



PATTHANA

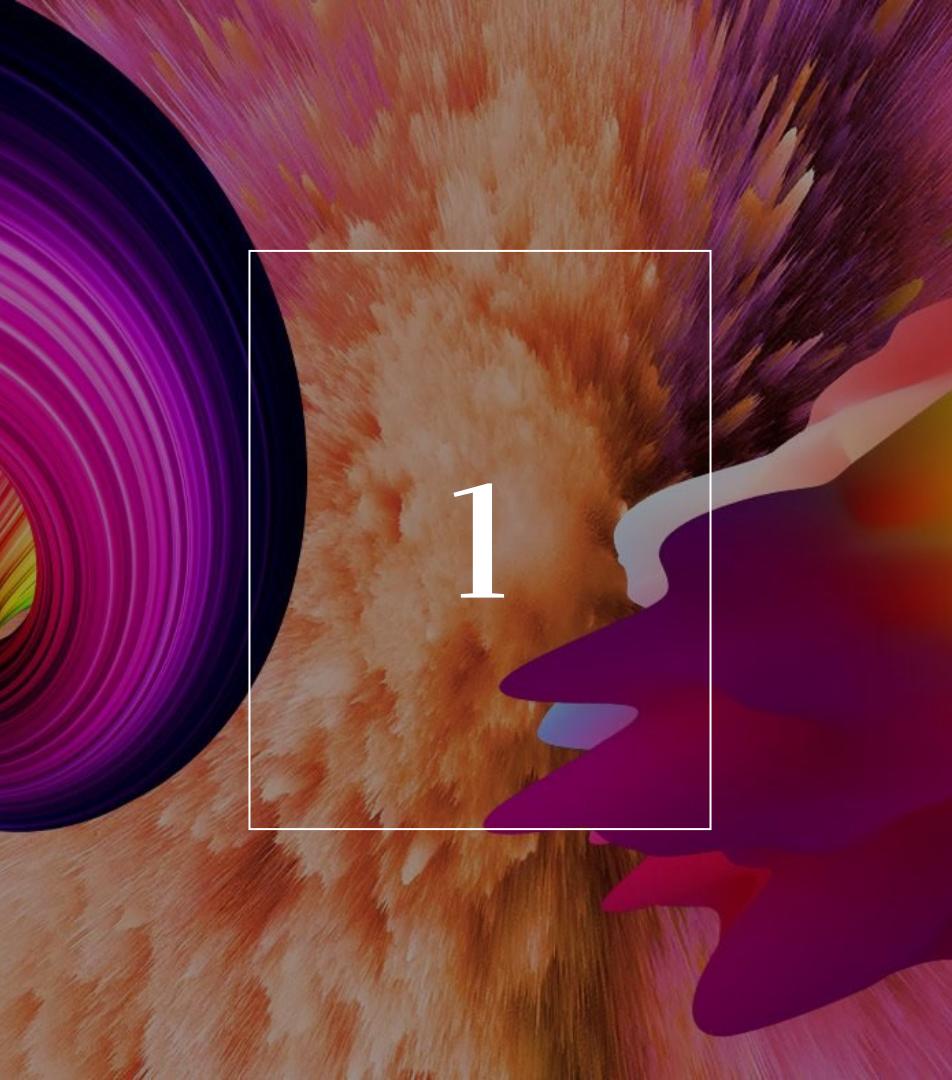


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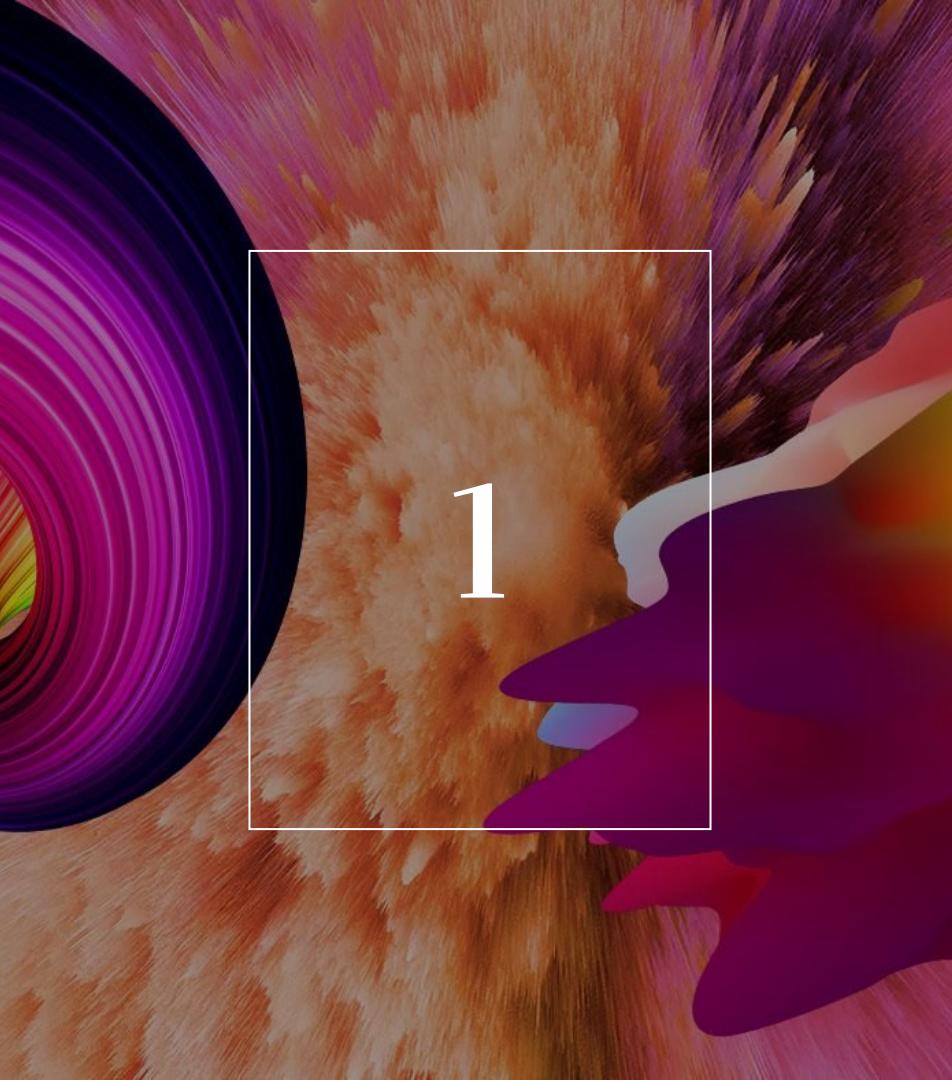
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The background of the slide features a vibrant, abstract design composed of concentric, curved bands in shades of purple, pink, orange, and yellow. A large, white, semi-transparent number '1' is centered within a white rectangular frame. This frame is positioned over a textured, orange-yellow area that resembles a close-up of a brain or a complex landscape.

