Where is Ada used (apart from safety-critical software)?

Asked 16 years ago   Modified 2 years, 5 months ago   Viewed 15k times

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When one thinks of Ada, one usually thinks of avionics.

What I'm interested in are some other applications of Ada? Where is it used? Are there any shipped applications written in Ada?

For example, are there CRUD apps written in it? Or games? Etc.

ada

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edited Sep 16, 2014 at 23:02

BradleyDotNET
61.3k ● 10 ● 105 ● 123

asked Dec 14, 2008 at 6:29

TraumaPony
10.8k ● 13 ● 57 ● 75

9 Answers

Sorted by: Highest score (default) ⇕

35

Michael Feldman actively maintains a "Who's Using Ada/Real-World Projects" list that lists all types of military and commercial projects. And because he maintains contributor confidentiality, projects will show up there that wouldn't otherwise be discussed by their corporate sponsors as "Ada Inside" projects.

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answered Dec 14, 2008 at 15:51

Marc C
8,522 ● 1 ● 26 ● 30

broken link, got another one? – John Greene May 23 at 20:56

Found it: new link is www2.seas.gwu.edu/~mfeldman/ada-project-summary.html – John Greene May 23 at 20:57

20

Apart from safety critical systems, Ada only really shines when you have many teams working on a very large project and the number of logical source lines of code exceeds about 1 or 2 million.

It's at that point when all the Ada language defined runtime checks that you sometimes thought were a bit pedantic and increased the code size by too much, became really useful. Fixing a bug somewhere in millions of lines of code is never fun; the runtime checks really help detect problems earlier and closer to where they occur.

Unfortunately, many software developers who have used Ada 83 or Ada 95 professionally can't tell you about the projects that they have worked on. I've heard that it's also used in the areas of Air Traffic Control Systems (in various countries), Railway Transportation Systems (such as Paris Metro and Hong Kong Subway) and Banking/Finance (Reuters and others).

It is a very good language and there are people who advocate its use because it's a good language, but sometimes, when you haven't seen a segmentation fault or really nasty crash in months or maybe years, you start to want to code in C++ again...

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It started life as the DoD's preferred language, so you will find it all over DoD programs. NASA and the FAA are big users too. Because of that base, a lot of commericial aerospace uses it too (although that is probably "safety critical"). For instance, I think most of the software in the Boeing 777 was developed in Ada. I think the European space agency uses it a lot too.

That said, it really isn't used nearly enough. For instance, it is naturally almost immune to buffer overflow exploits, so it really ought to be the preferred language for OS development.

14

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edited Jan 13, 2009 at 15:39

answered Jan 9, 2009 at 17:45

T.E.D.
44.7k ● 10 ● 76 ● 138

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Ada was originally conceived as a language to consolidate the very large number of languages used to build systems for the US military. So you will find it used a lot in applications in the domain of defense systems. For an example of such as application have a look at the [Tokeneer](#) case study, whose source code is now [available online](#).

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answered Dec 14, 2008 at 6:38

Diomidis Spinellis
19.3k ● 6 ● 66 ● 85

> Yeah, true. I guess I wasn't specific (or general, take your pick) enough ;) – TraumaPony Dec 14, 2008 at 6:42

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Not in quantity. Until [GNAT](#) came along Ada compilers and development tooling were very expensive and typically only supported expensive hardware like Suns, Vaxen or IBM Mainframes.

There is a bit of it around - various outfits do safety-critical stuff with [SPARK](#) but it tends (although not

exclusively) to be bespoke work.

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answered Dec 14, 2008 at 9:42

ConcernedOfTunbridge
Wells
66.5k ● 15 ● 148 ● 198

I don't know for sure, but, having read a lot about Ada, I considered it to be perfectly appropriate for every physics-related computational/automation tasks, because of all these compile-time and runtime checks (one tasty thing is that you can make two incompatible floating-point types, e.g. Length and Mass).

5

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answered Dec 14, 2008 at 12:14

ansgri
2,156 ● 6 ● 25 ● 38

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2 Absolutely true. However, as recently as 10 years ago and it may still be true now, Physics undergrads were still taught FORTRAN 77. And then we laughed at the Maths undergrads when they complained about having to learn FORTRAN. – Nelson Dec 14, 2008 at 15:25

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9 Where I work (flight simulation industry) we are still writing new Fortran code. Just because a language isn't used to make a lot of webservers doesn't mean it is "dead". – T.E.D. Jan 13, 2009 at 15:42

> 1   I don't agree; usually in computational science field you need to keep evolving your code to test out new ideas. That's why Python with Numpy/Scipy is becoming more popular by the day. Ada is more suited for programs with stable specifications. – syockit Jun 8, 2016 at 12:35

> @syockit -- Please... Why do you say, "Ada is more suited for programs with stable specifications." -- are you saying it is brittle, inflexible, or unwieldy? Too much syntax? Too verbose? (in your opinion). And upon what authority do you make such a statement? Please tell us. (I am investigating Ada, and am currently neutral, though I love design-by-contract, with its preconditions and postconditions and believe that they are **very** important to building more correct software the first time. I heard multiple stories of migrations that proceeded well because of Ada. Sounds good!) – MicroservicesOnDDD Mar 9, 2020 at 22:57 ✎

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The swagger-ada project provides support for the OpenAPI Generator which is used for generating CRUD and REST APIs in Ada.

Alire is a package manager for Ada, which provides a variety of libraries for use in applications from embedded systems to desktop apps.

Whilst these are libraries rather than applications themselves, they show use in a variety of fields.

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edited Jul 7, 2022 at 9:12

William Cheng
10.8k ● 5 ● 55 ● 84

answered Jul 7, 2022 at 8:50

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Ada can be used in games. Check this out:

https://sourceforge.net/projects/adagate/

It is a fresh (2015) example of using modern OpenGL with Ada.

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answered Nov 2, 2015 at 21:42

fastrgv
21 ● 2

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Ada is still popular in colossal, legacy, government-targeted programs. It's also a basis for VHDL.

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edited May 23, 2017 at 11:54

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4 revs
Nate