

Mini-Project **E_Camp**

E-Camp is an information system for a company that organizes camps for school-aged children. A camp can be a summer camp, which lasts two weeks, or a winter camp, which lasts one week. The system was developed for a multitude of tasks: to display and manage the available program offered to the potential customers, to manage the bookings, during the camp to organize the program for each day and after the camp to get feedback from the participants.

The registration for the children has to be done many months in advance and is usually done either in large groups or individually, using the site. Depending on how many registrations are made, locations are hired in advance. For that the system computes the degree of occupancy for each location and period. The locations are introduced and updated by the administrator.

The program consists of mandatory team-work tasks but also optional trips decided at registration time. If there are not enough persons for an optional trip the trip is canceled. Each activity needs a number of instructors and some of them are in parallel, with subgroups of children. The system allows the owner to set up a daily program, based on the introduced activities and number of instructors and check if there are enough resources. Once validated, the program is updated in the site for that specific camp. For winter camps, the system also computes the price of the materials, the skis that have to be rented. For all camps the system computes the necessary costs, in manpower and equipment in order to compute the price of a ticket.

During the camp, the system provides to the owner the list of children which are split in groups of 3-5 based on their school of origin. The teams compete in different games for which they get scores. The standings of the teams are posted each evening on the site.

After the camp each child gets an account to be able to post pictures taken in the camp and to be further contacted for future camps.

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.

TBD = to be decided: The task will be assigned by your tutor based on your project so far.