Mandatory assignment
DAT17V2 - Spring 2017

Swimming club "The Dolphin"

The Case

The swimming club "The Dolphin" is a minor club on the rise. The club management would therefore like to have developed an administrative system for the management of membership information, membership fees and swimming results.

The club chairman is responsible for administration of entry of new members. When a new member enters the club, basic personal information, including the person's age, is registered. The member registration also includes information on the person's preferred activity form, i.e. active or passive membership, junior or senior swimmer, swimming for exercise or elite swimmer.

The club treasurer is responsible for all the details concerning membership fee payments. The fee size is determined by several factors. For active members, the fee for junior swimmers (below 18 years) is DKK 1000 a year, for senior swimmers (over 18 years) it is DKK 1600 a year. Members older than 60 years are granted a discount of 25 % on the senior rate. For passive membership, the fee is DKK 500 a year. The treasurer has expressed a wish that the system is able to show a list of the members who have fallen behind with payments.

The elite swimmers are assigned a coach. The elite swimmers have been divided into 2 categories according to age. The junior team is for swimmers below the age of 18. The senior team is for swimmers of the age of 18 or above. For each elite swimmer it is also registered within which swimming disciplines he is active.

Examples of swimming disciplines are:
- Australian crawl
- Butterfly
- Medley 200 m men
- Medley 400 m women
- Marathon 10 km
- Vinterbadning
For inspiration see for example:
http://vorespuls.dk/artikel/serie-3-gode-raad-svoemmediscipliner
https://da.wikipedia.org/wiki/Sv%C3%B8mning_under_sommer-OL_2012_-_400m_medley_m%C3%A6nd

For each swimming discipline it is registered on an on-going basis what is the individual swimmer's best training result together with the date. For the swimmers who have entered competitions, the rally, result and time is registered. The individual swimmers' results form the basis of decision for the coach when selecting swimmers for participation in competitions. The coach would therefore like to have an overview which shows the top 5 swimmers within each swimming discipline.

A swimmer can choose a preferred coach for the next season by listing choice with priority 1, 2, 3.

There are administrative tasks for the club, such as backup, creating, changing, deleting users etc.

Your situation and tasks

This is a trial exam after 1st semester, to practice the official 1st year exam. It is a mandatory assignment and is not graded. Each group makes a group presentation together of 15 minutes and then individual examinations of 5 minutes.

The subjects involved are Software Design (SWD), Software Construction (SWC) and IT & Organization (ITO). The requirements for SWD and ITO are launched about a week before SWC to encourage design activities.

Requirements to software design

System development must be based on Craig Larman "Applying UML and Patterns". The methods of the Unified Process, UP, should be followed. The disciplines involved are: Requirements, Business Modeling and Design (see front cover of the book). There is no wish for a user interface, only UML design. It is suggested to use Visual Paradigm for drawing UML diagrams.

Describe the development process for central parts of the case from the Inception phase to start-up of the Elaboration phase by doing this:

1) Start the report with a front page and table of content.

2) Write the UP Vision based on the description of the case, above. And start the UP Glossary.

3) Make a rough UP Phase Plan. It will of course change. Enclose the initial and final version.

4) Make a UP Supplementary Specification. Use FURPS+ for structure (detailed functional requirements are handled in use cases).

5) Draw a use case diagram with actors and at least 10 named use cases, including these use cases:

- "Register new member" (UC#1)
- "Show top 5 swimmers" (UC#2)
- "Choose preferred coach" (UC#3)
- "Perform backup"

6) Make 1 brief use case and 1 casual use case of your own choice.

7) Make 3 fully dressed use case descriptions: UC#1, UC#2, UC#3 mentioned above.

8) Draw a System Sequence Diagram (SSD) for UC#1, UC#2, UC#3 main scenarios.

9) Draw a Domain Model (DM) for UC#1, UC#2, UC#3 main scenarios.

10) Draw a UML Sequence Diagram for UC#1 main scenario.

11) Draw a rudimentary Design Class Diagram (DCD) for UC#1 main scenario.

Requirements to IT & Organization

The club would like to be more public and is considering a Facebook page. For inspiration see:

www.facebook.com/sohesten/

Write 1-2 pages where you consider benefits and disadvantages for the club of using Facebook. A little discussion with a stakeholder analysis and a SWOT analysis about Facebook use.

Make a separate use case diagram (UCD) with some named use cases etc. for administering and managing Facebook.

Requirements to Software Construction

Released later.

Delivery of software design report

- Groups are allocated by the teachers.

- The report must be in PDF format. The group number must be in the file name. The program code is delivered separately from the report in PDF.

- The report for is 25-40 pages, excluding appendices. It may be in Danish or English.

- Deadline is **Monday May 29 2017 2 p.m. (14:00)** on Fronter here:
  Dat17v2 > 1. semester > Projekt > Afleveringsmappe for rapporter

- The trial exam is conducted on May 30 and May 31.

- The front page must contain the following information:

  - Title = 'Dolphin Club assignment'
  - Delivery date = <format dd.mm.yyyy >
  - Class and team identification = 'DAT17V2 Group <#>'
  - Your names (first name, last name, date of birth)
  - Paging should be in the format <x of y>, i.e. page number x of total y.