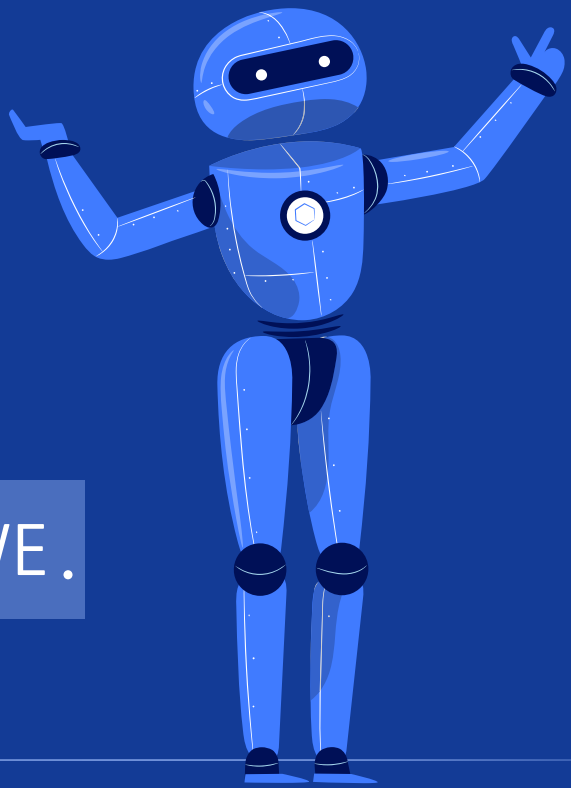
Francesco Colasante
Emanuele Santo Iaia
Simone Di Tanna

DYNARTWORK

INNOVATION ON ART

MAKE YOUR ART LIVE.



PROBLEMS

The lack of dynamism of the artworks

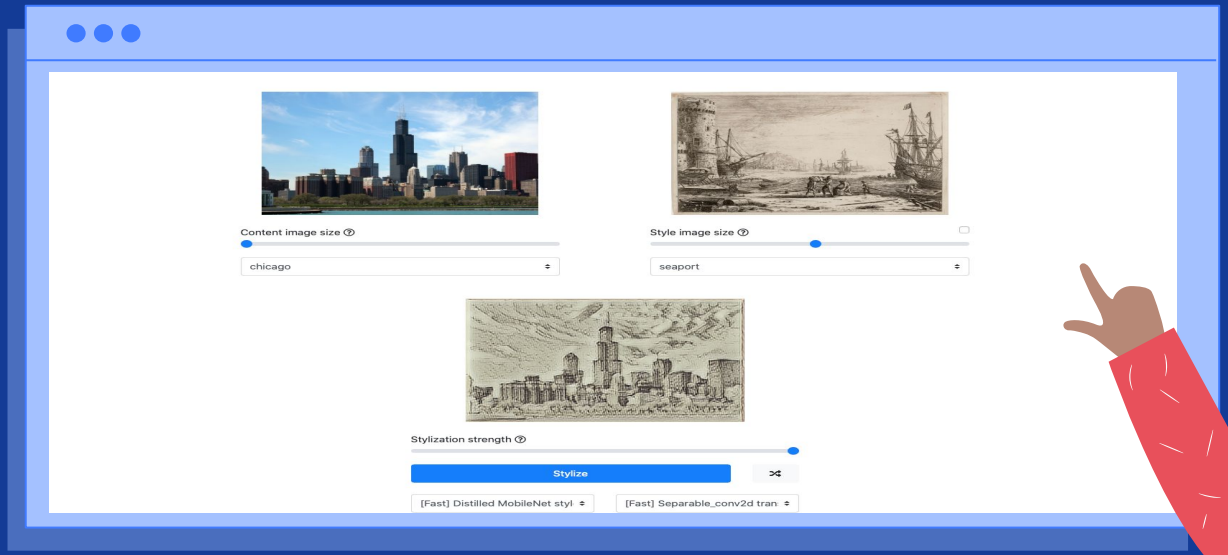
Poor interaction between the art world and technology

