Requirements Analysis and Specification (COE691)

Lab 3

Due the Week of March11, 2024 (In Your lab Session), Late submission will not be accepted

Objectives

Review Goal Modeling using (GRL) with the i* notations.

Part I: The Goal Model (30 points)

In this lab, we consider the requirements for a new Web-based **Reference Letter Management System** (RLMS) for the **`TMU University`**, where potential students who apply to graduate programs at TMU are required to provide reference or recommendations letters from former employers or professors or colleagues. You are asked to model the concerns of stakeholders for RMLS, where there are a few alternatives identified for the system's functionalities. **Create a GRL model** (`A3-FirstnameLastname.jucm`) that minimally covers the following concerns:

- The *students* want to see the progress of their requests for recommendation letters, and possibly to minimize the work they need to do in order to get the letters.
- The *referees* want to minimize the time they spend writing letters and related information, and above all they want to avoid having to remember new usernames and passwords.
- The *University* wants to ensure the authenticity of the support letters without incurring too high an acquisition cost for the system.

Amongst the various goals of the above RLMS, there are four important functionalities that must be supported: 1) the secure input of the reference letters and scores by referees, 2) the input of referee's coordinates by students, 3) email notifications to students, and 4) email notifications to referees. Several alternatives are considered for each of these four functional objectives:

1. The input of reference letters and scores requires either a) an account to be created by the referee (RLMS then sends a login/password to be provided each time the referee accesses the system) or b) no account needed but a hyperlink (with unique session identifier) to the student's support form is simply included in the notification email that the referee receives.
2. a) The student inputs only the name and the email address of the referees, and the referees then specify their title, address, affiliation, and relationship to the student. Alternatively, b) RLMS could require the student to input all of the above information up front for all referees from whom they want a reference letter.
3. RLMS could a) send an email notification to the student each time a referee submits a letter (and the letter includes the name of the referee) or b) send only one email notification once all letters have been received.
4. RLMS could a) send only one email notification to the referee, or b) send an initial email notification to the recommender, with reminder emails when we get close to the letter deadline.

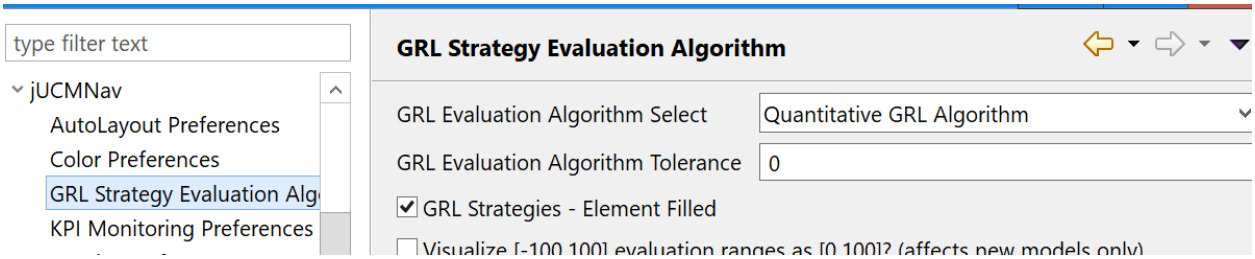
Ensure you have used suitable actors, intentional elements and decomposition/contribution links. Specify contribution levels that make sense using a quantitative scale ([-100, 100]), and specify the quantitative

importance of some of the main intentional elements to their actors (as implied by the above text; only target top-level goals/softgoals for non-zero importance values). Note that not all alternatives contribute to all stakeholder softgoals (document only the ones that have a real impact).

Given the complexity of this model, it might be worth using many diagrams in your solution, where some of the actors and intentional elements are reused (e.g., one diagram with the actors and goals/softgoals only, and one diagram per stakeholder-system pair). Do not have separate models/files however!

Part II Goal Model Analysis (20 points)

Develop 16 strategies illustrating the impact of all combinations of alternatives (use 100 for a selected option, and 0 for unselected in your initializations). Make sure to use jUCMNav's **[0..100] scale** for the analysis (once you have created a model, right-click on URNspec in the Outline view, and change the evaluation range). Name and comment your strategies properly. Using the **quantitative** evaluation algorithm (with a **Tolerance** of 0, see preferences below).



In your pdf report, Answer the following questions.

a) Identify those strategies that will maximize the satisfaction of the students?

b) Do you have strategies where all three types of stakeholders have a satisfaction level above 50? If so, identify these ones? (Answers will obviously depend on your model…).

Submit your lab

You can export the results of your strategy evaluations as a comma-separated values file and format it in a table (import from Excel and then copy/paste in your report). This can also be done more efficiently via jUCMNav's Report generation to PDF. To submit your lab, include the following in a zip file.

1- The entire jUCMNav report/excel report
2- The `A3-FirstnameLastname.jucm` file
3- PDf file with two sections, Part I and Part II. In Part II, list the actors, Actor, Softgoals, Goals, Tasks, Importance levels, Contributions in your goal model. For part II, answer questions a),b) above.
4- Save your work as a .zip file and upload it by the due date. This is individual work; no group work is allowed. **A software for plagiarism check will be applied on each submitted work. Please get yourself familiar with Ryerson's plagiarism policy. Do not forget to add a cover page with your name and ID in the report.**