CSSE3002

The Software Process

Group Assignment 3

Goal:

To develop and test your skill at constructing a software requirements specification document.

Deadlines:

Plan: **Friday, 27 April (week 8) at 5 pm.**

SRS document: **Friday, 18 May (week 11) at 5 pm.**

Scenario:

Local governments run a lot of meetings, from private committee meetings, to meetings with small groups of stakeholders, right through to large public community consultations. With a recent towards consolidation of local governments, it is becoming increasingly difficult to get all meeting attendees in the same place at the same time. In order to address this, the Australian Local Governments Association is interested in building an online meeting system. The Association and its members would like to build a Web-based system, including on mobile devices like smartphones and tablets, allowing for the scheduling, management and carrying out of various kinds of online meetings, for use by registered users such as councillors and council employees, to delegates of outside organisations, and the general public.

The meetings to be managed by the system vary in a number of ways. ~~Many meetings (but not all) will be run in mixed mode, with a real meeting being transcribed onto the system for the online participants, and these meetings should maintain information about the meeting's location as well as its time.~~ Some meetings have a list of required or permitted participants (and this may be done either based on the individual, or the organisation they represent), and may allow public participation or not. Some meetings have an agenda, consisting of a series of items of business, which may have a time limit for their discussion. Some meetings are run in an ad-hoc way, where participants may contribute their view at any time, but some require a chairman who will allocate the right to speak in response to participants virtually "raising their hand" to request the right to speak. In some meetings, different participants will be allowed to speak (or to request the right to speak) or only allowed to observe. Some meetings require votes on certain issues, which may include a list of the individuals or organisations allowed to vote. Many meetings keep minutes of the meetings, which are published after the meeting has been concluded. ~~Some members with large non-English speaking constituencies have requested multilingual support, whereby each meeting has a primary language, and translation services offer automated or human translation of all discussions into the primary language.~~

Registered users should be able to have meetings appear automatically in their corporate diarying systems, e.g. Microsoft Exchange or Google Calendar, and when scheduling a meeting it should be possible to consult these diaries to find available times. ~~The Association would also like the system to integrate with social networking tools such as twitter, facebook and foursquare to announce meetings and "check in" when attending.~~

What you have to do:

1. Prepare a team plan (2 pages max.) for developing the software requirements specification, describing the process you intend to use, the role of the team members, the team schedule and the expected amount of time for each part of the assignment.

   The plan is to be submitted in advance. It will not be marked directly (but a plan must have been submitted to get full marks for the *Process Reflection* criterion). Your assignment will compare your actual process and performance with your plan.

2. Develop a Software Requirements Specification document for a flexible online meeting system. This assignment is intended to be open-ended and to provide you with an opportunity to demonstrate your creativity. As a potential user of the system, you may wish to propose creative requirements to the meeting system. To give you a hint for the scope of the system, we expect your system has at least 10 high-level use cases.

3. Your software requirements specification document should contain both a natural language description of the requirements and UML analysis models, including:

   (a) a use case model, including use case descriptions,
   (b) sequence diagrams supporting your main scenarios for three use cases from the user's point of view,
   (c) activity diagrams supporting three use cases (different from those in (b)) from the system's point of view,
   (d) a UML analysis class diagram, and
   (e) Statechart diagrams describing the behaviour of objects of two classes defined in your UML analysis class model

   Consistency both within individual models and between models is expected. Note: you are **not** required to design or implement this system although prototyping is encouraged and should be reported (but do not over-commit resources to this activity).

4. If you discover issues that should be resolved by consultation with one or more stakeholders, make a choice that allows you to resolve the issue, but document each issue clearly including possible ways that it could be resolved, and justify your choice.

5. For advice on software requirements specification documents, you are recommended to consult the IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications (available in the IEEE Standards for Software Engineering, 1999 edition Volume 4 – the PSE library has a copy). It is also available via IEEE Explore (accessible as a UQ Library database).

