

Formal Methods Survey

For the purpose of this questionnaire, formal methods are defined as follows:

Software development methods that employ a formal mathematical notation or language for the requirements, specification, design, testing, and/or verification of computer software.

Please answer the following questions about your company and its use of formal methods.

1. How many full-time software developers does your company employ?

2. Briefly describe the type of software your company develops.

3. Does your company use formal methods in any aspect of its software development? ☐ yes ☐ no

4. If the answer is no, please indicate why. (Select all that apply.)

- ☐ Never considered using formal methods.
- ☐ Considered using formal methods, but determined use would not be cost effective.
- ☐ Considered using formal methods, but determined that employees do not have necessary skills.

☐ Other reasons:

(If you answered No to question 3, you are done with the survey. Thank you very much for your time. Please go [to the end](#) to submit the survey.)

If your company does use formal methods, please answer the following questions.

5. For what phases of software development are formal methods used? (Select all that apply.)

- ☐ requirements
- ☐ specification
- ☐ design
- ☐ testing
- ☐ verification

6. What formal methods techniques, languages, or tools do you use? (List by name.)

(e.g., State Charts, Z, PVS)

7. How long has your company used formal methods?

- ☐ less than 1 year
- ☐ 1 to 5 years
- ☐ more than 5 years
- ☐ don't know

8. For the following project sizes, indicate the number of projects of each size that your company has completed within the last five years or that you are currently working on. Also indicate the number of those projects that have used formal methods.

| Project Size | Number of Projects | Number of these Projects |
|--------------|--------------------|--------------------------|
|--------------|--------------------|--------------------------|

| Project Size | of this Size | Using Formal Methods |
|------------------------------|----------------------|----------------------|
| less than 10 developers | <input type="text"/> | <input type="text"/> |
| between 10 and 25 developers | <input type="text"/> | <input type="text"/> |
| greater than 25 developers | <input type="text"/> | <input type="text"/> |

9. Overall, indicate if you feel that the use of formal methods has been beneficial in your company. By beneficial we mean that the use of formal methods has led to improvements in the cost, development time, and/or quality of software, compared to software developed without using formal methods.



not beneficial



somewhat beneficial



moderately beneficial



very beneficial

Optional Contact Information:

Your name and position:

Email address:

If you are interested in the results of the survey, you may contact Gene Fisher at gfisher@calpoly.edu for further information. As noted in the cover letter, no personal or company information will appear in the published survey results.

Thank you again for your valuable participation.