The role of artists is not highlighted

Poor opportunities for artists to emerge

EXISTING APPROACHES

Arbitrary Style Transfer



IDEA

Website

Image Processing

Retrieve Data

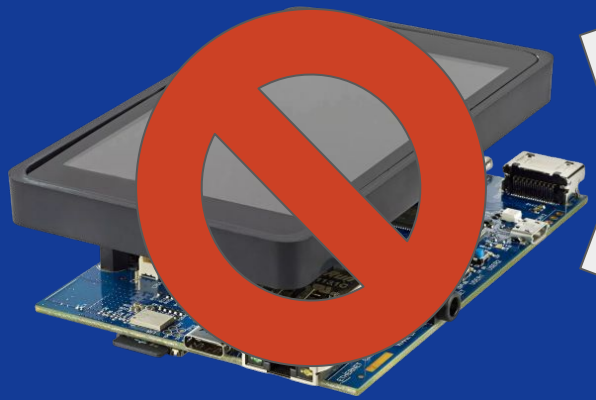
Projecting

HARDWARE COMPONENTS

ESP WROOM 32

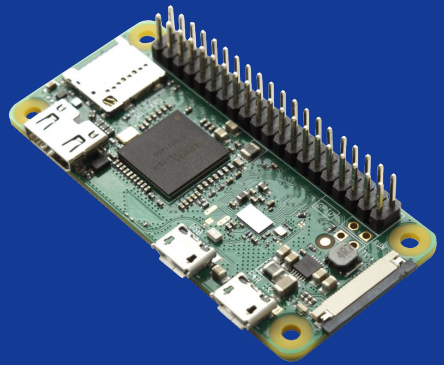
It is a series of low-cost, low-power system on a chip microcontrollers with integrated Wi-Fi and dual-mode Bluetooth. Runs a RIOT-OS custom firmware forked by emcute.

HARDWARE COMPONENTS



STM32MP1

ESP WROOM 32

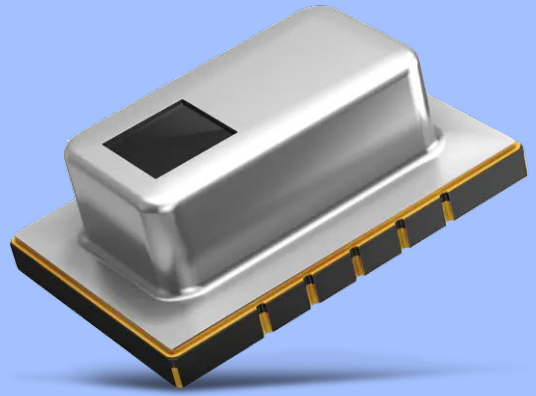


Raspberry PI 0 W

WHY?

- distance
- reuse of code
- community
- costs

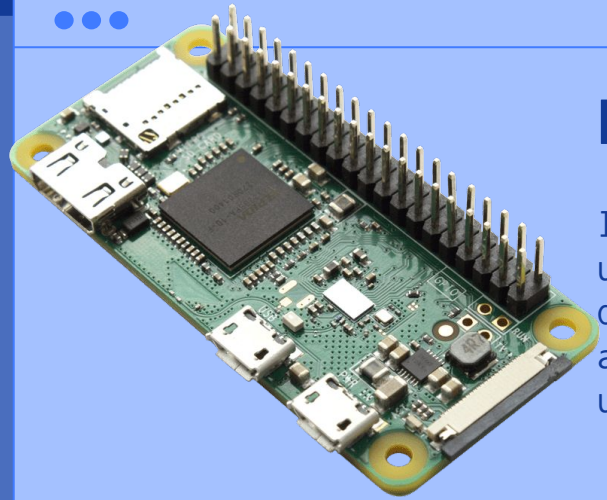
HARDWARE COMPONENTS



Panasonic Grid Eye sensor

It is the input of our DynARTwork infrastructure. It feature 64 thermopile elements in an 8x8 grid format that detect absolute temperatures by infrared radiation.