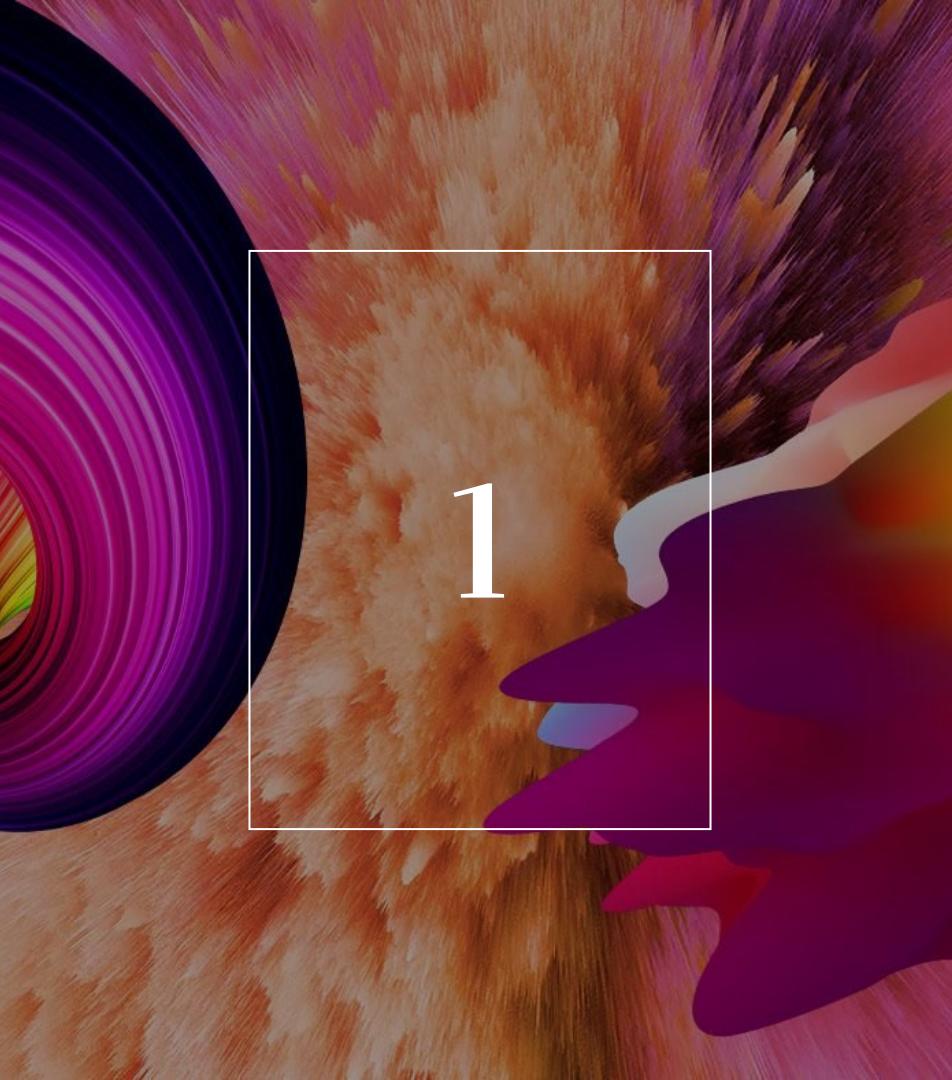
RESEARCH CONTEXT

1. One of the most common mental illness - ANXIETY [1, 2]

The background of the slide features a vibrant, abstract design with swirling patterns in shades of purple, orange, and yellow. A large, bold white number '1' is centered within a white rectangular frame. The frame has a thin black border and is positioned in the upper left quadrant of the slide.

RESEARCH CONTEXT

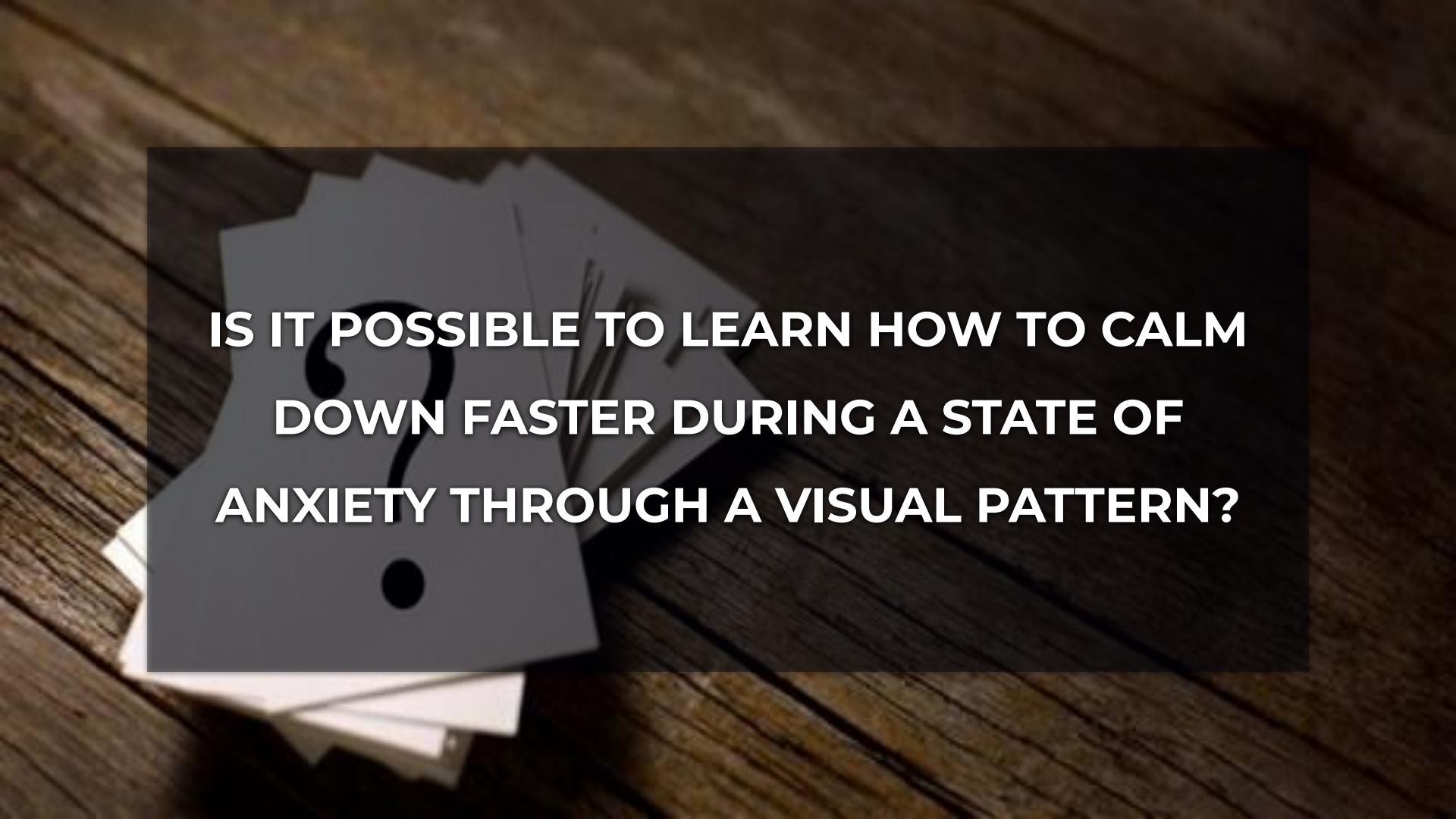
1. One of the most common mental illness - ANXIETY [1, 2]
2. Meditation [2, 3]
 - a. Observe and learn to control breathing
 - b. To reduce anxiety

