

Bem vindos !

Computação Embarcada

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Computação Insper



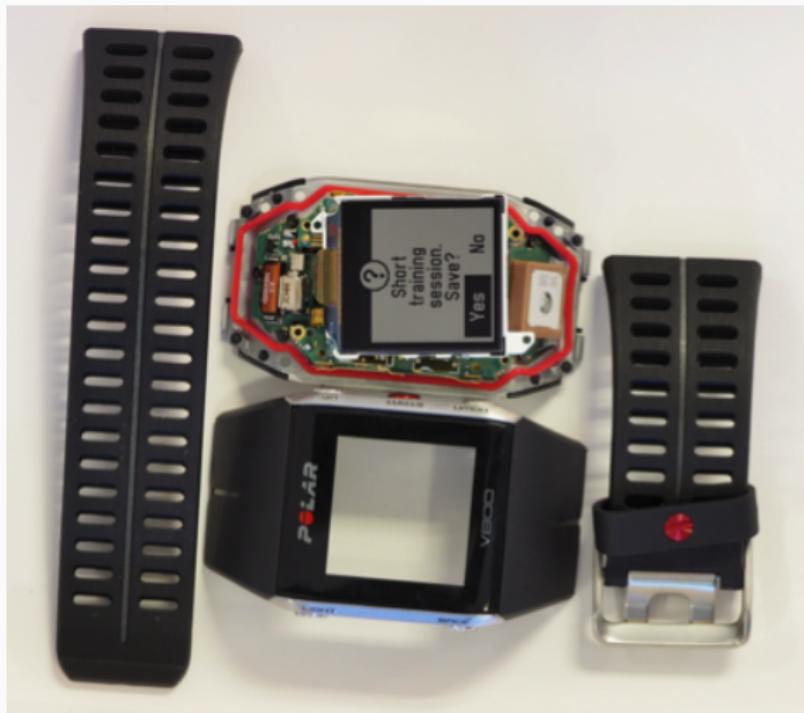
Conteúdo

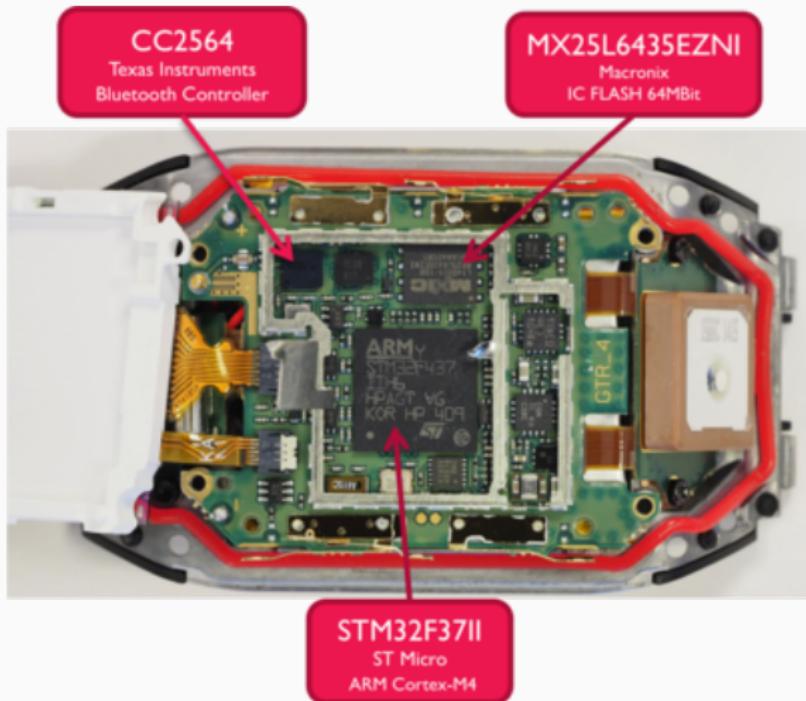
1. Introdução
2. Dispositivos Embarcados

