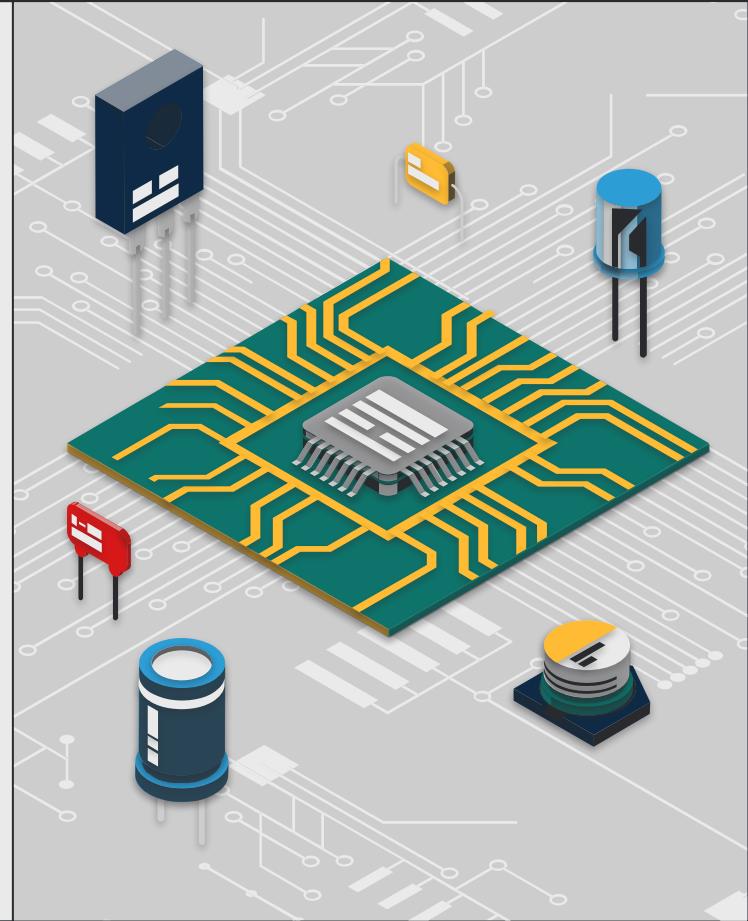
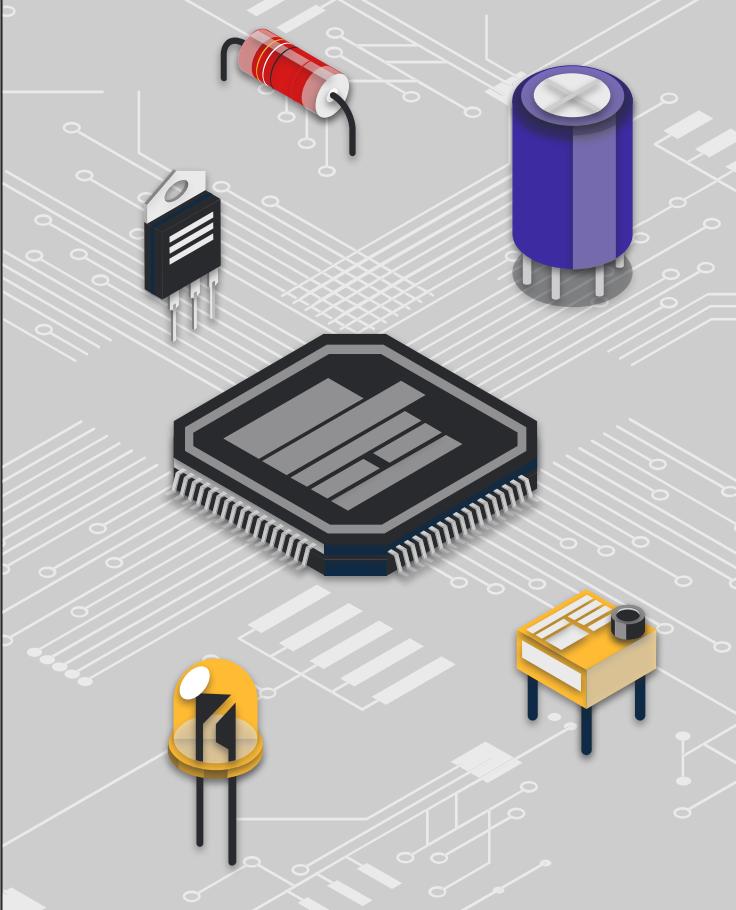


Orione

Customizable 60% keyboard

-
Powered by Raspberry Pi Pico





Key features

Why Orione?

