SOLUTION IOT DATAVIZ OPT
API TEMPS ATTENTE + MATRICE LED

MIAGE M2 - 2024/2025

EQUIPE

José Goué

CHT - Ingénieur logiciel

Raphaël Bordais

CCI - Architecte sys/rés

PROJET

Expérience DEV

Projet DATAVIZ

COMMENT?

Utilisation capacités matrice LED

POURQUOI?

Affichage "temps d'attente en agence"

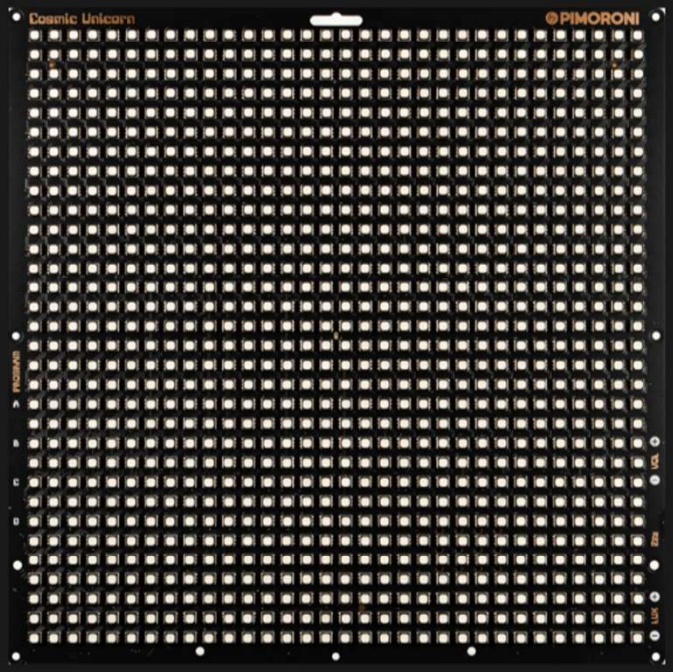
Démonstration polyvalence matrice LED

PLAN

Matériel
APIGEE
Script
Affichages
Que retenir?
Sources

MATÉRIEL

Pimoroni Cosmic-Unicorn



Face avant

1024 LEDs RGB

Grille 32x32

Pimoroni Cosmic-Unicorn

Face arrière
Alim/Prog USB
9 boutons (8 prog)

