

State of the Art.

In this project the state of the art is separated into two sets which some objects intersect within both sets.

The first set is DIY (do it yourself) electronics badge. This project aims to create alternative solution for Sociometric Badge. However, since the user is not always adept in electronics or programming, clear and sufficient guides and instructions must be available. The state of the art for DIY electronics badge will look on how many electronics badge are there those are not factory mass produced and open source. Which means these electronics badge can be produced with common electronics components and tools (computer, solder, hole mounted components instead of SMD, ...). On the other hand, the nature of open source projects helps to understand the DIY electronics badges back into their roots. Therefore, there are two main qualities to look within DIY electronics badge state of the art. Which are the availability of the tools and open source.

The second set is state of the art of electronics badge that **can be used as/is** a social sensor. These badges are a set of ideal realization from previous project, those mostly factory manufactured or used by more than at least 10 people. Hypothetically speaking, combined features from all badges those belong to this state of the art will be the ideal case scenario that would never happen, given the time for this project to run. Any badges that belong to both DIY electronics badges and badge as a social sensor will be put here. The minimal quality for this state of the art is for the badge for at least capable of capturing one specific social activity (body language, conversation, ...).

DIY Electronics Badge State of the Art.

- “I can reflow” Merit Badge
- 2016 Queercon Badge
- DEF CON Unofficial AND!XOR Badge
- DEF CON X86 Badge
- Hackaday Belgrade Badge
- Hackaday Supercon Badge
- Yearly DEF CON Electronics Badge

“I can reflow” Merit Badge

“I can reflow” Merit Badge is an open source DIY electronics badge that is used to teach people on how to do reflow soldering. The board and all components are all SMD, which means they are hard to be soldered with traditional soldering method. However, it can be easier done with soldering paste as it is meant as a practice ground for reflow soldering (soldering with soldering paste and oven).

Here are the resources of “I can reflow” Merit Badge:

- Hackaday blog post, <http://hackaday.com/2016/06/26/i-can-reflow-merit-badge/>,
- Source, https://oshpark.com/shared_projects/YrOVLhQb.

2016 Queercon Badge

2016 Queercon Badge was a badge made for a LGBT hacker conference in 2016. It is made with printed PCB board with SMD components. Although it is near impossible to solder with hand due to curvy PCB layout, it is easy to request one to be manufactured since the hardware and software design are all available.

2016 Queercon Badge has a networking features via RF transceiver hopping communication. And it has capability to be extended via “hat” (similar to Arduino shield).

Here are the resources of 2016 Queercon Badge:

- Hackaday blog post, <http://hackaday.com/2016/08/10/what-we-learned-from-the-2016-queercon-badge/>,
- Queercon website, <https://www.queercon.org/>,
- Source, <https://blinkylights.ninja/blinkylights/queercon-13-defcon-24-2016/>.