**Actors Prompt:**

An engineer is working on a set of user stories enclosed between triple back ticks.

``` As a Developer, I want to get a Data Package into Node, so that I can start using the data for doing analysis and visualizations.

As a Researcher, I want to get a Data Package into Julia in seconds, so that I can start using the data for doing analysis and visualizations.

As a Publisher, I want to add type information to my data, so that it is more useful to others and can be used better with tools like visualization programs.

As a Publisher, I want to be able to provide a visualization of data in the Data Package, so that I can provide my analysis and show my work to users of the data.

As a Researcher, I want to be able to save new visualizations, so that I can share them with others or include them in the Data Package.

As a ResearcherPublisher, I want to know that my data conforms to its Data Package profile, so that I can feel trust in the validity and usefulness of the data. ```

He created an initial goal model with the intentional elements enclosed between triple quotes:

‘’’

- 'Actors':

-Researcher

-Publisher

-Developer

-Researcher Publisher

- 'Goals':

-get operations conducted

-provide operations conducted

-understand operations conducted

-save operations conducted

-know operations conducted

-Get a Data Package

-get my Excel spreadsheet

-new visualizations saved

-a visualizations provided

-understand the ways

-know its Data Package profile

'''

The created model is missing many intentional elements. Let us refine the goal model step by step. First, can you list all 'Actors' for the user stories enclosed between triple back ticks. An initial set of actors are added in the enclosed between triple quotes. You must also identify any missing and implicit actors. It is critical that you answer only as a bulleted list and do not include any explanation.

Developer

* Researcher
* Publisher
* Researcher Publisher

**Goals**

The initial goal model does not contain all the stakeholder’s objectives or goals that are conveyed in the user stories enclosed between triple back ticks. Identify any goals explicitly mentioned in the user stories enclosed between triple back ticks as well as any implicit goals. It is critical that you answer only as a bulleted list and do not include any explanation.

* Get a Data Package into Node
* Get a Data Package into Julia in seconds
* Add type information to data
* Provide visualization of data in Data Package
* Save new visualizations
* Ensure data conforms to its Data Package profile

**IE Links for Goals**

Connect the goals from the previous step to the actors. It is critical that you answer only as a bulleted list that adheres to the following format.

<a actor>: <a hyphenated list of associated goals>

Do not include any explanation.

**Tasks for Goals**

Please provide a detailed breakdown of tasks for each of the following goals, created in the previous response. It is critical that you answer only as a bulleted list that adheres to the following format.

<a goal>: <a hyphenated list of tasks to achieve the goal>

Do not include any explanation.

Get a Data Package into Node:

* + Load Data Package
  + Access Data for Analysis and Visualizations

Get a Data Package into Julia in seconds:

* + Transfer Data Package to Julia
  + Enable Quick Access to Data for Analysis and Visualizations

Add type information to data:

* + Identify Data Types
  + Assign Type Information to Data Attributes

Provide visualization of data in Data Package:

* + Develop Visualization Feature
  + Integrate Visualization Tool with Data Package

Save new visualizations:

* + Implement Save Functionality for Visualizations
  + Store Visualizations in Data Package

Ensure data conforms to its Data Package profile:

* + Validate Data Against Data Package Profile
  + Update Data to Meet Profile Requirements

**IE Links for Tasks of Goals**

Connect the tasks of goals from the previous step to the actors. It is critical that you answer only as a bulleted list that adheres to the following format.

<a actor>: <a hyphenated list of associated tasks of goals>

Do not include any explanation.

**Soft Goals**

Next, there are no soft goals in the initial goal model. Please suggest soft goals. Note you must identify any soft goals explicitly mentioned in the user stories enclosed between triple back ticks as well as any implicit soft goals. It is critical that you answer only as a bulleted list and do not include any explanation.

* Achieve Quick Data Access
* Enhance Data Usability
* Ensure Data Integrity and Validation
* Improve Data Package Trustworthiness

**IE Links for Soft Goals**

Connect the soft goals created in the previous step to the actors. It is critical that you answer only as a bulleted list that adheres to the following format.

<a actor>: <a hyphenated list of associated soft goals>

Do not include any explanation.

**Tasks for Soft Goals**

Next, the initial goal model misses different tasks that can be undertaken to achieve goals and soft goals.

Please provide a detailed breakdown of tasks for each soft goal created in the previous response. You can generate a variable number of tasks for soft goals. It is critical that you answer only as a bulleted list that adheres to the following format.

<a soft goal>: <list of tasks to achieve the soft goal>

Do not include any explanation.

Achieve Quick Data Access:

* + Implement Data Indexing
  + Optimize Data Retrieval Algorithms
  + Enhance Data Loading Mechanisms

Enhance Data Usability:

* + Implement Data Transformation Features
  + Provide User-Friendly Data Presentation
  + Support Data Filtering and Sorting Options

Ensure Data Integrity and Validation:

* + Implement Data Validation Processes
  + Establish Data Quality Checks
  + Integrate Error Handling Mechanisms

Improve Data Package Trustworthiness:

* + Implement Data Package Versioning
  + Establish Data Package Metadata Validation
  + Implement Data Package Security Measures

**IE Links for Tasks of Soft Goals**

Connect the tasks of soft goals from the previous step to the actors. It is critical that you answer only as a bulleted list that adheres to the following format.

<a actor>: <a hyphenated list of associated tasks of soft goals>

Do not include any explanation.

**Contribution Links**

The Contributionrelationship statement describes how softgoals, task, believes, or links contribute to the satisficing of another intentional element. The five categories of Contribution Links are enclosed between triple back-ticks symbols.

