

health of plants using Image processing. For this we are using a special purpose Web cam which will take photos inside the field and analyze the growth according to the height, colorization of leaves etc. So, based on this we can generate an estimate of percentage of healthy plants in a given crop field.

A vision-based row guidance method is presented to guide the robot platform driven along crops planted in row. And the offset and heading angle of the platform are calculated by detecting the guidance row in real time in order to guide and control the platform. Vision-based row guidance is to use camera to detect and identify crop plants and then to find accurate and stable navigation information from the binary image. The captured image are then processed by using image processing technique, the processed are then converted into voltage levels through MAX 232 level converter and given it to the microcontroller unit. In the microcontroller unit, c language coding is predefined, according to this coding the robot which connected to it was controlled. Robot which has several motors is activated by using the relays. Relays are nothing but electromagnetic switch which ON/OFF according to the control given by the microcontroller unit.

4. Result



Figure 2: Leaf of Grapes

This image of grape leaf is captured through the web cam connected to ARM 7 Hardware.



Figure 3: Hardware of ARM 7 & Result



With the help of web cam we took photo of grape leaf And then this image is detected by ARM 7 hardware and result is displayed on LCD with the help of programming. This system also detect temperature of atmosphere. And Result is displayed on LCD. Which can be helpful for maintaining the required temperature for particular plant

5. Conclusion

This paper gives the progress made towards achieving a future autonomous farming system. This system detecting the plant .The system also observes different environmental conditions such as temperature which human cannot measure accurately by open eyes, which will be helpful to maintain suitable temperature for plant. With the help of image processing technique we can differentiate between healthy and unhealthy plant and will take suitable preventive care.

References

- [1] Prof. Lokhande shrihari, Prof. Joshi S.G Dept. of E&TC VACE, Pune university, Ahmednagar, Maharashtra have given a two days national conference on "Robotic Agricultural Machine", published in IJIRSET volume 3, special issue, April 2014.
- [2] R. Pydipati, T.F. Burks and W.S. Lee, "Identification of citrus disease using color texture features and discriminant analysis", Computer and Electronics in Agriculture, Elsevier, Vol 52, Issue 2, pp. 49-59, 2009.
- [3] Santanu Phadikar and Jaya Sil, "Rice disease identification using pattern recognition techniques", Proceedings Of 11th International Conference On Computer And Information Technology, 25-27, 2008.
- [4] Shen Weizheng, Wu, Yachun, Chen Zhanliang and Wei Hongda, "Grading method of leaf spot disease based on image processing", Proceedings Of 2008 International

Conference On computer Science And Software Engineering, Volume 06,2008.

- [5] A.Meunkaewjinda, P.Kumsawat, K.Attakitmongcol and A.Srikaew, "Grape leaf disease detection from color imagery system using hybrid intelligent system", proceedings of ECTICON, IEEE, PP-513-516,2008.
- [6] Yan-Cheng Zhang, Han-Ping Mao and Bo Hu, Mingi Li, "Features selection of cotton diseases leaves images based On fuzzy features selection techniques", Internationa Conference on Wavelet Analysis and Pattern Recognition, Beijing, pp. 124-129, 2007.

