

School of Science, Computing and Engineering Technologies  
Swinburne University of Technology

## SWE30003 Software Architectures and Design

### Tutorial Week 5

### (Software Requirements)

Please carefully read the brief description of an “Automated Attendance and Access Control” system given below. Form groups three to four students and discuss the following questions:

1. Identify the goal(s) and main objective(s) of the described system.
2. Identify the domain (data) model for the desired system.
3. Identify and *briefly* describe all user tasks that such a system must be able to support.

*NOTE:* most of the required tasks are not actually mentioned in the brief description but are implied by the purpose of the system.

4. Given the users tasks in the previous step as well as any domain knowledge you have, identify and formulate three to five *different* non-functional requirements/quality attributes for the system. Also, discuss how you would go about *verifying* these quality attributes.
  5. Are there any issues in regards to this system that you have not identified in (2) and (3), but are of concern to you in the given environment?
  6. (*Optional*) Think about possible solutions to the software side of the system (you can ignore any hardware issues etc. for this question).
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7. Any questions from weekly submissions?

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#### **Automated Attendance and Access Control System**

Presently, Swinburne University of Technology tracks student attendance, where required, by physical signature on the attendance paper circulated during lectures, tutorials, or labs. This is not only time consuming, but also not effective as a student may ask someone to sign on their behalf. Therefore, the university would like to adopt a *swipe-card based* attendance and access control system. Initially, this system should be used to track the attendance of students in lectures, tutorials and/or laboratory sessions. Such a system is expected to reduce manual processing in order to get (more) complete attendance records for individual classes. At a later stage, the system should also be used for door access to facilities in the campus such as computer labs, project rooms and others.

As a result, you are asked to *carefully* elicit and specify the requirements for such an “Automated Attendance and Access Control” system.