An innovation to improve the efficiency of ergonomic chairs

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Introduction

In this era, we have entered the modern era. There are more technological advances. The amount of use of technology and electronic devices in the work of people in society tends to increase. This may cause an increase in the number of office syndrome patients as well. From the statistics of the Ministry of Public Health of Thailand, it is found that
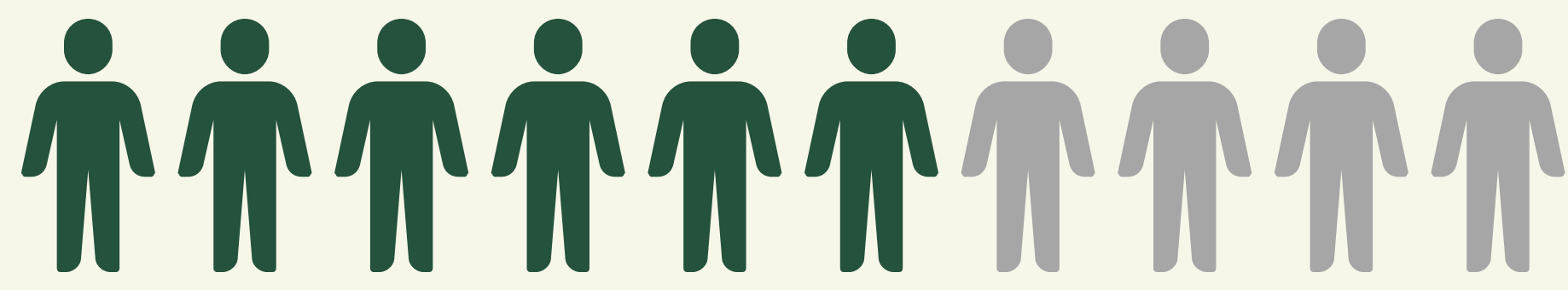
60% of working age people have office syndrome.

