

Exercise
Business Informatics 2 (PWIN)
Winter Term 2025/26

Exercise II:
Information Systems II & III

Fachbereich
Wirtschaftswissenschaften

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

Prof. Dr. Kai Rannenberg
Telefon +49 (0)69-798 34701
Telefax +49 (0)69-798 35004
E-Mail kai.rannenberg@m-chair.de

The InstaMatch® scenario is required in order to solve some of the exercises. It can be found in exercise 1.

Exercise 1: Models for the architecture of Information Systems

- a) Please sketch a three-tier and a model-view-controller concept and explain the function of each component.
- b) Please determine to which component the following InstaMatch® elements belong in each concept:
 - 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

Exercise 2: IS Architecture Concepts

- a) What are the advantages and disadvantages of a Cloud Computing architecture in comparison to a central server concept?
- b) What kind of Cloud Computing services do there exist? Assuming the Cloud Computing concept is suitable for the InstaMatch® service, what type of Cloud service (e.g. infrastructure as a service) should be booked and why?
- c) Briefly explain the concept of Edge Computing Architecture and why it is gaining importance.
- d) Imagine you own a smart speaker, smart vacuum cleaner and smart light bulbs. Discuss the pros and cons of Edge Computing in the context of Smart Home Devices.

Exercise 3: Mobile Infrastructure and Ecosystem

- a) What is a SIM and why is it needed?
- b) What is the difference in Google's and Apple's business model?
- c) What types of apps do there exist and what is the difference between them? Which type is best suited for the InstaMatch® service and why?

Exercise 4: Mobile Information Systems

- a) Name three particularities of mobile devices that make them attractive for Marketers.
- b) Explain how a two-sided market works. Is InstaMatch® using this kind of business model? Please reason why or why not.

- c) Discuss the area of conflict between the benefit of the InstaMatch® service collecting context information about users and the demand of users to maintain their privacy.