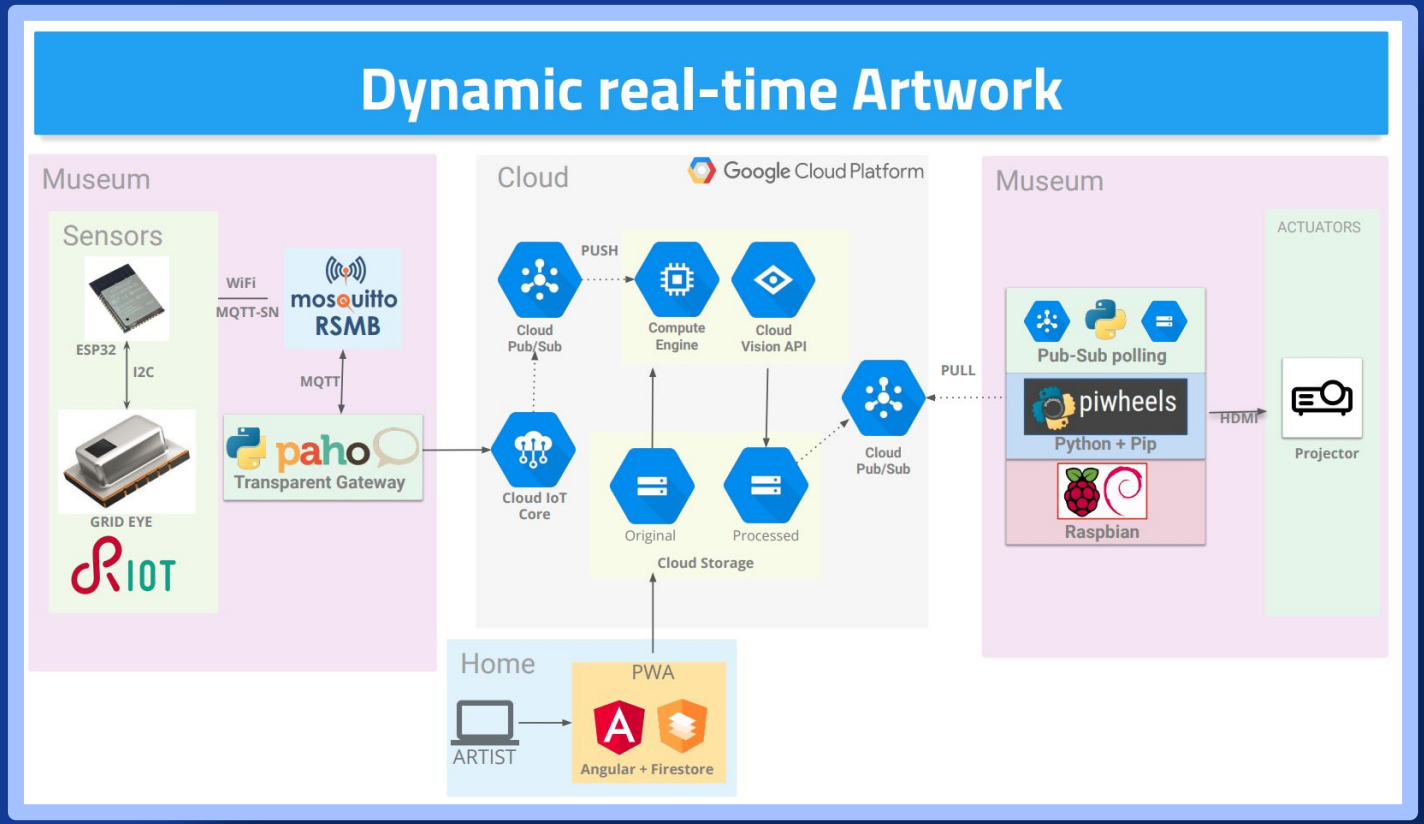
HARDWARE COMPONENTS



Raspberry Pi 0 W

Iit will allow, through the use of a python script, to download the processed image and display it through the use of the hdmi interface.

