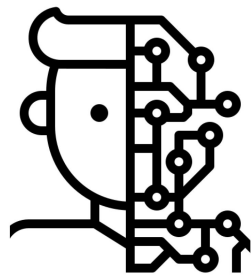


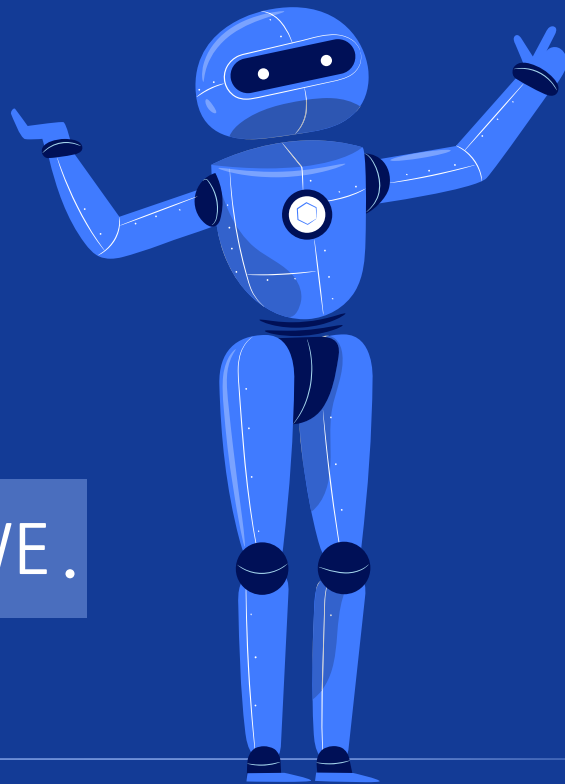
Francesco Colasante
Emanuele Santo Iaia
Simone Di Tanna



DYNARTWORK

INNOVATION ON ART

MAKE YOUR ART LIVE.



