# MindTalk

Ali, Mir Muqsit (School: Aga Khan Higher Secondary School)

A report from the Christopher & Dana Reeve Foundation reveals that 1.9 percent of the global population suffers from diseases that may render people para lyzed. These diseases range from partial to complete paralysis. Most patients lose the ability to voluntarily move most muscles, and more often than not this means that they consequently lose the ability to communicate as well. However, among all organs of the body, the most crucial one that all paralyzed patients have functioning is their brain, and consequently many if not all of them can still voluntarily blink. MindTalk project uses biosensors from the Neurosky Brainwave Mobile to pick up Electroencephalography (EEG) waves from the brain along with the muscle movement produced by the blinking of the eye to enable patients to input data into the MindTalk application. The application uses Java Algorithms to comprehend the mental mediation level (calmness and clarity) of the patient at the moment to determine their mental state - mood. It further uses intelligent technology to generate a list of words from the English vocabulary that the patient can scroll through by focusing and relaxing, and select the words by blinking. Following the same pattern, as the patient keeps blinking and choosing subsequent words the result appears in the form of coherent sentences. These sentences can be played out or displayed on a screen. This technology is significantly cheaper than the currently used communication systems for the paralyzed; costs that a person making minimum wage cannot even imagine. The application along with the headset despite costing less than 1 percent to that of the available systems, still provides comparable speed and efficiency

**Awards Won:**