Risky behaviors for office syndrome

Improper sitting posture

Sitting for too long

Not very physically active

Figure 3: seat materials — Universal Car Seat Pressure Sensor, Cushion, Wire

Figure 4: circuit materials — Raspberry Pi 3 Model B+, Buzzer
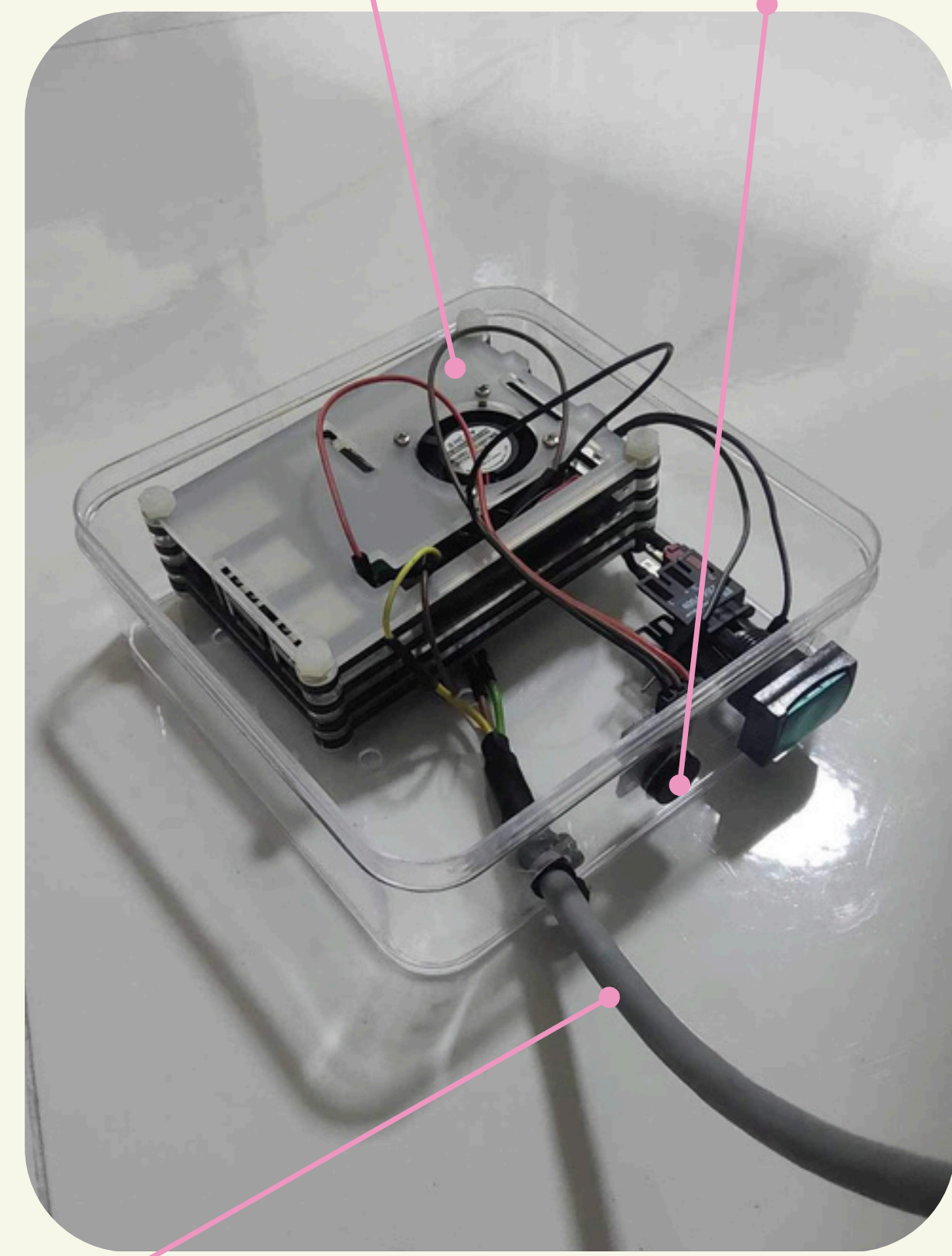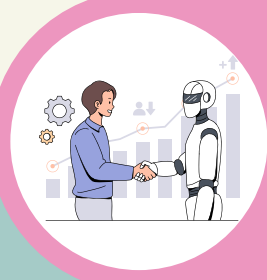
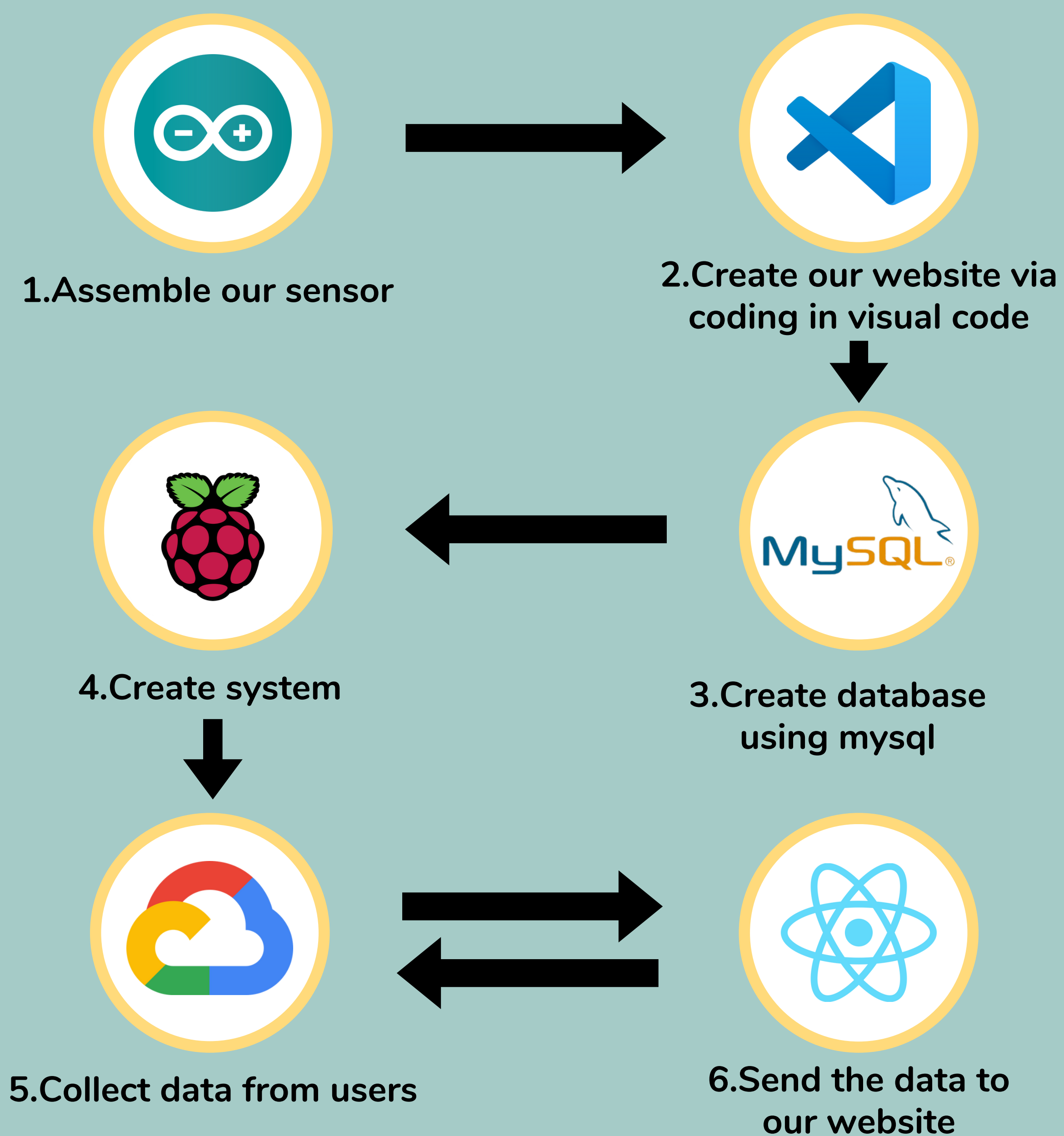## Objectives

