

# ***PROBLEM SCOPING PROCESSES ASSIGNMENT***

Your Initials: \_\_\_\_\_ ID No: \_\_\_\_\_ Team: \_\_\_\_\_ Date: \_\_\_\_\_

## **Purpose**

The initial phase of a design project, *problem scoping*, establishes clear requirements for a viable design solution. It often is initiated by a vague statement of need from a client or by someone's idea of an opportunity to meet a perceived need. Design teams gather and analyze information from many sources to fully understand the need. Finally, a problem definition is created to specify requirements to be met.

In this exercise, you will review progress on your *problem scoping* processes, assess effectiveness of these processes, and identify ways to improve their effectiveness. This exercise will help you manage *problem scoping* activities to yield a problem definition that sets useful targets for solution development.

## **Effectiveness of Problem Scoping Processes**

In the table below, please rate how **effectively** your team **implemented**, or is **currently implementing**, each of the listed processes. Use the following definitions for effectiveness ratings:

**Not Applicable (NA):** Process not yet begun

**Low Effectiveness (L):** Poorly defined process; very limited scope; results incomplete or of little value

**Moderately Effective (M):** Generally understood process; moderate scope; results partially complete and somewhat useful

**Highly Effective (H):** Well understood process; implemented broadly and competently; results credible and valued; process improved for greater effectiveness

For each of the three *problem scoping* processes listed, identify the **effectiveness** level that best describes your team's execution of the process to date.

Process	Process Definition / Typical Content	Effectiveness			
		NA	L	M	H
<b>Information Gathering</b>	<ul style="list-style-type: none"> <li>• Identifying stakeholders (users, manufacturers, business, society, etc.)</li> <li>• Interviewing stakeholders to define wants, needs, constraints</li> <li>• Researching the problem (competitors, patents, studies, focus groups, etc.)</li> </ul>				
<b>Interpreting and Prioritizing Needs</b>	<ul style="list-style-type: none"> <li>• Transforming information from stakeholders into engineering language</li> <li>• Prioritizing requirements into logical and defensible order of importance</li> </ul>				
<b>Identifying and Setting Target Specifications</b>	<ul style="list-style-type: none"> <li>• Translating requirements into measurable specification statements</li> <li>• Assigning justifiable target values, or achievement goals, to each specification</li> </ul>				



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## **Effective *Problem Scoping* Process**

From the list below, identify which of the *problem scoping* processes has been implemented **most effectively** by your team (choose one).

Information Gathering

Interpreting and Prioritizing Needs

Identifying and Setting Target Specifications

For the selected process explain what your team did and what impacts it is having on your problem definition. In 200 to 300 words, describe your process in ways that demonstrate your understanding of the process and how it has been used effectively. Provide:

(a) Details of **what you did** (what was done, with whom, and how)

(b) Specific **impacts** of your process on producing a high quality definition of the problem.

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## **Underdeveloped *Problem Scoping* Process**

From the list below, identify which of the *problem scoping* processes has been **most underdeveloped** by your team (choose one).

Information Gathering

Interpreting and Prioritizing Needs

Identifying and Setting Target Specifications

For the selected process, explain what your team needs to further develop and how you would achieve the desired level of development. In 200 to 300 words, describe your process in ways that demonstrate your understanding of the process and how to make it highly effective. Describe:

- (a) Details of **what is underdeveloped** (and its impacts on your problem definition)
- (b) Specific **action plan** to make your process effective in producing a high quality problem definition.