(12) PATENT APPLICATION PUBLICATION   (21) Application No.20214100139 A

(19) INDIA

(22) Date of filing of Application :12/01/2021   (43) Publication Date : 15/01/2021

(54) Title of the invention : VLSI BASED IMPLEMENTATION OF ROBOTIC ARM CONTROL WITH LEAP MOTION

(51) International classification	:B25J 9/16	(71)**Name of Applicant :**
		  1)**Dr. SURESH KUMAR PITTALA**
		    Address of Applicant :Associate Professor Department of Electronics and Communication Engineering R.V.R. & J.C. College of Engineering (Autonomous), Chandramoulipuram, Chowdavaram, Guntur-522019, Andhra Pradesh, India. Andhra Pradesh India
		  2)**CHINNA NARASIMHULU C**
		  3)**Dr. MOHAMMED KHAJA NIZAMUDDIN**
		  4)**Dr. ABDULLAH AKBAR**
		  5)**Dr. MAHABOOB BASHA SHAIK**
		  6)**Dr. SYED ABDUL SATTAR**
		  7)**TELUGU MADDILETI**
		  8)**Dr. AMAIRULLAH KHAN LODHI**
		  9)**Dr. ARUN SINGH CHOUHAN**
		  10)**MOHAMMED ABDUL RAZZAK**

(31) Priority Document No	:NA	
(32) Priority Date	:NA	
(33) Name of priority country	:NA	
(86) International Application No Filing Date	:NA :NA	
(87) International Publication No	: NA	

(61) Patent of Addition to Application Number
     Filing Date
	:NA
	:NA
		(72)**Name of Inventor :**
		  1)**Dr. SURESH KUMAR PITTALA**
		  2)**CHINNA NARASIMHULU C**
		  3)**Dr. MOHAMMED KHAJA NIZAMUDDIN**
		  4)**Dr. ABDULLAH AKBAR**
		  5)**Dr. MAHABOOB BASHA SHAIK**
		  6)**Dr. SYED ABDUL SATTAR**
		  7)**TELUGU MADDILETI**
		  8)**Dr. AMAIRULLAH KHAN LODHI**
		  9)**Dr. ARUN SINGH CHOUHAN**
		  10)**MOHAMMED ABDUL RAZZAK**

(62) Divisional to Application Number Filing Date	:NA :NA	

(57) Abstract :

The present invention is adapting a technology to track the movement of the body especially the movement of the hands and fingers are likely to grow in the field of research. The objective of this research was to design and construction of the system for control robot arm using VLSI Designbased LEAP Motion Controller. This approach has adapted the principle of LEAP Motion Controller and servo motor control. In this current pandemic situation, this type of invention will be helpful for the enhanced touchless technology and also supportive for physically handicapped persons.This system is designed using ATMega 328 for robotic arm control and leap motion thereby implemented using VLSI technology.This invention mainly focuses to provide a relation between human and machine by the interaction of human hand and robotic arm. The idea converges towards the conception of a robotic arm identical to human hand with gesture that is more precise. The arm consists of five Degree of Freedom (DOF) and an end effector, which allows the interaction with the real world.The exploitation of the leap motion results in explicitly acquiring for hand gesture and provides set of points. This innovation enables more perceptive leap motion control with an end effector. The results showed the reduction in the complexity approach and gain in control accuracy.

No. of Pages : 6 No. of Claims : 8