



Language ownership: key moments in the lifetime of Ada

Tullio Vardanega @ AEiC 2025, Paris, Wed 11 June



What are languages?

(Natural) languages originate from **social requirements**, and precede grammar [Sverker Johansson, “The dawn of language”, 2019]

Incidentally, that goes the other way of Chomsky’s (enlightenment-style) theory, which posits that grammar precedes language

What does that mean to programming languages?

Arguably, programming languages themselves reflect some specific sort of “social needs”

That is, a **world view**, of how “things” can be conjured into existence into it, and how they do what is wanted of them

I hold this tenet as especially (though not exclusively) true of Ada

Implications

It follows that Ada can (and should) be seen as the expression of the social needs of its constituency

Which brings about the question of **what is the constituency of a programming language**

Shared responsibility – 1/2

Social needs are intrinsically and eminently communitarian

Languages that reflect social needs cause their users (“speakers”) to hold shared responsibility for how their language – hence their social bond – should evolve and how it should represent their take in it

Shared responsibility – 2/2

In the social gathering of a programming language there are **diverse roles** and **different levels of responsibility**

Language designers, language lawyers, language implementors, language users, language educators, language evangelists, language historians, ...

But there also is **one single common allegiance**

From different angles, they all factually form one and the same community

Value chain

Indeed, a critical **value chain** extends across some of the above roles

Its economic value allows part of the work required for the language to continue to exist, to be rewarded monetarily and to produce profit

The monetary element of the value chain, however, should *never* reduce the ecology of a language community to the bilateral relation between customers and suppliers

There is more to a programming language than “paying customers” and technology providers

There are moments ...

There are moments in the life of programming languages where very little is required of some members of the language community

In those moments, all seems to happen via paid roles and tasks “outside of you”

There are other times, in which the economic sustainability of paid roles and tasks is threatened

There aren't enough paying customers to support them

It is at those times especially that the entire community, regardless of the assigned roles in it, is urged to become more **directly responsible** for the continued existence of the language

Language ownership

Who “owns” a programming language?

What of it can be owned?

There is a language specification and there are language implementations

Implementations belong to their creators, by either intellectual or commercial property

Specifications should *not* be lumped within specific implementations

History of Ada in brief – 1/3

In the beginning (1977-1980), there was an impersonal owner, who booted candidate creators and enforced a standard specification

- Competing (commercial) designs, a decision authority (DoD), an Ada Joint Program Office

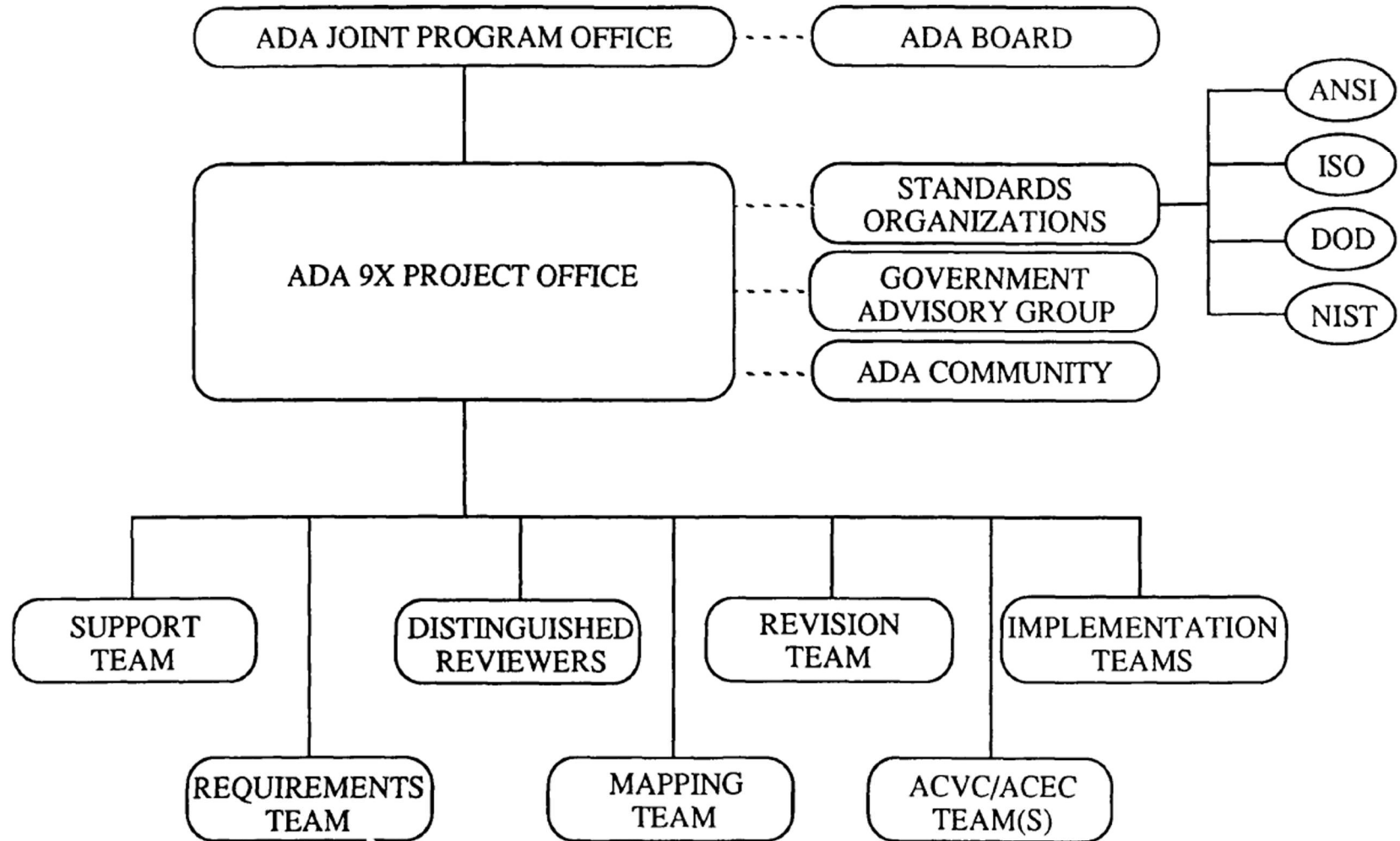
- A MIL-STD specification (MIL-STD-1815A, 1983), which then became ANSI (1983) and then ISO (ISO/IEC 8652:1987)

