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(51) International classification	:A61B0005000000, A61B0008080000, A61B0005024000, G16H0050200000, A61B0008060000	(71)Name of Applicant : 1)Chitkara University Address of Applicant :Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India. Rajpura Punjab India 2)Chitkara Innovation Incubator Foundation
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(57) Abstract :

A uterine activity monitoring system for detecting preterm labor, comprises of a wearable pillow 101 with multiple silicone bags 102 and distributed across the wearable pillow 101 with motorized hinge joints 103 to assist in customized movement of the silicon bags 102, a uterine activity monitoring sensor 104 mounted on a foldable slider 105 to maintain the position in front of the belly, an AI-enabled camera 106 detects the position of the uterine activity monitoring sensor 104, a Doppler ultrasound sensor 109 monitors the unborn baby's heartbeat and physical activities, a 3D imaging sensor 110 create real-time, three-dimensional images and maps of uterine contractions during labor, multiple heating panels 201 in conjunction with piezoelectric units 202 provides a warm massage, a projector 111 projects assistive visuals to the woman, an environmental detection module monitors the air quality, temperature, and noise levels and in conjunction with physiological data of the woman.

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