

Formally Verified Systems Questionnaire

We are writing a survey of formally verified, deployed systems. If you have experience of any kind with such a system, please help making this survey extensive and accurate by answering the following questions.

* Indicates required question

1. Name of the deployed system or the project *

2. Area (select all that apply) *

Tick all that apply.

- ☐ Automotive
- ☐ Aerospace
- ☐ Administration/Office
- ☐ Consumer
- ☐ Defense
- ☐ Environmental
- ☐ Finance
- ☐ Healthcare
- ☐ Telecom
- ☐ Graphics
- ☐ Manufacturing
- ☐ Robotics
- ☐ CASE (Computer Aided Software Engineering) tools
- ☐ Operating systems
- ☐ Nuclear power plants
- ☐ Energy production
- ☐ Industrial automation
- ☐ Cyber-physical systems
- ☐ Scientific research
- ☐ Other:

3. Status of Project *

Mark only one oval.

- ☐ A version of the project is operational
- ☐ Still under development, no operational version yet
- ☐ Project completed but no longer in operation
- ☐ Other: _____

4. Approximate duration of project so far (in months) *

5. In which phase(s) of software development have the formal verification techniques been involved? (select all that apply)

Tick all that apply.

- ☐ Requirement analysis
- ☐ Design
- ☐ Implementation (code)
- ☐ Validation / verification
- ☐ Other: _____

6. What type(s) of properties have been verified? (select all that apply) *

Tick all that apply.

- ☐ User-defined functional correctness
- ☐ Absence of run-time error
- ☐ Timing constraints
- ☐ Memory usage constraints
- ☐ Security properties
- ☐ Other (please specify next)

7. Any more specific information about the properties being verified?

8. How many coders/engineers are in the project team? *

Mark only one oval.

- ☐ 1-10
- ☐ 10-50
- ☐ >50
- ☐ Don't know

9. Estimated verification effort so far *

Mark only one oval.

- ☐ 0-12 person-month
- ☐ 1-10 person-year
- ☐ 10-50 person-year
- ☐ >50 person-year
- ☐ Don't know

10. What techniques/tools/languages have been applied in the project? *

11. Your level of expertise on formal verification prior to the project *

Mark only one oval.

- ☐ Ignorant
- ☐ Beginner
- ☐ Apprentice
- ☐ Intermediate
- ☐ Advanced
- ☐ Other: _____

12. Is there any training on the techniques/tools/languages carried out? If yes, please specify skills/knowledge and duration of the training.

Evaluation of project

13. "Formal verification has improved the quality of the system" *

Mark only one oval.

- ☐ Strongly disagree
- ☐ Somewhat disagree
- ☐ Neither agree or disagree
- ☐ Somewhat agree
- ☐ Strongly agree

14. Has formal verification affected the project's duration? *

Mark only one oval.

- ☐ Reduction in time
- ☐ No effect on time
- ☐ Increase in time
- ☐ Don't know

15. Did formal verification techniques affect the project's cost? *

Mark only one oval.

- ☐ Reduction in cost
- ☐ No effect on cost
- ☐ Increase in cost
- ☐ Don't know

16. Rate the level (1-10) of difficulty in learning verification techniques: *

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Easi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most difficult

17. Cite any limitations of the verification techniques that you may observed in this project

18. Cite any barriers to adoption of of the verification techniques in this project *

Tick all that apply.

- ☐ Cost
- ☐ Education
- ☐ Tools
- ☐ Scalability
- ☐ Evidence of benefits
- ☐ Regulation/Certification
- ☐ Other: _____

19. Please share any further information on the project and system, including links to available publications, presentations or software.

20. Please tell us of any other systems or projects that may be useful for the survey. (If you have direct experience with them, please fill one new instance of the questionnaire per each project or system.)

21. Would you be willing to answer some more questions about this project? If yes, leave us your name and email here. Thank you very much for your help in performing this important survey!
