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| Activity 12-1 | Team Project Concept Generation and Selection |
| Textbook Reference: | Ulrich & Eppinger – Chapter 6 / 7 |
| Purpose / Goal: | Generate a sufficiently large number of design approach concepts to permit each team to select and document at least one for implementation. |
| Materials / Resources Required: | Pencil, paper, laptop, Excel file “decision matrix sample”, “freemind” mind mapping software (free, OpenSource, from freemind.sourceforge.net), “IED Team Project Description”, Table of Customer Requirements and Technical Specifications from the previous class activity. |
| Time Allocated: | 1:50 |

# Overall Objective

There are two ultimate objectives for this class session. The first is to validate the table of Customer Requirements and Technical Specifications developed in the previous class. These must be clearly understood and documented before identifying and selecting project concepts.

In generating these project concepts, the students are expected to use the relevant creativity tools practiced in an earlier activity including:

* Sketching
* Brainstorming
* Mind Mapping
* Morphological Chart
* Concept Screening
* Decision Matrix

# Review of Customer Requirements and Technical Specifications

During the first part of the class, each team will present their table to the class for review. One member from each team should be appointed as the spokesperson. The class and instructor can then provide feedback on the table. The intent is to ensure that the requirements are clearly and accurately documented and that meaningful and realistic metrics have been identified.

# The Concept Generation and Selection Process

Using a combination of the creativity tool(s) of your choice, generate and document at least three different concepts for approaching the design of your team project.

The concept proposal documentation should include (at least):

* a sketch and corresponding description / explanation of each design alternative
* an explanation of the design process(es) used to arrive at each
* an explanation of which alternative you are proposing to follow

Your Milestone One – System Concept deliverable is based on the result of this activity.