Raspberry Pi PicoW intégré

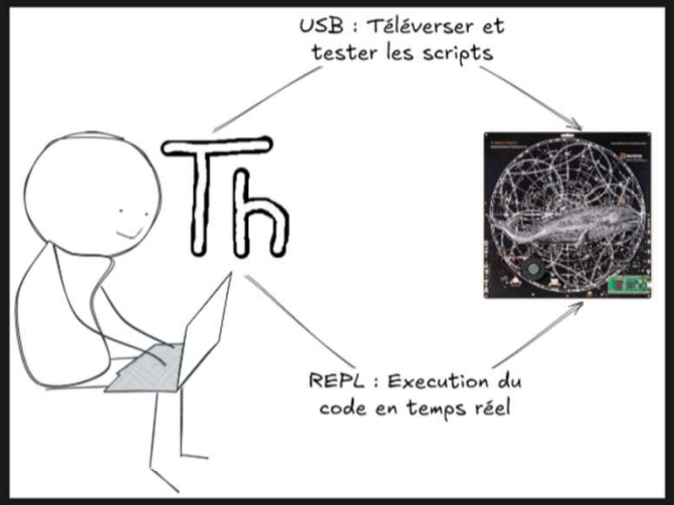
Processeur Dual Arm

Memoire 2 Mo flash

Wifi 2.4G

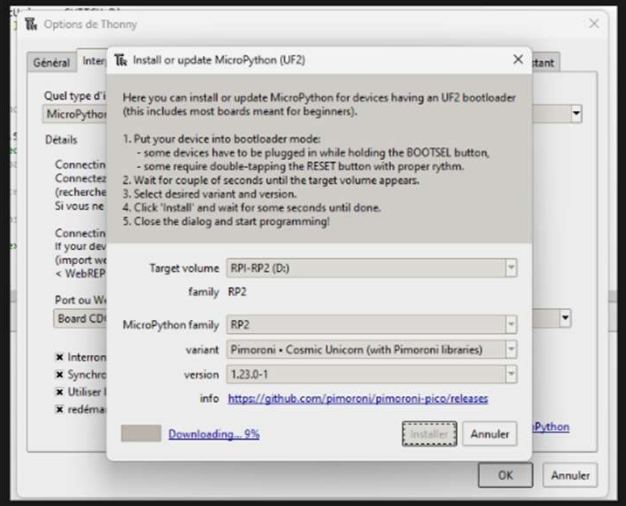
C/C++ & MicroPython

Stack Logiciel

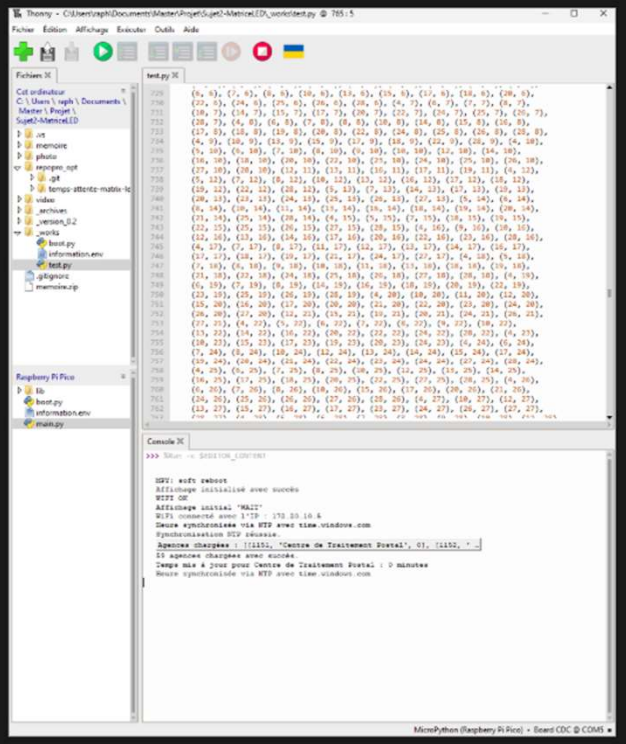


Matrice LED
MycroPython
Thonny
USB/REPL

Thonny



