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

SWE30003

Software Architectures and Design

Assignment 1 – SRS

Semester 1, 2024
Worth 20 marks

Due:

<u>Electronic submission</u> (via Canvas): 12.59pm, Sunday April 7, 2024.

Swinsoft Consulting has been approached by the owners of a medium-sized restaurant in Hawthorn (called the "Relaxing Koala") to develop a computer-supported system to improve the daily running of the restaurant. More specifically, the owners are interested in automating some of the steps required for making reservations, taking orders from customers, informing the kitchen about orders, payment etc. The owners are also interested in getting some basic statistics about what menu items have been ordered and when. The **requirements outline** (in the form of **a case study**) given in a separate document will provide further details about the context of the new system.

The management of Swinsoft Consulting has given you (that is, your assignment team) the task to develop a requirements specification for a *Restaurant Information System* for the Relaxing Koala, 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 to perform) the envisaged new system is to support as well as specific *quality attributes* (i.e. non-functional requirements) the system must meet. In addition, the requirements specification should also contain information about the *context* of the new system, appropriate domain/data requirements (e.g., a *simple* domain model – no database scheme!) as well as any requirements at the product and design 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 Restaurant Information System.

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

- Think about what *type of project* Swinsoft Consulting is dealing with.
- Illustrate the project incentives and list the most important requirements at the *goal level*. Identifying the "pain points" of existing processes helps to do so.
- 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.
- 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 "workflow" of events in a restaurant, starting from customers making reservations all the way to customers paying and leaving after having enjoyed a meal.

- 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 can also be considered as part of the validation.

- You are to elaborate only the *software part* of the proposed system. Assume that any hardware required to deploy the Restaurant Information System can be purchased in due course.

- Any (and all) assumptions made are to be documented!

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.)*

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***.

Submission details

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 prior to the submission deadline. 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.

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ASSIGNMENT AND PROJECT COVER SHEET

Subject Code: SWE30003 Unit Title: Software Architectures and Design

Assignment number and title: 1, Requirements Due date: 7th April 2024

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:_____