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Prince Sultan University

P.O.Box 66833 Riyadh 11586

College of Computer and Information Sciences

**MAMDOUH ALENEZI, PhD**

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| **EDUCATION** |

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| **Ph.D. Software Engineering** | **June 2014** |
| North Dakota State University, Fargo, ND | |
| Thesis: “A New Coupling Metric: Combining Structural and Semantic Relationships” | |
| **M.S. Software Engineering** | **June 2011** |
| DePaul University, Chicago, IL | |
| **B.S. Computer Science** | **March 2010** |
| Prince Sultan University, Riyadh | |

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| **CONSULTANCY and FUNDING EXPERIENCE** |

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| **Wisconsin Falconers Association** | **April 2011** |
| Building a reservation system for visitors. People from around the globe come and visit this association at certain times to visit certain types of birds prey. | |
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| **National Information Solutions Cooperative (NISC)** | **March 2013** |
| Helped them in transforming the billing management system of Walmart to a web service. The aim of the project was to help Branch managers to access utility bills on their mobile devices | |

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| **Saudi Telecom Company (STC)** | **May 2016** |
| A medium-size consultation project between STC and Prince Megren Data Mining Center (MEGDAM). The aim was to reducing repeated calls to improve field operations performance. | |
| **King Abdulaziz City for Science and Technology (KACST)** | **January 2017** |
| Dynamic Capacity Provisioning in Cloud-Based Network. The aim is to handle the challenge of resource allocation in a cloud-based network. The model will handle advance and online reservation resource requests. (163,200 SAR). | |
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| **TEACHING EXPERIENCE** | | |

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| **Gifted High-school Students** | **2009** |
| Mobile Development using Visual Studio | |
| **Prince Sultan University** | **2014 to Present** |
| SE 201: Introduction to Software Engineering  SE 211: Software Construction  SE 311: Software Requirements Engineering  SE 322: Software Design & Architecture  SE 353: Building Secure Software Systems  SE 401: Software Quality Assurance & Testing  SE 415: Group Dynamics & Professional Practice | |
| **WORK EXPERIENCE** | | |

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| **Dean of Educational Services** | | | **Sep 2018 to Present** |
| *Prince Sultan University*  **Associate Professor (Department of Computer Science)**  *Prince Sultan University* | | | **Dec 2018 to Present** |
| **Chief Information & Technology Officer** | | | **Sep 2016 to Aug 2019** |
| *Prince Sultan University* | | |  |
| **General Supervisor of Information Technology & Computing Services** | | | **March 2016 to Aug 2016** |
| *Prince Sultan University* | | | |
| **Chairman of the Department of Computer Science** | | | **Sep 2015 to Aug 2016** |
| *Prince Sultan University* | | | |
| **Assistant Professor (Department of Computer Science)** | | | **Sep 2014 to Dec 2018** |
| *Prince Sultan University* | | | |
| **New Course Development** | **Master degree curriculum development** | |
| * SE 211: Software Construction * SE 311: Software Requirements Engineering * SE 415: Group Dynamics & Professional Practice | * Participated in development of MS in Software Engineering program * Participated in development of MS in Cybersecurity Engineering program | |
| **Service and Administration** | **Master Thesis Committee** | |
| * University level Examination Committee * PSU Institutional Policy Committee * Institutional Strategic Planning Committee * ABET Steering Committee * Institutional Technology and Quality Committee * Institutional Exectuive Research Committee | * A Context-Aware Personalization Model for Augmented Reality Applications * User Experience Dimensions, Aspects, and Measures: Systematic Literature Review * Software Architecture Stability Evolution in Open Source Object-Oriented Systems | |

