

Mini-Project **E-Financial Assistant**

E-Financial Assistant is an information system offered to individuals and small enterprises. The system acts as an intermediary to the specialized information systems exposed by the banks and financial institutions.

The system is first configured to have access to the open accounts of the user, to one or more banks, and to receive information regarding regular payments the user does, for example for cable internet or postpaid telephone.

The system is fully customizable, allowing for each account read or write access. For read access, the system can be configured with a number of notifications: when transactions over a sum x occur, when new payments are due or can use machine learning techniques to learn and spot unusual transactions.

If the system has write access, it can automatically pay the due bills from the accounts.

Another function of the system is to act a financial advisor, presenting a list of possible actions to the user such as applying for credit or opening a savings account. When the user selects an action he is asked interactively for more details and preferences.

Then the system queries all available bank information systems in order to find the best deals. The result list is presented to the user and if he chooses one item the system takes care of all the formalities. The ranking algorithms the system makes must be completely transparent to the user.

In addition the system can be used to increase the knowledge of financial terms of the user. The user can complete a self-assessment test, and, depending on the result, can be presented with instructional material appropriate for his knowledge and for the tasks he does most often.

Work Packages:

A. WP1-Systems Engineering Methodology:

A1 Partition the current system according the processing and the processor views in a System Modeling Template

A.2 Draw the Architecture Flow Context Diagram for the system

B. WP2-Structured Methodology:

B.1. Define the environmental and behavioral model for the information system

B.2. Starting from the level 3 DFD, propose a design model based on transformational and/or transactional flows.

C. WP3-Enterprise Wide Methodology:

C.1. Draw the activity diagrams for the main business process

C.2. Map the enterprise organigram and specify the business functions of each division.

D. WP4-Object-Oriented Methodology:

D.1. Draw the domain model for the business.

D.2. Draw the Business Use Case Diagram

D.3. Interaction diagrams for the main business scenarios

D.4. For the software use case of **TBD** write the use case description, system sequence diagram and describe an operation using an operation contract.

D.5. Propose a software architecture for the system, arguing for the design decisions you have made.

D.6 Draw the statechart for a **TBD** object lifecycle.