PROBLEMS



The lack of
dynamism of the
artworks

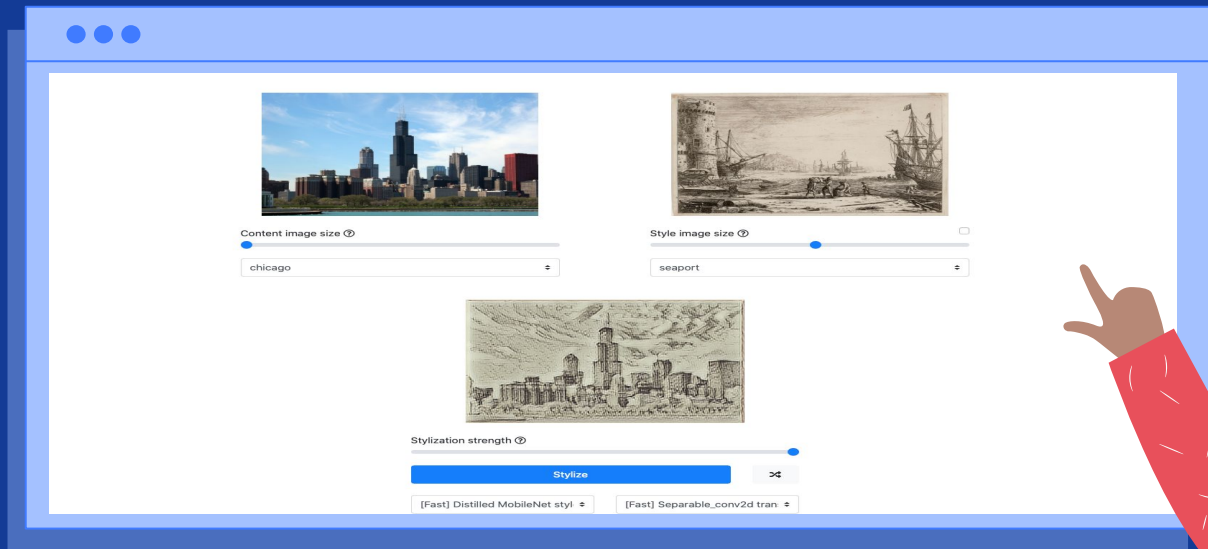
The role
of artists is not
highlighted

Poor interaction
between the art
world and
technology

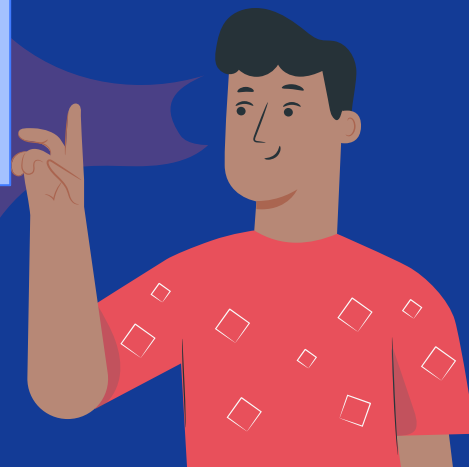
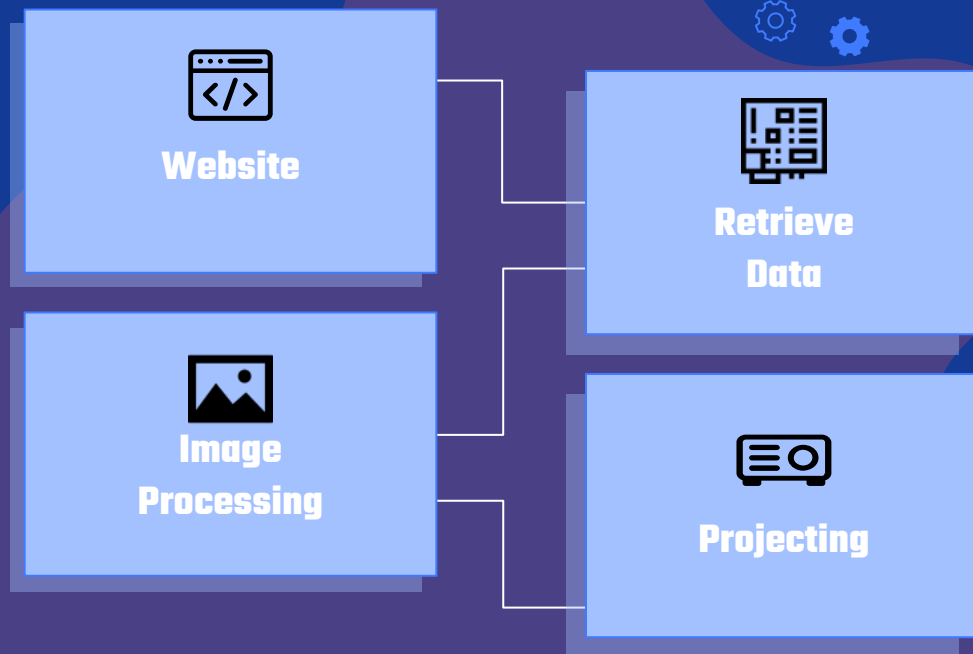
Poor
opportunities for
artists to emerge

EXISTING APPROACHES

Arbitrary Style Transfer



IDEA



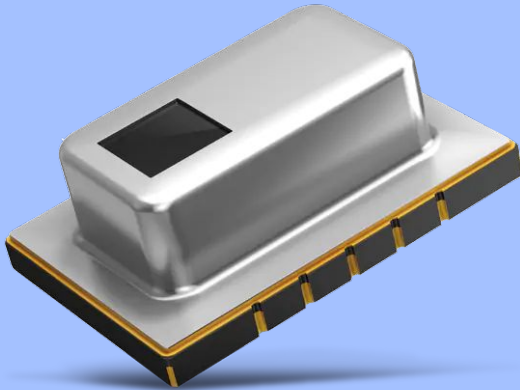
HARDWARE COMPONENTS



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.

