References

[1] Graphql foundation, 2021. URL https://graphql.org/foundation/.

[2] State of JavaScript. Graphql experience over time, 2019. URL https://2019.stateofjs.com/data-layer/graphql/#graphql_experience.

[3] Who is using graphql?, 2021. URL https://graphql.org/users.

[4] Gleison Brito, Thaís Mombach, and Marco Tulio Valente. Migrating to graphql: A practical assessment. In Xinyu Wang, David Lo, and Emad Shihab, editors, *26th IEEE International Conference on Software Analysis, Evolution and Reengineering, SANER 2019, Hangzhou, China, February 24-27, 2019*, pages 140–150. IEEE, 2019. doi: 10.1109/SANER.2019.8667986. URL https://doi.org/10.1109/SANER.2019.8667986.

[5] Gleison Brito and Marco Tulio Valente. REST vs graphql: A controlled experiment. In *2020 IEEE International Conference on Software Architecture, ICSA 2020, Salvador, Brazil, March 16-20, 2020*, pages 81–91. IEEE, 2020. doi: 10.1109/ICSA47634.2020.00016. URL https://doi.org/10.1109/ICSA47634.2020.00016.

[6] Daniela Meneses Vargas, Alison Fernandez Blanco, Andreina Cota Vidaurre, Juan Pablo Sandoval Alcocer, Milton Mamani Torres, A. Bergel, and Stéphane Ducasse. Deviation testing: A test case generation technique for graphql apis. 2018.

[7] Stefan Karlsson, Adnan Causevic, and Daniel Sundmark. Automatic property-based testing of graphql apis. *CoRR*, abs/2012.07380, 2020. URL https://arxiv.org/abs/2012.07380.

[8] Ward Cunningham. The wycash portfolio management system. *OOPS Messenger*, 4(2):29–30, 1993. doi: 10.1145/157710.157715. URL https://doi.org/10.1145/157710.157715.

[9] F. Hirsch, J. Kemp, and J. Ilkka. *Mobile Web Services: Architecture and Implementation*. Wiley, 2007. ISBN 9780470032596. URL https://books.google.se/books?id=v5f0ORBgd5IC.

[10] Alexander Davis and Du Zhang. A comparative study of DCOM and SOAP. In *4th International Symposium on Multimedia Software Engineering, ISMSE 2002, Newport Beach, CA, USA, December 11-13, 2002*, pages 48–55. IEEE Computer Society, 2002. doi: 10.1109/MMSE.2002.1181595. URL https://doi.org/10.1109/MMSE.2002.1181595.

[11] Roy Thomas Fielding and Richard N. Taylor. *Architectural Styles and the Design of Network-Based Software Architectures*. PhD thesis, 2000. AAI9980887.

[12] Olaf Hartig and Jorge Pérez. An initial analysis of facebook's graphql language. In Juan L. Reutter and Divesh Srivastava, editors, *Proceedings of the 11th Alberto Mendelzon International Workshop on Foundations of Data Management and the Web, Montevideo, Uruguay, June 7-9, 2017*, volume 1912 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2017. URL http://ceur-ws.org/Vol-1912/paper11.pdf.

[13] Graphql meta fields, 2021. URL https://graphql.org/learn/queries/#meta-fields.

[14] Graphql operation name, 2021. URL https://graphql.org/learn/queries/#operation-name.

[15] Graphql execution, 2021. URL https://graphql.org/learn/execution/.

[16] Bertrand Meyer. Eiffel: A language and environment for software engineering. *J. Syst. Softw.*, 8(3):199–246, 1988. doi: 10.1016/0164-1212(88)90022-2. URL https://doi.org/10.1016/0164-1212(88)90022-2.

[17] Ieee standard glossary of software engineering terminology. *IEEE Std 610.12-1990*, pages 1–84, 1990. doi: 10.1109/IEEESTD.1990.101064.

[18] Richard A. DeMillo, Richard J. Lipton, and Frederick G. Sayward. Hints on test data selection: Help for the practicing programmer. *Computer*, 11(4):34–41, 1978. doi: 10.1109/C-M.1978.218136. URL https://doi.org/10.1109/C-M.1978.218136.

[19] W Heidler, J Benson, R Meeson, A Kerbel, and A Pyster. Software testing measures. Technical report, GENERAL RESEARCH CORP SANTA BARBARA CA, 1982.

[20] Mathias Meyer. Continuous integration and its tools. *IEEE Softw.*, 31(3): 14–16, 2014. doi: 10.1109/MS.2014.58. URL https://doi.org/10.1109/MS.2014.58.

[21] Arrays, 2021. URL https://www.php.net/manual/en/language.types.array.php.

[22] Saswat Anand, Edmund K. Burke, Tsong Yueh Chen, John A. Clark, Myra B. Cohen, Wolfgang Grieskamp, Mark Harman, Mary Jean Harrold, and Phil McMinn. An orchestrated survey of methodologies for automated software test case generation. *J. Syst. Softw.*, 86(8):1978–2001, 2013. doi: 10.1016/j.jss.2013.02.061. URL https://doi.org/10.1016/j.jss.2013.02.061.

[23] Robert Binder. *Testing object-oriented systems: models, patterns, and tools*. Addison-Wesley Professional, 2000.