Install/upgrade/hard-reset



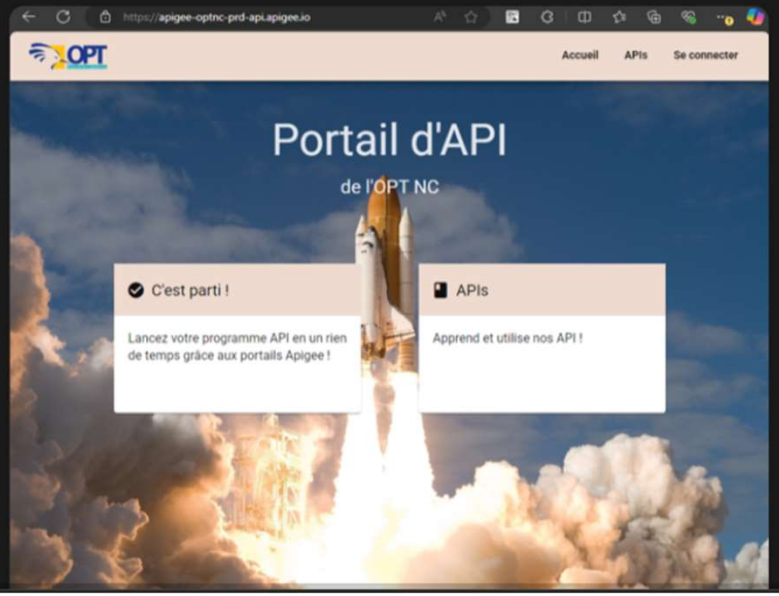
Gestion/test/téléversement

APIGEE

Plateforme de gestion d'API

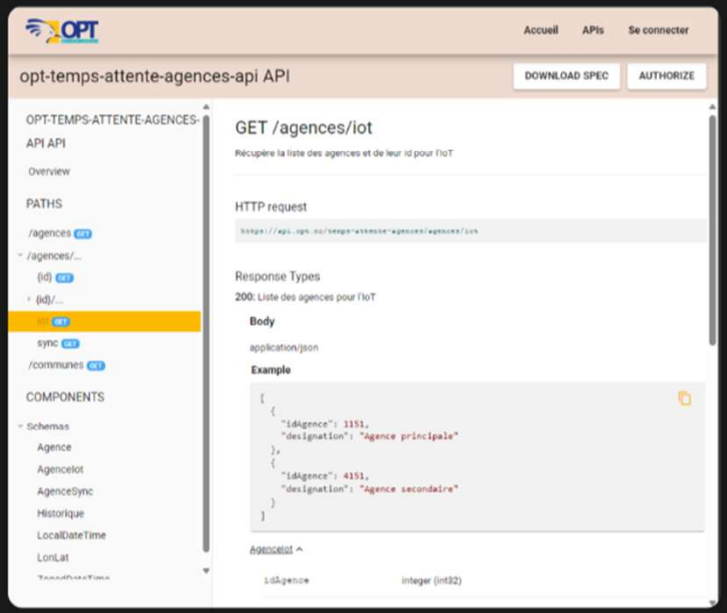
Portail de développeurs permet :

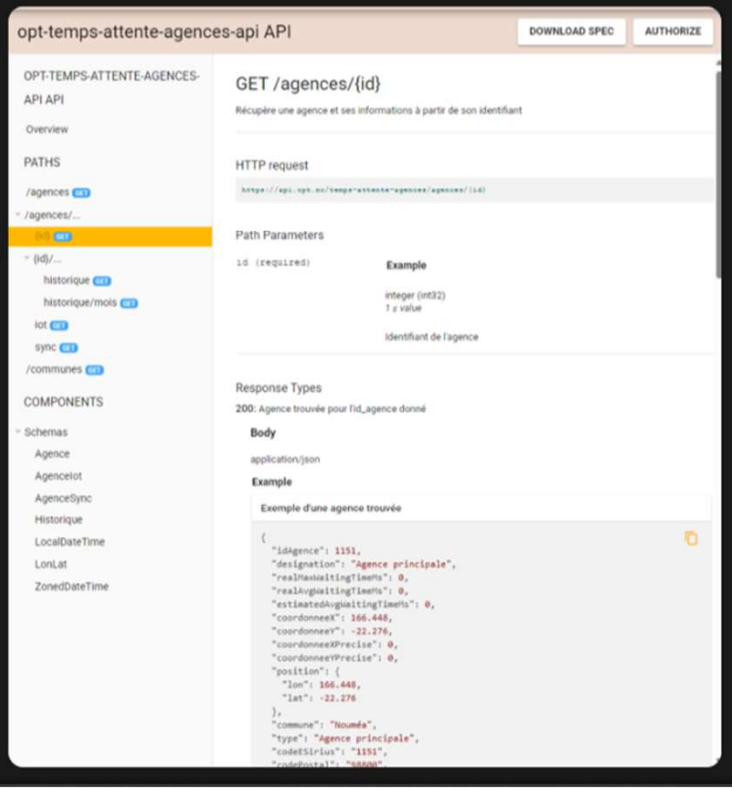
Accès aux API
Création simplifiée API
Accès documentaires