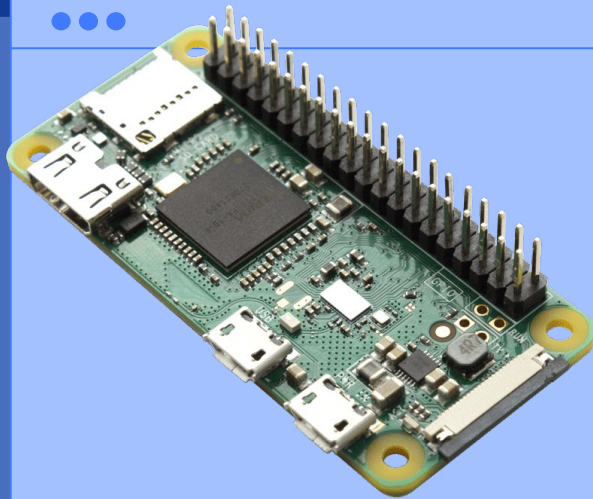
HARDWARE COMPONENTS



Panasonic Grid Eye sensor

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

HARDWARE COMPONENTS

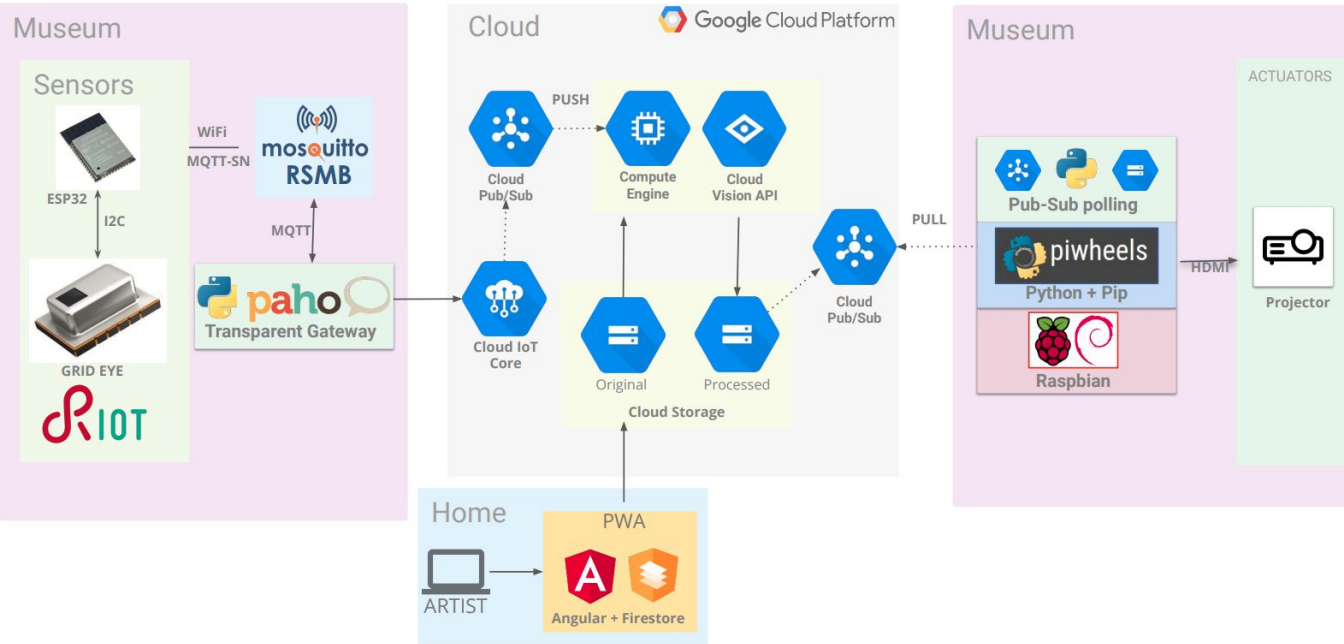


Raspberry Pi 0 W

It 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

Dynamic real-time Artwork



NETWORK DIAGRAM

Museum

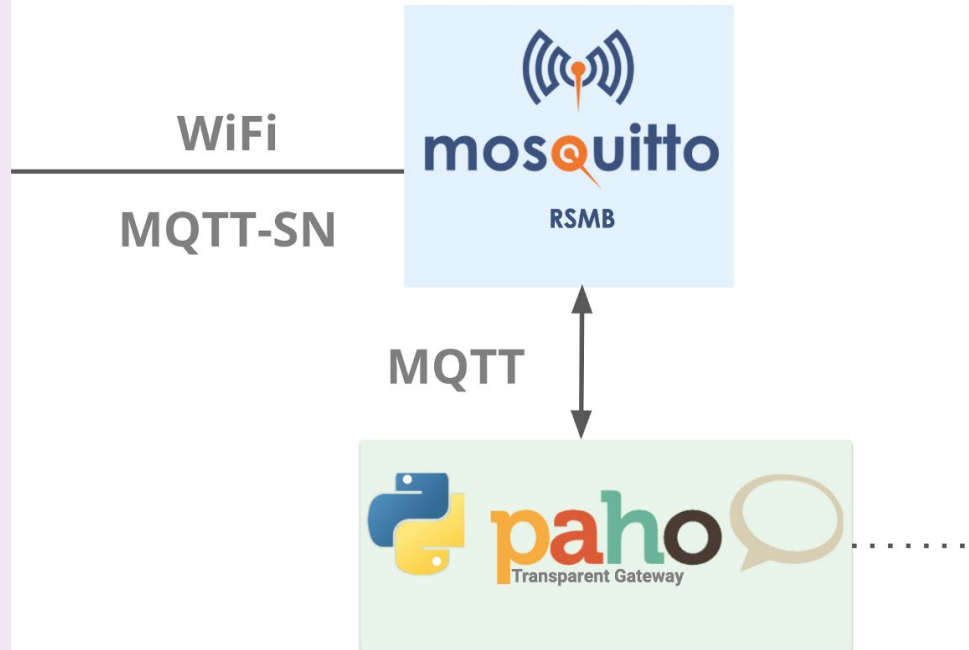


ESP32

 IOT
|
I2C



ESP32 +
Grid Eye



NETWORK DIAGRAM

Home



ARTIST



Angular + Firestore

NETWORK DIAGRAM

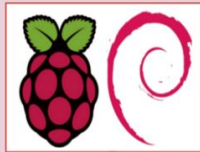