[24] Siddhartha R. Dalal, Ashish Jain, Nachimuthu Karunanithi, J. M. Leaton, Christopher M. Lott, Gardner C. Patton, and Bruce M. Horowitz. Model-based testing in practice. In Barry W. Boehm, David Garlan, and Jeff Kramer, editors, *Proceedings of the 1999 International Conference on Software Engineering, ICSE' 99, Los Angeles, CA, USA, May 16-22, 1999*, pages 285–294. ACM, 1999. doi: 10.1145/302405.302640. URL https://doi.org/10.1145/302405.302640.

[25] University of Wisconsin-Madison Computer Sciences Department. Fall 1988 cs736 project list, 1988. URL http://pages.cs.wisc.edu/~bart/fuzz/CS736-Projects-f1988.pdf.

[26] Barton P. Miller, Lars Fredriksen, and Bryan So. An empirical study of the reliability of UNIX utilities. *Commun. ACM*, 33(12):32–44, 1990. doi: 10.1145/96267.96279. URL https://doi.org/10.1145/96267.96279.

[27] Sergio Segura, Dave Towey, Zhi Quan Zhou, and Tsong Yueh Chen. Metamorphic testing: Testing the untestable. *IEEE Softw.*, 37(3):46–53, 2020. doi: 10.1109/MS.2018.2875968. URL https://doi.org/10.1109/MS.2018.2875968.

[28] Phil McMinn. Search-based software test data generation: a survey. *Softw. Test. Verification Reliab.*, 14(2):105–156, 2004. doi: 10.1002/stvr.294. URL https://doi.org/10.1002/stvr.294.

[29] Mark Harman, Yue Jia, and Yuanyuan Zhang. Achievements, open problems and challenges for search based software testing. In *8th IEEE International Conference on Software Testing, Verification and Validation, ICST 2015, Graz, Austria, April 13-17, 2015*, pages 1–12. IEEE Computer Society, 2015. doi: 10.1109/ICST.2015.7102580. URL https://doi.org/10.1109/ICST.2015.7102580.

[30] Phil McMinn. Search-based software testing: Past, present and future. In *Fourth IEEE International Conference on Software Testing, Verification and Validation, ICST 2012, Berlin, Germany, 21-25 March, 2011, Workshop Proceedings*, pages 153–163. IEEE Computer Society, 2011. doi: 10.1109/ICSTW.2011.100. URL https://doi.org/10.1109/ICSTW.2011.100.

[31] Benny Pasternak, Shmuel S. Tyszberowicz, and Amiram Yehudai. Genutest: A unit test and mock aspect generation tool. In Karen Yorav, editor, *Hardware and Software: Verification and Testing, Third International Haifa Verification Conference, HVC 2007, Haifa, Israel, October 23-25, 2007, Proceedings*, volume 4899 of *Lecture Notes in Computer Science*, pages 252–266. Springer, 2007. doi: 10.1007/978-3-540-77966-7_20. URL https://doi.org/10.1007/978-3-540-77966-7_20.

[32] Deepika Tiwari, Long Zhang, Martin Monperrus, and Benoit Baudry. Production monitoring to improve test suites. *CoRR*, abs/2012.01198, 2020. URL https://arxiv.org/abs/2012.01198.

[33] Yujun Wang, Supiti Buranawatanachoke, Romain Colle, Karl Dias, Leonidas Galanis, Stratos Papadomanolakis, and Uri Shaft. Real application testing with database replay. In Benoît Dageville and Carsten Binnig, editors, *Proceedings of the 2nd International Workshop on Testing Database Systems, DBTest 2009, Providence, Rhode Island,*

USA, June 29, 2009. ACM, 2009. doi: 10.1145/1594156.1594166. URL https://doi.org/10.1145/1594156.1594166.

[34] Shadi Abdul Khalek, Bassem Elkarablieh, Yai O. Laleye, and Sarfraz Khurshid. Query-aware test generation using a relational constraint solver. In *23rd IEEE/ACM International Conference on Automated Software Engineering (ASE 2008), 15-19 September 2008, L'Aquila, Italy*, pages 238–247. IEEE Computer Society, 2008. doi: 10.1109/ASE.2008.34. URL https://doi.org/10.1109/ASE.2008.34.

[35] Shadi Abdul Khalek and Sarfraz Khurshid. Automated SQL query generation for systematic testing of database engines. In Charles Pecheur, Jamie Andrews, and Elisabetta Di Nitto, editors, *ASE 2010, 25th IEEE/ACM International Conference on Automated Software Engineering, Antwerp, Belgium, September 20-24, 2010*, pages 329–332. ACM, 2010. doi: 10.1145/1858996.1859063. URL https://doi.org/10.1145/1858996.1859063.

[36] Antonia Bertolino, Jinghua Gao, Eda Marchetti, and Andrea Polini. Automatic test data generation for XML schema-based partition testing. In Hong Zhu, W. Eric Wong, and Amit M. Paradkar, editors, *Proceedings of the Second International Workshop on Automation of Software Test, AST 2007, Minneapolis, MN, USA, May 26-26, 2007*, pages 10–16. IEEE Computer Society, 2007. doi: 10.1109/AST.2007.6. URL https://doi.org/10.1109/AST.2007.6.

[37] Benjamin Danglot, Oscar Vera-Perez, Zhongxing Yu, Andy Zaidman, Martin Monperrus, and Benoit Baudry. A snowballing literature study on test amplification. *J. Syst. Softw.*, 157, 2019. doi: 10.1016/j.jss.2019.110398. URL https://doi.org/10.1016/j.jss.2019.110398.

[38] Bent Flyvbjerg. Five misunderstandings about case-study research. *Qualitative Inquiry*, 12:219–245, 04 2006. doi: 10.1177/1077800405284363.