Requirements Introduction

**Research:**

**Description :-** The Research has been divided on the basis of cost and features of different calculators. The price ranges from Rs 50-1 Lakhs which can be used by various scientist and scholars. The first category includes less number of features at lower cost. Here the features include basic arithmetic operations. Next category of calculators includes medium number of features, again at lower price. It includes nth root and power of n calculating features. Another category includes the calculation of trigonometric functions including exponential and logarithms. The features has been enhanced further but at the cost of price. At a range of Rs 600-650, complex calculations and imaginary numbers has been included. Calculators having medium costs are having medium set of features which includes matrix and calculus. Higher features at medium cost of price includes binary conversions and are foldables. Calculators of higher prices includes the functions of database management, higher accuracy,wider display for plots and graphs. It also includes smart touch, solar cell operations, battery charging and ae waterproof.

**SWOT Analysis:-**

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| | Strength:   * High Accuracy * Solar powered, more efficient * Touch screen, easy to accessible * foldable | Weakness:   * Charging issues * Not accessible on cloudy days * Not resistive to water |
| Opportunities:   * Easily accessible to by students * Complex calculations are easy to solve. * Affordable to all | Threats:   * Security issues * Errors |

**4W1H:-**

What: It is a highend, affordable calculator

When: Easily accessible and performs complex calculations

Why : To overcome drawback, cost efficient, updated

Where : To solve simple as well as complex calculations

How: End user friendly and easily accessible.

**HLR Features:-** The designed product will be having all the necessary features required by the undergraduates and postgraduates students including scholars. The High level requirements include arithmetic operations, decimals, trigonometric functions, nth root, power of n, fractions, percentage, logarithms, exponentials, binary conversions etc.

**LLR Features:-** The low level requirements of the product includes addition, subtraction, multiplication, division under arithmetic operation, decimal upto 6 digits, trigonometric functions with square root and radians.

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| **ID** | **Description** |
| **HLR** | Able to do complex Calculation |
| **HLR** | Affordable and easily accessible |

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| --- | --- |
| **ID** | **Description** |
| **LLR** | Perform Accurate Calculation |
| **LLR** | Due to large display, can perform plotting and graphing |
| **LLR** | Higher input an output range |