The Open Wall

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Abstract

The Open Wall is a computer based installation developed by students, researchers, and artists. One of the goals of the installation is to inspire reflection about hardware and software development with focus on open source issues.

Keywords

Art installation, software development, open source software.

Introduction

The Open Wall project is one of SArt's projects (prosjekt.idi.ntnu.no/sart/). In this short paper we look at the Open Wall by using the points of view when, what, why, where and who. For some points of view, one or more open research questions are outlined.

When?

In 2005 architect Åsmund Gamlesæter initiates the project as he wants to build a LED facade for an experimental house. The house is built by a group of students and is supposed to stay for one year. The architect asks CIS for help and cooperation. Hardware design is the most important task when the installation is build for the first time.


figure 1. From a white wall to the Open Wall.

When the experimental house is removed, the boards are taken over by CIS. In 2007, as a result of a master thesis [3], the Open Wall software goes open source with BSD license. In January 2008 a three groups of students re-build the installation during a three weeks intensive course. The students reuse the existent hardware and software and develop the missing pieces of the software and the content.

What?

The Open Wall is a wall mounted LED piece consisting of 96 circuits boards (16 x 6 boards) containing 2400 orange LED lights with 5 cm distance in all directions to the next light. The wall is 480 cm long and 180 cm high. Each board has 25 LED lights on its surface, emitting light with 99 possible intensities. Each board has its own microprocessor, power connection, and Ethernet. Connection to the main controller device is established through a set of switches or hubs. In short, this is a massive parallel network of boards. The software governing the installation is available at http://sart.svn.sourceforge.net. The contributions by the three student groups are described at [1]. One of the group, inspired by living art which would 'die' if nobody cares about it, presents a bunny that changes its state (i.e. sleep, awake, excited) according to activities in the room. The second group brings the discussion to political and social themes by reflecting about the wall and its open source and creative possibilities. They use the wall to display texts from '*Steal This Book*' by Hoffman '70. The idea of the third group is to display an ECG wave propagating along the wall screen as on an ECG monitor. All three groups discuss the possibilities to include interactivity through sensors (e.g. movement in "Lux Vitae", people position "Bull devil 7", sound level in "Heart and software"). With the installation in place, the employees of CIS start to play with it and develop a web based interface which enables users to upload and see the content of the wall with an Internet browser.
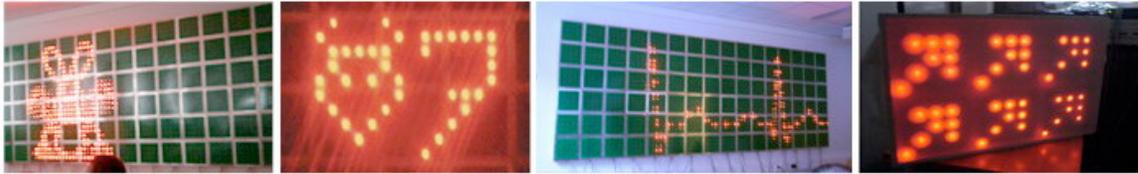
figure 2. Artistic ideas presented by groups on the Open Digital Canvas.

Why?

The projects has many actors, each having different point of views. Technologists and researchers see the cooperation with artists as a source of inspiration and a possibility to reflect about technology and find inspiration for innovations. In particular, the SArt perspective is to inspire reflection about Information and Communication Technology with focus on openness, copyrights, and authorship. Artists want to engage in projects like this to explore the possibility of technology and interaction with technical people and researchers. Students choose this project as part of their curriculum because they like to co-operate with other students with different background. Technology gets old quickly. Technologists experience this inevitable assumption as a source of both frustration and motivation to learn all the time about new technology. An important lesson we learn in this project is that visitors criticize our work as the technology which was developed 3 years ago (at time of writing this paper). An important question is: "how important is the type and novelty of technology in a cooperation project between artists and technologists?

Where?

The installation is first installed on the façade of an experimental house in the town of Trondheim. A sister installation is build and installed in a discothèque in town. The current Open Wall is in a meeting room at the Department of CIS. The installation is available through a WEB interface which allows its users to both upload and see pictures on the Open Wall. The software of the installation is available at sourceforge.net.

An important question is: "Is the Open Wall a piece of art or is it a tool for artist expression?" Taking the installation from the public space into a meeting room in a University department has consequences in this respect. If the installation could be regarded as a piece of art when in was the public space, it has become a technological prototype or tool when taken into a private space in a University. Other questions are: "Which is the role of the web interface with respect to the artwork?" and "which is the role of the source code?"

Who is the author?

Architect Åsmund Gamlesæter is the initiator of the project. He gets a lot of technical help from the hardware group at CIS (represented by Gunnar Tufte and Pauline Haddow). He gets artistic advice from the artist Espen Gangvik. Nicolas Mendoza takes important decisions about the open source release of the code. Letizia Jaccheri and Espen Gangvik supervise the students who rebuild the installation in 2008. Hallvard Trætteberg develops the web based interface to the installation. Other students and CIS employees have worked and work on the project. The important question here are "who is the author?"; "Who is the responsible?; "How can we attract and facilitate multidisciplinary participation in the development of projects like this?"; "How can we facilitate good software evolution by publishing it as Open Source?"; "Is the BSD licence most appropriate licence for this project?".

References

[1]   The Open Wall project documentation, http://prosjekt.idi.ntnu.no/sart/wiki

[2]   Jaccheri, M.L. and Sindre, G. "Software Engineering Students meet Interdisciplinary Project work and Art", *11th Int. Conf. on Information Visualisation (IV)*, Zurich, 2007.

[3]   Mendoza, N. "Open Digital Canvas", Master thesis, NTNU, Trondheim, Norway, 2007, available at [1].