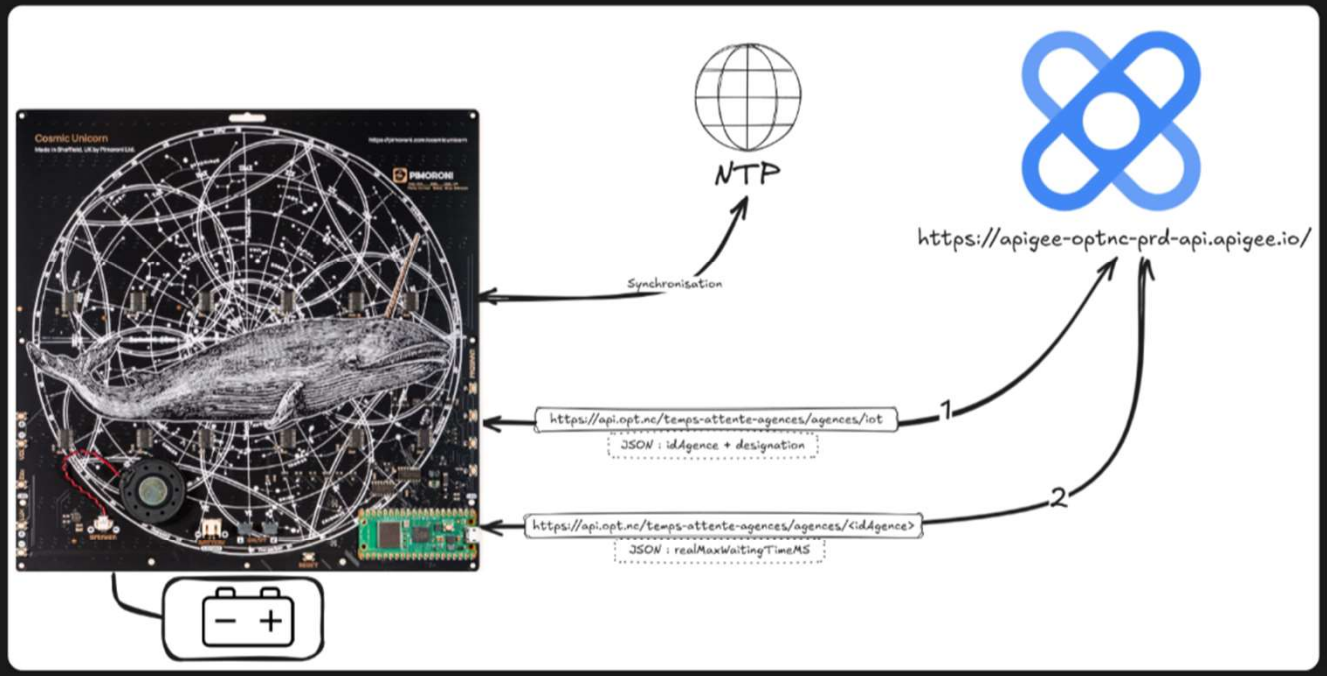
Apigee OPT NC

opt-temps-attente-agences-api





API consommées



SCRIPT

BOOT.PY

Fichier de boot de la matrice

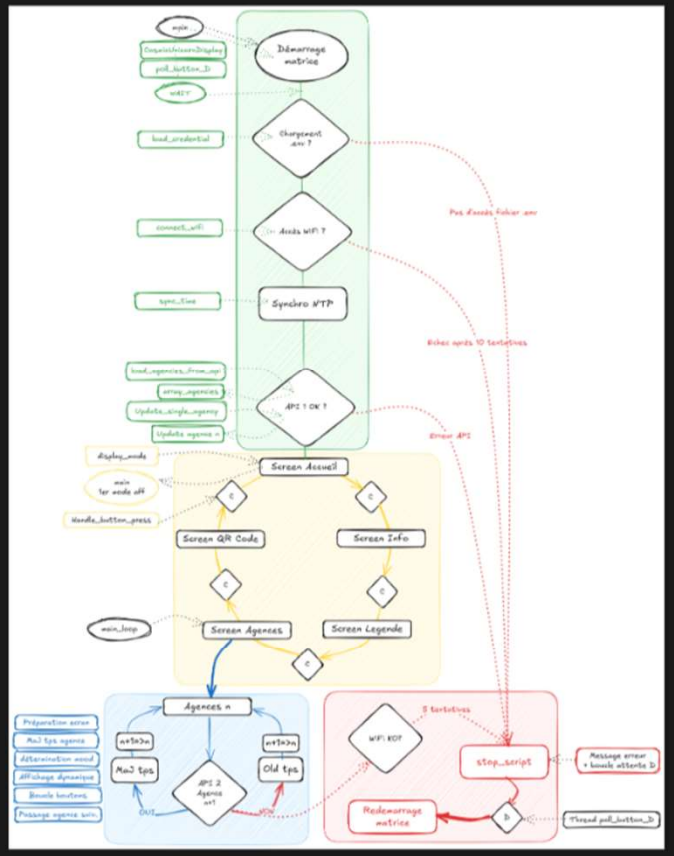
MAIN.PY

Fichier micropython du projet

