

Gesture Controlled Glove for a Military Team's Communication

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Abstract

Effective and efficient communication through silence is essential for the success of special military operations and the protection of the troops. Soldiers must infiltrate hostile territory in small teams, such as four or eight-man teams, for a variety of operations, including reconnaissance: Long Range Reconnaissance Patrols, sniper operations, hostage rescue, and small team ambush missions and Fight in Build-up Areas. Since it directly affects the success of the mission and the lives of the men engaged, maintaining silence becomes crucial in these circumstances. This paper presents a handheld Set that works with an Arduino based technology for military team's silent communication. The proposed glove leverages advanced sensor technology and gesture recognition algorithms to enable intuitive and hands-free communication for military personnel. The product contains an Arduino board, a transceiver (HC 05 Bluetooth Module), flex sensors, handsfree and gloves. By capturing and interpreting hand movements and gestures, the glove translates them into predefined commands allowing for seamless and discreet communication without the need for verbal cues or traditional devices and traditional methods such as Famous military hand signals, which cannot be used effectively in dense jungles where soldiers may not be visible to one another. The system integrates wireless communication modules to transmit the interpreted signals to team members, ensuring real-time, secure, and reliable communication and to avoid detection by the enemy.

Keywords: *Flex sensors, Silent communication, Gestures*