``` MAKE : The contribution of the contributing element is positive and sufficient. BREAK : The contribution of the contributing element is negative and sufficient. HELP : The contribution of the contributing element is positive but not sufficient. HURT : The contribution of the contributing element is negative but not sufficient. EQUAL : There is equal contribution in both directions. ```

Please suggest different contribution links to link all the intentional elements such as, goals, soft goals, Tasks, and Resources that you identified. Note you must identify any contributions links that explicitly mentioned in the user stories enclosed between triple back ticks as well as any hidden contribution links. It is critical that you answer only as a bulleted list that adheres to the following format.

<Contribution Link Category>::<Source intentional elements> : <Destination intentional elements>

* MAKE::Researcher : Get a Data Package into Julia in seconds
* HELP::Developer : Get a Data Package into Node : Load Data Package
* HELP::Researcher : Get a Data Package into Julia in seconds : Transfer Data Package to Julia
* MAKE::Publisher : Add type information to data
* HELP::Publisher : Add type information to data : Identify Data Types
* MAKE::Publisher : Provide visualization of data in Data Package
* MAKE::Researcher : Save new visualizations
* MAKE::ResearcherPublisher : Ensure data conforms to its Data Package profile

**Dependencies Links**

The Dependency statement of GRL describes an intentional relationship between two actors, i.e., one actor (the Depender) depends on another actor (the Dependee) on something (the Dependum). Noite that the dependum is optional.

Please suggest different Dependency links to link all the intentional elements such as, goals, soft goals, Tasks, and Resources that you identified. Note you must identify any Dependency links that explicitly mentioned in the user stories enclosed between triple back ticks as well as any hidden Dependency links. It is critical that you answer only as a bulleted list that adheres to the following format.

<Depender> DEPENDES-ON <Dependee> FOR <Dependum>

* Developer DEPENDS-ON ResearcherPublisher FOR Ensuring data conforms to its Data Package profile
* Publisher DEPENDS-ON Developer FOR Getting a Data Package into Node
* Publisher DEPENDS-ON Developer FOR Providing visualization of data in Data Package
* Researcher DEPENDS-ON Developer FOR Getting a Data Package into Julia in seconds
* Researcher DEPENDS-ON Publisher FOR Adding type information to data
* Researcher DEPENDS-ON Publisher FOR Providing visualization of data in Data Package

**Resources**

**Not used because Dependum identified in the previous prompt are the resources.**

A resource is an (physical or informational) entity, with which the main concern is whether it is available. The initial goal model with the intentional elements enclosed between triple quotes does not have resources. Identify resources that are explicitly mentioned in the user stories enclosed between triple back ticks as well as any implicit resources. It is critical that you answer only as a bulleted list and do not include any explanation.



**Decomposition Links**

DECOMPOSITON statement provides the ability to define what other elements need to be achieved or available in order for a task to perform. Note that only Task and Goal can be decomposed into goal, task, resource, and softgoal. A Task Decomposition Structure shows the essential components of a task, which include subtasks that must be performed, subgoals that must be achieved, resources that must be accessible, and softgoals that must be satisfied. Similarly, a Goal Decomposition Structure connects a goal with its sub-goals directly, which is a short hand form of one Goal Means\_Ends Structure and the related Task Decomposition Structure.  The three categories of Decomposition Links are enclosed between triple back-tick symbols.

``` AND DECOMPOSITON: The relations between the dependent elements are “AND”. Each of the sub-components are necessary. OR DECOMPOSITON : The relations between the contributing elements are “OR”. Any of the sub-components is sufficient. XOR DECOMPOSITON: The relations between the contributing elements are “XOR”. Either of the sub-components are necessary, but not both. ```

Please suggest different Decomposition links to link all the intentional elements such as, goals, soft goals, Tasks, and Resources that you identified. Note you must identify any Decomposition links that explicitly mentioned in the user stories enclosed between triple back ticks as well as any hidden Decomposition links. It is critical that you answer only as a bulleted list that adheres to the following format.

< Decomposition Type>::<Source intentional elements> : <Destination intentional elements>

* *AND DECOMPOSITION::Get a Data Package into Node : Load Data Package : Access Data for Analysis and Visualizations*
* AND DECOMPOSITION::Get a Data Package into Julia in seconds : Transfer Data Package to Julia : Enable Quick Access to Data for Analysis and Visualizations
* AND DECOMPOSITION::Add type information to data : Identify Data Types : Assign Type Information to Data Attributes
* AND DECOMPOSITION::Provide visualization of data in Data Package : Develop Visualization Feature : Integrate Visualization Tool with Data Package
* AND DECOMPOSITION::Save new visualizations : Implement Save Functionality for Visualizations : Store Visualizations in Data Package
* AND DECOMPOSITION::Ensure data conforms to its Data Package profile : Validate Data Against Data Package Profile : Update Data to Meet Profile Requirements

**Generate XML using Fewshot examples:**

Please create an XML that includes all the outputs that you generated so far. An example of the right output is shown between triple back ticks.

