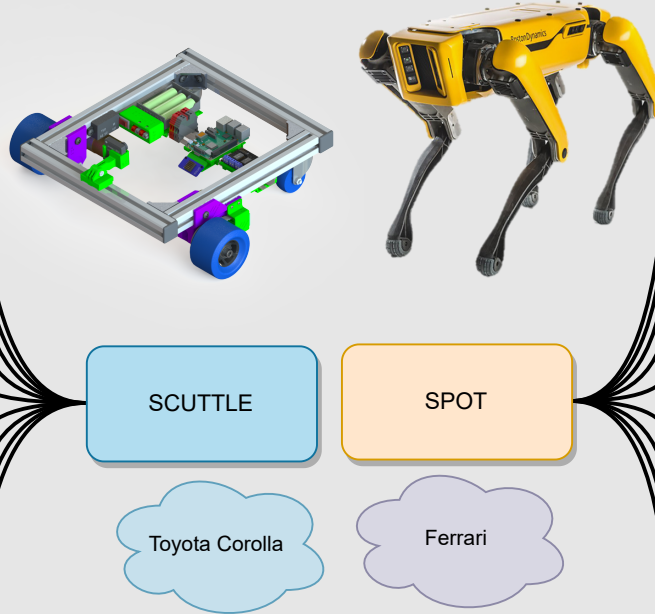


What is a Robust Design?

A sample of elements of robustness and their implications for the company, the customers, and ecosystem.

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SCUTTLE

SPOT

Toyota Corolla

Ferrari

Components are standardized

cost may pivot per use case

Design may change; standards are retained

Modular

customization is easy

reconfigure to suit many use cases, easily

Suppliers prolific, competitive

software errors don't cascade

Redundant supply chain

frequent component upgrades

Designs conforms to industry standards

contains industry-leading brands

Tier-2 designers can support design

suppliers market the product for free

cybersecurity built-in

users have large selection, offerings have reputation

can hire ready-trained talent (customers, designers, peers)

product supported if business fails

expansive knowledge-base

software available broadly

10,000 functions on day 1

firmware never outdated

independent customers

product can advance in 10,000 ways, by 1,000 parties

customers can collaborate with each other

components are custom

Cost is high, quality is high, exclusion of use cases

Monolithic

not suitable until use case is examined & well-funded

software errors can wreck the product.

Single-source suppliers

suppliers charge for custom effort, can price gouge

no upgrades offered

Designs are nonstandard.

Tier-2 designers don't exist, or bill engineering hours

New standards, test procedures, & certifications required

nonbranded components

suppliers do not market the product

cybersecurity must be developed

users must rely on 1 company for support

users must trust designer for security

knowledgebase starts from zero

no support if business fails

must train all developers from scratch

software must be developed

support is expensive, limited options

Product is outdated if one key element is outdated

DOD, Military customers

product relies on government funding

customers develop in secrecy; no p2p benefits

FACTS

IMPLICATIONS