A vibrant, abstract background featuring swirling patterns of orange, yellow, purple, and red. A large, bold white number '1' is centered within a white rectangular frame. The frame has a thin black border and is positioned in the upper left quadrant of the image.

RESEARCH CONTEXT

1. One of the most common mental illness - ANXIETY [1, 2]
2. Meditation [2, 3]
 - a. Observe and learn to control breathing
 - b. To reduce anxiety
3. Apps: Headspace and Calm [4, 5]



A dark, atmospheric photograph of a stack of papers. A large, faint question mark is visible on the top sheet. The stack sits on a dark, textured wooden surface.

**IS IT POSSIBLE TO LEARN HOW TO CALM
DOWN FASTER DURING A STATE OF
ANXIETY THROUGH A VISUAL PATTERN?**



2

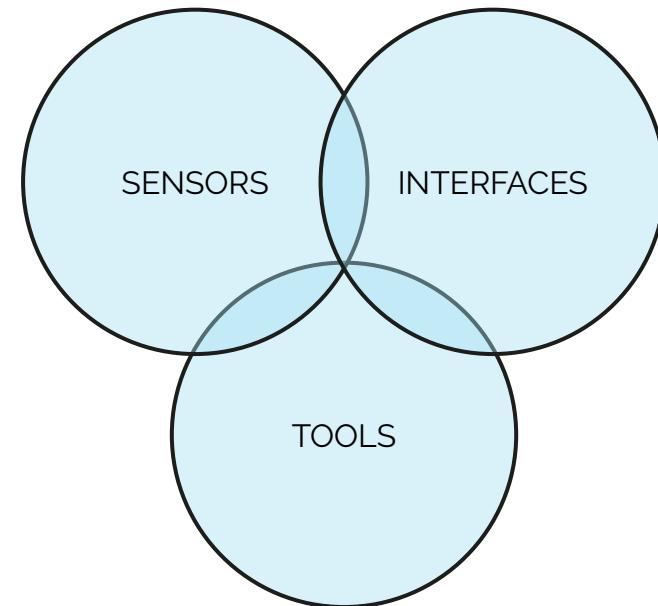
MAIN IDEA

Our main idea is to build a system for measuring changes in human breathings.

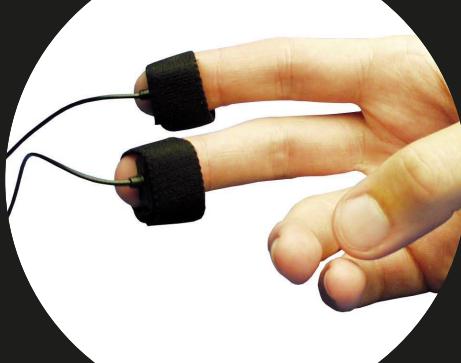
The purpose of this system (and of the experiment carried out with it) would be to identify the anxiety state through the human breathings and change the visual pattern (color and velocity) to learn and being aware of how to achieve a calm state.