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| **PUBLICATIONS** |

**JOURNAL ARTICLES**

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| J-50 | Alka Agrawal, **Mamdouh Alenezi**, Rajeev Kumar and Raees Ahmad Khan: "Securing Web Applications through a Framework of Source Code Analysis." Journal of Computer Science, Volume 15, Issue 12, pp. 1780 - 1794 December 2019. |
| J-49 | Nada Alsolami, Qasem Obeidat, and **Mamdouh Alenezi**: "Empirical Analysis of Object-Oriented Software Test Suite Evolution." International Journal of Advanced Computer Science and Applications(IJACSA), Volume 10, Issue 11, pp. 89 - 98 November 2019. |
| J-48 | **Mamdouh Alenezi**, Mohammed Akour, and Hiba Alsghaier: "The Impact of Co-evolution of Code Production and Test Suites through Software Releases in Open Source Software Systems." International Journal of Innovative Technology and Exploring Engineering (IJITEE), Volume 9, Issue 1, pp. 2737 - 2739 November 2019. |
| J-47 | Alka Agrawal, **Mamdouh Alenezi**, Rajeev Kumar, and Raees Ahmad Khan: "Measuring the Sustainable-Security of Web Applications Through a Fuzzy-Based Integrated Approach of AHP and TOPSIS." IEEE Access, Volume 7, pp. 153936 - 153951 November 2019. |
| J-46 | Alka Agrawal, **Mamdouh Alenezi**, Rajeev Kumar, and Raees Ahmad Khan: "A source code perspective framework to produce secure web applications." Computer Fraud & Security, Volume 2019, Issue 10, pp. 11 - 18 October 2019. |
| J-45 | Faraz Idris Khan, Yasir Javed, and **Mamdouh Alenezi**: "Security assessment of four open source software systems." Indonesian Journal of Electrical Engineering and Computer Science, Volume 16, Number 2, pp. 860 - 881 November 2019. |
| J-44 | Faraz Idris Khan, and **Mamdouh Alenezi**: "Open Source Web-Based Software: Security Challenges and Assessment Methodologies." i-manager's Journal on Software Engineering (JSE), Volume 14, Issue 1, pp. 34 - 40 October 2019. |
| J-43 | **Mamdouh Alenezi**, Mohammad Zarour, and Sultan Alsulis: "DevOps Development Process Awareness and Adoption -The Case of Saudi Arabia." i-manager's Journal on Software Engineering (JSE), Volume 14, Issue 1, pp. 19 - 27 October 2019. |
| J-42 | **Mamdouh Alenezi** and Sadiq Almuairfi: "Security Risks in the Software Development Lifecycle." International Journal of Recent Technology and Engineering (IJRTE), Volume 8, Issue 3, pp. 7048 - 7055 September 2019. |
| J-41 | Mohammad Zarour, Norah Alhammad, **Mamdouh Alenezi**, and Khalid Alsarayrah: "A Research on DevOps Maturity Models." International Journal of Recent Technology and Engineering (IJRTE), Volume 8, Issue 3, pp. 4854 - 4862 September 2019. |
| J-40 | Hafsa Ashraf, **Mamdouh Alenezi**, Muhammad Nadeem, and Yasir Javed: "Security assessment framework for educational ERP systems." International Journal of Electrical and Computer Engineering (IJECE), Volume 9, Number 6, pp. 5570 - 5585 December 2019. |
| J-39 | Alka Agrawal, Mohammad Zarour, **Mamdouh Alenezi**, Rajeev Kumar, and Raees Ahmad Khan: "Security durability assessment through fuzzy analytic hierarchy process." PeerJ Computer Science, 5:e215 September 2019. |
| J-38 | Alka Agrawal, **Mamdouh Alenezi**, Dhirendra Pandey, Rajeev Kumar, and Raees Ahmad Khan: "Usable-Security Assessment Through A Decision Making Procedure." ICIC Express Letters, Part B: Applications, Volume 10, Number 8, pp. 665 - 672 July 2019. |
| J-37 | Rajeev Kumar, Mohammad Zarour, **Mamdouh Alenezi**, Alka Agrawal, and Raees Ahmad Khan: "Measuring Security Durability of Software through Fuzzy-Based Decision-Making Process." International Journal of Computational Intelligence Systems, Volume 12, Number 2, pp. 627 - 642 June 2019. |
| J-36 | Attiq ur Rehman Jaffar, Muhammad Nadeem, **Mamdouh Alenezi**, and Yasir Javed: "Using Public Vulnerabilities Data to Self-Heal Security Issues in Software Systems." ICIC Express Letters, Volume 13, Number 7, pp. 557 - 567 July 2019. |
