



## 2DV604 Exercise 1 – Decompositions

### System description

Your task is to answer some vital architecture concerns the stakeholders for a gymnastics league management system have. The system's mission is to assist with the setup, registration, scoring, and record keeping of a gymnastics season. The system supports activities before, during, and after a season. During a 'meet' the operation to some extent changes character, focusing on support for judges, administrators, and participating teams.

Here is a quick description of a gymnastics league and one of the contests: A league is a group of teams that compete against each other. Each team recruits members to participate in the contests. A typical meet consists of several contests held in the course of one day. For example, there may be a women's all-round, a women's individual, a men's all-round, and so on. There may also be junior and senior competitions. When a team enters a meet, it enters all the competitions. For each contest, each team enters the same number of members, who must compete in all parts of the competition. Each competition is a series of events run on different equipment. For example, the women's competitions involve balance beam, vault, high bar, and floor exercise. All pieces of equipment are in operation at the same time; each team's competing gymnasts perform on one piece of equipment and then rotate to the next. Each event has a judging panel assigned to it. These people are qualified scorers for this event. Each judge rates each gymnast on the event and reports the score to a scorekeeper. The scorekeeper throws out the high and low scores and averages the rest. This is the gymnast's score for the event. The team score is the sum of all gymnasts' scores. Competition scores are the sum of the scores for each of the events. Meet scores are the sum of the competition scores, and so on.

In addition to running the individual meets, the league prepares the schedule of meets for the season, ensures that qualified judges are assigned, registers teams and gymnasts, and publishes seasonal standings. The system should also include support for club, team, and gymnast presentations in the league portal, which should be the principal entry to most activities supported by the system. The system should rely on state-of-the-art technologies for its different end-user interfaces and back-end support functions.

1. Identify key abstractions (subsystems or components) based on the problem description. Apply a *Business Capability Strategy* or *Subdomain strategy* for decomposition.  
*Example business capability or subdomain: Team management*
2. Describe each component/subdomain using responsibilities and services it provides externally. Make sure you have full functional coverage for the system.
3. Identify dependencies between the business capabilities or subdomains. Make sure that services required matches the provided services (system integrity).
4. Pick one of the components/subdomains. Continue the decomposition for that repeating steps 1-3. Create an *inner structure* for the component/subsystem.