

MPEG-U based Advanced User Interaction Interface System Using Hand Posture Recognition

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Abstract— Hand posture recognition is an important technique to enable a natural and familiar interface in HCI (human computer interaction) field. In this paper, we introduce a hand posture recognition method by using a depth camera. Moreover, the hand posture recognition method is incorporated with MPEG-U based advanced user interaction (AUI) interface system, which can provide a natural interface on a variety of devices. The proposed method initially detects positions and lengths of all fingers opened and then it recognizes hand posture from pose of one or two hands and the number of fingers folded when user takes a gesture representing a pattern of AUI data format specified in the MPEG-U part 2. The AUI interface system represents user's hand posture as the compliant MPEG-U schema structure. Experimental results show performance of the hand posture recognition and it is verified that the AUI interface system is compatible with the MPEG-U standard.

Keyword— MPEG-U, Hand and finger recognition, Advanced User Interaction, User interface



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