Introdução

Dispositivos Embarcados

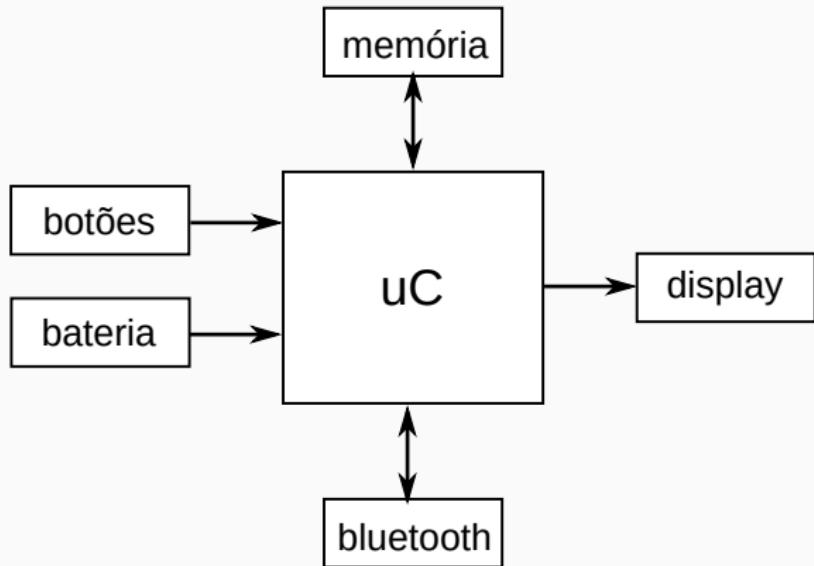
O que é computação embarcada ?



