DESIGN AND FABRICATION OF HUMANOID ROBOT WITH 21 DOF (*GNANO-369*)

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ABSTRACT

Controlling the direction of balance for a two legged walking robot typically means mimicking the human form and its walking locomotion. Even though the human locomotion approach is taken as the ultimate reference, gaits can be developed using less sophisticated methods The paper describe the design and build a humanoid that can duplicate the complexities of human motion, decision making, be able to help people and even accomplish tasks that cannot be carried out by humans. The architectural constraints on our working and living environments are based on the form and dimensions of the human body considering the design of stairs, cupboards and chairs; the dimensions of doorways, corridors and benches. A robot that lives and works with humans in an unmodified environment must have a form that can function with everyday objects. The only form that is guaranteed to work in all cases is the form of humanoid. The robot itself is currently under construction, however the process of designing the robot has revealed much about the considerations for creating a robot with humanoid shape. The mechanical design is a complete CAD solids model, with specific motors and transmission systems selected. The electronic design of a distributed control system is also complete, along with the electronics for power and sensor processing.

Keywords: *Humanoid robot, Design, Fabrication, Servo motors, control panel, Bipedal walking.*