

Deliverables for Part 4 – Improved System (14%)

Background: To specify and analyze the future system at the Montreal Train Station, you are required to write a system requirements specification document, include updated URN goal models, and demonstrate traceability from your high-level requirements document.

Deliverables: The deliverables for Part 4 are a system requirements specification document following the outline defined in the ISO/IEC/IEEE 29148:2011 standard and URN goal models for your stakeholders showing the impact of your proposed future system. Furthermore, you are required to demonstrate traceability from your high-level requirements document with the help of a traceability matrix. The deliverables are due on **Tuesday, November 27th, 2018, at 23:30.**

Member Contributions: Each team member must contribute to each project deliverable. A team member who does not contribute to a project deliverable receives a mark of 0 (zero) for that deliverable. A team member may optionally email a confidential statement of work to the instructor **before the due date** of the project deliverable. A statement of work lists in point form how team members contributed to the project deliverables. In addition, the statement of work also describes whether the workload was distributed fairly evenly among the team members. A statement of work may be used to adjust the mark of a team member who is not contributing sufficiently to the project deliverable. It is not necessary to email a statement of work, if a team distributed the work for the project deliverable fairly evenly and each team member contributed sufficiently.

1 System Requirements Specification Document

You must use the System Requirements Specification (SyRS) outline defined in the ISO/IEC/IEEE 29148:2011 standard (<http://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=6146379>). Refer to Section 9.4 in the standard for more information about the required content of your document. Your SyRS document must contain only the following sections:

Title page (see below for details)

1) Introduction (all subsections)

2) References

3) System requirements (only the following subsections)

3.1) Functional requirements (organized by use cases)

3.3) Performance requirements

(only include requirements related to response time, throughput...)

3.4) System interface

3.5) System operations (only maintainability and reliability)

3.9) System security

4) Verification (not required)

5) Appendices (only acronyms and abbreviations; traceability matrix)

In addition, you will have to integrate the following into Section 3:

- Domain model
- State machine describing **one** document/artefact lifecycle
- Use case model
- System mockup(s) (i.e., a low-fidelity prototype)

You have to determine the most appropriate place in Section 3 for these models and the mockup(s).

Furthermore, you are not required to fully specify all functional requirements in Subsection 3.1 of the SyRS document. While a **subsubsection heading** must exist for each identified use case in your use case model, **each member** of your team is only required to fully specify **one significant use case**. A **user story** must precede the use case. The user story must summarize the use case and include **acceptance criteria**. Last but not least, well-written **requirements** derived from the use case must be stated after the use case. Each member is **individually** responsible for her/his use case, related user story including acceptance criteria, and related requirements. Identify the member in the subsubsection heading of the member's use case. For all other use cases, a subsubsection heading must exist but the subsubsection itself is empty.

Finally, clearly state the course name and number, term, group number, optionally the name of your consulting company, and team members on the title page of your SyRS document. The SyRS document is to be formatted with single line spacing, Calibri or Times New Roman 11pt font, and normal margins (2.54cm all around).

2 URN Model

The goal of this deliverable is to update the goal models of the stakeholders from Part 3 of the Project. The updated goal models must now also show how the future system impacts the stakeholders' goals.

- You must use jUCMNav version 7.0 to create and analyze your goal model. For installation instructions, see the folder of the first URN tutorial in myCourses.
- Each team member must **individually take responsibility** for the same stakeholder of the Montreal train station project as for Part 3. In Part 3, the goal model assessed the current system against the goals of the stakeholder. Now, the future system must also be assessed against the goals of the stakeholder. A team member may not choose the same stakeholder chosen by another team member.
- To analyze the system requirements, you must add a new strategy that describes the future system at the Montreal train station. Use a clear name for the new strategy, so that it can be differentiated from your strategy from Part 3, i.e., both strategies exist in your updated goal model. When compared to your strategy from Part 3, the new strategy must highlight the changes due to the future system for the stakeholder. You must use the "Feature Model Evaluation Algorithm" for your evaluations.

3 Traceability

Your team is required to demonstrate traceability from the goals/business requirements of your high-level requirements document to the requirements in your SyRS document with the help of a traceability matrix. The traceability matrix is to be added as an appendix to your SyRS document. You are also required to resubmit your high-level requirements document, which you are allowed to update but do not have to update.

Submission

Your team is required to hand in a **single zip file** with the high-level requirements document as a **doc(x) or pdf file**, the system requirements specification document as a **doc(x) or pdf file**, and the **jucm files** for the URN goal model (one for each team member) in myCourses. Your team must follow this naming convention for the jucm files: *Group<group number><first name and last name of team member>.jucm*. If you realize that you need to make changes to your submission, do not resubmit only the file(s) that have changed, but rather resubmit another complete zip file. If you are using an application other than

MSWord for your requirements specification document, convert it first to either a PDF file or a DOC(X) file.

Marking Scheme

<i>Deliverables for Part 4 of Project</i>	<i>Marks</i>
Document – Section 1	20/170
Document – Section 2	5/170
Document – Domain Model	30/170
Document – State Machine	5/170
Document – Use Case Model	10/170
Document – System Mockup(s)	20/170
Document – Subsection 3.1 (individual part) (use case, user story, acceptance criteria, related requirements)	40/170
Document – Subsection 3.1 (common part) (just headings for remaining use cases)	5/170
Document – Section 3.3, 3.4, 3.5, and 3.9	20/170
Document – Section 5 (acronyms and abbreviations)	5/170
Document – Section 5 (traceability matrix)	10/170
Goal Model – Stakeholder (individual part)	10/20
Goal Model – New strategy for future system (individual part)	5/20
Goal Model – Strategy for current system (individual part)	5/20
Appearance of document as well as grammar/spelling mistakes	10
Total Marks:	200
The total mark may be adjusted based on the actual contributions of a team member to the deliverables.	