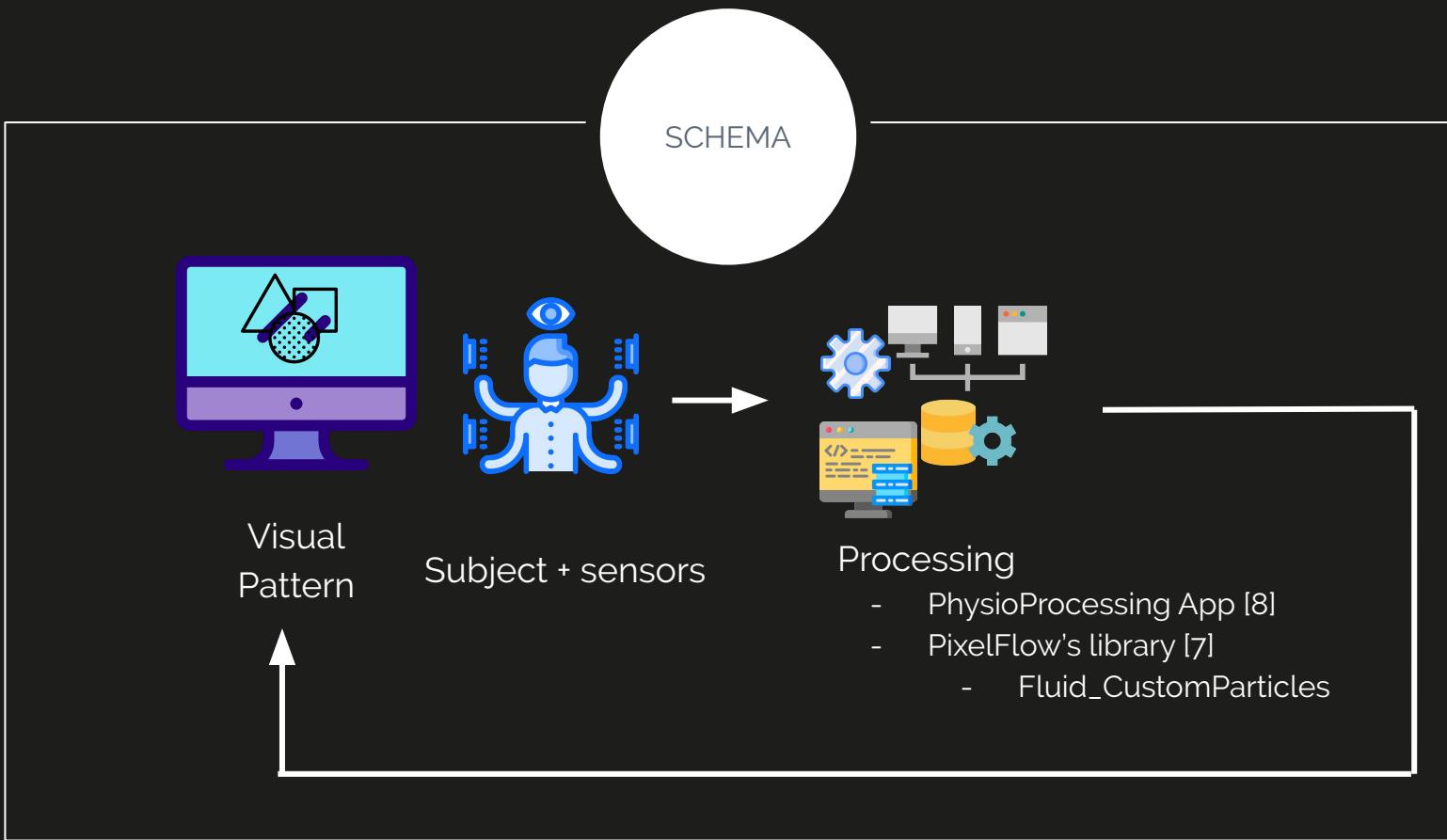


PROJECT SCHEMA

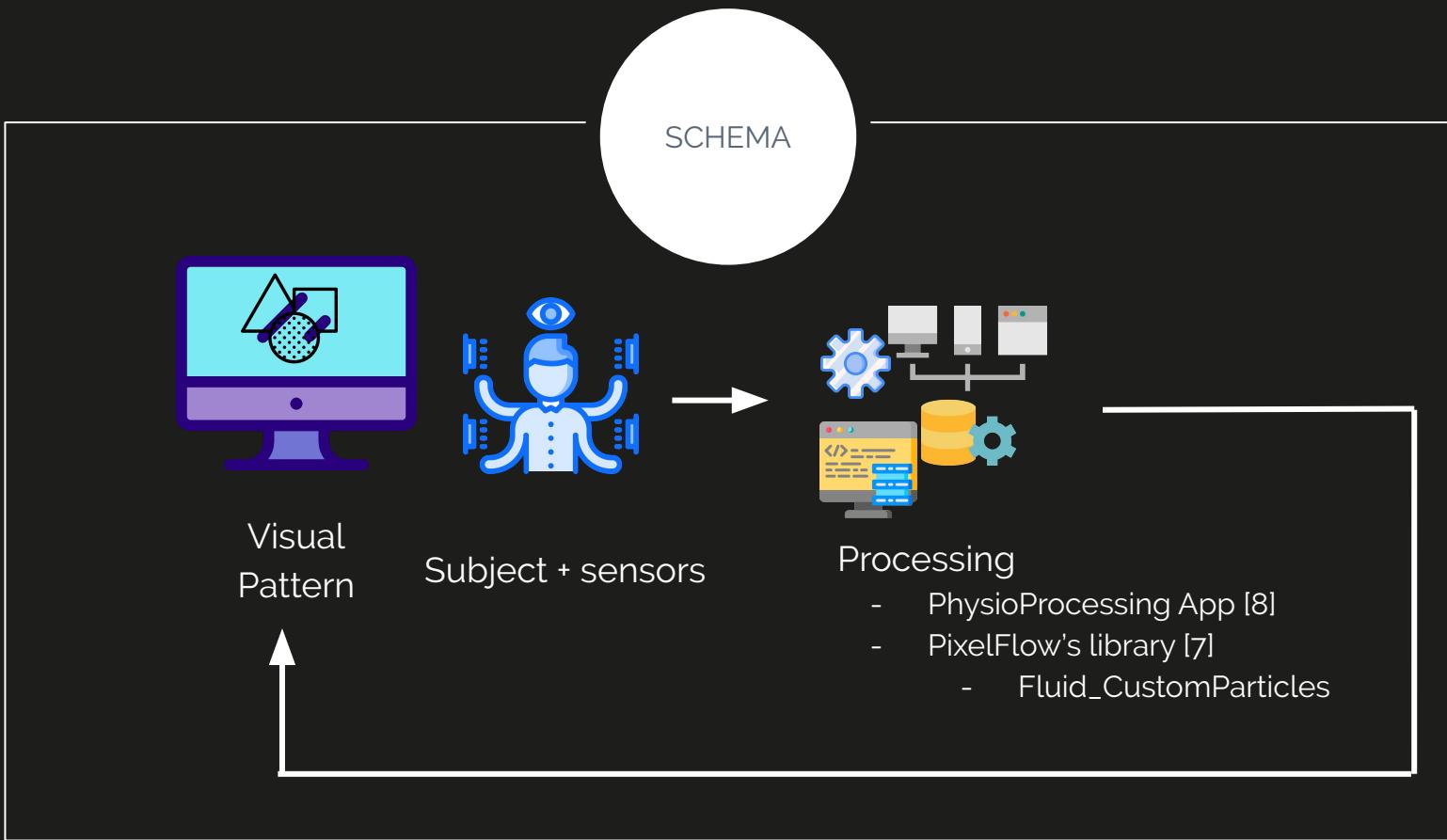


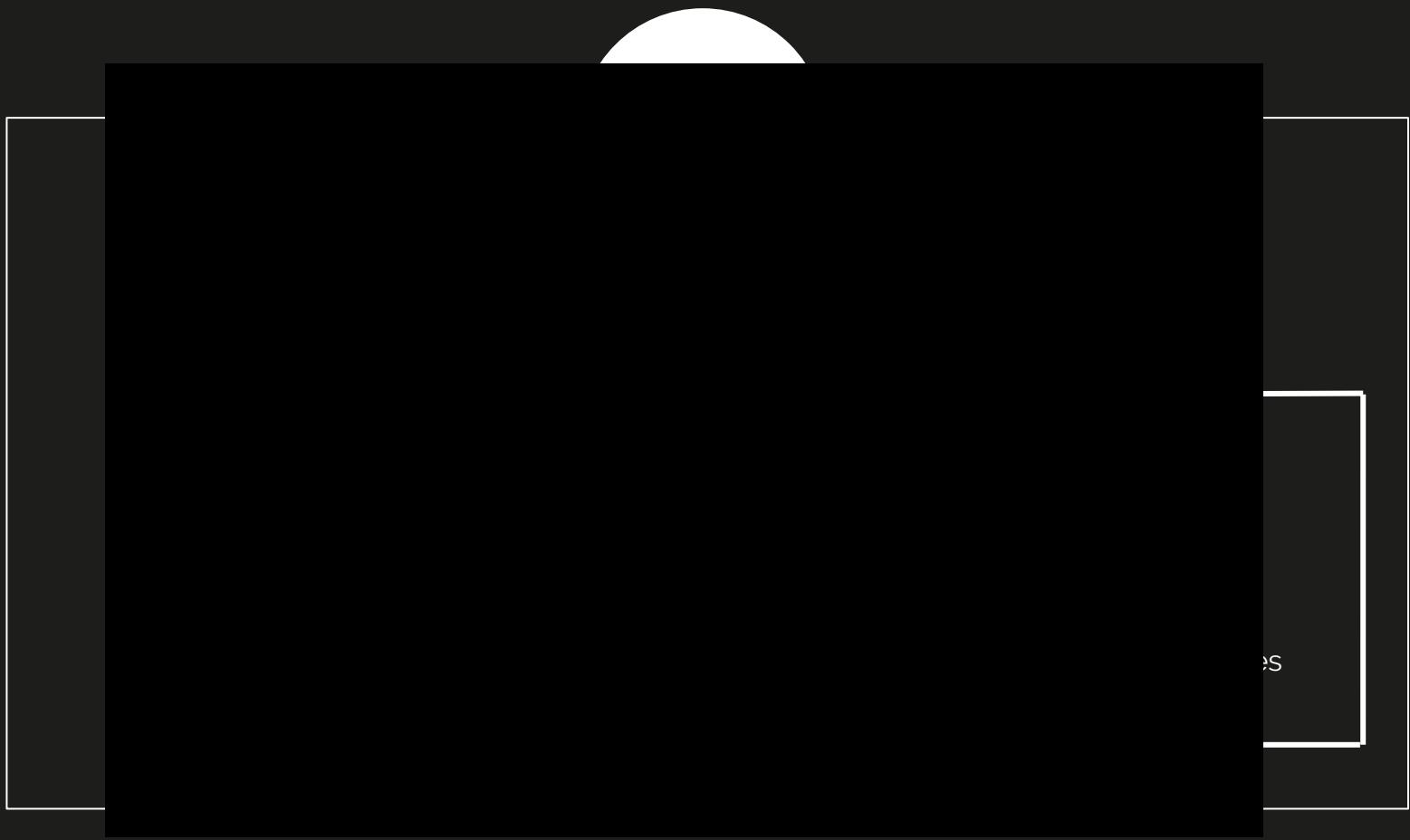
SENSOR
EDA [6]

