Problem Formulator Web Tool – User Manual

How to create an account

1. Click the “create account” button in the upper right corner of the website.

2. Fill in the specified information. Enter a valid Email address and choose a password.

3. Once your account is approved, you can log in by clicking on the “Login” button in the upper right corner.

How to create a problem map

1. After logging in click the “view problem maps” button in the upper right corner.

2. Click on the “add new problem map” button in the center of the page under the heading.

3. Fill in the name and optional description for the problem map.

4. The problem map will show up in the list and you can use the edit or delete button to make changes or remove the problem map.

5. Now you can click on the problem map you just created to fill it.

How to create a requirement

1. After opening a problem map, click the “Add requirements” button.

2. You will be presented with 5 fields:

1. Name: the name of the requirement

2. Source: where the requirement came from (e.g. customer)

3. Subtype: whether the requirement is a goal you are trying to optimize or a requirement that must be satisfied.

4. Importance: how important the requirement is.

5. Goal target: if the entity is a goal, the target is the level you are trying to reach (for instance if your requirement was “cost” your goal target might be “under $30”).

3. Fill in the name, subtype, and optional fields and click submit.

How to create a function

1. After opening a problem map, click the “Add function” button.

2. Specify the name of the function and click submit.

How to create an artifact

1. After opening a problem map, click the “Add artifact” button.

2. You will be presented with 2 fields:

1. Name: the name of the artifact

2. Subtype: whether this is a physical embodiment (of a component or a part that is standard or you know about, e.g. a bevel gear) or an abstract solution principle (of a concept whose details you don’t know yet, e.g. weights or a flat board)

3. Fill in the name and subtype and click submit.

How to create a behavior

1. After opening a problem map, click the “Add behavior” button.

2. You will be presented with 2 fields:

1. Name: the name of the behavior

2. Subtype: whether this entity is a behavior, an equation, or a parameter

3. Fill in the name and subtype and click submit.

How to create an issue

1. After opening the problem map, click the add issue button.

2. You will be presented with 2 fields:

1. Name: the name of the issue

2. Importance: how important it is to address this issue

3. Fill in the name and importance and click submit.

How to link two entities of different types

1. After opening the problem map, drag an element of one type into an element of a different type to establish a link.

2. This link can be viewed by hovering the mouse over either entity (they will be highlighted together).

How to specify entities as the decomposition of other entities

1. After opening the problem map, drag an element of one type into an element of the same type to establish that it is a child entity.

2. While the parent entity decomposition is expanded drag other entities into the parent to add them into the same decomposition.

3. If you wish to add entities to a separate decomposition then drag the entity into the collapsed parent and a new decomposition will be created.

How to expand and collapse entity decompositions

1. Collapsed entities can be expanded by double clicking on them.

2. Expanded entities can be collapsed by double clicking on them.

How to search for entities

1. In the upper right of the page there is a search bar that can be used to find entities.

2. Start typing the name of the entity that you wish to locate and it will autocomplete with the available entities.

3. Once you pick an entity from the auto completion list it will be highlighted blue.

4. If the entity is not visible because it is in a collapsed parent then its parent entities will be highlighted in successively lighter shades of blue.

What highlighting tells you

1. When you mouse over a link it and all of its connected entities (and their parents) will be highlighted in yellow.

2. When you search for an entity, the entity and its parents will be highlighted blue.

3. The system highlights unconnected entities in red to let you know they have not been connected.

4. The system highlights requirements red unless they are linked with a function or artifact.

5. The system highlights functions red unless they are linked to an artifact that realizes them.