- To decrease the amount of people affected by Office Syndrome
- To fix peoples bad habit when sitting

Methodology

1. Assemble our sensor
2. Create our website via coding in visual code
3. Create database using mysql
4. Create system
5. Collect data from users
6. Send the data to our website
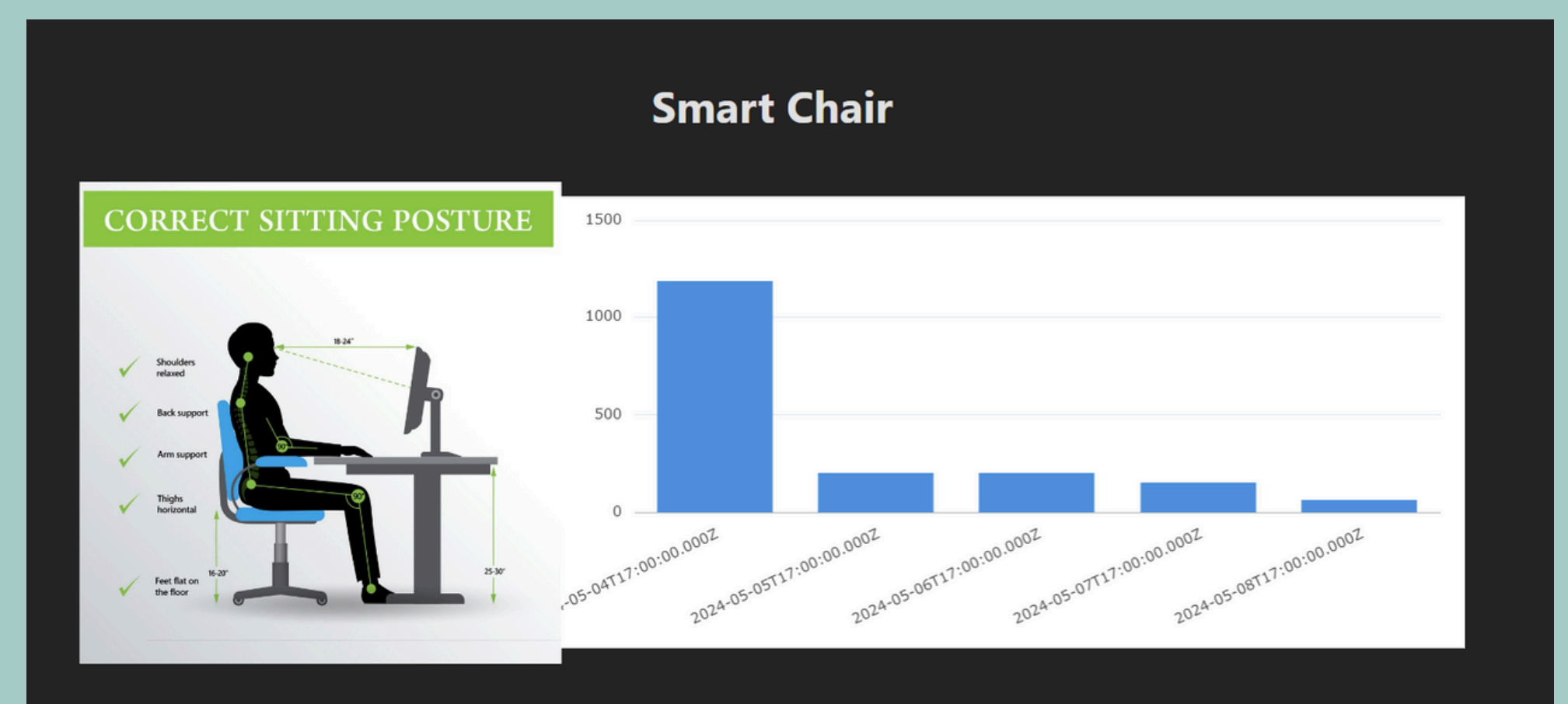
Result and conclusion

Figure 1: Website interface (the graph is only showing a test data)

Time sat (sec)	Sit correctly	Sit wrongly	Sit correctly (%)	Date
28503	19035	9468	66.78244395	(01-05)-04-24
27490	18658	8832	67.87195344	(06-10)-04-24
27001	20749	6252	76.84530203	(11-15)-04-24
28886	22498	6388	77.88548086	(16-20)-04-24
28649	22752	5897	79.41638452	(21-25)-04-24
29638	23801	5837	80.30568864	(26-30)-04-24

Figure 2: The table shows the amount of time (sec) that the user is sitting in a correct and wrong position

To get our results, we got testers to use our product for **30** days straight **8 hours daily**. As shown in the table above, we can see that the amount of time that the user is **sitting in a wrong position decreases over time**. We can conclude that after using this project consecutively, users **start to adapt** to sit in the correct position without the gadget warning them.

Overall, our first prototype is a success. Most of the time it is able to distinguish whether the user is sitting in a correct position or not with above average accuracy. We also succeeded in making it a budget-friendly product.
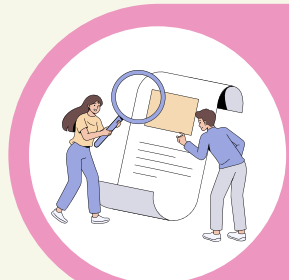
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