INFORMATION.ENV

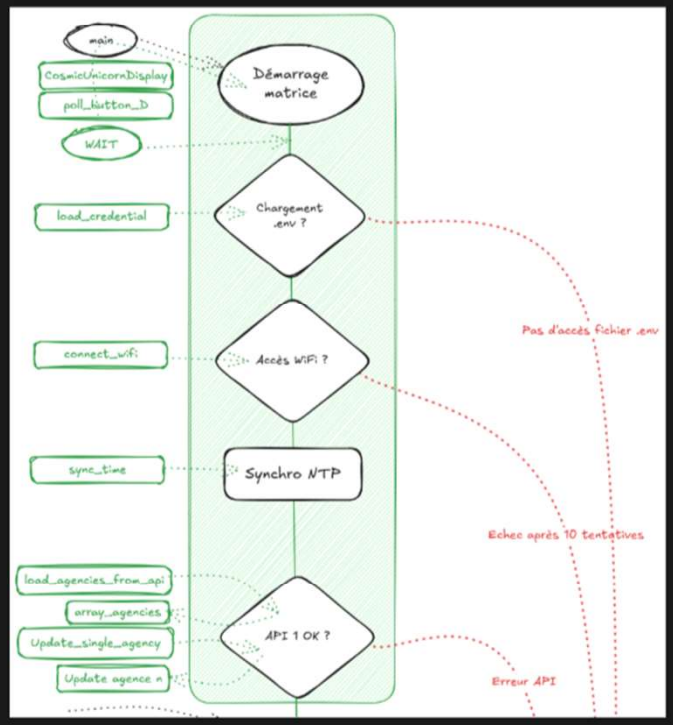
Stockage des différents crédential

Principe du script



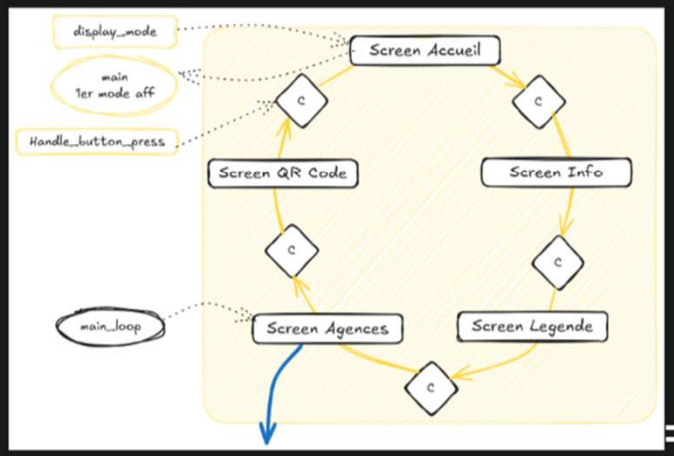
- Phase de démarrage
- Phase affichages
- Phase agences
- Phase erreurs

