Microsoft Robotics Studio: Expected impact, Challenges & Alternatives

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Why MS in robotics?

MS is loosing its grip on engineering:

1. *extremely* strong trend towards Linux and Open Source in robotics and embedded systems.
2. Robotics is a prime motivator for young people interested in engineering.

By the mere fact of being a heavily marketed MS initiative, MRS *is* going to have an impact!

*Which impact...?*

Similar MS moves in the past

WinCE (Embedded & RTOS):

- **before**: 100+ proprietary islands.
- **after**: polarization:
  - OS: WinCE ↔ Linux.
  - IDE: Visual Studio ↔ Eclipse.

“Office”:

- **before**: 10+ proprietary islands.
- **after**: polarization:
  - Application: MS Office ↔ OpenOffice.org.
  - SW “stack” selection: operating system, database integration, versioning support, PDF export,…

MS tactics

Embrace & Extend:
- “adapt” “standards”.
- lock customers into “.doc/.NET integration”.
- “integrate” into monolithic MS solution. (e.g., Office, Exchange, . . .)

No MS services/No MS innovation:
- independent vendors must do the hard work.
- they die, or they pay the “MS tax”.

Where do MS tactics succeed?

- in infrastructure software (OS, IDE, browser)
  Only remaining competitor is Open Source!

Their tactics do not succeed in:
- services (MSN, . . .)
- content (Xbox, Encarta, . . .)

And how about robotics...?

Robotics “operating system” is infrastructure...

Expected MRS impact:

- **before:**
  1. each robot vendor has its own “standard” programming language and IDE.
  2. 10+ robot simulation environments.

- **after:** polarization:
  1. MRS ↔ Open Source alternative (because of *infrastructure* nature!)
  2. MS platform “lock-in” ↔ companies and community wanting to avoid lock-in.

Conclusions

The good news:

▶ access threshold to robotics will be lower.
▶ some hope for standardization.
▶ decent Open Source alternatives will appear. (Many building blocks exist today already!)

The bad news:

▶ MS “standardization” always reduces innovation: “one size fits all” because of monolithic platform tactics.
▶ “Good enough” for the masses; but constraining the demanding & creative people.
▶ Lock-in! Single platform! Single sourcing!