**Low Noise, Light Weight and Compact Hair Dryer**

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**1. Introduction:**

In the present scenario of designing better hair dryers for the consumers, problems from the consumer point of view must be found out first and the need to be addressed. Once the problems found out, we need to develop a primitive statement and then apply need analysis upon it to arrive at the goal statement. Then constraints and standards of performance along with specification are dealt with, based on the above drawn conclusions.

* 1. **Primitive Statement:**

Addressing the problems from the consumer point of view attracts a lot of interest from both consumer communities and industrial units. Designing of products based on the above inputs will make the best product. Thus, we look to proceed in this way in designing a better product.

* 1. **Need Analysis:**

Noise:

* Modern Hair Dryers make a lot of very disturbing noises.
* A less to no noise model has to be developed by redesigning the model.

Weight:

* Hair Dryers are always worked by holding them in one of the hands.
* The weight of the appliance is a problem owing to the longer usage times which is more pronounced in case of people with longer hair.

Size:

* Hair Dryers, as discussed above, are majorly of hand-held use.
* Hair Dryers that fit the best in single hand tend to get used the most.
* Thus, there is a need to address this problem and make the appliance compact.
  1. **Problem Statement:**

**“DESIGN A NOISE-LESS, LIGHT WEIGHT AND COMPACT HAIR DRYER”**

* 1. **List of Constraints:**
* Operational Time: The time until which the hair dryer could be used without any break
* Budget: Low cost materials should be used to cut down expenses but shouldn’t get compromised on the quality
* Adherence of the designed product to laws and regulations of the specific region(s)
  1. **Standards of Performance:**
* 1200W Power output
* 550gm weight
* 1m power cord
* 3 settings of power
  1. **Specifications:**

Technical specifications include:

* Colour
* Frequency
* Motor Wattage
* Motor Voltage
* Power Consumed
* Operational Time (in case of DC Motor use)

**2. Generation of Design Ideas:**

The product required to be designed is first broken down to the smallest possible component. Different levels such as ‘System’, ‘Sub-System’, ‘Components’ and ‘Elements’. This is done to ensure that steps toward the goal statement include the smallest possible element in the product. All the possibilities of each and every element are considered and evaluation is done based on the grading policy that has been developed based on the design sense of the designer.

**3. Evaluation of Design Idea:**

Grading policy is followed while evaluating the Design Ideas. Each aspect of goal statement is awarded certain weightage based on design sense. In this design process, we awarded grades ranging from 1 to 9. If the aspect considered should have a less value