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## REST API auto generation : A model-based approach (Conference Paper)

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### Abstract

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Most of software products, especially mobile applications (apps) rely on a back-end web services to communicate with a shared data repository. Statistics have demonstrated exponential demand on web services, mainly REST, due to the continuous adoption of IoT (Internet of Things) and Cloud Computing. However, the development of back-end REST web services is not a trivial task, and can be intimidating even for seasoned developers. Despite the fact that there are several studies that focus on automatic generation of REST APIs, we argue that those approaches violate the rules of code flexibility and are not appropriate for novice developers. In this study, we present an approach and a framework, named RAAG (REST Api Auto - Generation), that aims to improve productivity by simplifying the development of REST web services. Our RAAG framework abstracts layers, where code generation has been avoided due its limitations. A preliminary evaluation shows that RAAG can significantly improves development productivity and is easy to operate even by novice developers. © 2020 The authors and IOS Press. All rights reserved.

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- 
- 1 Guo, C., Xu, J., Yang, H., Zeng, Y., Xing, S.  
**An automated testing approach for inter-application security in android**  
  
(2014) *9th International Workshop on Automation of Software Test, AST 2014 - Proceedings*, pp. 8-14. Cited 10 times.  
ISBN: 978-145032858-6  
doi: 10.1145/2593501.2593503  
  
View at Publisher
- 
- 2 (2019) *Apis Show Faster Growth Rate in 2019 Than Previous Years*. Cited 5 times.  
ProgrammableWeb com, Last accessed on June 2019  
<https://www.programmableweb.com/news/research-shows-interest-providing-apis-still-high/research/2018/02/23>
- 
- 3 Fischer, M.  
(2015) *Model-driven Code Generation for REST APIs*. Cited 2 times.  
Thesis
- 
- 4 Ed-Douibi, H., Cánovas Izquierdo, J.L., Cabot, J.  
**APIComposer: Data-driven composition of REST APIs**  
  
(2018) *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 11116 LNCS, pp. 161-169. Cited 3 times.  
<https://www.springer-com.ezproxy.um.edu.my/series/558>  
ISBN: 978-331999818-3  
doi: 10.1007/978-3-319-99819-0\_12  
  
View at Publisher
- 
- 5 Zolotas, C., Diamantopoulos, T., Chatzidimitriou, K.C., Symeonidis, A.L.  
**From requirements to source code: a Model-Driven Engineering approach for RESTful web services**  
  
(2017) *Automated Software Engineering*, 24 (4), pp. 791-838. Cited 11 times.  
[www.kluweronline.com/issn/0928-8910/](http://www.kluweronline.com/issn/0928-8910/)  
doi: 10.1007/s10515-016-0206-x  
  
View at Publisher
- 
- 6 Aué, J., Aniche, M., Lobbezoo, M., Van Deursen, A.  
**An exploratory study on faults in web API integration in a large-scale payment company** (Open Access)  
  
(2018) *Proceedings - International Conference on Software Engineering*, pp. 13-22. Cited 5 times.  
ISBN: 978-145035659-6  
doi: 10.1145/3183519.3183537  
  
View at Publisher
- 
- 7 Ed-Douibi, H., Izquierdo, J.L.C., Cabot, J.  
**Model-driven development of OData services: An application to relational databases**  
  
(2018) *Proceedings - International Conference on Research Challenges in Information Science*, 2018-May, pp. 1-12. Cited 2 times.  
<http://ieeexplore.ieee.org.ezproxy.um.edu.my/xpl/conferences.jsp>  
ISBN: 978-153866517-6  
doi: 10.1109/RCIS.2018.8406667  
  
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