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Towards an internet of things tangible program environment supported by indigenous African artefacts

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Abstract

According to its advocates, the Internet of Things holds great promise. Great strides have been made to address its security and standardise communication protocols for data exchange in this potentially unlimited network of connected things. However, a dimension that has not yet been adequately addressed is the human component and specifically how the individual selects personal preferences and expresses rules that direct the Internet of Things' behaviour to meet the individual's needs. We propose an approach that requires neither computer literacy nor fine motor skills as are often associated with computer-based configuration mechanisms. By combining certain Gestalt principles of human perception with handcrafted artefacts, we show how a tangible programming environment could be realised with which the Internet of Things can be configured to suit the individual