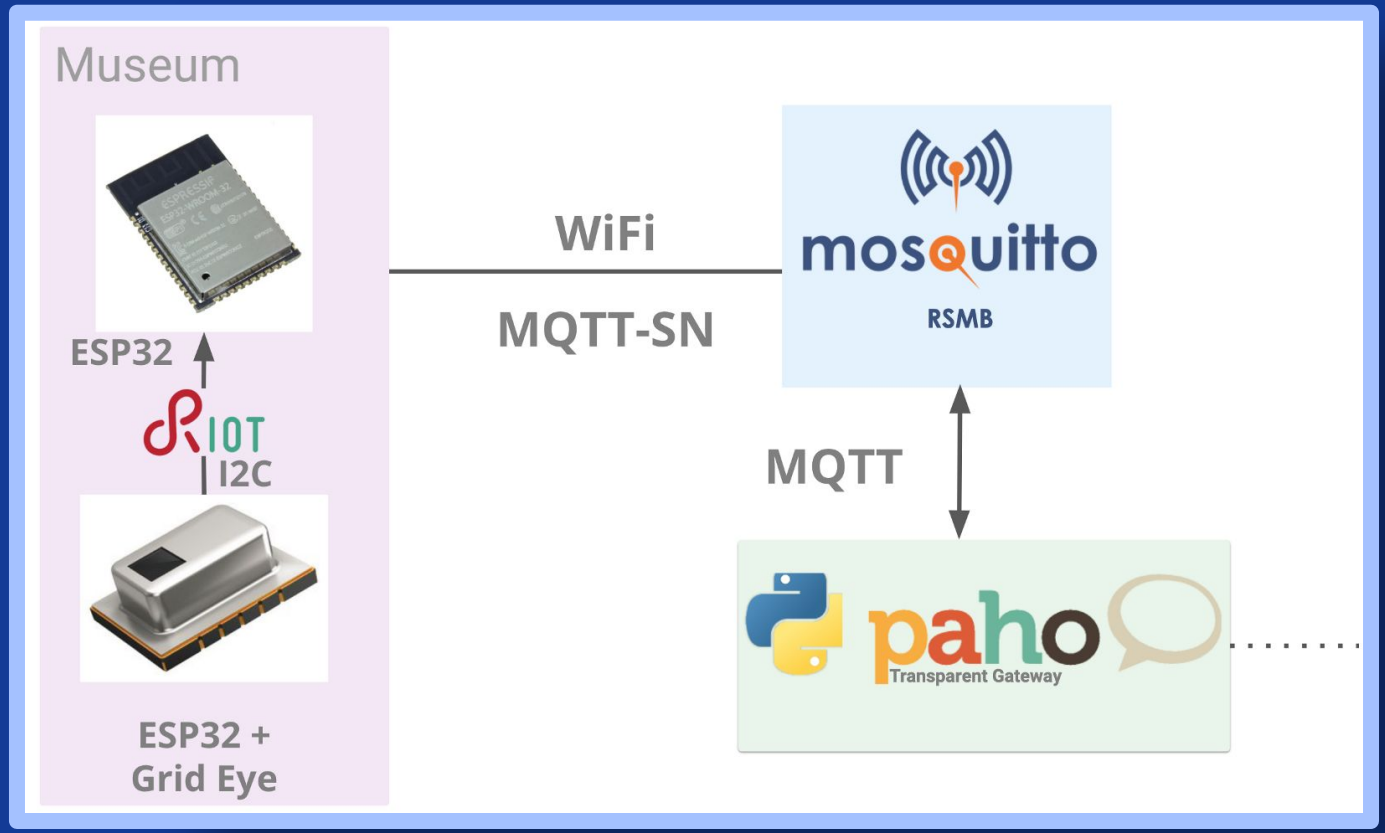
ARCHITECTURE