

The survey may take up to 17 minutes, please make sure to complete it. The target audience for this survey are professionals who are part of the field of software development. Your participation is important in making further progress in this process.

Remember that the information obtained in this survey will be completely anonymous and will not be shared with third parties. For more information, view the confidentiality agreement: <http://bit.ly/2Wrgcga>

General company information

* 1. Company name

* 2. City

* 3. Department

* 4. What is your role in the company ?:

☐

Database Administrator

☐

Backend Software Developer

☐

Software development analyst

☐

Company director

☐

Business Analyst (BA)

☐

Director of the systems area

☐

Software architect

☐

Coach

☐

Consultant

☐

Requirements Engineer

☐

Component Developer

☐

Test analyst

☐

Frontend Software Developer

☐

Other Which one?

* 5. Company size:

☐

Large - more than 200 workers

☐

Medium - Between 51 to 200 workers

☐

Small - Between 11 to 50 workers

☐

Micro-enterprise - Between 6 to 10 workers

☐

Startups - Between 1 to 5 workers

☐

Other Which one?

* 6. To which markets the company offers its products and / or services:

- | | | |
|---|---|---|
| <input type="checkbox"/> Food and drinks | <input type="checkbox"/> Real estate | <input type="checkbox"/> Insurance |
| <input type="checkbox"/> Agroindustry | <input type="checkbox"/> Government | <input type="checkbox"/> Business management services |
| <input type="checkbox"/> Communications | <input type="checkbox"/> Legal | <input type="checkbox"/> Information and communication technologies (ICT) |
| <input type="checkbox"/> Construction and engineering | <input type="checkbox"/> Logistics | <input type="checkbox"/> Telecommunications |
| <input type="checkbox"/> Education | <input type="checkbox"/> Manufacture | <input type="checkbox"/> Tourism and entertainment |
| <input type="checkbox"/> Energy, oil and gas | <input type="checkbox"/> Mining | |
| <input type="checkbox"/> Financial | <input type="checkbox"/> Health and social security | |
| <input type="checkbox"/> Other Which one? | | |

* 7. What systematic software approach (quality model) uses or owns the company?

- ☐ None
- ☐ CMMI-1
- ☐ CMMI-2
- ☐ CMMI-3
- ☐ CMMI-4
- ☐ CMMI-5
- ☐ ISO 15504
- ☐ Other Which one?

* 8. What services associated with software development does the company offer?

- | | |
|--|--|
| <input type="checkbox"/> Computer consulting activities | <input type="checkbox"/> Hosting |
| <input type="checkbox"/> IT facilities management | <input type="checkbox"/> Software and application integrations |
| <input type="checkbox"/> Development of custom software | <input type="checkbox"/> Software testing |
| <input type="checkbox"/> Inhouse development (Software produced by the company with the purpose of using it within the company). | <input type="checkbox"/> Software maintenance |
| <input type="checkbox"/> Development of new products | <input type="checkbox"/> IT training programs |
| <input type="checkbox"/> Other Which one? | |

* 9. What is the purpose and type of software built in the company ?:

- | | |
|---|--|
| <input type="checkbox"/> Apps for mobile devices | <input type="checkbox"/> Information systems for business management (ERP, CRM, accounting systems, etc.) |
| <input type="checkbox"/> Desktop applications | <input type="checkbox"/> Software embedded in an electrical device, eg: arduinos, digital and video cameras, household appliances, printers, medical equipment, smart systems. |
| <input type="checkbox"/> Web applications | <input type="checkbox"/> IoT systems |
| <input type="checkbox"/> Applications for business intelligence (BI) | <input type="checkbox"/> Solutions based on artificial intelligence |
| <input type="checkbox"/> Applications for data analytics | <input type="checkbox"/> Virtual and / or augmented reality |
| <input type="checkbox"/> Digital Content (Audio, video, images, news, advertisements) | <input type="checkbox"/> Video game |
| <input type="checkbox"/> Other Which one? | |

* 10. Average number of people who make up a software project:

* 11. The average experience of the software development teams is:

Note: If the expertise of the development teams in your company is distributed according to the complexity or size of the projects, you can select several options.

- ☐ All members of the software team are minimum Senior level
- ☐ Team members are more senior than junior / inexperienced
- ☐ Team members are more junior / inexperienced than Senior
- ☐ All members of the software team are Junior level

* 12. What is the size of the project (s) developed (s) in the company?

Note: the word resource refers to personnel, time, supplies, budget, knowledge.

- ☐ Very Large (the company's resources are insufficient and more of these must be obtained)
- ☐ Large (projects where the required resources are higher than the average capacity of the company)
- ☐ Medium (The company owns most of the resources, but some must be adjusted to the project)
- ☐ Small (Company resources are sufficient)
- ☐ Other Which one?

* 13. Which of the following methods, methodologies and practices are used in the company for the software development process?

