

Exercise Business Informatics 2 (PWIN) Summer Term 2011

Exercise I: Information Systems

The InstantONS scenario is required in order to solve some of the exercises. It can be found in a separate document.

Fachbereich
Wirtschaftswissenschaften

Institut für Wirtschaftsinformatik
Professur für Mobile Business & Multilateral Security
www.m-chair.net

Dr. Andreas Albers

Telefon +49 (0)69-798 34667
Telefax +49 (0)69-798 35004
E-Mail andreas.albers@m-chair.net

Dipl.-Kfm. Lars Wolos

E-Mail lars.wolos@m-chair.net

Dipl.-Wirt.-Inf. Stephan Heim

E-Mail stephan.heim@m-chair.net

Exercise 1: Modelling

- Explain why Enterprise Modelling based on the ARIS concept differentiates between the three abstraction layers *conceptual model*, *technical model*, and *implementation* (Fachkonzept, DV-Konzept und Implementierung)? What target group (e.g. project manager, developer, etc.) does each layer specifically address?
- Explain briefly the abstraction mechanisms “aggregation” and “generalisation” in the modelling context. In addition, give an example for each of the two mechanisms with regard to the InstantONS[®] service.

Exercise 2: Models for the architecture of Information Systems

- Scalability* is one general requirement for the architecture of Information Systems. Please name and explain three additional requirements.
- Explain the meaning of the additional three requirements from a) with regard to the InstantONS[®] service.

Exercise 3: Three-Tier Layer concept

- Please map the following InstantONS[®] service components to the Three-Tier Layer concept. The service components to be mapped are:
 - The form for the input of personal information (e.g. gender, age, etc.) for users
 - The database for storing the contact list and calendar of a user
 - The software module containing the matching logic for the personal profiles of users.
- What is the benefit of structuring Information Systems based on the Three-Tier Layer concept?

Exercise 4: Media disruptions

- What is the meaning of the term “media disruption” in the context of Information Systems? Name two consequences of media disruptions in Information Systems for an enterprise.
- How can media disruptions be rectified? What challenges can emerge during this approach?

Exercise 5: Central Server architecture

- a) Name and describe a scenario for an enterprise in which a central server concept is appropriate. Explain the benefits for the enterprise in this scenario.
- b) What are the drawbacks of the central server concept to be considered by the enterprise in this scenario?

Exercise 6: Information System architectures

- a) Assume the InstantONS[®] user client application constitutes a mobile website running in the Internet browser of the mobile device. Can this application be regarded as a client/server concept?
- b) If you have answered “Yes” in a), please name the type of client/server concept (e.g. distributed database). If you have answered “No” in a), then name the type of the architecture (e.g. central server concept, etc.). In any case, give a reason for your answer.

Exercise 7: Client/Server concept „remote database“

- a) Name a traditional application for the client/server concept “remote database”.
- b) In contrast to the client/server concept “remote database”, why are web-based Information Systems increasingly being used in enterprises? Name an advantage and disadvantage of this trend. Would you also implement the InstantONS[®] service as a web-based Information System?

Exercise 8: Cloud Computing architecture

- a) Which characteristics describe the Cloud Computing architecture? How is this concept different from the central server concept?
- b) Assuming the Cloud Computing concept is suitable for the InstantONS[®] service, what type of cloud service (e.g. infrastructure as a service) should be booked and why?

Exercise 9: Peer-to-Peer concept

- a) Since during the service usage users and providers of the InstantONS[®] service do not act in equal roles, the service cannot be completely based on the Peer-to-Peer concept. But is it possible to implement some service components based on the Peer-to-Peer concept? If yes, what are the benefits? Give reasons for your answer.