# Experiment 3S

Start with a new session **for each part** of the experiment.

In part 1, use a simple sentence and no context:

**Prompt 3S.1***:*

*Using the textual grammar for the Goal-oriented Requirement Language (GRL), please provide a goal model for a social housing application meant to support business intelligence and decision making for different actors such as the City of Ottawa, shelters, and the federal and provincial governments.*

In part 2, try the same request with the following domain context:

**Prompt 3S.2***:*

*Using the textual grammar for the Goal-oriented Requirement Language (GRL), please provide a goal model for a social housing application meant to support business intelligence and decision making for different actors such as the City of Ottawa, shelters, and the federal and provincial governments.*

*Domain context: To improve social housing planning and management in Canadian cities and regions, a social housing application is required. The application will integrate anonymized data collected in current social housing databases and be supported by a data warehouse with predictive capabilities. This solution should enable better decision-making related to the future development of housing stocks. However, the stakeholders that would use the application, including housing providers, government agencies and social housing applicants, have different and potentially conflicting roles and needs in terms of access to information, transparency, privacy, and granularity of predictions. Moreover, the format and quality of data in existing databases may limit the ability to run certain queries or hinder the quality of the results. Developing the application from scratch will require prioritizing among stakeholder goals and concerns and making trade-offs between technical capabilities and feasibility.*

In part 3, add the following TGRL context and try the same request:

**Prompt 3S.3**:

*Assume a textual grammar called Goal-oriented Requirement Language (GRL) for modeling actors, their intentions, and their relationships. The language supports many types of intentions (goal, softgoal, task, indicator, belief, resource), one type of actor, and three types of relationships (dependsOn, contributesTo, decomposes). Actors and intentions may also each have an importance level (integer) and a description (string). Here is an example of the syntax: actor TelP#"Telecom Provider" { importance 100 goal VoiceConn#"Voice Connection Be Setup" { importance 50 } softgoal HighRel#"High Reliability" { description "This is the most important objective of the stakeholder." importance 75 } softgoal SpecUsage#"Minimize Spectrum Usage" { importance 60 } task MakeVoiceOverInternet#"Make Voice Connection Over Internet" { contributesTo HighRel with somePositive contributesTo SpecUsage correlated with somePositive xor decomposes VoiceConn } task MakeVoiceOverWireless#"Make Voice Connection Over Wireless" { contWirelessVoiceConnToHighRel contributesTo HighRel with make contributesTo SpecUsage correlated with someNegative xor decomposes VoiceConn } indicator VoiceConnFailureRate#"Failure Rate for Voice ConnectionOver Internet" { unit "failures/week/10000 connections" contVoiceConnFailureRateToInternetVoiceConn contributesTo MakeVoiceOverInternet with 100 dependsOn Tech.LoggEquip } belief WirelessReliability#"Wireless is less reliable than Internet" { contributesTo HighRel with SomeNegative } } actor Tech#"Technician" { resource LoggEquip#"Logging Equipment" { dependsOn EquipSetup } task EquipSetup#"Correctly setup logging equipment" { importance 100 } }*

*Using the textual grammar for the Goal-oriented Requirement Language (GRL), please provide a goal model for a social housing application meant to support business intelligence and decision making for different actors such as the City of Ottawa, shelters, and the federal and provincial governments.*

In part 4, add the following TGRL context and domain context and try the same request:

**Prompt 3S.4**:

*Assume a textual grammar called Goal-oriented Requirement Language (GRL) for modeling actors, their intentions, and their relationships. The language supports many types of intentions (goal, softgoal, task, indicator, belief, resource), one type of actor, and three types of relationships (dependsOn, contributesTo, decomposes). Actors and intentions may also each have an importance level (integer) and a description (string). Here is an example of the syntax: actor TelP#"Telecom Provider" { importance 100 goal VoiceConn#"Voice Connection Be Setup" { importance 50 } softgoal HighRel#"High Reliability" { description "This is the most important objective of the stakeholder." importance 75 } softgoal SpecUsage#"Minimize Spectrum Usage" { importance 60 } task MakeVoiceOverInternet#"Make Voice Connection Over Internet" { contributesTo HighRel with somePositive contributesTo SpecUsage correlated with somePositive xor decomposes VoiceConn } task MakeVoiceOverWireless#"Make Voice Connection Over Wireless" { contWirelessVoiceConnToHighRel contributesTo HighRel with make contributesTo SpecUsage correlated with someNegative xor decomposes VoiceConn } indicator VoiceConnFailureRate#"Failure Rate for Voice ConnectionOver Internet" { unit "failures/week/10000 connections" contVoiceConnFailureRateToInternetVoiceConn contributesTo MakeVoiceOverInternet with 100 dependsOn Tech.LoggEquip } belief WirelessReliability#"Wireless is less reliable than Internet" { contributesTo HighRel with SomeNegative } } actor Tech#"Technician" { resource LoggEquip#"Logging Equipment" { dependsOn EquipSetup } task EquipSetup#"Correctly setup logging equipment" { importance 100 } }*

*Using the textual grammar for the Goal-oriented Requirement Language (GRL), please provide a goal model for a social housing application meant to support business intelligence and decision making for different actors such as the City of Ottawa, shelters, and the federal and provincial governments.*

*Domain context: To improve social housing planning and management in Canadian cities and regions, a social housing application is required. The application will integrate anonymized data collected in current social housing databases and be supported by a data warehouse with predictive capabilities. This solution should enable better decision-making related to the future development of housing stocks. However, the stakeholders that would use the application, including housing providers, government agencies and social housing applicants, have different and potentially conflicting roles and needs in terms of access to information, transparency, privacy, and granularity of predictions. Moreover, the format and quality of data in existing databases may limit the ability to run certain queries or hinder the quality of the results. Developing the application from scratch will require prioritizing among stakeholder goals and concerns and making trade-offs between technical capabilities and feasibility.*

## Assessment

Precision:

How many actors are identified (correctly / incorrectly / how many mentioned in prompt)?

How many softgoals are identified (correctly / incorrectly / how many mentioned in prompt)?

How many goals are identified (correctly / incorrectly / how many mentioned in prompt)?

How many tasks are identified (correctly / incorrectly / how many mentioned in prompt)?

How many beliefs are identified (correctly / incorrectly / how many mentioned in prompt)?

How many indicators are identified (correctly / incorrectly / how many mentioned in prompt)?

How many contributions are identified (correctly / incorrectly / how many mentioned in prompt)?

How many decompositions are identified (correctly / incorrectly / how many mentioned in prompt)?

How many dependencies are identified (correctly / incorrectly / how many mentioned in prompt)?

NEW: How many containment relationships are identified (correctly / incorrectly / how many mentioned in prompt)? (i.e., are goals assigned to actors?)

Recall:

How many elements are missing (how many even mentioned in prompt)?

Syntax Quality:

For 3S.3 and 3S.4, also assess the correctness of the syntax.

NEW: Semantic Quality:

E.g., Direction of relationships, logic of importance weights, contribution weights, etc.