- Need for customizable keyboard with rotary encoder
- 60% layout maximizes ergonomics
- Dual-layer system = two keyboards in one

Key features

- **Dual-layer:** Instant access to functions
- **Rotary encoder:** Volume control
- **Caps Lock LED:** Visual feedback
- **Custom firmware:** Every key
reprogrammable
- **Switches:** Gateron Yellow + Blue

Hardware Components

- Raspberry Pi Pico microcontroller
- Rotary encoder
- 62 mechanical switches + diodes
- LED



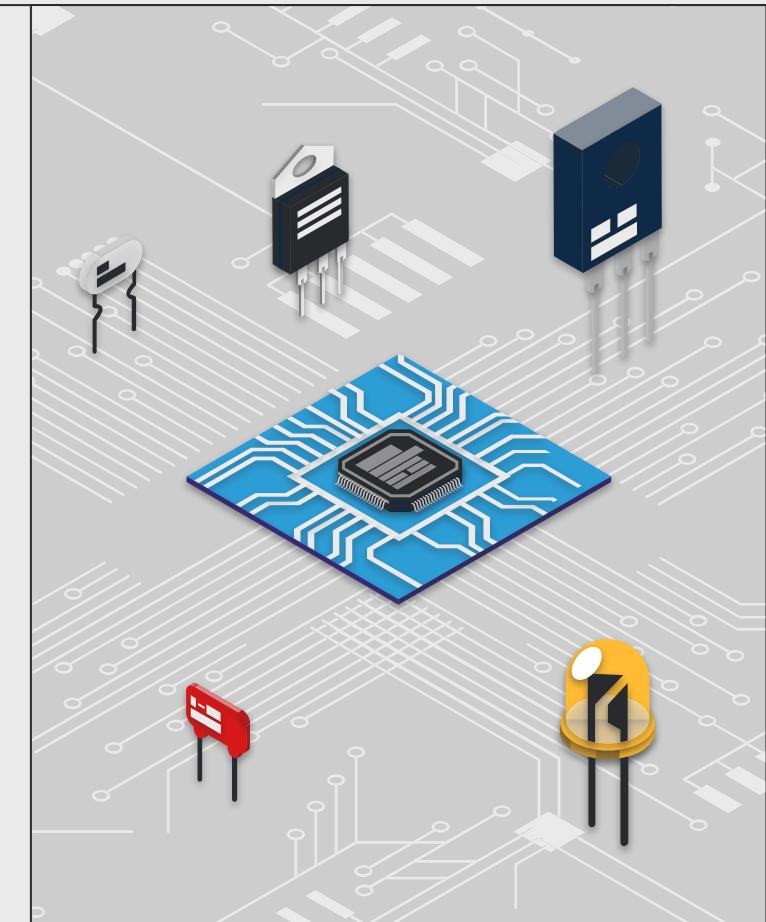
Software and Tools

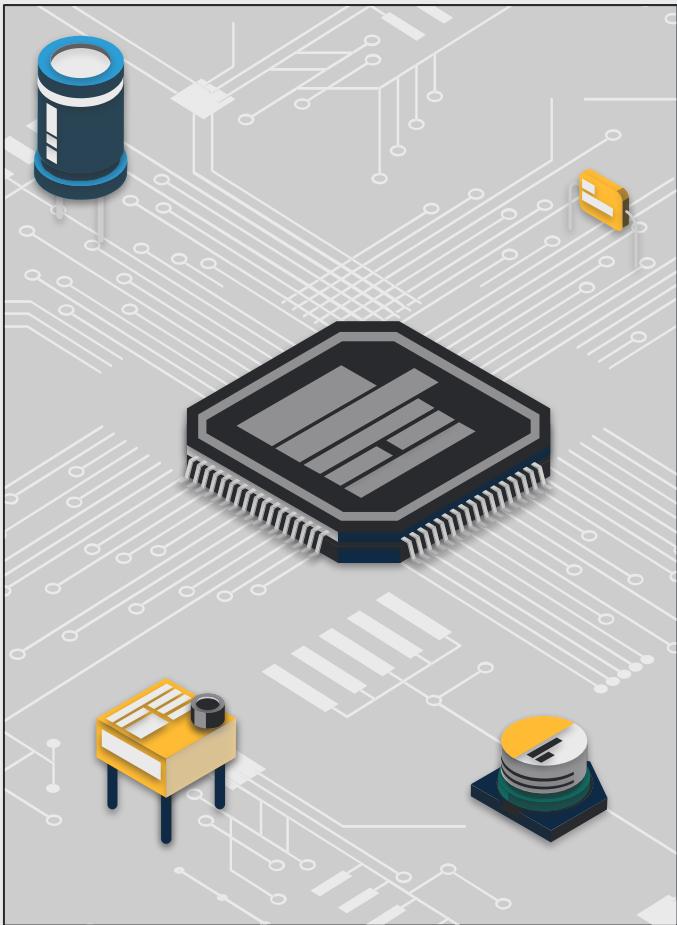
Development:

- VS Code (firmware)
- KiCad (PCB design)
- Blender (3D case modeling)

Firmware:

- Pico C/C++ SDK
- TinyUSB (USB HID communication)





Firmware Customization

Complete control:

1. Modify keymap files
2. Recompile
3. Flash to Pico

Open-source = unlimited possibilities

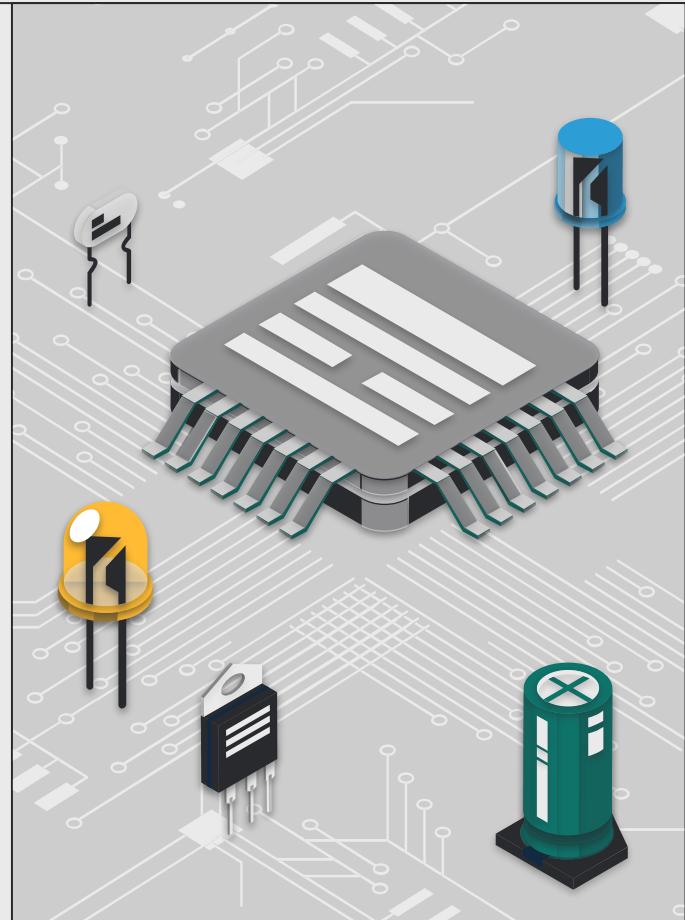
MSP432

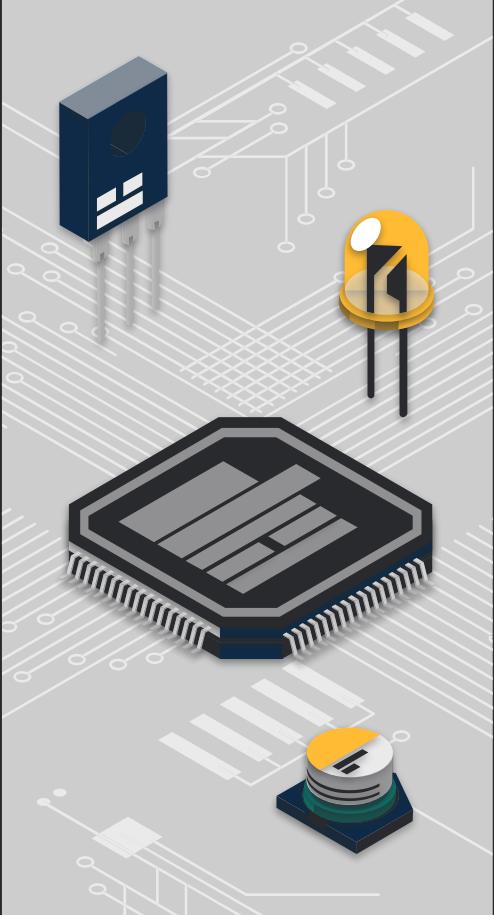
Initial platform: MSP432

Issues:

- UART interface problems
- Driver difficulties
- Synchronization issues

Solution: Migrated to Raspberry Pi Pico





Thanks!

Github repository: <https://github.com/ilBuso/Orione>

Team: Alessandro Busola, Giulio Pimenoff Verdolin, Michele Pezzo, Daniel Biz