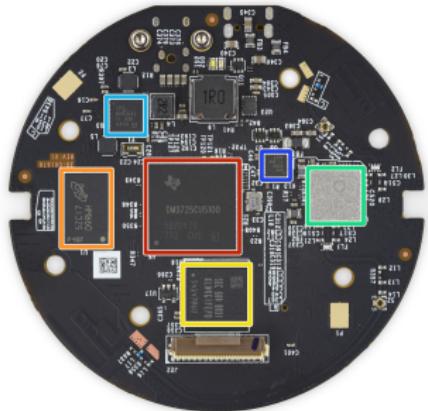


Polar - diagrama de blocos

Polar - diagrama de blocos

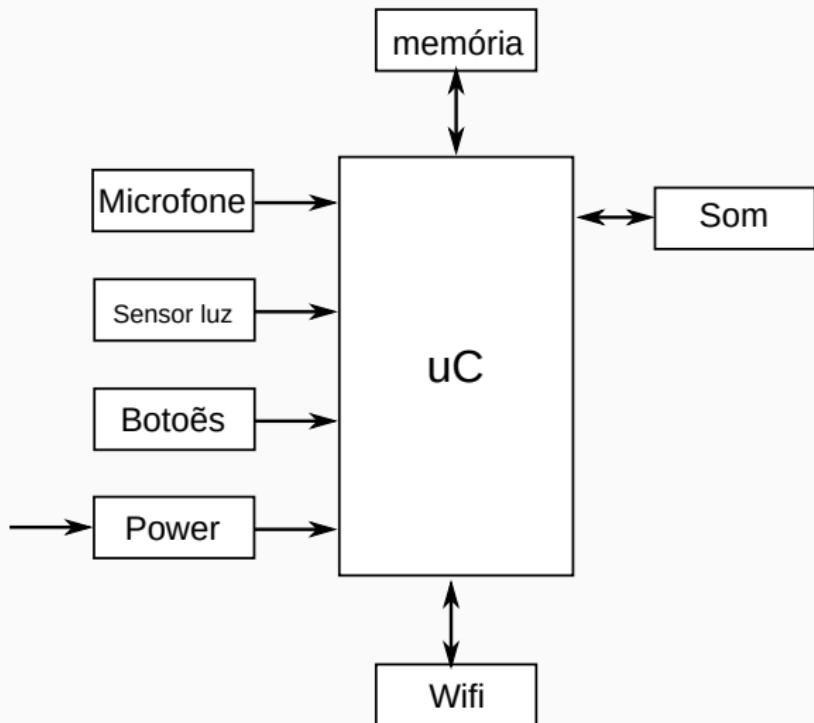


Amazon - echo dot

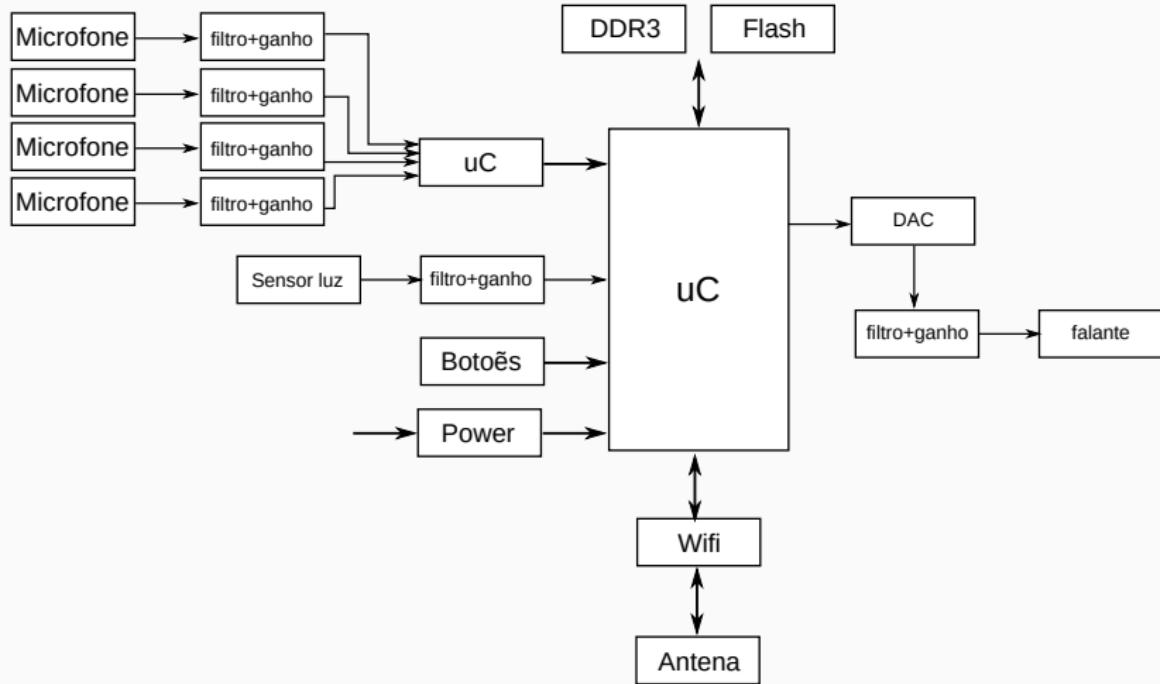


[http://www.allaboutcircuits.com/news/
teardown-tuesday-amazon-echo-dot-v2/](http://www.allaboutcircuits.com/news/teardown-tuesday-amazon-echo-dot-v2/)

Echo dot - diagrama de blocos



Echo dot - diagrama de blocos



Drone



Drone

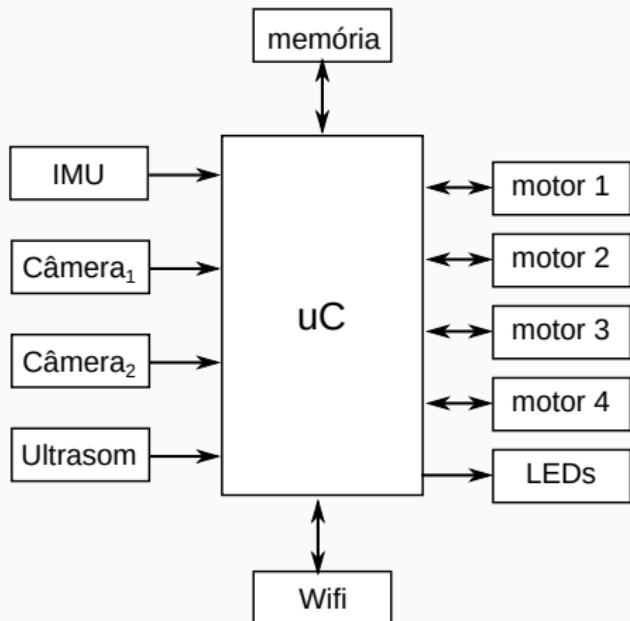


[https:](https://www.ifixit.com/Teardown/Parrot+AR.Drone+Teardown/3984)