| J-35 | Alka Agrawal, **Mamdouh Alenezi**, Suhel Ahmad Khan, Rajeev Kumar, Raees Ahmad Khan: "Multi-level Fuzzy System for Usable-Security Assessment." Journal of King Saud University-Computer and Information Sciences (2019). |
| J-34 | **Mamdouh Alenezi**, Rajeev Kumar, Alka Agrawal, and Raees Ahmad Khan: "Usable-Security Attribute Evaluation Using Fuzzy Analytic Hierarchy Process." ICIC Express Letters, Volume 13, Number 6, pp. 453 - 460 June 2019. |
| J-33 | **Mamdouh Alenezi**, Muhammad Usama, Khaled Almustafa, Waheed Iqbal, Muhammad Ali Raza, and Tanveer Khan: "An Efficient, Secure, and Queryable Encryption for NoSQL-Based Databases Hosted on Untrusted Cloud Environments." International Journal of Information Security and Privacy (IJISP), Volume 13, Issue 2, pp. 14 - 31 (2019). |
| J-32 | Park Youngeun and **Mamdouh Alenezi**: "Predicting the Popularity of Saudi Multinational Enterprises Using a Data Mining Technique." Journal of Management Information and Decision Sciences, Volume 21, Issue 1, (2018). |
| J-31 | Md Tarique Jamal Ansari, Dhirendra Pandey, and **Mamdouh Alenezi**: "STORE: Security Threat Oriented Requirements Engineering Methodology." Journal of King Saud University - Computer and Information Sciences (2018). |
| J-30 | **Mamdouh Alenezi**, Mohammad Zarour, and Khawlah Alomar: "Are Open Source Web Applications Secure? Static Analysis Findings." International Journal of System and Software Engineering, Vol. 6, No. 2, pp. 1 - 9 (2018). |
| J-29 | **Mamdouh Alenezi** and Mohammad Zarour:: "An Empirical Study of Bad Smells during Software Evolution Using Designite Tool." i-manager's Journal on Software Engineering, 12(4), 12-27 (2018) |
| J-28 | Yasir Javed, **Mamdouh Alenezi**, Mohammed Akour and Ahmad Alzyod: "Discovering the Relationship Between Software Complexity and Software Vulnerabilities." Journal of Theoretical and Applied Informtion Technology, Vol. 96, No. 14, pp. 4690 - 4699 (2018). |
| J-27 | **Mamdouh Alenezi**, Shadi Banitaan, and Mohammad Zarour: "CLUBA: A Clustering-Based Approach for Bug Assignment." International Journal of System and Software Engineering, Vol. 6, No. 1, pp. 1 - 9 (2018). |
| J-26 | Muhammad Abdullah, Saad Khan, **Mamdouh Alenezi**, Khaled Almustafa, and Waheed Iqbal: "Application Centric Virtual Machine Placements to Minimize Bandwidth Utilization in Datacenters." Intelligent Automation and Soft Computing.  3-6 |
| J-25 | Iman Almomani and **Mamdouh Alenezi**: "Efficient Denial of Service Attacks Detection in Wireless Sensor Networks." Journal of Information Science and Engineering Vol. 34, No. 4 (2018), pp. 977 - 1000. |
| J-24 | Layla Alrawais, **Mamdouh Alenezi**, and Mohammad Akour: "Security Testing Framework for Web Applications." International Journal of Software Innovation (IJSI) Vol. 6, No. 3 (2018), pp. 93 - 117. |
| J-23 | Turki Alshammary and **Mamdouh Alenezi**: "Software Architecture Understandability in Object-Oriented Systems." i-manager’s Journal on Software Engineering Vol. 12, No. 2 (2018), pp. 1 - 14. |
| J-22 | Mohannad Alsayat and **Mamdouh Alenezi**: "ERP Implementation Failures in Saudi Arabia: Key Findings." International Business Management Vol. 12, No. 1 (2018), pp. 10 - 22. |
| J-21 | **Mamdouh Alenezi**, Khaled Almustafa and Khalim Amjad Meerja: "Cloud based SDN and NFV architectures for IoT infrastructure." Egyptian Informatics Journal (2018). |
| J-20 | **Mamdouh Alenezi**, Shadi Banitaan and Mohammad Zarour: "Using Categorical Features in Mining Bug Tracking Systems to Assign Bug Reports." International Journal of Software Engineering & Applications (IJSEA) Vol. 9, No. 2 (2018), pp. 29 - 39. |
| J-19 | Abdulrahman Asiri, Qasem Obiedat and **Mamdouh Alenezi**: "A Cloud-Based Cross - Enterprise Imaging Framework." i-manager’s Journal on Software Engineering Vol. 12, No. 1 (2018), pp. 6 - 25. |