- | | |
|---|--|
| <input type="checkbox"/> V model | <input type="checkbox"/> AUP |
| <input type="checkbox"/> Cascade model | <input type="checkbox"/> XBreed |
| <input type="checkbox"/> Iterative and incremental model | <input type="checkbox"/> Unified Process (UP) |
| <input type="checkbox"/> Spiral Model | <input type="checkbox"/> Kanban |
| <input type="checkbox"/> Feature driven development (FDD) | <input type="checkbox"/> Extreme Programming (XP) |
| <input type="checkbox"/> Scrum | <input type="checkbox"/> Test Driven Development (TDD) |
| <input type="checkbox"/> Crystal | <input type="checkbox"/> DevOps |
| <input type="checkbox"/> ASD | <input type="checkbox"/> Own Methodology |

Other Which one?

Software Reuse in Colombia

* 14. Which of the following programming paradigms used in projects in general ?:

- | | |
|---|---|
| <input type="checkbox"/> Object oriented | <input type="checkbox"/> Constraint-based programming (declarative programming) |
| <input type="checkbox"/> Aspect oriented | <input type="checkbox"/> Functional programming (based on the use of mathematical functions Eg: F #, Scala, Haskell, Lisp, F #) |
| <input type="checkbox"/> Component oriented | <input type="checkbox"/> Reactive programming (programming with asynchronous data streams) |
| <input type="checkbox"/> Procedural programming | |

Other Which one?

* 15. Which of the following programming languages Are they used on the back-end and front-end for software projects?

☐ C

☐ Objective-C

☐ C #

☐ PHP

☐ C ++

☐ Python

☐ Java

☐ SQL

☐ JavaScript

☐ Visual Basic .NET

☐ Other Which one?

What frameworks does the company use for software projects?

16. FrameworksBack-end

17. Frameworks Front-end

18. Under what circumstances would the reuse of software in your organization depend on legal situations, such as legislation or contractual issues.

Perception of software reuse in your company

	Totally agree	In agreement	Neither agree nor disagreement	In disagreement	Totally in disagreement
19. Reuse is economically feasible in me organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. A policy of acknowledgments (time, money, etc.) is established for promote software reuse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Developers follow a software reuse process that is defined with the development process of the software organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. The tools (language, frameworks, repositories, etc) that the company uses have promoted the reuse in the projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. The company measures the level of software reuse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Perception of software reuse in your company

	Always	Usually	Usually	Sometimes	Rarely	I dont know
24. The company's senior management supports and is committed to introduce and maintain software reuse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. My organization promotes the training and motivation in software reuse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 26. Did the organization obtain success (productivity / quality gains) in projects through software reuse practices?

Select a smile from the scale

1. WITHOUT SUCCESS	two	3	4	5	6	7	8	9	10. WITH A LOT OF SUCCESS	N / C
										

27. What factors do you think contributed to the failure or success when using these practices?

Software Reuse in Colombia

* 28. Which of the following artifacts are created in your company?

- | | | |
|---|--|---|
| <input type="checkbox"/> Requirements | <input type="checkbox"/> Source code | <input type="checkbox"/> Test plans |
| <input type="checkbox"/> User Stories | <input type="checkbox"/> Libraries | <input type="checkbox"/> Test cases |
| <input type="checkbox"/> High level design (Architecture) | <input type="checkbox"/> Plugins | <input type="checkbox"/> Deployment artifact |
| <input type="checkbox"/> Detailed design | <input type="checkbox"/> Software components | <input type="checkbox"/> User documentation (text, video) |
| <input type="checkbox"/> Other Which one? | | |

* 29. Which of the following artifacts are created to be reusable in later applications?

- | | | |
|---|--|---|
| <input type="checkbox"/> Requirements | <input type="checkbox"/> Libraries | <input type="checkbox"/> Deployment artifact |
| <input type="checkbox"/> User Stories | <input type="checkbox"/> Plugins | <input type="checkbox"/> User documentation (text, video) |
| <input type="checkbox"/> High level design (Architecture) | <input type="checkbox"/> Software components | <input type="checkbox"/> None |
| <input type="checkbox"/> Detailed design | <input type="checkbox"/> Test plans | |
| <input type="checkbox"/> Source code | <input type="checkbox"/> Test cases | |
| <input type="checkbox"/> Other Which one? | | |

* 30. Which of the following artifacts have configuration management and change control?

- | | | |
|---|--|---|
| <input type="checkbox"/> Requirements | <input type="checkbox"/> Libraries | <input type="checkbox"/> Deployment artifact |
| <input type="checkbox"/> User Stories | <input type="checkbox"/> Plugins | <input type="checkbox"/> User documentation (text, video) |
| <input type="checkbox"/> High level design (Architecture) | <input type="checkbox"/> Software components | <input type="checkbox"/> None |
| <input type="checkbox"/> Detailed design | <input type="checkbox"/> Test plans | |
| <input type="checkbox"/> Source code | <input type="checkbox"/> Test cases | |
| <input type="checkbox"/> Other Which one? | | |

How many of the following artifacts Is it composed of reusable parts?