Phase de démarrage



Chargement .env
Connexion WiFi
Synchronisation NTP
Retour API

Phase d'affichages



Acceuil

Informations

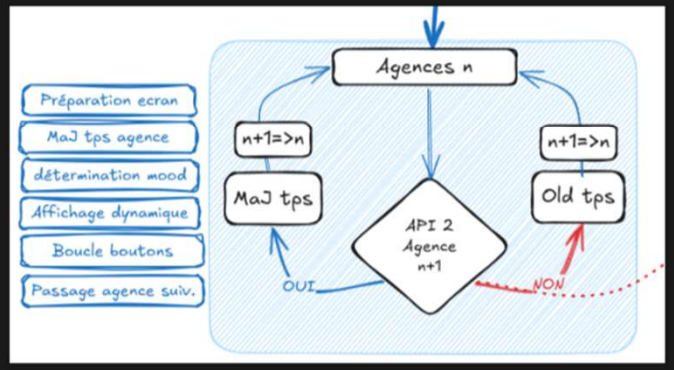
Légendes

Agences

QR Code

=> **Bascule par pression C**

Phase agence

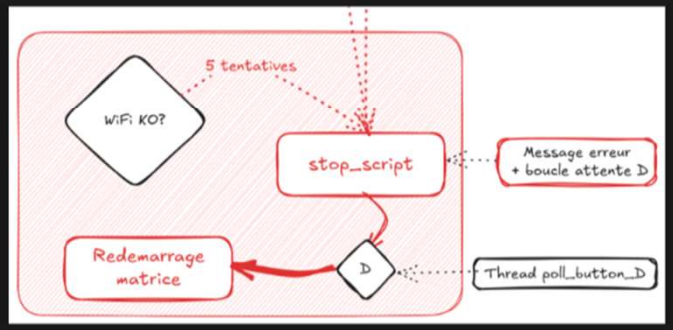


Affichage agences n

Retour API agence n+1

Bascule sur agence n+1

Contrôle d'erreur

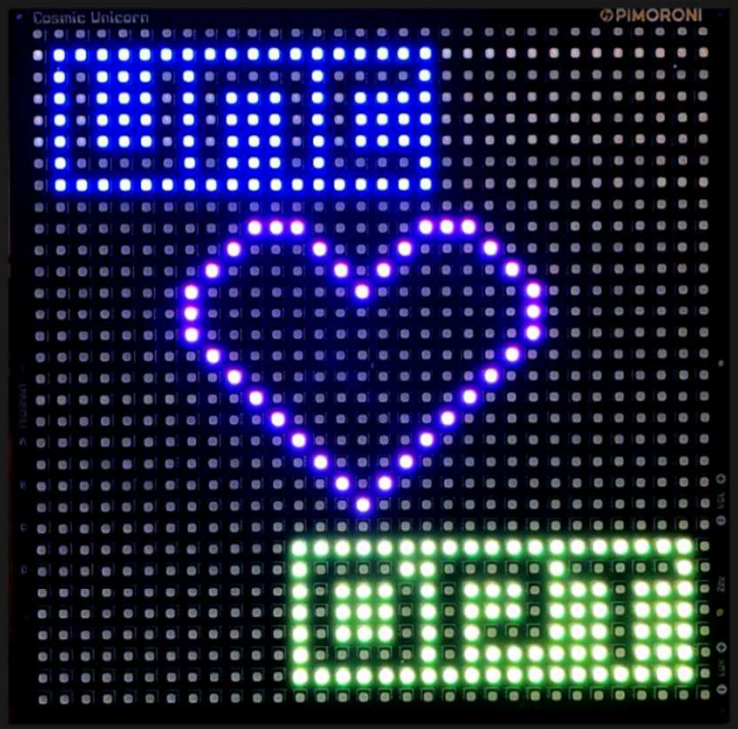


Affichage "Erreur"