DIAGRAM



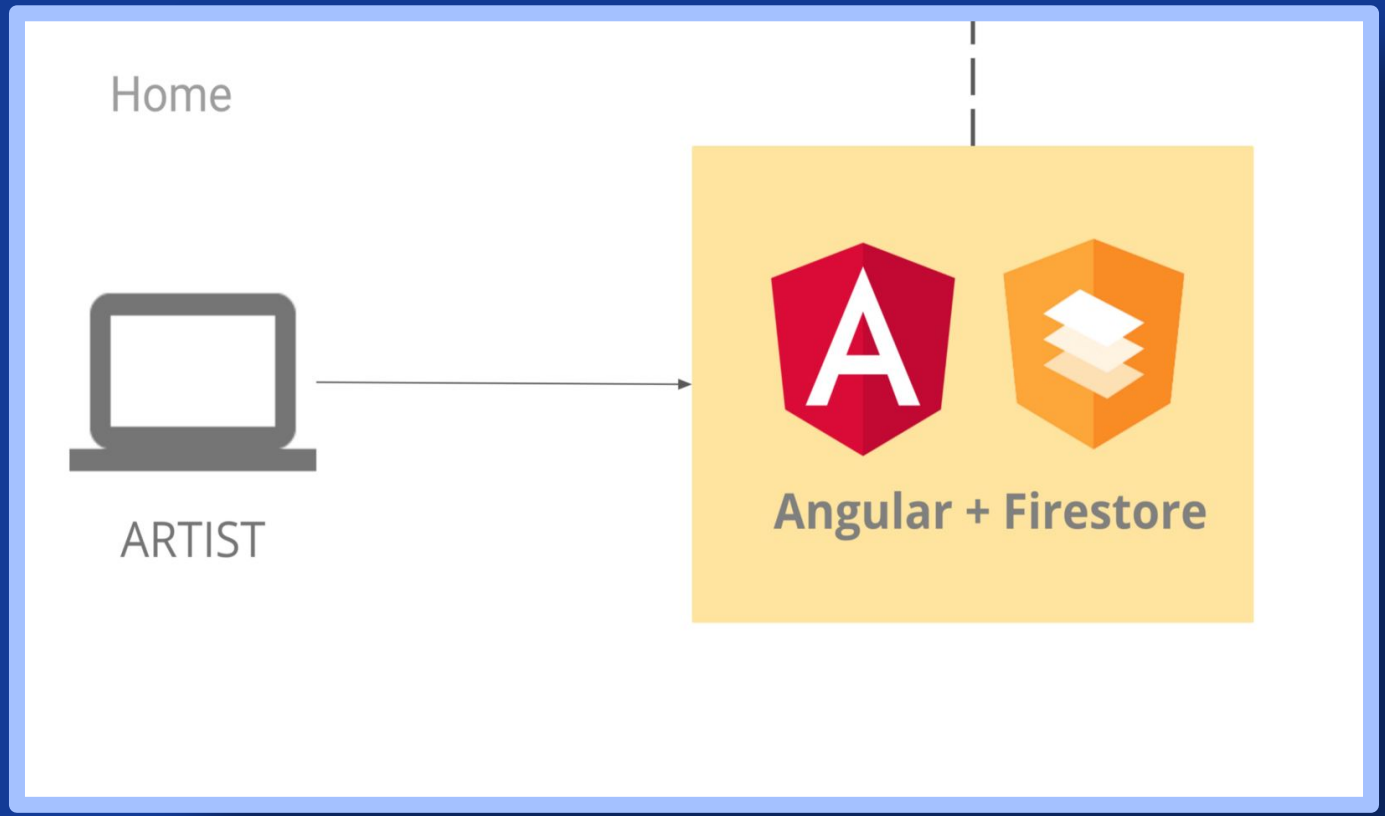
WHY?

