KO to WII and PS3? Project Natal by Microsoft
The Controller is your Own Body

June 21, 2009 - 14:02

Project Natal is the code name for a "controller-free gaming and entertainment experience" by Microsoft for the Xbox 360 video game platform. Based on an add-on peripheral for the Xbox 360 console, Project Natal enables users to control and interact with the Xbox 360 without the need to touch a game controller, in a natural user interface using gestures, spoken commands, or presented objects and images. The project is aimed at broadening the Xbox 360's audience beyond its typically hardcore base. Project Natal was first announced on 1 June at the 2009 Electronic Entertainment Expo. Microsoft said that over 1000 development kits began shipping to game developers that same day.

Though Microsoft has not officially announced any price or release date projections for Project Natal, it is expected to be released in late 2010. Project Natal will reportedly also serve as the basis for a "new" Xbox 360.

Sensor Device

An approximately nine-inch (23 cm) wide horizontal bar connected to a small circular base with a ball joint pivot, the Project Natal sensor is designed to be positioned lengthwise above or below the video display. The device features an "RGB camera, depth sensor, multi-array microphone, and custom processor running proprietary software", which provides full-body 3D motion capture, facial recognition, and voice recognition capabilities. The Project Natal sensor's microphone array enables the Xbox 360 to conduct acoustic source localization and ambient noise suppression, allowing for things such as headset-free party chat over Xbox Live.

The depth sensor consists of an infrared projector combined with a monochrome CMOS sensor, and allows the Project Natal sensor to see in 3D under any ambient light conditions. The active depth-sensing range of the depth sensor is adjustable, with the Project Natal software capable of automatically calibrating the sensor based on the gameplay and environment conditions, such as the presence of couches.

Project Natal is reportedly based on software technology developed internally by Microsoft and hardware intellectual property acquired from time-of-flight camera developer 3DV Systems. Before agreeing to sell all its assets in March 2009, 3DV had been preparing its own depth-sensing webcam controller, known as the ZCam.

Described by Microsoft personnel as the primary innovation of Project Natal, the software technology enables advanced gesture recognition, facial recognition, and voice recognition. The skeletal mapping technology shown at E3 2009 was capable of simultaneously tracking up to four users for motion analysis, with a feature extraction of 48 interest points on a human body at a frame rate of 30 hertz. Depending on the person's distance from the sensor, Project Natal is capable of tracking models that can identify individual fingers.

More Information at www.xbox.com. Image and Videos Courtesy of Microsoft Corporation.