| J-18 | **Mamdouh Alenezi**, Khaled Almustafa and Mohamed Hussein: "On Virtualization and Security-Awareness Performance Analysis in 5G Cellular Networks." Journal of Engineering Science and Technology Review Vol. 11, No. 1 (2018), pp. 199 - 207. |
| J-17 | **Mamdouh Alenezi** and Mohammad Zarour: "Software vulnerabilities detection based on security metrics at the design and code levels: empirical findings." Journal of Engineering Technology Vol. 6, No. 1 (2018), pp. 570-583. |
| J-16 | Hassan Almousa and **Mamdouh Alenezi**: "Measuring Software Architecture Stability Evolution in Object-Oriented Open Source Systems." Journal of Engineering and Applied Sciences Vol. 12, No. 2 (2017), pp. 353-362. |
| J-15 | Mohammed Akour, Samah Aldiabat, Hiba Alsghaier, Khalid Alkhateeb and **Mamdouh Alenezi**: "Software Architecture Understandability of Open Source Applications." International Journal of Computer Science and Information Security (IJCSIS) Vol. 14, No. 10 (2016), pp. 65-78. |
| J-14 | Shadi Banitaan, Mohammad Akour and **Mamdouh Alenezi**: "A Test Suite Reduction Approach for Software Unit Testing." Advanced Science Letters Vol. 22, No. 10 (2016), pp. 2977-2981. |
| J-13 | Thamer Alhamed and **Mamdouh Alenezi**: "Business Continuity Management & Disaster Recovery Capabilities in Saudi Arabia ICT Businesses." International Journal of Hybrid Information Technology Vol. 9, No. 11 (2016), pp. 99-126. |
| J-12 | **Mamdouh Alenezi** and Yasir Javed: "Developer Companion: A Framework to Produce Secure Web Applications." International Journal of Computer Science and Information Security Vol.14, No.7 (2016), pp.12-16. |
| J-11 | **Mamdouh Alenezi**, “Software Architecture Quality Measurement Stability and Understandability.” International Journal of Advanced Computer Science and Applications(IJACSA), Volume 7 Issue 7, pp. 550-559 (2016) |
| J-10 | Ibrahim Abunadi and **Mamdouh Alenezi**: "An Empirical Investigation of Security Vulnerabilities within Web Applications." Journal of Universal Computer Science Vol. 22, No. 4, pp. 537-551 (2016). |
| J-09 | **Mamdouh Alenezi** and Mohammad Zarour: "Does Software Structures Quality Improve over Software Evolution? Evidences from Open-Source Projects." International Journal of Computer Science and Information Security (IJCSIS) Vol.14, No.1 (2016), pp. 61-75. |
| J-08 | **Mamdouh Alenezi** and Ibrahim Abunadi: "Evaluating Software Metrics as Predictors of Software Vulnerabilities." International Journal of Security and Its Applications Vol.9, No.10 (2015), pp.231-240. |
| J-07 | **Mamdouh Alenezi** and Ibrahim Abunadi: "Quality of Open Source Systems from Product Metrics Perspective." International Journal of Computer Science Issues 12.5 (2015): 143-148. |
| J-06 | **Mamdouh Alenezi** and Fakhry Khellah. "Evolution Impact on Architecture Stability in Open-Source Projects." International Journal of Cloud Applications and Computing (IJCAC) 5.4 (2015): 24-35. |
| J-05 | Shadi Banitaan and **Mamdouh Alenezi**: "Software Evolution via Topic Modeling: An Analytic Study." International Journal of Software Engineering and Its Applications Vol. 9, No. 5 (2015), pp. 43-52 |
| J-04 | **Mamdouh Alenezi** and Khaled Almustafa: "Empirical Analysis of the Complexity Evolution in Open-Source Software Systems" International Journal of Hybrid Information Technology (IJHIT), Vol.8, No.2, 2015.  4-6 |
| J-03 | **Mamdouh Alenezi**: "Extracting High-Level Concepts from Open-Source Systems." International Journal of Software Engineering and Its Applications Vol.9, No.1, (2015). |
| J-02 | **Mamdouh Alenezi** and Kenneth Magel: "Empirical Evaluation of A New Coupling Metric: Combining Structural and Semantic Coupling." International Journal of Computers and Applications 36(1) (2014). |
| J-01 | **Mamdouh Alenezi**, Kenneth Magel, and Shadi Banitaan. "Efficient Bug Triaging Using Text Mining", Journal of Software 8(9), 2185-2190 (2013). |