- modularity
- loosely coupled architecture
- unit testing

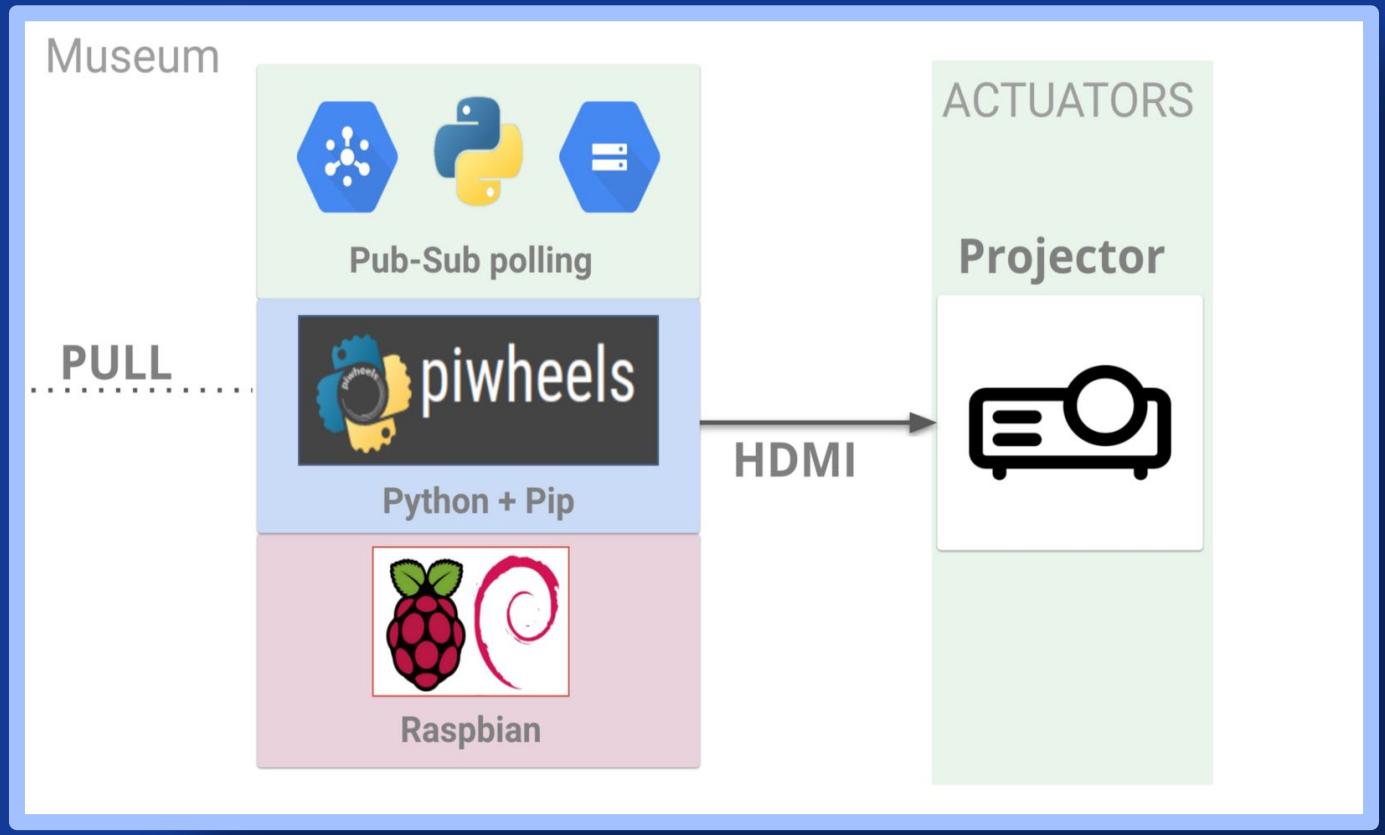
NETWORK DIAGRAM



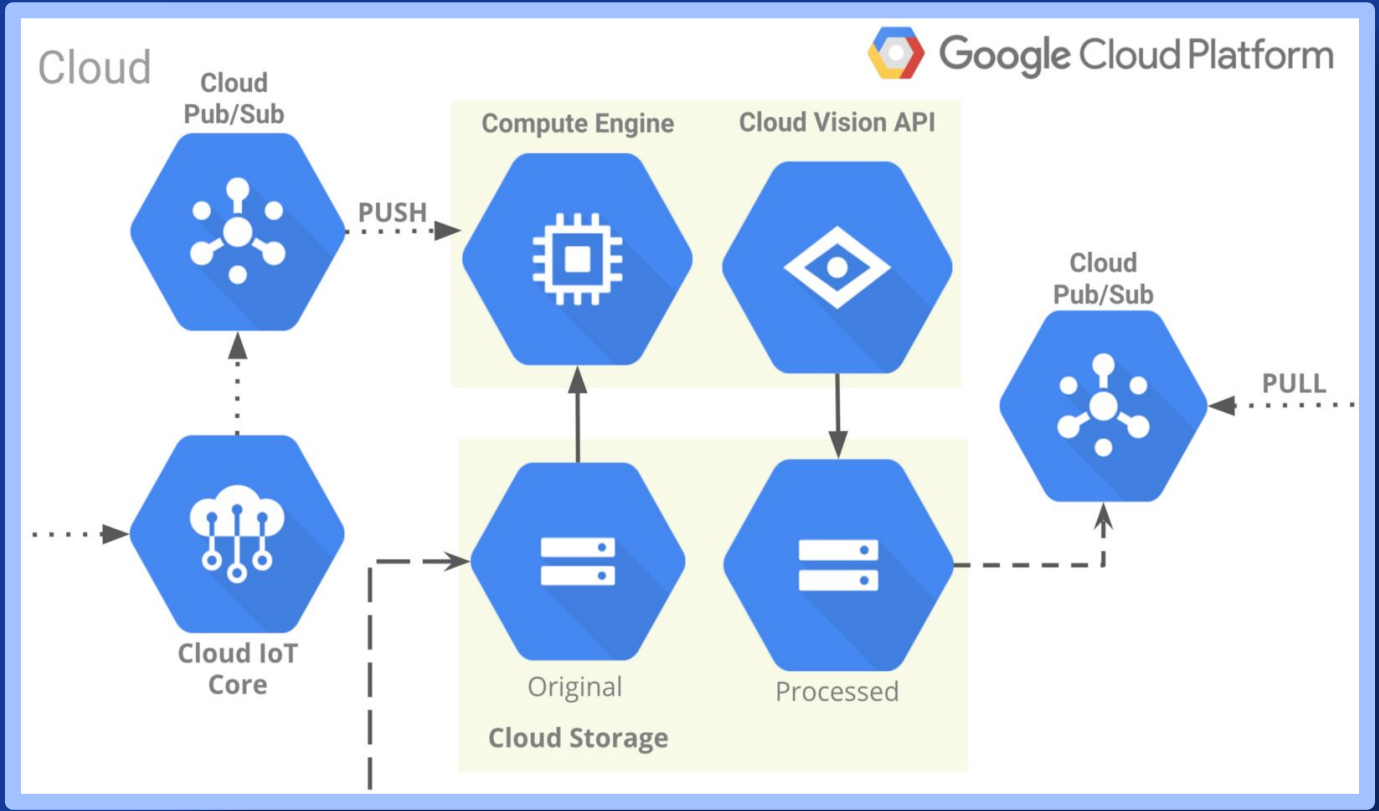
NETWORK DIAGRAM



NETWORK DIAGRAM



NETWORK DIAGRAM



EVALUATION - TECHNICAL PART

UNIT TESTING

01

Monitor single tasks of the project

COMPLETE TEST

02

Monitor entire architecture running

PERFORMANCE

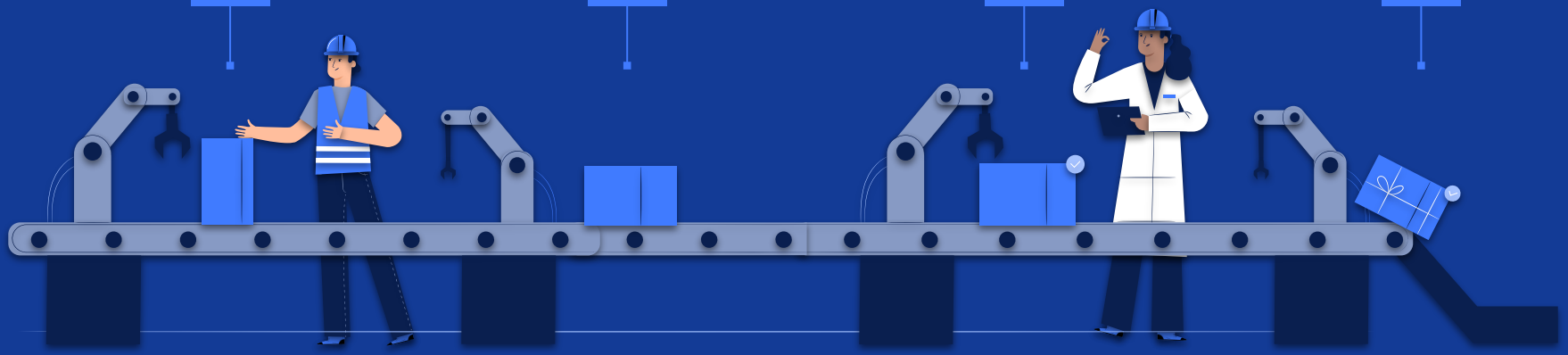