```

<?xml version='1.0' encoding='ISO-8859-1'?>

<grl-catalog catalog-name="URNspec" description="" author="vaish">

<element-def>

<intentional-element id="72" name="Car objects" description="" type="Ressource" decompositiontype="And"/>

<intentional-element id="80" name="Easy to use" description="" type="Softgoal" decompositiontype="And"/>

<intentional-element id="82" name="Realistic simulation" description="" type="Softgoal" decompositiontype="And"/>

<intentional-element id="84" name="Simple design" description="" type="Softgoal" decompositiontype="And"/>

<intentional-element id="88" name="Generate cars" description="" type="Goal" decompositiontype="And"/>

<intentional-element id="96" name="Create new cars" description="" type="Task" decompositiontype="And"/>

<intentional-element id="98" name="Keep same cars" description="" type="Task" decompositiontype="And"/>

</element-def>

<link-def>

<contribution name="Contribution105" description="" srcid="96" destid="82" contributiontype="Unknown" quantitativeContribution="0" correlation="false"/>

<contribution name="Contribution106" description="" srcid="96" destid="84" contributiontype="Unknown" quantitativeContribution="0" correlation="false"/>

<decomposition name="Decomposition111" description="" srcid="96" destid="88"/>

<decomposition name="Decomposition114" description="" srcid="98" destid="88"/>

<dependency name="Dependency116" description="" dependerid="88" dependeeid="72"/>

</link-def>

<actor-def>

<actor id="11" name="Traffic Simulator" description=""/>

</actor-def>

<actor-IE-link-def>

<actorContIE actor="11" ie="72"/>

<actorContIE actor="11" ie="80"/>

<actorContIE actor="11" ie="82"/>

<actorContIE actor="11" ie="84"/>

<actorContIE actor="11" ie="88"/>

<actorContIE actor="11" ie="96"/>

<actorContIE actor="11" ie="98"/>

</actor-IE-link-def>

</grl-catalog>

```

The generated XML must adhere to the below list of criteria.

1. No duplicate values for 'name' attribute in XML
2. No duplicate values for 'id' attribute? in XML
3. No empty string as a value for 'name' attribute
4. If you include Date attributes 'modified' and 'created', the values of 'modified' attribute must be greater than the value of 'created' attribute
5. The XML must not have an empty grl-catalog element
6. Do not add elements outside the section named 'grl-catalog'
7. In the XML, element named 'intentional-element' must have non-empty values for following attributes- name, id, type
8. XML must have section 'actor-def' consisting of actors
9. In the XML, each actor element has an 'id' attribute. Do not use the value of 'id' attribute of an actor element as the value for 'srcid' or 'destid' attributes within the section named 'link-def'
10. XML must have a section with title 'actor-IE-link-def'
11. Within the section with name 'actor-IE-link-def', no two elements with different value for 'actor' attribute, have same value for 'ie' attribute"
12. For an element named 'intentional-element', the value for the attribute 'type' of the tag must be one of the following values - Task, Goal, Softgoal, Resource, Belief?"
13. For an element named 'intentional-element', the value for the attribute 'decompositiontype' of the tag must be one of the following values - AND, OR, XOR
14. For an element with name 'contribution', the value for the attribute 'contributiontype' of the tag must be one of the following values- Make, Help, Break, Hurt
15. For an element with name 'contribution', the values for attributes- srcid and destid, in each tag must be different
16. Each element with name 'contribution', must have attribute 'srcid' and its value must not be empty string
17. Each element with name 'contribution' must have attribute 'destid' and its value must not be empty string
18. Each element with name 'decomposition' must have attribute 'srcid' and its value must not be empty string
19. Each element with name 'decomposition' must have attribute 'destid' and its value must not be empty string
20. Each element with name 'decomposition', must have different the values for attributes- 'srcid' and destid'