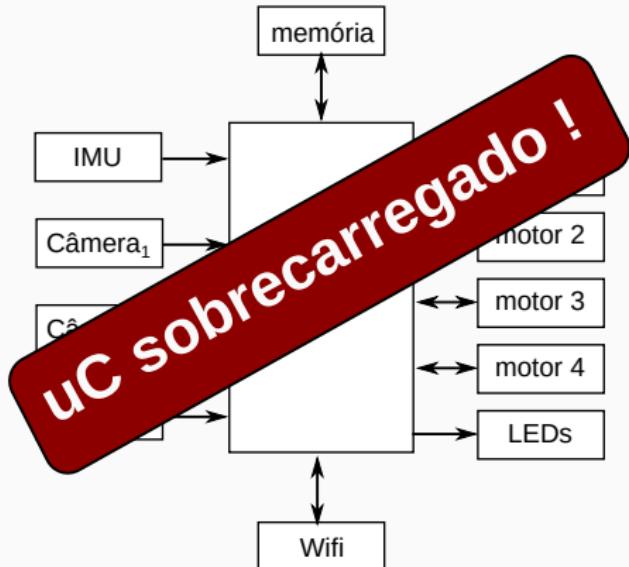
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Drone-diagrama

Drone- diagrama

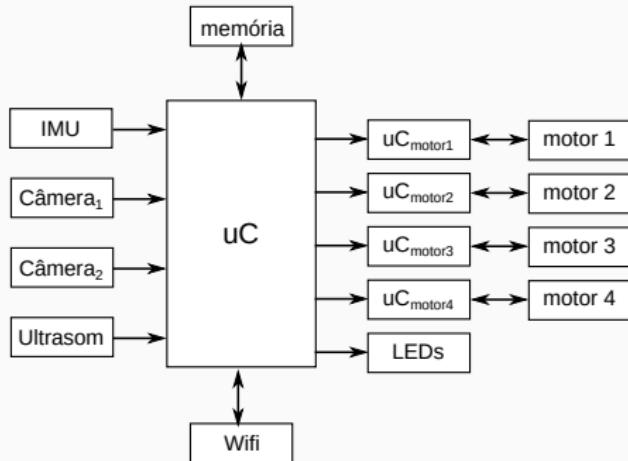


Drone- diagrama



- tratar comandos wifi
- ler e processar câmeras
- ler sensores inerciais
- fechar malha dos motores
- fechar malha de controle de atitude
- acionar motores

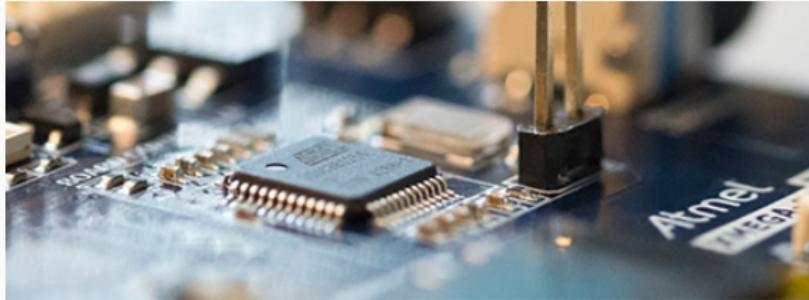
Drone- diagrama



- Controle dos motores é feito independente ao processamento principal.

O que é comum a todos esses exemplos ?

Todos fazem uso de microcontrolador !