03

Despite the complexity performs well in all tasks we designed

CONCLUSION

04

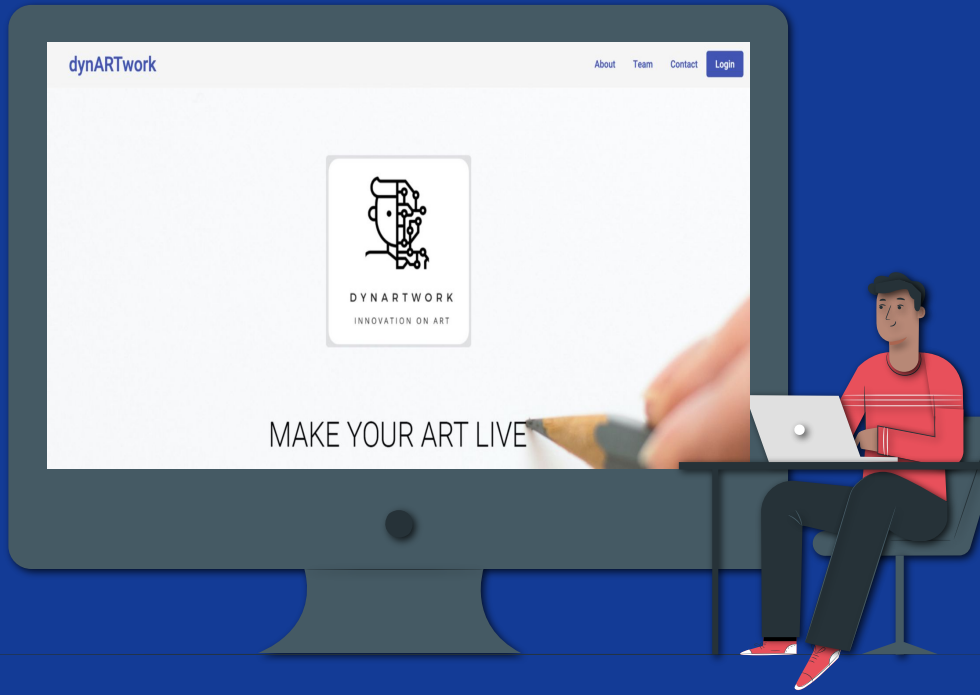
All the goals for a minimum valuable product have been satisfied



EVALUATION - USER EXPERIENCE

USER SATISFYING

We gave the web application to about 20 people and we collected opinions about the difficulty of the actions and the satisfaction about the final result provided by our architecture.