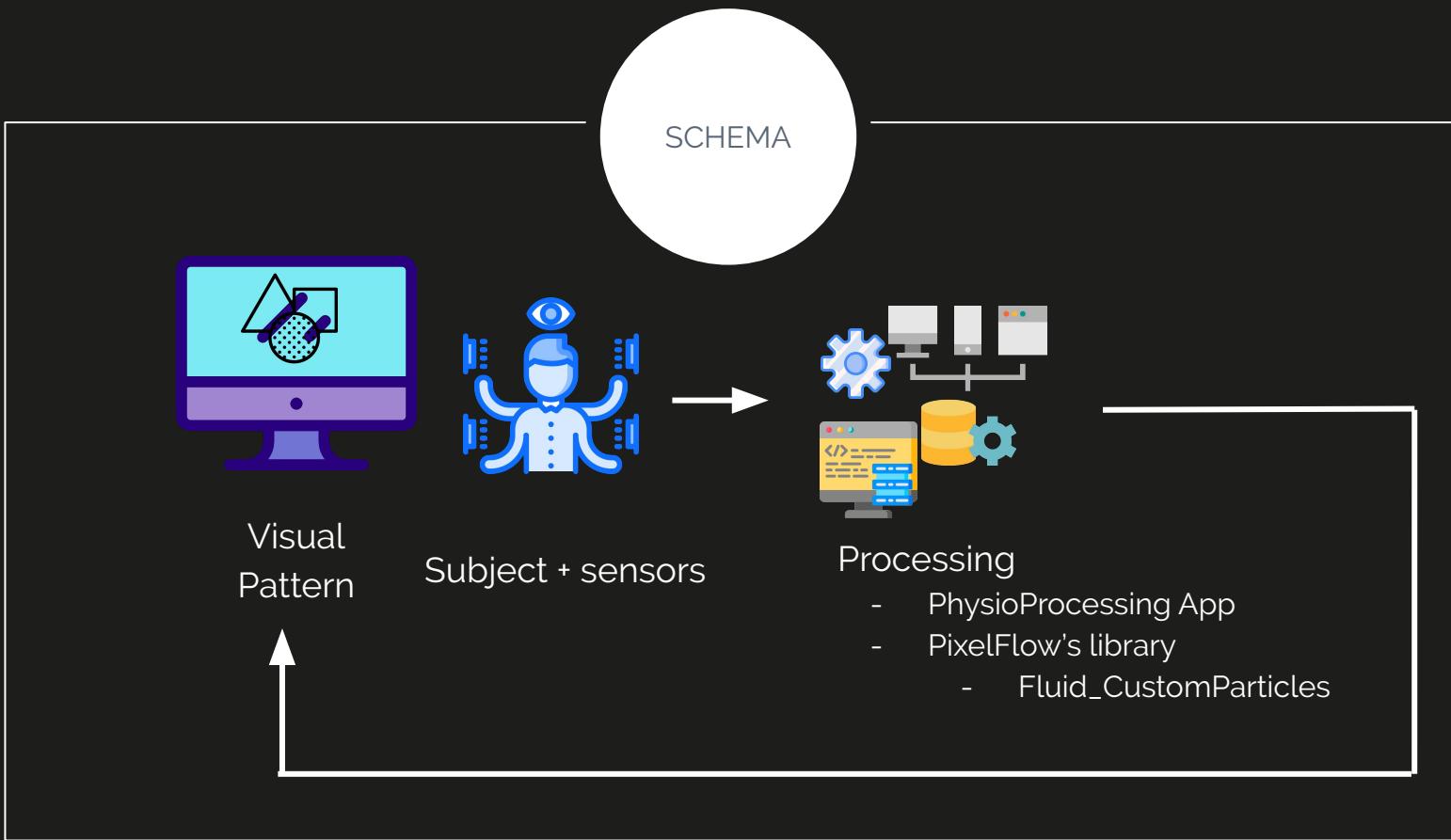




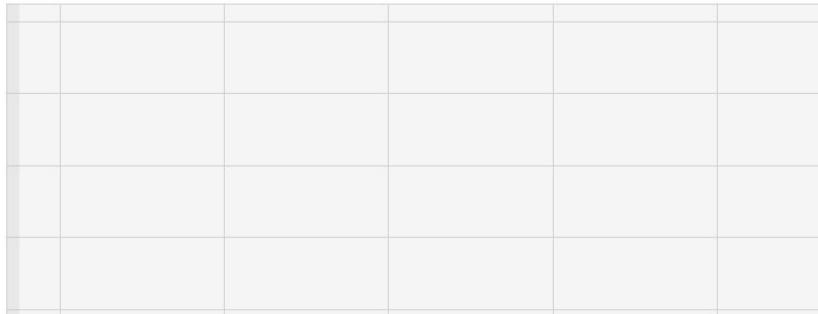








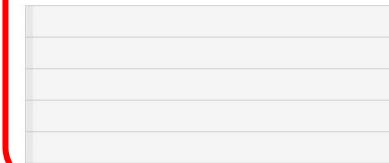
ECG + EDA



ECG



EDA



SET-UP

SELECT PORT:

