Abstract

The educational tool for robotics was created to provide children with a fun educational way to learn about the sensors contained within the common smart phone. Sensors identified as, but not limited to: the camera, microphone, proximity sensor, ambient light sensor, front and rear speakers and hardware buttons (sleep/wake button, sleep button etc). The application was created as a java application using JavaFX. A GUI containing 2D examples of a smartphone was created; aiming to expand the knowledge of its users through illustrative and descriptive text, catered for children at the threshold of adolescence. An interactive quiz aimed to test the user’s knowledge was created to measure knowledge progression. An Arduino was used to provide physical examples of the sensors identified, implemented using the JArduino library for java through the IntelliJ integrated development environment (IDE) A single-person scrum methodology was followed, with the use of Test Driven Development. Presented to the participants of the universities Robotics club in the hope it would expand their knowledge and provide valuable feedback. An understanding of application development, particularly in javaFX, hardware and software integration and knowledge on the scrum methodology were gained.

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