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<p>(51) International classification :G06K0009000000, G06Q0030060000, G06K0009460000, G07G0001000000, G06Q0010080000</p> <p>(86) International Application No :PCT// / Filing Date :01/01/1900</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)Dr. S.M Prabin , PSNA College of Engineering and Technology- Dindigul. Address of Applicant :Assistant Professor, Department of Computer science and Engineering PSNA College of Engineering and Technology- Dindigul. Tamilnadu, India. -----</p> <p>2)Mr.N.Selvaganesh , PSNA College of Engineering and Technology- Dindigul. 3)Mr.T.Selvakumar, PSNA College of Engineering and Technology, Dindigul 4)Mr.N.Rajesh Pandian, PSNA College of Engineering and Technology- Dindigul. 5)Mr.K.Suresh, PSNA College of Engineering and Technology – Dindigul. 6)Dr. Leema Nelson , Chitkara University Institute of Engineering and Technology - Punjab 7)Mrs.G.Deepa, Dr.Mahalingam College of Engineering and Technology- Pollachi. 8)Mr. Janarthanan.S Galgotias University, Greater Noida 9)Mr. Manu M R Ministry of Education, UAE 10)Mr. Sreeji. S Galgotias University, Greater Noida Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Dr. S.M Prabin , PSNA College of Engineering and Technology- Dindigul. Address of Applicant :Assistant Professor, Department of Computer science and Engineering PSNA College of Engineering and Technology- Dindigul. Tamilnadu, India. -----</p> <p>2)Mr.N.Selvaganesh , PSNA College of Engineering and Technology- Dindigul. Address of Applicant :Assistant Professor, Department of Computer science and Engineering PSNA College of Engineering and Technology- Dindigul. Tamilnadu, India. -----</p> <p>3)Mr.T.Selvakumar, PSNA College of Engineering and Technology, Dindigul Address of Applicant :Assistant Professor, Department of Computer science and Engineering PSNA College of Engineering and Technology- Dindigul. Tamilnadu, India -----</p> <p>4)Mr.N.Rajesh Pandian, PSNA College of Engineering and Technology- Dindigul. Address of Applicant :Assistant Professor, Department of Computer science and Engineering PSNA College of Engineering and Technology- Dindigul. Tamilnadu, India. -----</p> <p>5)Mr.K.Suresh, PSNA College of Engineering and Technology – Dindigul. Address of Applicant :Assistant Professor, Department of Computer science and Engineering PSNA College of Engineering and Technology – Dindigul. Tamilnadu, India. -----</p> <p>6)Dr. Leema Nelson , Chitkara University Institute of Engineering and Technology - Punjab Address of Applicant :Assistant Professor-Research Department of Computer science and Engineering Chitkara University Institute of Engineering and Technology –Punjab -----</p> <p>7)Mrs.G.Deepa, Dr.Mahalingam College of Engineering and Technology- Pollachi. Address of Applicant :Assistant Professor, Department of Computer science and Engineering Dr.Mahalingam College of Engineering and Technology- Pollachi, Tamilnadu, India. -----</p> <p>8)Mr. Janarthanan.S Galgotias University, Greater Noida Address of Applicant :Assistant Professor School of Computing Science and Engineering Plot No. 2, Yamuna Expy, Opposite, Buddha International Circuit, Sector 17A, Greater Noida, Uttar Pradesh 203201 -----</p> <p>9)Mr. Manu M R Ministry of Education, UAE Address of Applicant :Faculty, Ministry of Education, UAE. -----</p> <p>10)Mr. Sreeji. S Galgotias University, Greater Noida Address of Applicant :Assistant Professor School of Computing Science and Engineering, Plot No. 2, Yamuna Expy, Opposite, Buddha International Circuit, Sector 17A, Greater Noida, Uttar Pradesh 203201 -----</p>
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(57) Abstract :
At a grocery store, product supply management is critical to its employee’s ability to operate productively. To recognize when an item needs to be updated, in terms of design/replenishment, real-time data on item availability is required. As a result, the item is consistently accessible on the rack when the client requires it. This analysis focuses on product display management at a grocery store to determine which items and how many of the items are present on the shelves. Deep Learning (DL) is used to determine and identify every item and the store's supervisor compares all identified items with a preconfigured item planning that was done by him earlier. The approach is made in II-phases. Product detection, followed by product recognition. For product detection, we have used YOLOV5, and for product recognition, we have used both the shape and size features along with the color feature to reduce the false product detection. Experimental results were carried out using the SKU-110K data set. The analyses show that the proposed approach has improved accuracy, precision, and recall. For product recognition, the color feature is also included, which helps in reducing the error date. It is helpful to distinguish between similar-looking logo which has different colors. We can achieve the accuracy percentage for feature level as 75 and score level as 81.

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