REC

STOP

INFO

RR interval (ms)

ECG (Raw) EDA (Raw)

Name:

Age:

Gender:

Subject Code:

Dyad code:

Date:

12/12/2019

Sync signal:

null

Recording time:

00:00:00:0

Info logged

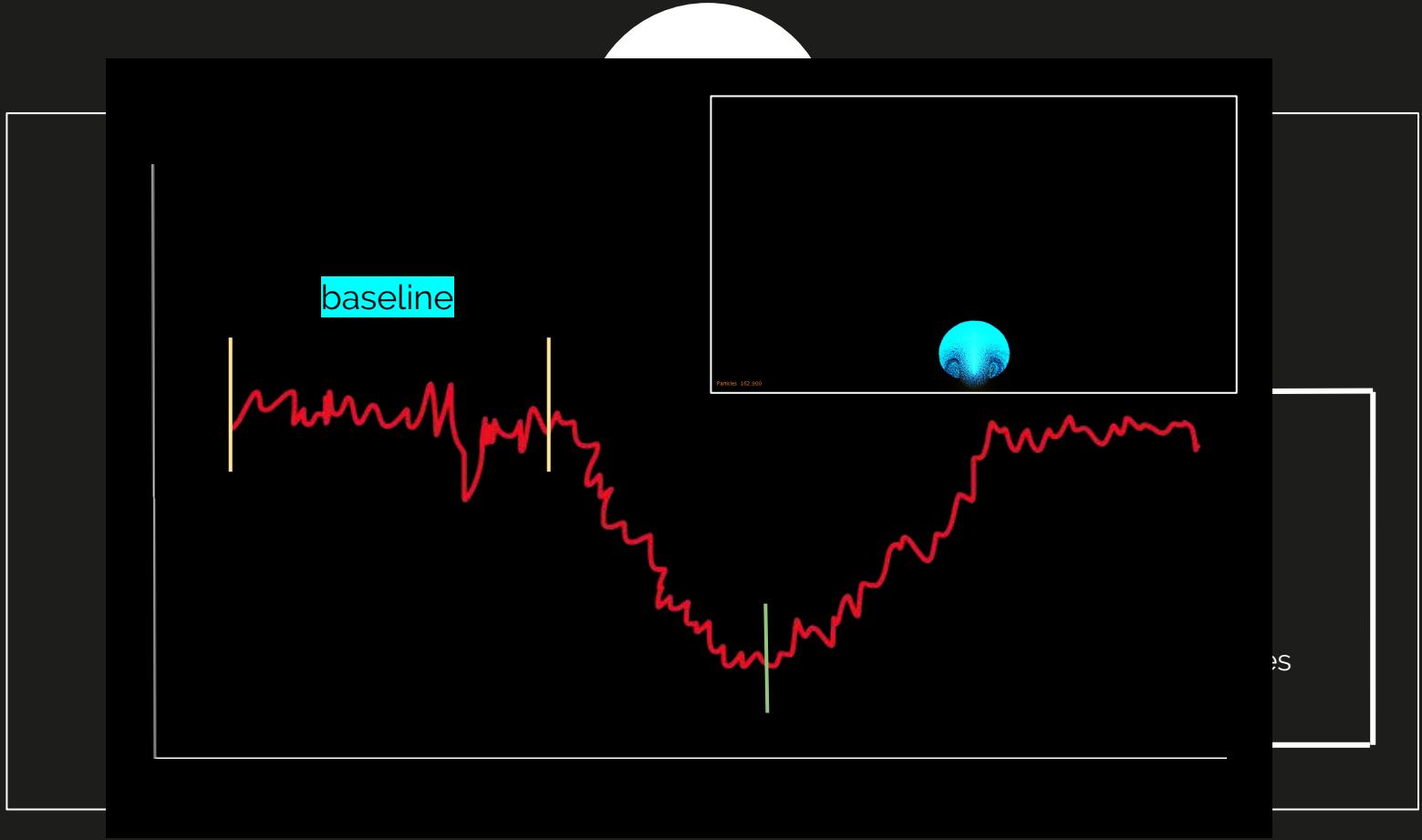
Recording data

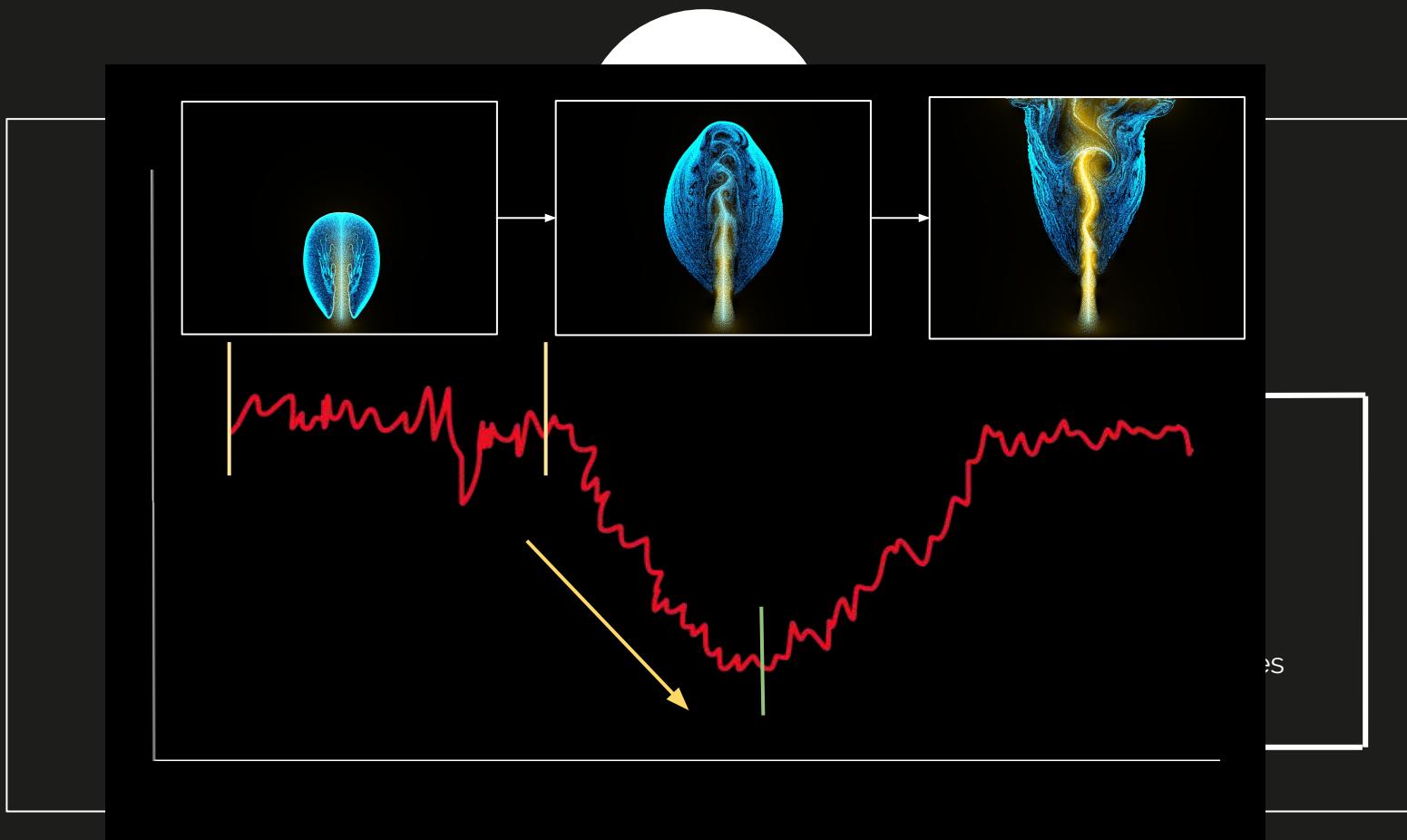
Sync clock

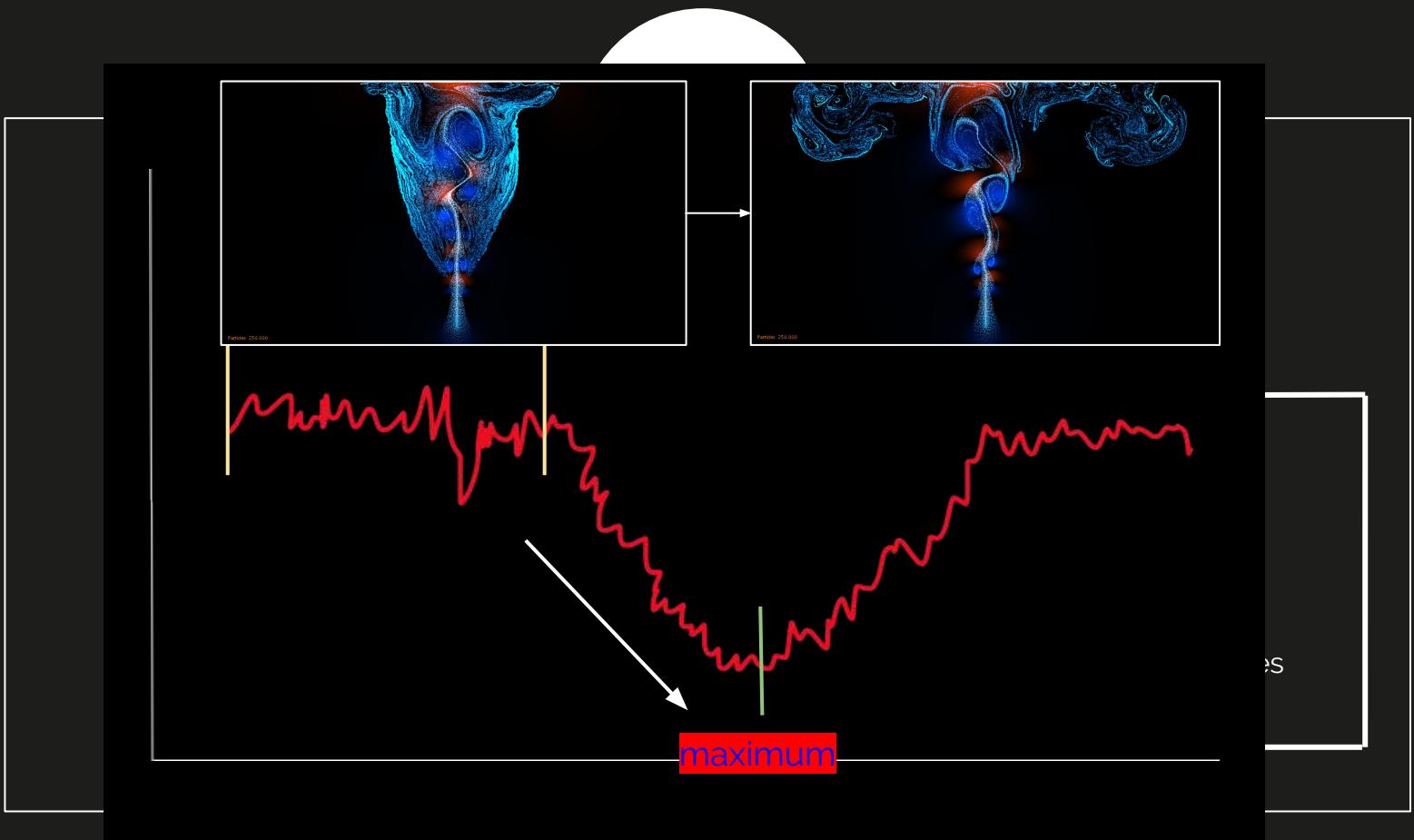
ADD/EEDIT INFO

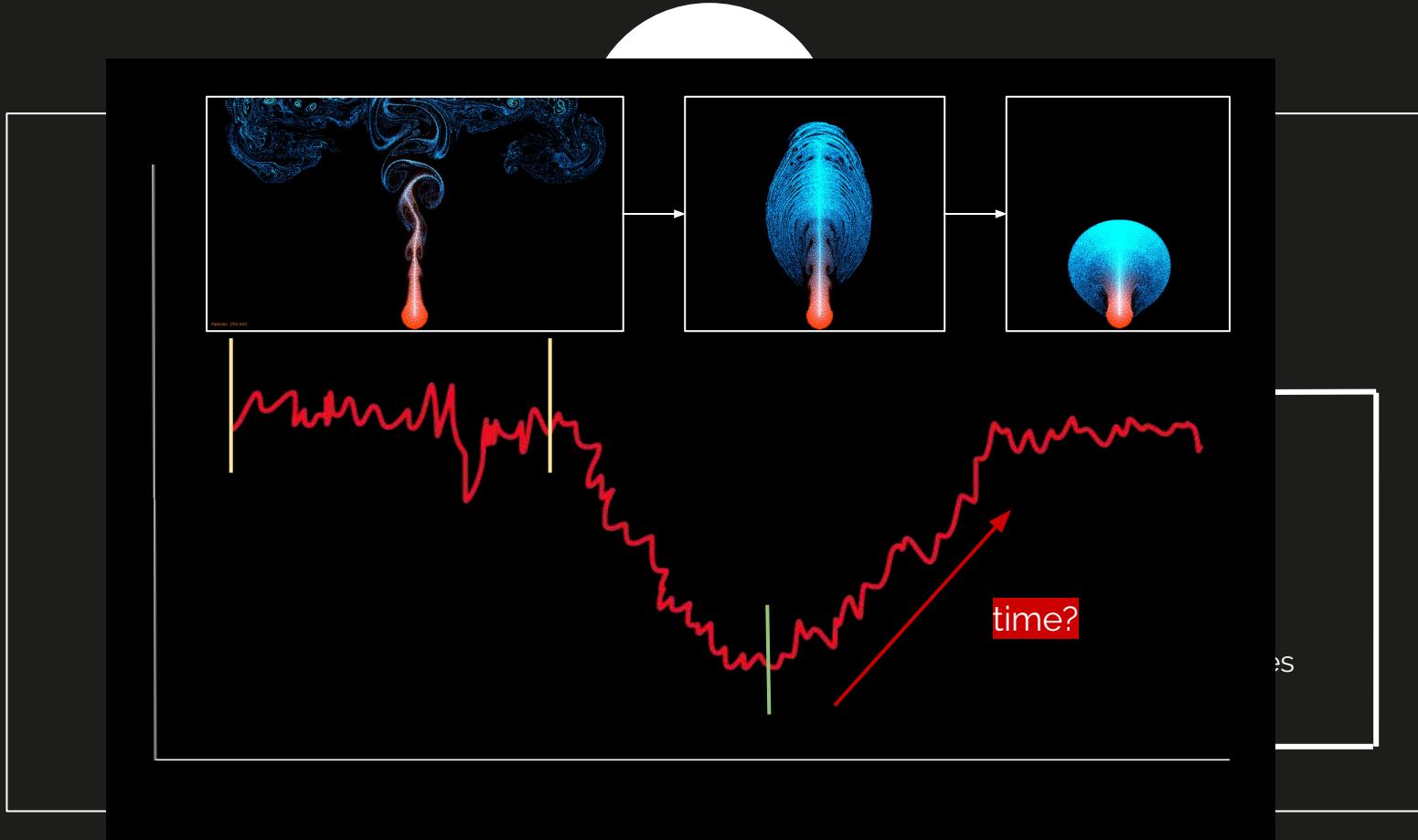
EXIT

Physiological correlates of decision-making in social emergent behaviours, Designing and prototyping a low-cost bio-signal monitoring tool for the research environment.
Universitat Pompeu Fabra, Master's degree in Cognitive System and Interactive Media, Barcelona - 2018.



