



IOT BASED AUTOMATED SEED QUALITY TESTING SYSTEM

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INTRODUCTION:

IOT stands for Internet of Things which refers to the interconnectedness of physical devices, embedded with software, sensors, and connectivity which enables these objects to connect and exchange data. Seed is an important component in agriculture. It is necessary to select a good quality seed to get good yield. In the traditional system the seed quality is determined and separated by manual separation. It is a tedious process which requires more manual power, time and energy. We have some basic data analysis which is more technical which involves various methodologies to evaluate the viability, purity, and quality of seeds which uses a basic data analysis of the seed using image dataset.

WORKING PRINCIPLE:

In this system we have developed a IOT based seed quality testing prototype that will separate the seeds under two quality categories: (i) good (ii) bad. The prototype is equipped with ESP 32 camera module connected to a centralized platform, allowing real-time data collection and analysis and leverages IOT technology to monitor and analyze key parameters that determine seed quality, such as seed's color, shape. The ESP 32 camera module is mounted at the top of the Device. The seed will be placed in a conveyor belt. The image of the will be captured given as input to the machine learning model. Based on the output derived by the machine learning model and with the help of liver the seed the separated as good and bad seed.

CONCLUSION:

In this project we have designed a seed quality analysis tool and conducted a user study for the evaluation of its effectiveness, and user friendly. The future scope of this system is extensive, and it can evolve in numerous directions to better serve the agricultural community. With advancements in technology and a growing emphasis on sustainable agriculture and advances in sensor technology, environmental sustainability features, such as energy-efficient sensor technologies and data analytics easy to handle design and so on.