6. In addition to your software requirements specification, you need to write a process description and plan assessment document that describes the actual process used by your team to perform the assignment, i.e., what you did, how you did it, any problems you encountered and how you overcame them and what would you do differently with hindsight. The actual process and the time expended on each activity should be compared with the initial team plan that is to be submitted in advance.

Submission:

1. The team plan is to be submitted via Blackboard at:
   http://blackboard.elearning.uq.edu.au **Note: separate deadline!**

2. The SRS and process descriptions are to be submitted via Blackboard at:
   http://blackboard.elearning.uq.edu.au

   This submission is to be two files: the software requirements specification document and your process description and plan assessment document. The format of both documents should be single-spaced PDF and should use standard 11 point fonts with at least 2 cm margins on all sides. It must be possible to copy text from your PDF documents.

   For the main submission (but not for the plan), a paper copy of the CSSE3002 group assignment 3 assessment sheet signed by all members of the team must be submitted through the Faculty of EAIT (Hawken Building 50) assignment chute.

   To submit a late assignment, see the course coordinator. If the team's performance has been adversely affected by exceptional circumstances, the team may apply to the course coordinator for special consideration. Suitable documentary evidence (such as a doctor's certificate) should be supplied where appropriate.

Suggested Timetable:

Week 8:	Identify individual roles and responsibilities; Develop team plan;
Week 9:	Decide on system scope and format of document.
Week 10 (start):	Review initial drafts for each part of the document.
Week 10 (end):	Review first full draft of the requirements specification document.

Week 11: Complete software requirements specification and process description documents.

Allocation of marks:

Each team is required to hand in the CSSE3002 group assignment 3 assessment sheet identifying the team members and their tutorial. The assessment sheet must also allocate the percentage contribution for each team member. The mark for the assignment will be divided between team members according to percentages agreed to collectively by the team. The percentages are normally constrained to lie in the following ranges (min, mid, max) and must sum to 100 (but variations outside these ranges can be discussed with the course coordinator).

3 member teams: 28 – 33 – 38
4 member teams: 20 – 25 – 30
5 member teams: 15 – 20 – 24

All team members should sign the assessment sheet to indicate their agreement that the percentages represent an equitable division consistent with their individual contributions. Any controversy over the allocation of marks should be referred to the team's tutor and then, as a last resort, to the course coordinator. The maximum mark obtainable by a student on any one assignment is 100%.

This assignment is worth 25% of the course (20% for CSSE7001 students) – the assessment criteria are provided on the assessment sheet.

Marking Criteria

Criterion	Mark	Standard
Requirement Specification (7 marks): Covers: The natural language parts of the requirements document. Completeness and consistency of the requirements specification; quality of justifications	7	High quality description of requirements that is complete and consistent with adequate justification of all choices.
	4	Reasonable description of requirements with some minor omissions or inconsistencies or missing justifications.
	2	Description of requirements has major omissions or inconsistencies and/or lacks adequate justification.
	0	Inadequate description of requirements, seriously deficient in either completeness or consistency.

Analysis Model(s) (10 marks): Covers: UML models. Precision, clarity, completeness and consistency of analysis models (including consistency with informal descriptions)	10	High quality analysis model that is complete and consistent.
	7	Reasonable analysis model with some minor omissions or inconsistencies.
	3	Analysis model with major omissions or inconsistencies.
	0	Analysis model is not of an acceptable standard.

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Process reflection (4 marks): Covers: appendix describing the process followed for the assignment including the insights gained and the lessons learnt, and comparison with initial team plan Precision and clarity of process description	4	Consistently high quality and detailed description of the process used and the reflection that followed; insightful comparison of planned and actual process.
	2	Reasonable process description with omission of some activities or limited reflection; straight-forward comparison with initial team plan.
	0	Inadequate process description and/or reflection; no initial team plan supplied.

Presentation (2 marks): Readability, layout, spelling, grammar.	2	Consistently high standard of presentation
	1	Good presentation with some presentation faults
	0	Poorly prepared work with major presentation faults

Excellence/Innovation (2 marks)	2	Significant demonstration of excellence and/or innovation
	0	Assignment has no significant level of excellence and/or innovation