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

SWE30003

Software Architectures and Design

Assignment 1 – SRS
Semester 1, 2025
Worth 20 marks

Due:

<u>**Electronic submission**</u> **(via Canvas): 12.59pm, Sunday April 13, 2025.**

Swinsoft Consulting has been approached by the owners of a medium-sized electronics retailer in Hawthorn (called the "AWE Electronics") to develop an online store to expand its current physical store operation. More specifically, the owners are interested in giving the customers the opportunity to order goods online, get them packaged and delivered to the customer's home. The owners are also interested in getting some basic statistics about the goods sold over various time periods. The **requirements outline** (in the form of **a case study**) given in a separate document will provide further details about the context of the online store.

The management of Swinsoft Consulting has given you (that is, your assignment group) the task to develop a requirements specification for the *Online Electronics Store* for AWE Electronics, using the **Tasks & Support** approach, in order to better assess the required development efforts (as well as associated costs). In doing so, you are requested to particularly focus on *domain-level requirements* (i.e. the tasks that users want/need to perform with the support of the envisaged online store). In addition, the requirements specification should also contain information about the *context* of the online store, appropriate domain requirements (e.g., a *simple* domain model – no database scheme!), as well as any requirements at the design and product levels (cf. the Goal-Design Scale discussed in the lectures) that you consider as being important. Furthermore, taking the identified user tasks as well as the application domain into consideration, identify and appropriately specify *four quality attributes* (i.e. non-functional requirements) that you consider being *particularly important* for the Online Electronics Store.

Here are some "ground rules" for the case study system:

- Think about what *type of project* Swinsoft Consulting is dealing with.
- Make sure that you identify, use, and possibly correct the terminology given in the requirements outline. This will assist you in correctly identifying the domain entities and their relationships.
- Illustrate the project incentives and list the most important requirements at the *goal level*. Identifying the "pain points" of the business processes helps to do so.
- You can assume that Swinsoft Consulting has very detailed user-interface guidelines for any of its IT systems it develops and they do not need to be further

specified. A reference to the corresponding document should however be added to the requirements specification – please make up a sensible document reference.

- Carefully identify all actors of the proposed system – not all of them are obvious!
- Carefully identify and document the typical "workflows" of events in the online store, starting from customers browsing and ordering goods, to customers paying, and all the way to customers receiving the delivered goods.

- Your submission must illustrate any *validation steps* you have undertaken in the creation of the requirements specification. Please include evidence of such validation steps in a suitable Appendix.
- In order to avoid a too solution-oriented view of task descriptions, consider at least two to three *different* solutions of the problem and make sure that the task descriptions are applicable to each of your solutions. This is also considered as part of the validation.

- You are to elaborate only the *software part* of the proposed system. Assume that any hardware or platform required to deploy the online store and fulfil online orders can be acquired/purchased in due course.

- <u>Any (and all) assumptions made are to be documented!</u>

Sample requirements specification(s) (from a different case study) will be made available on Canvas in due course as a guide to what form/structure to use etc. *(Note that these sample specification(s) do not necessarily represent the "best submission" in terms of proper structure, notations or practices. You should aim to come up a better submission according to your learning in this unit.* ***In particular, please follow the structure or flow suggested in the marking guide in preparing your submission, rather than those in the sample specifications.*** *For example, the domain model should be placed before the tasks specifications.)*

Marking guidelines/criteria on what aspects of your submission will contribute how much towards the final grade will also be posted onto Canvas. Please use the dedicated discussion forum on Canvas for any further clarifications (for benefits to all), and ***no individual emails in this regard will be replied to***.

<u>Submission details</u>

Each assignment group is to submit their proposal in electronic form, along with the appropriately signed and completed "**Assignment and Project Cover Sheet**" declaration form (see below), *which must be signed by all group members*. Each group is further required to submit a **contribution document**, signed by *all* group members, that

1. lists the amount of time spent by each member on each significant part of the assignment,
2. describes briefly each member's contributions, and
3. provides evidence that shows that the assignment is done through *true* group collaboration, e.g., discussions and reviews of all parts of the assignment.

Note: For the assignments in this Unit of Study, students are to work in groups of three or four as allocated/agreed by the Tutor. Permission is required to change groups well before the submission deadline with good reason. Extensions to the submission deadline can only

be granted for genuine reasons and the Unit of Study convener must be contacted *at least 48 hours* prior to the submission deadline.

The **electronic submission** is through Canvas with the deadline as published in the front of this assignment specification.

Unless the Unit of Study convener has approved an extension, any late submissions will be penalised by 10% of the assignment total worth for each calendar day (or part of) the task is late, up to a maximum of 5 days. After 5 days, a zero result will be recorded and *no* feedback is given on the respective submission.

The submission of this assignment should be completed entirely by the assignment group only, WITHOUT genAI assistance.

Swinburne University of Technology

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ASSIGNMENT AND PROJECT COVER SHEET

Subject Code: <u>SWE30003</u>   Unit Title: <u>Software Architectures and Design</u>

Assignment number and title: <u>1, Requirements</u>   Due date: 13 <u>April 2025</u>

Tutorial Day and Time: _____   Project Group:_____

Tutor: _____

To be completed as this is a group assignment
We declare that this is a group assignment and that no part of this submission has been copied from any other student's work or from any other source except where due acknowledgment is made explicitly in the text, nor has any part been written for us by another person.

ID Number   Name   Signature

_____   _____   _____

_____   _____   _____

_____   _____   _____

_____   _____   _____

Marker's comments:

Total Mark:_____

Extension certification:

This assignment has been given an extension and is now due on   _____

Signature of Convener:_____