Museum



Pub-Sub polling



Python + Pip



Raspbian

PULL

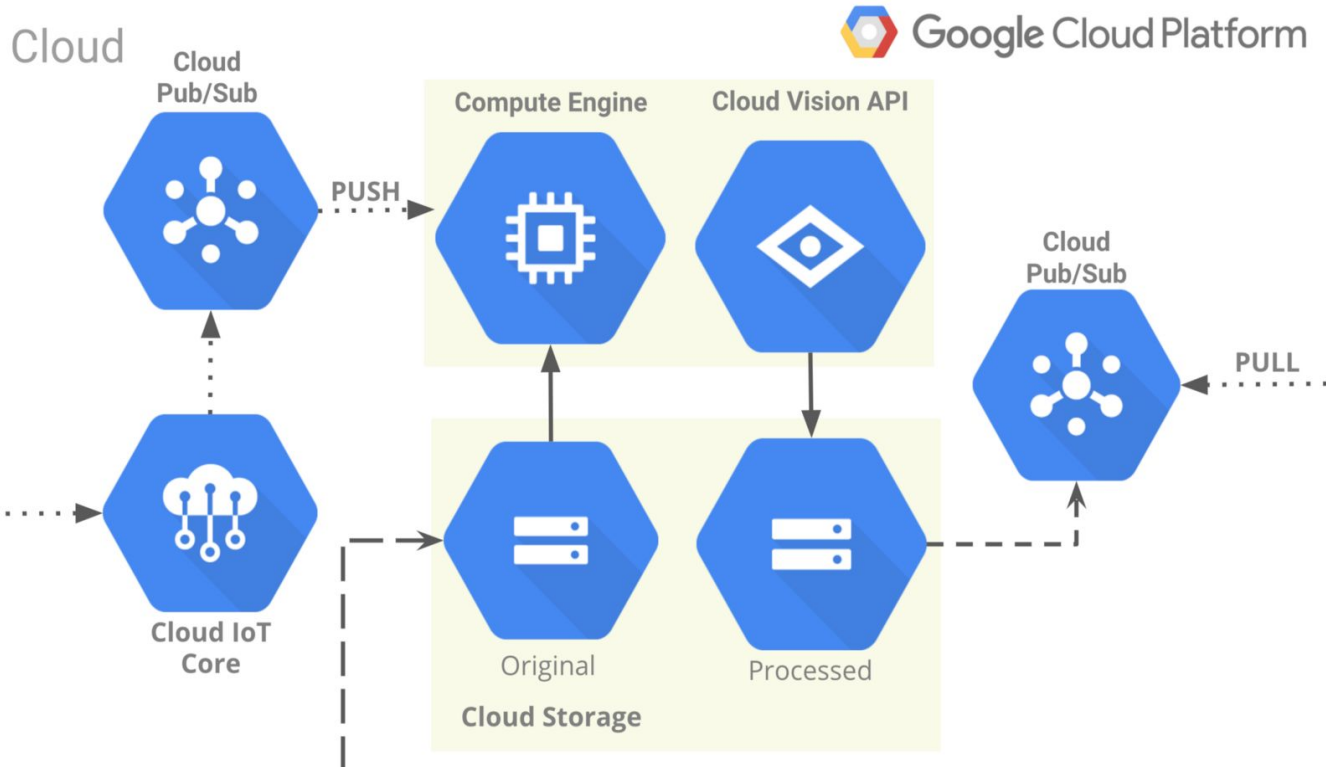
HDMI

ACTUATORS

Projector



NETWORK DIAGRAM



EVALUATION - TECHNICAL PART

Monitor single
tasks of the
project

UNIT TESTING

01



Monitor entire
architecture
running

COMPLETE TEST

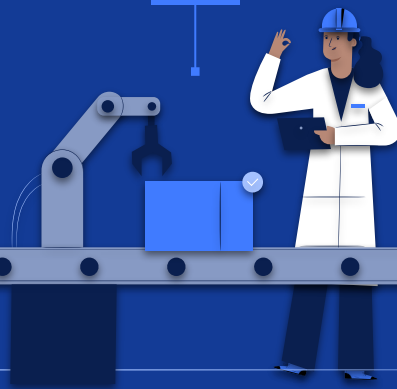
02



Despite the
complexity
performs well
in all tasks we
designed

PERFORMANCE

03



All the goals for
a minimum
valuable product
have been
satisfied

CONCLUSION