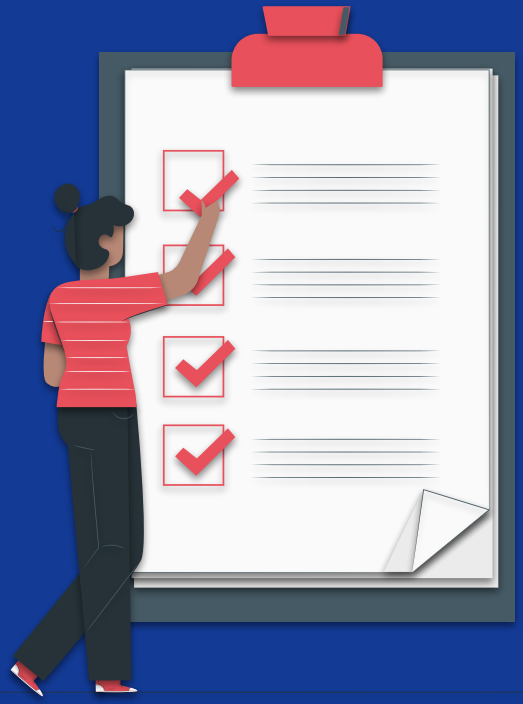
FUTURE IMPLEMENTATION

EVALUATION

- ONLINE PART (USER EXPERIENCE)

MACHINE LEARNING

IMPLEMENT MACHINE LEARNING TO MERGE IMAGES



WEBAPP

COMPLETE FLOW ON WEBAPP

MVP

COMPLETE HARDWARE
PCB + PACKAGE

THANKS

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https://dynartwork-277815.web.app/