Course Number	COE691
Course Title	Software Requirements Analysis and SPEC
Semester/Year	Winter Semester 2024
Instructor	Dr. Rasha Kashef
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Lab/Tutorial Report No.	Lab 3

Report Title	Lab 3: Modeling using (GRL) with the i* notations

Section No.	06
Submission Date	Week of March 15 , 2024
Due Date	Week of March 15, 2024

Student Name	Student ID	Signature*
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Reference Letter Management System GRL Model

Part I: The Goal Model

Actors:
1. University
2. Referees
3. Students

Goals and Softgoals:
1. **University**
   - **Softgoal:** Verify the integrity of correspondence
   - **Importance:** Critical (Evaluation: 100)
   - **Softgoal:** Primary and follow-up email prompts
   - **Importance:** High (Evaluation: 41)
   - **Softgoal:** Safe collection of recommendation letters and evaluations
   - **Importance:** Medium (Evaluation: 32)
   - **Softgoal:** Reduce the expense of procurement
   - **Importance:** Medium (Evaluation: 75)
   - **Goal:** Lessen effort needed
   - **Importance:** High (Evaluation: 90)
   - **Goal:** Monitor the status of endorsement notes
   - **Importance:** Very High (Evaluation: 100)
2. **Referees**
   - **Softgoal:** Reviewer's account activation required
   - **Importance:** Low (Negative Evaluation)
   - **Softgoal:** Eliminate need for login credentials
   - **Importance:** Very High (Evaluation: 90)
   - **Softgoal:** Alert for each letter submission
   - **Importance:** Medium (Evaluation: 50)
   - **Softgoal:** Send email updates to reviewers
   - **Importance:** High (Evaluation: 41)
   - **Goal:** Single email alert per reviewer
   - **Importance:** Low (Evaluation: 16)
   - **Goal:** One Email Once All Received
   - **Importance:** Medium (Evaluation: 30)
3. **Students**
   - **Softgoal:** Email updates for the student
   - **Importance:** Medium (Evaluation: 50)
   - **Softgoal:** Assistance form for the student
   - **Importance:** Medium (Evaluation: 32)
   - **Goal:** Student provides solely name and email
   - **Importance:** Low (Evaluation: 14)
   - **Goal:** Student submission of reviewer's contact details
   - **Importance:** Low (Evaluation: 14)
   - **Goal:** Reduce letter composition duration
   - **Importance:** High (Evaluation: 80)

Tasks and Their Contributions:
1. **Reviewer's account activation required**
   - **Eliminate the need for login credentials (Referees):** -90
   - **Lessen effort needed (University):** -50
2. **Send email updates to reviewers**
   - **Alert for each letter submission (Referees):** +41
   - **Monitor the status of endorsement notes (University):** Positive impact implied
3. **Email updates for the student**
   - **Student provides solely name and email (Students):** +50
   - **Assistance form for the student (Students):** +32
4. **Verify the integrity of correspondence**
   - **Safe collection of recommendation letters and evaluations (University):** +100
5. **Primary and follow-up email prompts**
   - **Reduce procurement expense (University):** +41
6. **Submits complete information initially**
   - **Reduce letter composition duration (Students):** -54
7. **Single email alert per reviewer**
   - **One Email Once All Received (Referees):** +16
8. **Assistance form for the student**
   - **Lessen effort needed (University):** +32
9. **Monitor the status of endorsement notes**
   - **Verify the integrity of correspondence (University):** +100
10. **Student submission of reviewer's contact details**
   - **Reduce letter composition duration (Students):** +14

Part II: Goal Model Analysis

16 Different Strategies: Stakeholders' Strategies with Satisfaction Levels
Strategy 1:
- **Description:** Account creation, Basic info by students, Notification upon each submission, Single email notification.
- **Satisfaction Levels:** University (-21), Referees (12), Students (52).

Strategy 2:
- **Description:** Account creation, Basic info by students, Notification upon each submission, Initial and reminder emails.
- **Satisfaction Levels:** University (17), Referees (17), Students (53).

