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# HYPNOSIA CONTROLLER

## PROJECT DESCRIPTION

HYPNOSIA is a start-up that offers a matrix display of **84** bi-axes movements. The objective of the project is to independently manage the movement of each of the watch pointers of the matrix. The magic happens when each watch pointer goes to a given **position** at a given **time**. The ultimate goal is to control animations via Bluetooth according to the user's wishes.

### HYPNOSIA Calibration

The problem with the movements used is that the zero position of the watch pointer is unknown. The purpose of this diploma work is to detect the zero position of each watch pointer via **image processing**.

### HYPNOSIA Controller

The goal of this diploma work is to realize a first **prototype** allowing to manage independently each watch pointer of the matrix at a given time.


**HYPNOSIA Calibration**


**HYPNOSIA Controller**

## KEY PARTNERS

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HYPNOSIA
L'ÉLÉGANCE DÉPASSE LE TEMPS

SOPROD
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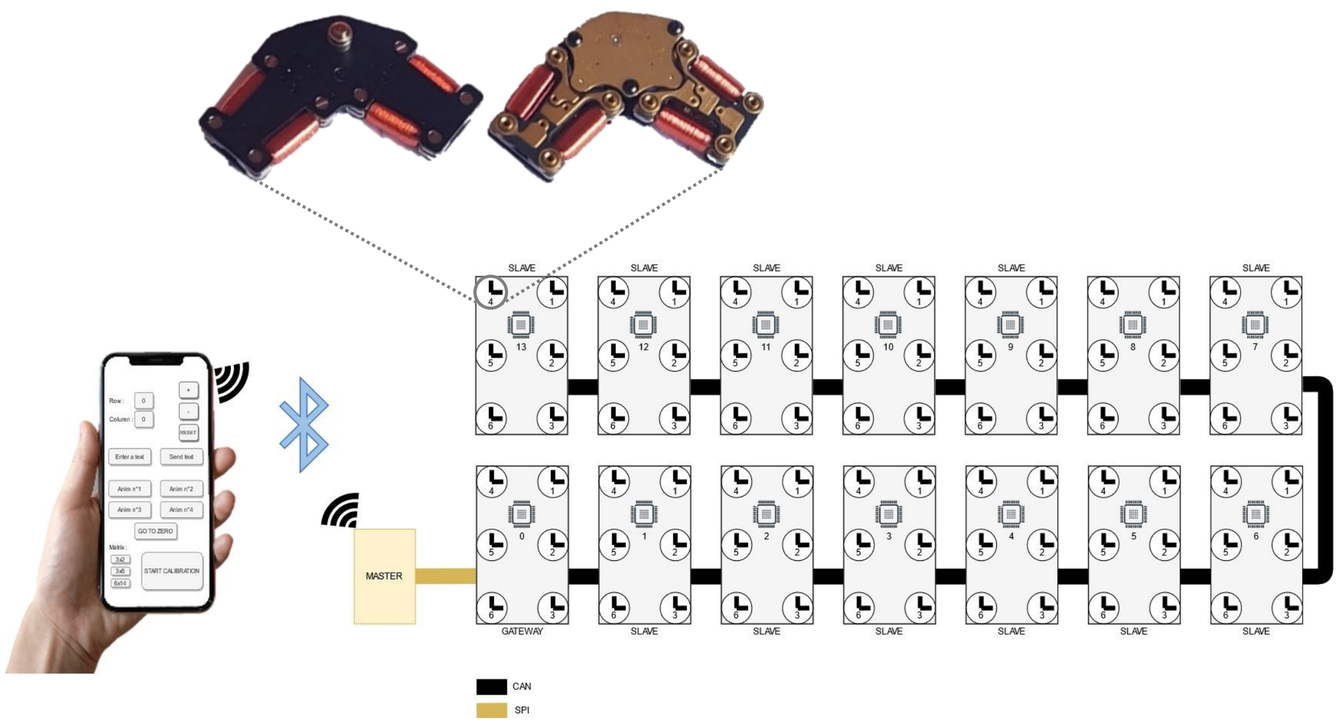
PRIZE « SWISS LIFE SELECT 2020 » WINNER

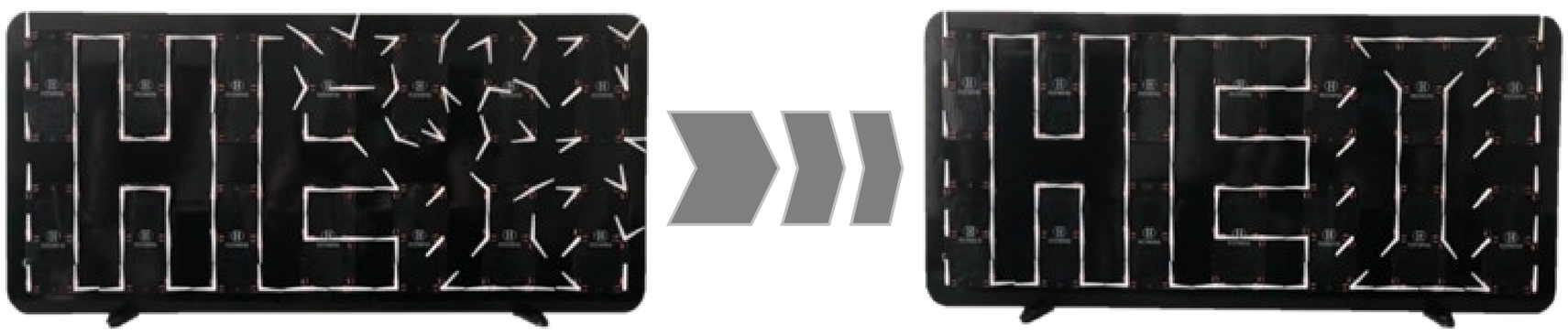
## METHOD

The system is composed of a Raspberry Pi (**MASTER**), a processor that acts as a **GATEWAY** and 13 processors that acts as a **SLAVE**.

1. The Raspberry Pi manages the Bluetooth connection and transmits the data required to control the movement matrix to the processor (GATEWAY) via SPI.
2. This processor then processes the data received via SPI and transmits the data to all other processors (SLAVES) via a CAN bus.
3. All other processors (SLAVES) then process the data received via CAN and mange movements control.
4. Each processor controls **6** bi-axes movements.




## RESULTS



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