 14th and 15th September

Ongoing projects (2)

- Liv Arnesen Foundation TDT4852 Experts in Team – New media art for interactive campaigns

- The Open Wall

- Trondheim Library (Gunnerusbiblioteket

See Norsk fædrelandssang av Bjørnstjerne Bjørnson http://www.ntnu.no/ub/spesialsamlingene/digital/05a059104.html

Conclusions

Questions
- Are more important than answers

suggestions

- Why is this research at the intersection of art and technology important?

- For whom is it important?

- Business possibilities?

  - creative and cultural industry se Rockheim