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Box Volume Measurement using Camera and ArUco Marker

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Abstract: *This paper presents a volume measurement system based on image processing. The suggested plan offers reasonable costs, good accuracy, and convenience of manpower. The extra specifications like item alignment during measurement and putting the objects at a specific Place in the measurement area. Instead of using a single cell phone for the measurement, two cameras will be used, each of which will be positioned on a different plane to increase precision. To speed up processing, the application will be created on an Android platform and only be available on mobile devices. For precise measurement, images will be taken from two distinct perspectives (one from a top view and the other from a side view). First, a calibration procedure tailored to the problem at hand was carried out, and after that, the Hough transform was used throughout the image processing stage. The proposed method gives a rough volume measurement for objects with random shape even though it was originally designed to assess the volume of box-type objects. The system will yield satisfactory results when tested with different external disturbances.*

Keywords: Volume, Measurement, Camera, Specification, Mobile device

REFERENCES

[1]. Tommaso Tocci , Lorenzo Capponi and Gianluca Rossi "ArUco marker-based displacement measurement technique: uncertainty analysis." Eng. Res. Express 3 (2021) 035032
[2]. Hasan ocak, Gurkan Kucukyilsiz, and, Suat Karakaya" Image processing based package volume measurement system using kinect sensor." Sigma J Eng Nat Sci, Vol. 40, No. 1, pp. 27-44, March, 2022
[3]. Huda M. Jawad1 & Tahseen A. Husain " Measuring Object Dimensions and its Distances Based on Image Processing Technique by Analysis the Image Using Sony Camera." Eurasian Journal of Science & Engineering Volume 3, Issue 2; December, 2017
[4]. R. Padilla, C. F. F. Costa Filho and M. G. F. Costa " Evaluation of Haar Cascade Classifiers Designed for Face Detection" International Scholarly and Scientific Research & Innovation 6(4) 2012
[5]. M. Naveenkumar, A. Vadivel"OpenCV for Computer Vision Application." (NCBDC'15), March 20, 2015
[6]. Dr. Pierre D. Boisrond" A Position Paper on Amazon Web Services (AWS) Simple Storage Service (S3) Buckets." ResearchGate August 2021
[7]. Ammar Anuar, Khairul Muzzammil Saipullah, Nurul Atiqah Ismail, Yewguan Soo "OpenCV Based Real-Time Video Processing Using Android Smartphone" , IJCTEE,