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# RIPE CHILLI DETECTION BASED ON COLOUR AND SHAPE IMPLEMENTED ON SBC

## SYNOPSIS

This project is to detect ripe chilli based on colour and shape features. Colour Histogram is used to extract colour features and Geometric Moment is used to extract shape features. Ripe chilli will produce a blinking of the LED on the Single Board Computer (SBC), while non-ripe and others object will not turn on the LED.

## FUTURE ENHANCEMENT

(a) Environmental Consideration:  
This equipment/tool can be designed to operate using solar-powered battery thus it can assure zero harm to the environment since we are empowering the utilization of renewable energy

## PROJECT DESIGN CONSIDERATION

### Design Complexity

There are 5 modules in the project. The first module consist of image capturing, the second is pre-processing of the image (enhancement, noise removal/filtering), the third module is feature extraction (Colour Histogram and Geometric Moment), the fourth module is identification (Euclidean distance technique) and the fifth module consist of integration of all the previous modules and implementing it on the SBC.

### Health & Safety

The anticipated outcome can be used to harvest ripe chilli in the chilli plantation. As for now the harvesting is done manually by human labour which will in the long run affect the safety and also health due to the prolonged exposure to the hot sun.

## Cultural and Advantages to the Society

### Cultural

To familiarise the agricultural sector with the advancement of technology for harvesting purposes, since we are towards the technology-savvy society.

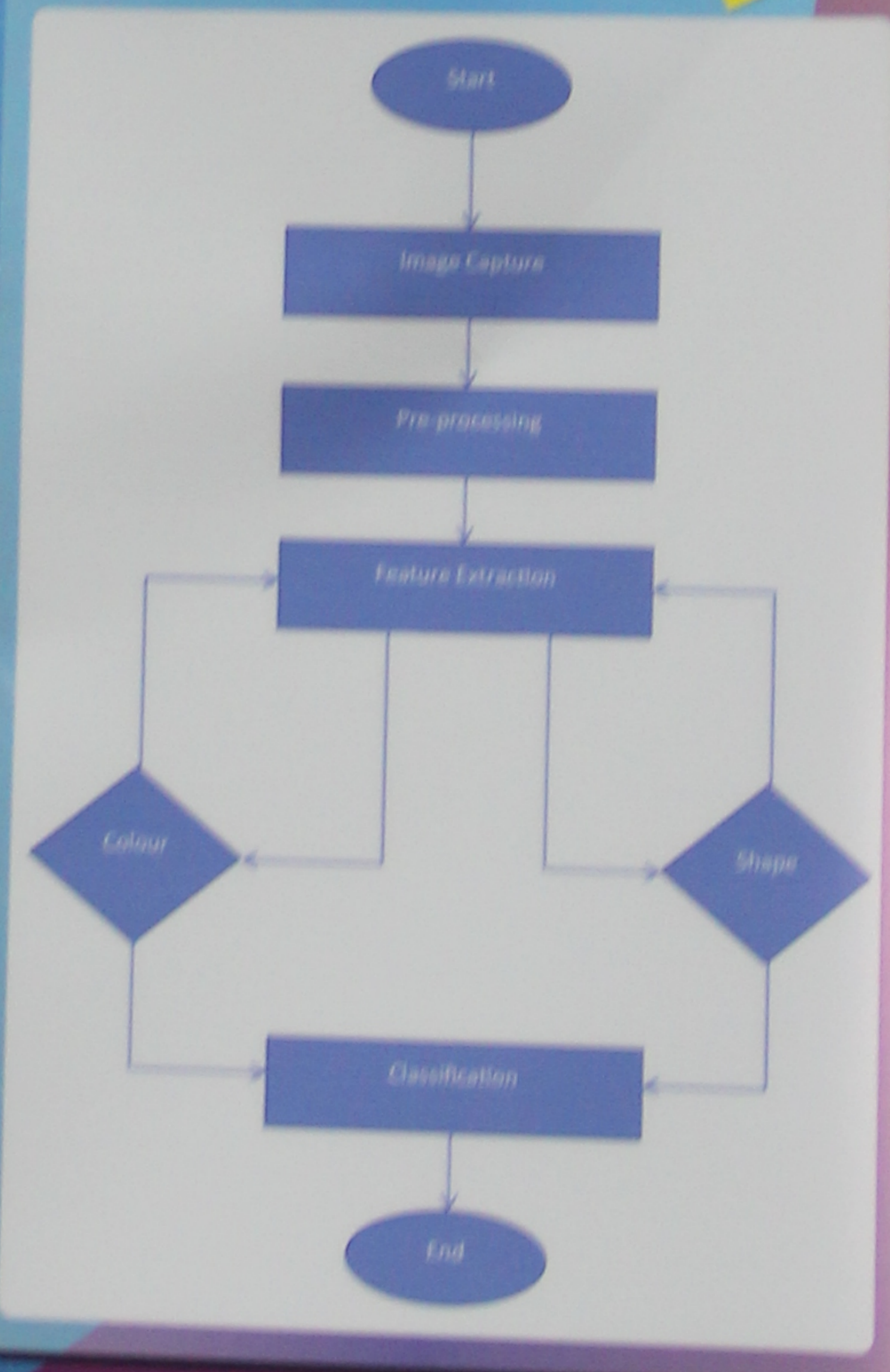
### Advantages

By using this technology in the chilli plantation, the country will be benefited from the income generated for agricultural sector since this technology can further expanded and enhanced to cater other types of crops.

To reduce the usage of human for mechanical task so that the human resource can be channelled to other sectors that demand full potential of human capability.

Quantity of the crops collected can be increased.

Simple machine to handle



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