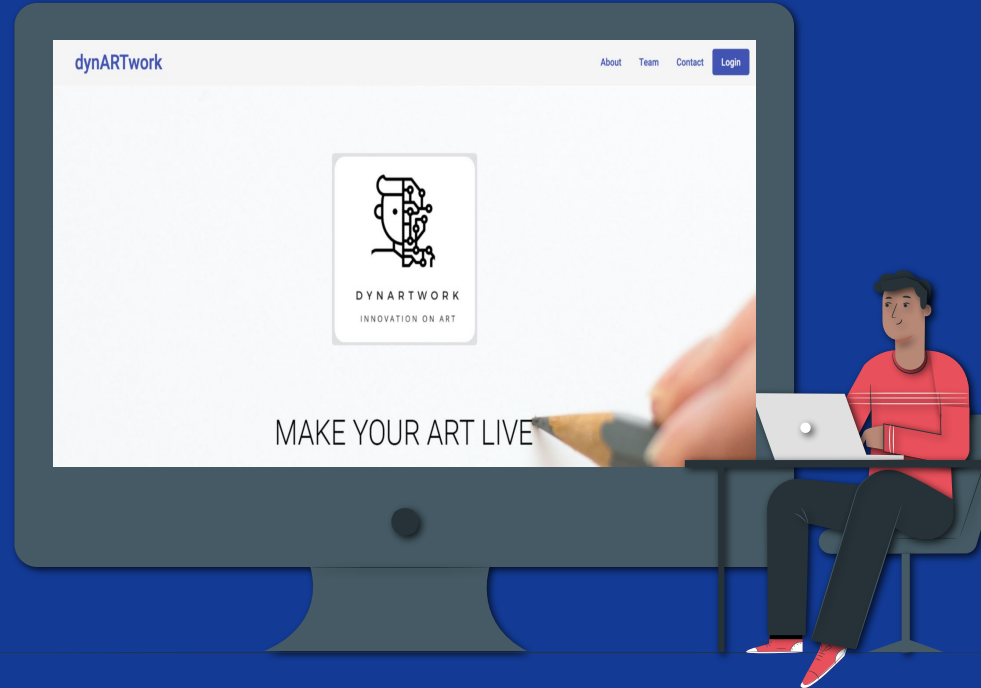
04



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.



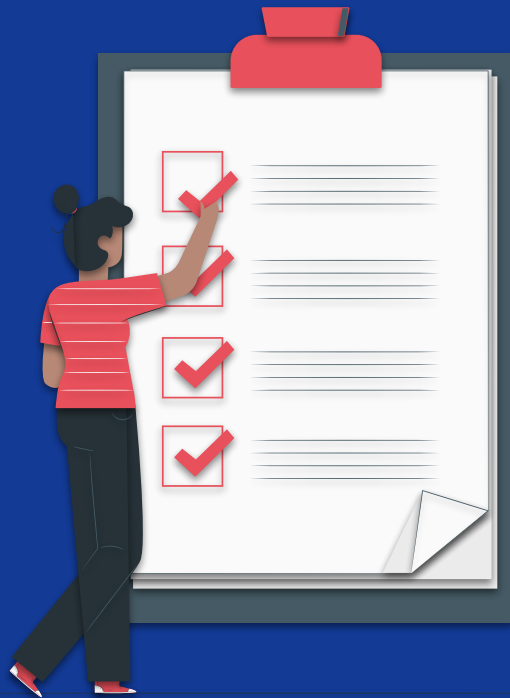
FUTURE IMPLEMENTATION

EVALUATION

- ONLINE PART (USER EXPERIENCE)
- CONVERSION RATE EVALUATION

MACHINE LEARNING

IMPLEMENT MACHINE LEARNING TO
MERGE IMAGES



WEBAPP

COMPLETE FLOW ON WEBAPP

MVP

COMPLETE HARDWARE
PCB + PACKAGE

THANKS

CREDITS:

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Emanuele Santo Iaia

Simone Di Tanna



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