Pression bouton D

AFFICHAGES

Accueil



Information

Info accès WiFi

Info lecture clé API

Légendes affichage agence

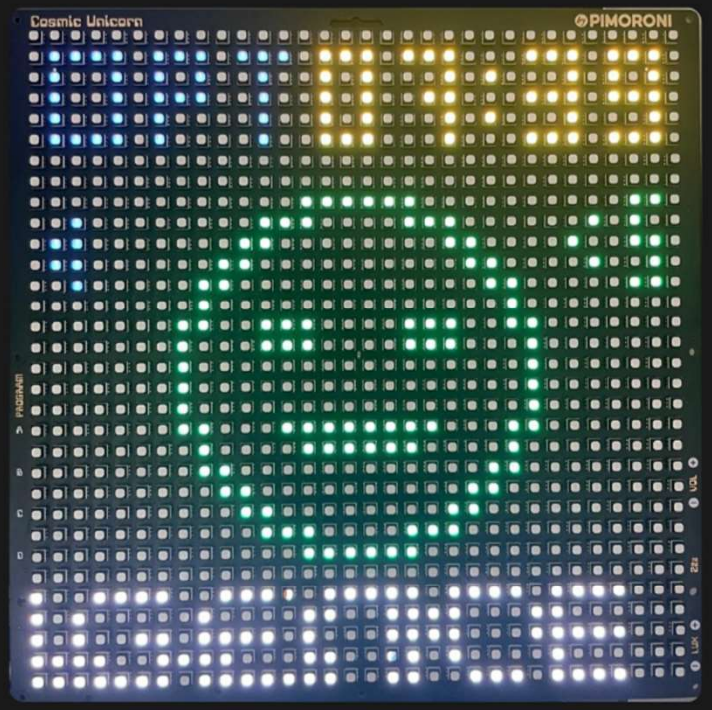
Icone son activé

Icone son désactivé

Icone état WIFI

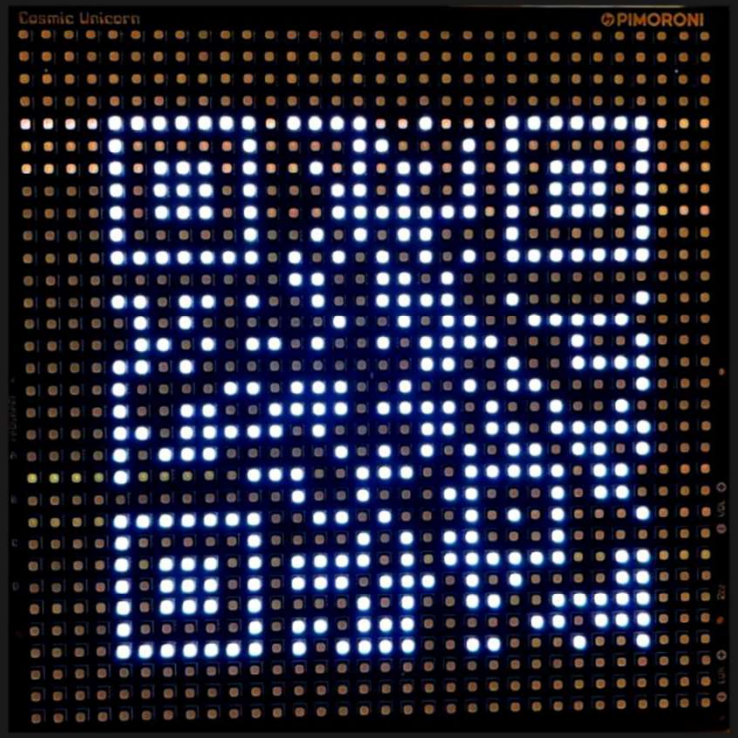
Icone arrêt boucle

Agences



- Sigle OPT
- Heure NTP
- Smiley temps attente
- Icone Son
- Information Temps
- Icone Wifi
- Icone boucle
- Défilement agence

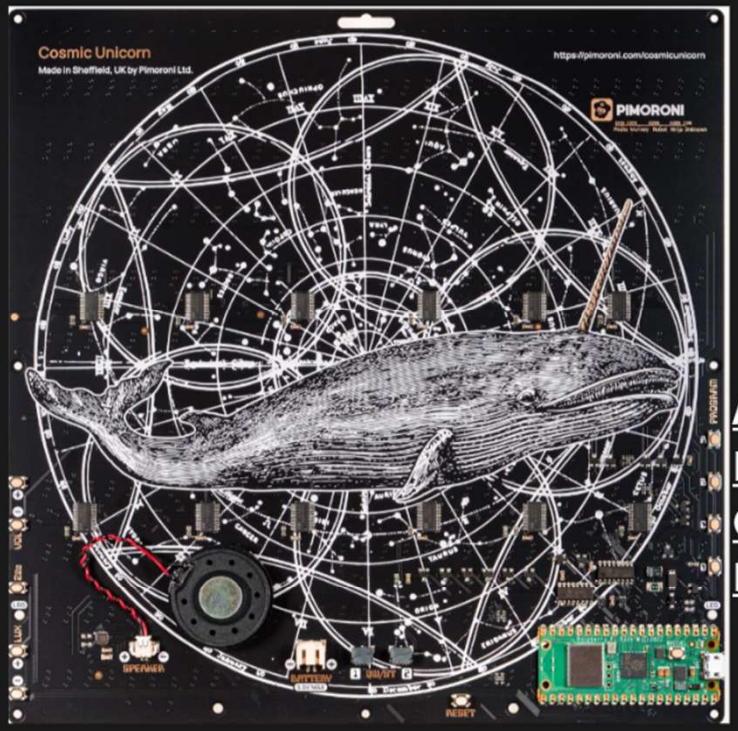
QR Code



Boutons programmables

Volume +/-

Lux +/-



A: Son

B: Boucle

C: Screen

D: Reboot

QUE RETENIR ?

POINTS SENSIBLES

Univers DevOps

Langage MicroPython

Utilisation de GitHub

GAINS POSSIBLES

Solution modulable

Optimisation script

Ajout de matrices

SOURCES

Sources matrice

GitHub Pimoroni Ltd

Gestion Data matrice

Logiciel Thonny

Support projet

https://github.com/adriens/temps-attente-matrix-led

Hackster.io - https://bit.ly/3YZZRkJ