Sistemas embarcados = computador dentro de produtos !

Mercado



Automotive

Keeping you safe at 70mph. Higher performance system platforms for connectivity, advanced recognition and decision intelligence will enable coming generations of assisted and automated driving.

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Healthcare

Healthcare is becoming personal. Pervasive mobile computing, highly-efficient embedded intelligence and secure technology are driving new interaction capabilities and advancing diagnostic and treatment options.

[Read more](#)

Infrastructure

Leading compute density solutions are transforming infrastructure; Building an end-to-end enterprise application platform with increased intelligence for the delivery of fast, agile, service-based 5G networks, and delivering a paradigm shift in data center workload efficiency.

[Read more](#)

Internet of Things

Enabling the foundations of IoT. Scalable embedded intelligence and software provides an agile, secure and flexible end-to-end platform for sensing, controlling and delivering business insights.

[Read more](#)

Mobile Computing

ARM low-power technology is the foundation of the mobile computing era, providing central processing capabilities as well as connectivity, and the industry's roadmap for evolving enhanced contextual, interactive and visual user experiences.

[Read more](#)

Smart Homes

The combination of an integrated mobile experience and increasing intelligence and connectivity across devices in the home is creating opportunities to transform how we interact with our living spaces. More intuitive and interoperable systems save energy, increase security and safety, and reduce costs.

[Read more](#)

Wearables

Redefining personal compute. Realizing new forms of interactions with our physical and digital worlds with highly-efficient processing for even the tiniest of devices.

Mercado

Automobilística

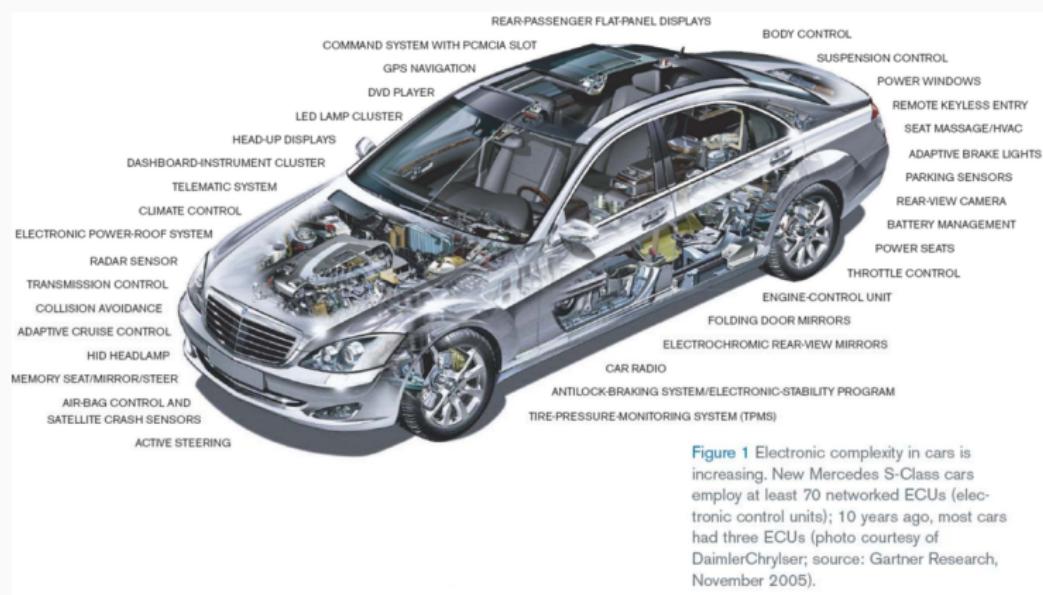


Figure 1 Electronic complexity in cars is increasing. New Mercedes S-Class cars employ at least 70 networked ECUs (electronic control units); 10 years ago, most cars had three ECUs (photo courtesy of DaimlerChrysler; source: Gartner Research, November 2005).

Mão na massa

Objetivo :

- desmontar os dispositivos (sem destruir)
- identificar as principais interfaces (entradas e saídas)
- desenhar um diagrama de blocos