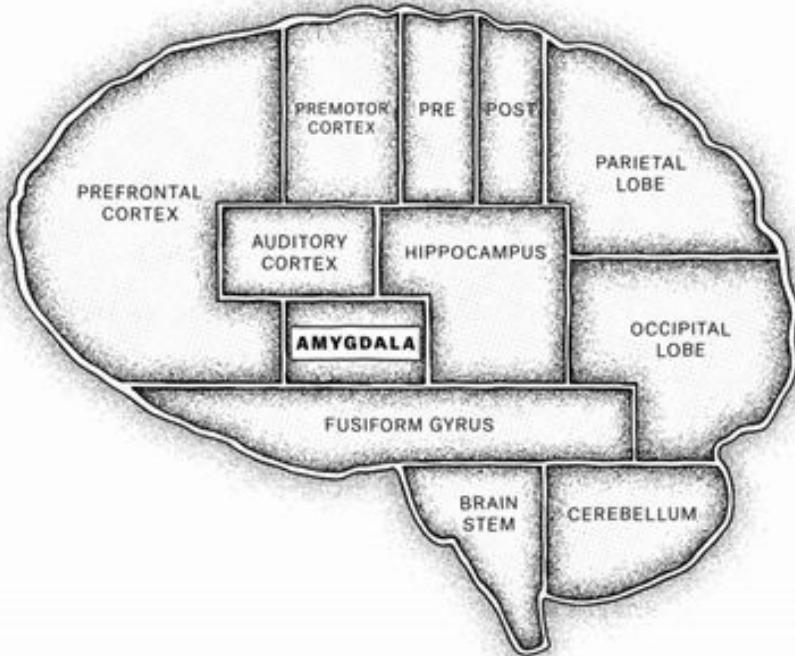






- Differences of the EDA's values with the baseline
 - Low difference → Low velocity of the particles
 - Great difference → High velocity of the particles
- Computing if the signal is decreasing or increasing
 - Decrease → The particles are red
 - Increase → The particles are yellow
- OBJECTIVE
 - Achieve a maximum value (a maximum difference)
→ The color of the particles change
 - Return to the calm state (baseline) in a short period of time

REFERENCES



- [1] Netflix (2019). Chapter 3. Anxiety. **The Mind, explained**. Retrieved from <https://www.netflix.com/title/81098586>
- [2] Bystritsky A, Khalsa SS, Cameron ME, Schiffman J. Current diagnosis and treatment of anxiety disorders. *Pharm Ther* (2013) 38(1):30.
- [3] Netflix (2019). Chapter 4. Meditation. **The Mind, explained**. Retrieved from <https://www.netflix.com/title/81098586>
- [4] Headspace App. (n.d.). Retrieved from <https://www.headspace.com/headspace-meditation-app>
- [5] Experience Calm. (n.d.). Retrieved from <https://www.calm.com/>
- [6] Zangróniz, R.; Martínez-Rodrigo, A.; Pastor, J.; López, M.; Fernández-Caballero, A. Electrodermal Activity Sensor for Classification of Calm/Distress Condition. *Sensors* 2017, *17*, 2324.
- [7] A Processing/Java library for high performance GPU-Computing (GLSL) by **Thomas Diewald**
- [8] PhysioProcessing App by **Roger Zambrano**

THANKS!