**CONFERENCE PROCEEDINGS**

3-5

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| --- | --- |
| C-17 | **Mamdouh Alenezi** and Faraz Idris Khan: “Context-Sensitive Case-Based Software Security Management System.” 3rd Computational Methods in Systems and Software 2019. |
| C-16 | **Mamdouh Alenezi** and Iman Almomani: “Empirical Analysis of Static Code Metrics for Predicting Risk Scores in Android Applications.” 5th International Symposium on Data Mining Applications (SDMA2018), Riyadh, Saudi Arabia. |
| C-15 | **Mamdouh Alenezi** and Iman Almomani: “Abusing Android Permissions: A Security Perspective.” 2017 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technologies (AEECT), Amman, Jordan. |
| C-14 | Khaled Almustafa and **Mamdouh Alenezi**: “Cost Analysis of SDN/NFV Architecture over 4G Infrastructure.” The 8th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN-2017), Lund, Sweden. |
| C-13 | **Mamdouh Alenezi**, Mohammed Akour, Alaa Hussien, and Mohammad Z. Al-Saad: “Test Suite Effectiveness: An Indicator for Open Source Software Quality.” The 2nd International Conference on Open Source Software Computing (OSSCOM 2016), Beirut, Lebanon |
| C-12 | **Mamdouh Alenezi** and Yasir Javed: “Open Source Web Application Security: A Static Analysis Approach.” International Conference on Engineering & MIS 2016 (ICEMIS’16), Agadir, Morocco. |
| C-11 | Yasir Javed and **Mamdouh Alenezi**: “Defectiveness Evolution in Open Source Software Systems.” 4th Symposium on Data Mining Applications (SDMA 2016), Riyadh, Saudi Arabia. |
| C-10 | Khaled Almustafa and **Mamdouh Alenezi**: “Dynamic Evolution of Source Code Topics.” The Tenth International Conference on Software Engineering Advances (ICSEA 2015), Barcelona, Spain. |
| C-09 | Ibrahim Abunadi and **Mamdouh Alenezi**: “Towards Cross Project Vulnerability  Prediction in Open Source Web Applications.” International Conference on Engineering & MIS 2015 (ICEMIS’15), Istanbul, Turkey. |
| C-08 | **Mamdouh Alenezi** and Mohammad Zarour: “Modularity Measurement and Evolution in Object-Oriented Open-Source Projects.” International Conference on Engineering & MIS 2015 (ICEMIS’15), Istanbul, Turkey. |
| C-07 | **Mamdouh Alenezi** and Fakhry Khellah: “Architectural Stability Evolution in Open-Source Systems.” International Conference on Engineering & MIS 2015 (ICEMIS’15), Istanbul, Turkey. |
| C-06 | **Mamdouh Alenezi**, Shadi Banitaan, and Qasem Obeidat: “Fault-Proneness of Open Source Systems: An Empirical Analysis.” International Arab Conference on Information Technology (ACIT 2014), Nizwa, Oman. |
| C-05 | **Mamdouh Alenezi** and Kenneth Magel: “A New Coupling Metric: Blending Structural and Semantic Relations.” 13th IASTED International Conference on Software Engineering (SE 2014), Innsbruck, Austria. |
| C-04 | **Mamdouh Alenezi** and Shadi Banitaan: "Bug Reports Prioritization: Which Features and Classifier to Use?." 12th IEEE International Conference on Machine Learning and Applications (ICMLA), IEEE, 2013. |
| C-03 | Shadi Banitaan and **Mamdouh Alenezi**: "DECOBA: Utilizing Developers Communities in Bug Assignment." 12th IEEE International Conference on Machine Learning and Applications (ICMLA), IEEE, 2013. |
| C-02 | Shadi Banitaan and **Mamdouh Alenezi**: "TRAM: An approach for assigning bug reports using their Metadata." Third International Conference on Communications and Information Technology (ICCIT), IEEE, 2013. |
| C-01 | Shadi Banitaan, **Mamdouh Alenezi**, Kendall Nygard, and Kenneth Magel. "Towards Test Focus Selection in Integration Testing using Method Level Software Metrics", 10th International Conference on Information Technology: New Generations (ITNG Software Testing 2013).  5-6 |
| **Services** | |

**Conference Chair**

* 5th International Symposium on Data Mining Applications (SDMA2018)
* 6th International Conference on Data Science and Machine Learning Applications (CDMA 2020)

**Program Committee Membership**

* Workshop on Machine Learning for Predictive Models (MLPM 2014), 13th IEEE International Conference on Machine Learning and Applications (ICMLA 2014).
* International Conference on Computing and Informatics (ICOCI 2015).
* The Third Information Systems International Conference (ISICO 2015).
* The Tenth International Conference on Software Engineering Advances (ICSEA 2015).
* International Conference on Computing Education and Information Technology (ICCEIT 2015).
* Workshop on Machine Learning for Predictive Models in Engineering Applications (MLPMEA 2015), 14th IEEE International Conference on Machine Learning and Applications (ICMLA 2015).
* International Conference on Computing Education and Information Technology (ICCEIT 2015).
* The 7th International Conference on Information and Communication Systems (ICICS 2016).
* The 4th Symposium on Data Mining Applications (SDMA 2016).
* The 4th Saudi International Conference on Information Technology, Big Data Analysis (KACSTIT2016).
* The Eleventh International Conference on Software Engineering Advances (ICSEA 2016).
* Special Session: Machine Learning for Predictive Models in Engineering Applications, The 18th IEEE International Conference on Machine Learning and Applications (ICMLA 2019).

**Reviewer of International Indexed Journals**

* International Journal of Cloud Applications and Computing (IJCAC).
* KSII Transactions on Internet and Information Systems.
* Journal of Ambient Intelligence and Humanized Computing.
* International Journal of Software Engineering and Knowledge Engineering.
* Information and Software Technology.
* Journal of Information Security and Applications.
* ACM Computing Surveys.

**Master Students Supervision**

* Hussain Alshehri - Internet of Things - Architecture of Multiple Sources Data Acquisition Sensors
* Sultan Alotaibi - An exploratory study of DevOps Awareness and Adoption in Saudi Arabia
* Abdulrahman Asiri - Cloud-based Cross-enterprise Imaging Framework
* Thamer Alhamed - Measuring the Capability of Business Continuity Management & Disaster Recovery in the Kingdom of Saudi Arabia ICT Companies
* Turki Alshammary - Software Architecture Understandability in Object-Oriented Systems
* Hassan Al-Mousa - Software Architecture Stability Evolution in Open Source Object-Oriented Systems
* Laila Al-Rowais - Framework for Security Testing of Web Applications
* Khawlah AlOmar - Static Analysis of Open-Source Web Applications

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