

## **Low Entry Sociometric Badge**

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### **Situation**

Looking back to late 2000s there was a project to make a sociometric enabled badge carried by MIT Human Dynamics group. This sociometric badge is used to measuring social interaction and was initially made to measure people social activity inside an organization environment. Basically the sociometric badge is able to do measure how long face - to - face interaction happened, duration of a conversation, distance within participants in a conversation, and vocal features (pitch and volume). Aside from organizational environment there are other implementations as well such as call center, hospital, and retail store.

Sociometric badge is available in fully closed environment. There is no way for developer to extends or hack the sociometric badge. Additionally, there is little to no access for commonality to buy sociometric badge. The only way to buy sociometric badge is by contacting the company that made the sociometric badge and ask them to buy it.

The easiest way to get access to this sociometric badge is to make it yourself. There is an open source project called Rhythm (<https://rhythm.mit.edu/>) that makes a similar badge. However, lack of documentations and usage uncommon tools makes it less accessible even for people who has basic knowledge of electronics and programming to make their badge.

## Challenge

The goal of this project is to make an alternative version of the sociometric badge that is easy to make for non technical people and has all data to be easily audited.

Raspberry PI (3/Zero) will be used for the main processing unit for this project sociometric badge. And instead of compiling codes, pre - compiled applications will be ready to be used directly with minimal setting as possible. Rhythm server or a simple NodeJS based server will be made and data will be stored in a MySQL or MongoDB based database. The choose of Raspberry PI and NodeJS server are because these are the currently popular development platform.

## Questions

- How to make a non - technical user who has little to no experience in electronics and programming to be able to finished a simple DIY electronics project?
- How to determine whether a technical project is doable or not for people without technical background?

## Practical Aspects

- Constraining aspects.
  - Fast technological development means that development platforms and instructions might be obsolete in the future.
  - I have little knowledge about sociometric in general. Hence, in this project I would like to make a DIY sociometric badge to just solely extract raw sociometric data.
- Enabling aspects.
  - Alternative and availability of tools helped a lot for other people to make DIY project. In case of a certain development tool goes obsolete or not available to buy, there must be another options.
  - Communities everywhere are making articles, guides, and tutorials.
  - Some development tools are not intended for professional (even amateur) electrical engineer or programmer.

## Signatures

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