

# Team Description Paper: HuroEvolution<sup>AD</sup> Humanoid Robot for RoboCup 2011 Humanoid League

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## Specification

ROBOT Name	HuroEvolution <sup>AD</sup>		
Height of Robot	160 cm		
Weight of Robot	60 kg		
Walking Speed	Maximum: 5 cm/s		
Type of motor	6xAX-12 (Servo motor)	DC Motors ( $\phi$ 52 mm)	DC Motors ( $\phi$ 42 mm)
Torque	12.0kg/cm~ 16.5kg/cm	100 kg/cm (Rated Torque)	30 kg/cm (Rated Torque)
Speed	0.196 sec/60°	45 rpm	13.5 rpm
Degree of freedom	21 With Leg: 6 x 2 (DC motors) Arm: 3 x 2 (DC motors) Waist: 1 x 1 (DC motor) Head: 2 (AX-12 RC Servos)		
Computing unit	PICO820 (Single Board Computer) Processor: Intel® ATOM™ processor Z530 Operating System: Windows XP		
Motion Controller	XScale Embedded System		
Camera	Webcam(Philips SPC900NC) Frame rate: 90fps Total Picture Element 1024 (H) x 768 (V)		
Batteries	24 V		
Accelerometer	ADXL345		