Requirements

1 Project Requirements

1.1   The total cost of the below shall not exceed $2,500. //Initially I thought that "total project cost" was too vague, but maybe this is too specific?

   1.1.1   Labor.

   1.1.2   Prototypes.

   1.1.3   Final product.

   1.1.4   Unforeseen costs.

2 Operation Requirements

2.1   The mower must be battery powered.

   2.1.1   The battery must be rechargeable.

2.2   The mower must be autonomous as outlined in 3

2.3   A home base will be provided for the mower, which will serve as...

   2.3.1   the starting point for mowing operations.

   2.3.2   the ending point for mowing operations.

   2.3.3   the charger for the mower.

2.4   Operational safety requirements are outlined in 5

3   Autonomous Functions Requirements

3.1   The mower must return to base when battery level is low.

   3.1.1   The mower must connect itself to the base for recharging.

3.2   Return to base on command. See x.x

4 Operating Environment Requirements

4.1   The product's components must be able to operate normally within an environment that

   4.1.1   is above XX degrees Fahrenheit

   4.1.2   is below XX degrees Fahrenheit

4.2   The product's components must not become inoperable due to constant exposure to conditions within the limits specified in 4.1, as well as

   4.2.1   Rainfall not to exceed XX in/hr.

   4.2.2   Rain accumulation not to exceed XX inches.

4.3   The mower will only cut grass on level ground not to exceed 25 degrees in incline.

5   Safety Requirements

5.1   The mower must power down when...

   5.1.1   it senses an "undefined obstacle" (this is too vague) in its path.

   5.1.2   it senses moving objects entering its "safety bubble."

      5.1.3   an emergency kill switch on mower unit is pressed.

      5.1.4   an emergency kill switch on the base / control panel is pressed.

  5.2   The mower will sound an alarm when removed from its configured boundaries.

  5.3   The mower will cease to function when removed from its configured boundaries.

6 Product Configuration Requirements

  6.1   All of the below may be configured one or more times.

  6.2   Operating boundaries

      6.2.1   The user can set boundaries for the mower.

      6.2.2   Boundary is defined as a line the mower will not cut grass across.

      6.2.3   The user must configure a set of boundaries which comprise a closed shape in order for the mower to operate.

  6.3   Depth of cut

      6.3.1   Defined as the the desired height of the grass after it has been cut.

      6.3.2   Adjustable to a minimum of XX inches.

      6.3.3   Adjustable to a maximum of XX inches.

      6.3.4   Is accurate to plus or minus 0.XX inches.

7 And the Rest //Needs editing below here

  7.1   Separate power/control systems for propulsion and blades //this is implementation

  7.2   Mower must be started manually by physical switch

  7.3   state display