All specifications undergo periodic revision

- On the understanding that language use brings experience, which fosters evolution

AJPO's initiated revision process (1988/10/25), nicknamed "**Ada 9X project**" had three key elements

- To establish a "**transition policy**", to develop an "education/training program", and a **long-term language maintenance plan**



History of Ada in brief – 2/3

The ISO side of Ada's standard specification was placed under
Joint Technical Committee 1 on Information Technology (ISO/IEC JTC 1)
Standards Committee 22 (SC 22)
Working Group 9 (WG 9)

WG 9 has **one representative per (participating) country**, nominated via
their national standards organization

And an internal group tasked to do the real technical work, the **ARG**

The Ada 9X project time was the moment when major effort was made
to enlarge WG 9 to a worldwide dimension

History of Ada in brief – 3/3

The Ada 9X project wrapped up in April 1993

One of its main undertakings was the **free** GNAT Ada Compiler, on contract to the New York University (1992-1995)

On March 11, 1997, the DoD declared the cessation of “**the Ada mandate**”

At the end of the Ada 9X project, with **ISO/IEC 8652:1995**, Ada had become a truly open and truly communitarian language specification

Where do we stand now?

Since the end of the Ada 9X project, we as users have lived **three decades** of very comfy life

- We had a free and up-to-date Ada compiler and tools around it

- We had one very active and committed technology implementor

- We could let things happen and just reap the fruits hanging from the branches

That period has come to an end

- In the last decade, **nearly all** the cost of language maintenance effort –the time of highly-qualified professionals – was borne by the **single** technology vendor left behind the latest version of Ada

- That situation equated to a very uncomfortable answer to the question “**who’s the owner of Ada?**”

What are we to do?

We want Ada to continue to reflect a communitarian nature

- We must take active responsibility (individuals' time and effort) over WG 9

- We must offer competent time and effort into the ARG

We must **not** obstruct the value chain

- We must sustain a **free** Ada compiler

- We must use it as a sounding board for trialling new language features without burdening the vendors' technologies

We must put real effort and (little) seed fund in this

- We must participate in the WG 9 to/from ARG content traffic

- We must produce and share Ada artefacts and “Ada user stories”

- We must sponsor some of the essential tasks in the standardisation process

How can we do it?

Join the Ada User Society

We want it to be “**the voice**” of the Ada language community word-wide

Its prime (and single) charter function is to **secure the continuation** of Ada as an international specification under ISO

Your **membership and sponsoring** help sustain “living costs”

Follow up the proceeds of the ARG work

We are making an effort at “modernizing” the manner of documenting the Ada issues and the discussion process around them in an **open and transparent** manner

This is to enable everyone to be up to speed on “where Ada goes and why”

This needs everyone’s effort

Contribute Ada materials

Build and share Ada artefacts

Write Ada stories

“Speak” the language so that its stays alive and evolves with use