Dr. Volker Riediger
M.Sc. Mahmood Al-Doori
M.Sc. Veronika Vasileva

ist

university of koblenz
Computer Science

— Engineering Web and Data-intensive Systems - Winter Term 2022/23 —
Assignment 3.

From: Dec 15th 2022   To: Jan 9th 2023

In the following short essays, please make sure that you describe and explain the concepts.

You are also encouraged to use examples and/or figures.

Your explanation shall be self-contained so that a reader new to the topic can understand everything (at least 150 words per topic).

Please extend your knowledge by studying additional material, e.g. from the web.

When you use such material, make sure that you cite the sources properly.

1 Essay: Architecture

a) Please name two quality measures for web applications that are supported by a layered architecture. For each measure, please explain how and why it is supported.

   Don't confuse quality measures with fundamental and structural principles!

b) Please explain the purpose and the structure of the architectural pattern *Remote Facade*. You may also sketch a diagram of the structure. Where is this pattern applicable? How does the application design benefit from this pattern?

2 Essay: Scalability

a) What is Scalability? Please describe the quality measure.

b) Explain Vertical and Horizontal Scaling, and in which cases is each of them applicable.