Blind Swimmer Sensory Device 2.0

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Beginner blind swimmers don't know when to tumble turn and lost in direction during swimming requiring them a coach guidance. Thus, this project aims for the ability for blind swimmers to self-practice and can even enhance coaching session. Microcontrollers are used in this project to read data, produce output (data and reaction) and control components. By comparing data received from three ultrasonic sensors installed linearly at the end of the pool, we can produce the output (reaction on swimmer unit) required for swimmer. When the data received by any ultrasonic sensors (except middle) is the strongest, the opposite position of vibration motor on swimmer unit (placed on swimmer's head) will be triggered. When the middle sensor data is less than 2-meters, continuous vibrations on middle vibration motor will occur. Buzzers are activated when no signal received from swimmer unit. Data received and swimmer status is also shown on monitor. Swimmers are able to maintain in the middle of lane as they are alerted to swim accordingly where the vibration is occurred. They're also able to tumble turn at right time when approaching wall as appropriate continuous vibrations occurred. Coach can also monitor swimmer's progress during and after event. Public can be alerted if the swimmer is drowned as buzzers are activated. This project showed that blind swimmers can be guided using touch sense. Self-practice can be done using our methods. Our BLIMMER 2.0 can also create a more quality sporting event and a better safety for the swimmers itself.

Awards Won: