

<p>Integrated MSc Course on Informatics Engineering, DI/FCT/UNL Computer Networks and Systems Security / Semester 1, 2019-2020 WORK-ASSIGNMENT #2 REPORT for Evaluation</p>

Title of your Work

REPORT

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Summary

Write here a short abstract, representative as a summary of for your work addressed and done. First address the explanation of the system that you designed and implemented, form the initial challenge in the considered statement of objectives requirements. Then summarize what you implemented and how, and how you evaluated the implementation to validate your solution. You can also summarize here the main conclusions you take from the development experience of the work. Try to put this in ~200 words (but certainly not more than 250). You must try to report the implementation as a reference paper. The quality of your paper will be also judged as a component for the overall evaluation of your work.

1. Introduction

From what you said in the Abstract, try to elaborate more on the motivation, introduction or background in approaching the work objectives, the implemented and validated objectives and the main aspects related to your implementation. If and when you consider relevant use bibliographic references to related work, related technology or any other bibliographic sources that can help to clarify the framework of your proposed and implemented solution. Try to have a good introduction in a half page as reference.

2. System model and architecture

2.1 System model

In this section you can discuss the system model and the architecture of your work. Try to use pictures representing the main entities and components in your system model, as well

as components supporting your software architecture. Explain briefly by clearly how the components and entities interact and for what purposes or the main operations that take place in the interoperability of your system model entities and components.

Excepting the space of figures, tables representation of APIs, try to have a good synthesis of your system model in approximately one half page

2.2 Architecture

In this section you can now discuss in more detail the software components and services, and how they are supported in your software architecture. In this you can include the description of the runtime and distributed system model and related technology used, as well as interfaces and operations supported in detail. Discuss the advantages and drawbacks of your implementation, as approached. Try to describe this in one half page (except possible additional pictures, tables, temporal-diagrams or sequence diagrams that could illustrate the operations between entities and components).

2.3 Threat model

Discuss here the threat model beyond your designed and implemented system, explaining the considered attack-surfaces, security properties, security services and used mechanisms in your implementation used as countermeasures against the considered possible threats. Consider ~1 half page as average reference for the description of the threat model.

3 Implementation details

Use this section to describe your implementation details. the way you addressed the support for your system and their architectural components, involved software/development technology, as well as, system runtime support components and required installations to deploy and to run your solution. It would be interesting to have a complete vision on your implementation. For example you can add a table with all relevant technology you used, as well as, versions/releases and references that you can include in your final references.

With the description of this sections it must be clear for the reader to understand the main and more relevant aspects of your implementation, mapped on the system model and architecture initially explained.

You are free to consider a good and complete discussion but your exercise must be to address a reasonable and clear description of the most relevant and highlighted implementation details that you want to argue for your work done. 1 half page to 1 page must be a good reference in size, but you must see this related to the greater or lesser complexity of your implementation, as well as the related features, including configuration for flexibility and generality of the implemented solution. Try not to go over a page but if you consider additional details as relevant, consider using complementary annexes.

4. Work Evaluation and Validation

Use this section to discuss the validation and correctness of your designed system and related implementation (prototype). Explain the experimental evaluation done, the considered, focused and observed evaluation criteria. Discuss how you evaluated or measured your system for those criteria (referring experiments, practical observations/deployment and possible qualitative, as well as, quantitative metrics you're your performed observations). If you want to structure more clearly the section, can use an initial paragraph describing the evaluation and validation objectives as addressed, dedicating a sub-section to specific observations done and argumentation about the system validity from your observations.

5. Conclusion

Use this section to summarize your main conclusions (aligned with the initially referred objectives addressed). Highlight in conclusion what you consider more relevant in your implementation and what you learned and what you consider more relevant form your experience in developing the work. You can finalize addressing how to overcome the limitations or drawbacks, or what you would propose as interesting to address, why and how in a perspective of future work hypotheses.

References

Put your cited references here, ex:

- [1] Course on Computer Networks and Systems Security, MSc Program in Informatics Engineering, DI/FCT/UNL 2019/2020, Work-Assignment #2 Statement and Initial Specifications, November/2019.
- [2] M. Schliep, N. Hopper, End-to-End Secure Mobile Group Messaging with Conversation Integrity and Deniability. in Proceedings of the 18th ACM Workshop on Privacy in the Electronic Society, London UK, November 2019
- [3] Katriel Cohn-Gordon, C. Crammers, L. Garrat, J. Milican, K. Milner, On Ends-to-Ends Encryption: Asynchronous Group Messaging with Strong Security Guarantees, in Proceedings of the 2018 ACM SIGSAC Conference on Computer and Communications Security, New York USA, October 2018
- [4] Spring Framework, <https://spring.io> (available and retrieved in November/2019).
- [5] Paul Sklenar, Securing REST APIs With Client Certificates, DZone Tutorial and implementation, <https://dzone.com/articles/securing-rest-apis-with-client-certificates> (available and retrieved in October/2019).
- [6] Simplest method to Implement 2 Way Authentication using SSL, OpenCodez Tutorials, <https://www.opencodez.com/java/implement-2-way-authentication-using-ssl.htm> (Available and retrieved in October/2019).
- [7] Jie Ma, Bn Qi, Kewey Lv, Fully private auctions for the highest bid, in Proceedings of the ACM Turing Celebration Conference, Chengdu - China, May 2019

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