**Group 07’s Project Requiments**

**Group Members:**

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**Requirements:**

* Name: **Simple calculator with LCD**
* Purpose: Performs simple mathematical calculations.
* Input: 5x5 Keypad Matrix
* Output: 16x2 LCD

**Use Cases:**

**Arithmetic operations**

* *Brief description*: Allow user to perform arithmetic operation on numbers.
* *Basic functions*:

1. User keys in a legitmate arithmetic statement involves numbers, operators and/or brackets.
2. User presses “Calculate” button (=), result is then displayed on LCD screen.

* *Functions*:

Capable of handling simple arithmetic operations on numbers (additions, subtractions, multiplication, division), also some more sophisticated calculations (exomentiation, roots, logarithm, trigonometric functions).

* *Realibility*:

1. Arithmetic precision: minimum of four decimal places.
2. Able to handle simple mathematically errors (division by zero, integer over flow)

* *Performance requiments*:
  1. Calculate and display simple calculation results in less than 1s.
  2. Battery must last at least seven days.
* *Manufacturing costs*: estimated 300,000 VND
* *Power*: 9V Battery.
* *Physical size/weight*:
  1. Size: Estimated 15x10x5 cm.
  2. Weight: Estimated 500g.
* *Installation*: Portable device.
* *Working Environments*: Non-hostile environments for electronic devices [1]
* *Certifications*: None.

*Reference links*:

[1] – [Embedded Control Systems Design/Hostile Environment](https://en.wikibooks.org/wiki/Embedded_Control_Systems_Design/Hostile_Environment)

[2] - [Arithmetic precision](https://simple.wikipedia.org/wiki/Arithmetic_precision)

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