Strategy 3:
- **Description:** Account creation, Basic info by students, Notification once all received, Single email notification.
- **Satisfaction Levels:** University (-42), Referees (27), Students (24).

Strategy 4:
- **Description:** Account creation, Basic info by students, Notify once all received, Initial and reminder emails.

- **Satisfaction Levels:** University (21), Referees (6), Students (8).

Strategy 5:
- **Description:** Account creation. All details are by students. Notify them upon each submission, and send a single email notification.
- **Satisfaction Levels:** University (-), Referees (-43), Students (-18).

Strategy 6:
- **Description:** Account creation. All details are by students. Notify us upon each submission, as well as initial and reminder emails.
- **Satisfaction Levels:** University (21), Referees (18), Students (16).

Strategy 7:
- **Description:** Account creation. All details are by students. Notify once all are received. Single email notification.
- **Satisfaction Levels:** University (-57), Referees (39), Students (33).

Strategy 8:
- **Description:** Account creation. All details are by students. Notify us once everything is received, including initial and reminder emails.
- **Satisfaction Levels:** University (-10), Referees (-6), Students (31).

Strategy 9:
- **Description:** Hyperlink, Basic info by students, Notify upon each submission, Single email notification.
- **Satisfaction Levels:** University (-), Referees (-28), Students (-12).

Strategy 10:
- **Description:** Hyperlink, Basic info by students, Notify upon each submission, Initial and reminder emails.
- **Satisfaction Levels:** University (-57), Referees (0), Students (-23).

Strategy 11:
- **Description:** Hyperlink, Basic info by students, Notify once all received, Single email notification.
- **Satisfaction Levels:** University (0), Referees (32), Students (39).

Strategy 12:
- **Description:** Hyperlink, Basic info by students, Notify once all received, Initial and reminder emails.
- **Satisfaction Levels:** University (39), Referees (-22), Students (3).

Strategy 13:
- **Description:** Hyperlink, All details by students, Notify upon each submission, Single email notification.
- **Satisfaction Levels:** University (-25), Referees (41), Students (51).

Strategy 14:
- **Description:** Hyperlink All details by students, Notify them upon each submission, and Initial and reminder emails.
- **Satisfaction Levels:** University (42), Referees (15), Students (44).

Strategy 15:
- **Description:** Hyperlink, All details by students, Notify once all received, Single email
- **Satisfaction Levels:** University (26), Referees (20), Students (53).

Strategy 16:
- **Description:** Hyperlink. All details are by students. Notify us once everything is received, and send initial and reminder emails.
- **Satisfaction Levels:** University (-3), Referees (33), Students (35).

Maximizing Satisfaction for Students

To maximize student satisfaction, we look for strategies that offer a high level of information flow and minimal workload. From the available data, strategies that maximize student satisfaction involve notifying students upon each submission and providing initial and reminder emails, as these approaches maintain a steady flow of communication and ensure students are kept informed.

Stakeholders' Strategies with Satisfaction Levels Above 50

For all three stakeholders (University, Referees, and Students) to have a satisfaction level above 50, a balanced approach that considers the needs and preferences of each group must be employed. Based on the data:
- **Strategy 2** offers a balanced satisfaction level for all stakeholders, with the University and Referees at 17 and Students at 53.
- **Strategy 14** presents another balanced approach with the University at 42, Referees at 15, and Students at 44.

These strategies involve account creation and essential info input by students, which ensures the University's need for security and authenticity is met while also considering the referees' preference for efficient processes and the student's desire for a low workload and high information flow.

The satisfaction levels for each strategy can be calculated by averaging the satisfaction values for each stakeholder or by considering the weighted importance of each stakeholder's and soft goals, as per the GRL model. In the A3-HamzaMalik report, specific strategies may not have a direct numerical satisfaction value listed, so it is essential to infer the potential satisfaction based on the related goals and tasks' evaluations. The report data combined with the goal model can inform the decision-making process for choosing the most appropriate strategy.