		Completely	Almost completely	Half	Only a little	Almost nothing	N / A
31.	Requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32.	User Stories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33.	High level design (Architecture)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34.	Detailed design	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35.	Components of software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36.	Test cases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37.	Other Which one?	<input type="text"/>					

* 38. In your company, what is the origin of the artifacts of the project (s)?

- | | |
|---|--|
| <input type="checkbox"/> Artifacts are developed from scratch | <input type="checkbox"/> Artifacts are unmodified existing project works |
| <input type="checkbox"/> Artifacts are improved copies of existing works. | <input type="checkbox"/> Commercial Off-The-Shelf (COTS) |
| <input type="checkbox"/> Artifacts are developed from the reengineering of existing products, not necessarily own products. | |

39. Does the company have a role dedicated to creating reusable artifacts?

☐ YES

☐ NO

40. Does the company have an independent team that develops reusable appliances?

☐ YES

☐ NO

* 41. At what point are reusable artifacts developed for software projects?

☐ Reusable artifacts are developed before a project needs them.

☐ Reusable artifacts are developed just when the project needs them

☐ Reusable artifacts are not developed.

* 42. Artifacts and / or reusable software components are used in the company:

Always	So many times	With frequency	Sometimes	Once in when	Rarely	Never	I dont know	N / A
<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"/>

43. Why are company-created reusable artifacts NOT used or considered valuable? In case it be so

* 44. Perception about software artifacts in your company

	Totally agree	In agreement	Neither agree nor disagree	disagree	Totally in disagreement	N / A
We have a valuable process to certify reusable software components..	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 45 Perception about software artifacts in your company

	Totally agree	In agreement	Neither agree nor disagree	disagree	Totally in disagreement	N / A
Repository support is effective and efficient for software reuse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 46. What tools does the company use for software reuse?

* 47. How related are the products develop in your organization?

- ☐ Isolated - the company has developed products that have little or nothing in common
- ☐ Product - the company develops a product, which evolves over time.
- ☐ Product family - the company develops more than one software product that has common characteristics, for example: a cross-platform solution, several similar solutions.
- ☐ Other Which one?

Perception about products of software

	Always	Usually	Usually	Sometimes	Rarely	N / A
48. We perform market analysis to effectively determine iwhich domains will be modeled and which reusable components will be develop.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. Requirements are captured, specified, analyzed and reviewed taking into account the differences between various products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. Designing an architecture considers the differences between several products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 51. What barriers have prevented a good software reuse in your company?

- | | |
|---|---|
| <input type="checkbox"/> The lack of available components. | <input type="checkbox"/> The lack of discipline in development, everyone makes their code in their own way. |
| <input type="checkbox"/> The lack of stable standards for component technology. | <input type="checkbox"/> The lack of documentation of the processes. |
| <input type="checkbox"/> Lack of knowledge in component integration. | <input type="checkbox"/> Technology evolves and it is considered that reusable devices can become obsolete. |
| <input type="checkbox"/> The lack of certified components. | <input type="checkbox"/> The projects are very diverse. |
| <input type="checkbox"/> The lack of a method to produce quality systems from components. | <input type="checkbox"/> The lack of experts on the subject. |
| <input type="checkbox"/> Initial skepticism about the usefulness and success of the reuse initiative. | <input type="checkbox"/> The use of different terminologies. |
| <input type="checkbox"/> Lack of communication between employees. | <input type="checkbox"/> None |
| <input type="checkbox"/> Lack of time and resources. | |

Other What?

* 52. Which of the following benefits associated with reusing software do you consider most important?

- | | |
|---|---|
| <input type="checkbox"/> Lower costs | <input type="checkbox"/> Ability to maintain unprecedented growth |
| <input type="checkbox"/> Decrease in necessary work | <input type="checkbox"/> Ability to move to new markets |
| <input type="checkbox"/> Decrease in time to market | <input type="checkbox"/> Ability to do mass customization |
| <input type="checkbox"/> Reduction of risks in the product | <input type="checkbox"/> Increased quality of software products |
| <input type="checkbox"/> Large-scale productivity gains | <input type="checkbox"/> Increased productivity |
| <input type="checkbox"/> Efficient management of human resources | <input type="checkbox"/> Increased customer satisfaction |
| <input type="checkbox"/> Ability to maintain a presence in the market | <input type="checkbox"/> Knowledge reuse |

Other Which one?

* 53. Have you heard of software product lines for reuse and variability management?

Software product lines refer to a set of systems that share characteristics and that are developed from a set of reusable artifacts.

☐ YES

☐ NO

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54. If your company uses another strategy for software reuse or has a different point of view, please explain it.