

# SOLUTION REQUIREMENTS.

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|---------------------|--|
| <b>Project Name</b> | <b>IOT Based Smart Crop Protection System for Agriculture.</b> |
| <b>Team ID</b>      | <b>PNT2022TMID24112</b>  |
| <b>Date</b>         | <b>03 Oct 2022</b>   |

## FUNCTIONAL REQUIREMENTS :

🚦 Following are the functional requirements of the proposed solution.

| <b>S.NO.</b> | <b>Functional Requirement.</b> | <b>Sub Requirement.</b>   |
|--------------|--------------------------------|---|
| <b>1.</b>    | <b>User Visibility</b>         | <b>Sense animals nearing the crop field &amp; sounds alarm to woo them away as well as sends SMS to farmer using cloud service.</b>                           |
| <b>2.</b>    | <b>User Reception</b>          | <b>The Data like values of Temperature, Humidity, Soil moisture Sensors are received via SMS.</b>   |
| <b>3.</b>    | <b>User Understanding</b>      | <b>Based on the sensor data value to get the information about the present of farming land.</b>   |
| <b>4.</b>    | <b>User Action</b>             | <b>The User needs take action like destruction of crop residues, deep plowing, crop rotation, fertilizers, strip cropping, scheduled planting operations.</b> |

## NON-FUNCTIONAL REQUIREMENTS :

🚦 Following are the non-functional requirements of the proposed solution.

| <b>S.NO.</b> | <b>Non-Functional Requirement.</b> | <b>Description.</b>  |
|--------------|------------------------------------|--|
| <b>1.</b>    | <b>Usability</b>                   | <b>Mobile Support Users must be able to interact in the same roles &amp; tasks on computers &amp; mobile devices where practical, given mobile capabilities.</b>   |
| <b>2.</b>    | <b>Security</b>                    | <b>Data requires secure access to must register and communicate securely on devices and authorized users of the system who exchange information must be able to do.</b>  |
| <b>3.</b>    | <b>Reliability</b>                 | <b>It has a capacity to recognize the disturbance near the field and doesn't give a false caution signal.</b>  |
| <b>4.</b>    | <b>Performance</b>                 | <b>Must provide acceptable response times to users regardless of the volume of data that is stored and the analytics that occurs in background. Bidirectional, near real-time communications must be supported. This requirement is related to the requirement to support industrial and device protocols at the edge.</b> |
| <b>5.</b>    | <b>Availability</b>                | <b>IOT Solutions and domains demand highly available systems for 24 x 7 operations. Isn't a critical production application, which means that operations or production don't go down if the IOT solution is down.</b>  |
| <b>6.</b>    | <b>Scalability</b>                 | <b>System must handle expanding load &amp; data retention needs that are based on the upscaling of the solution scope, such as extra manufacturing facilities and extra buildings.</b>   |