

TITLE :	Gesture Recognition and Prediction for Smart Photo Album	YEAR
		2013
KEY CONTRIBUTION		THEORY
Develop a photo album application using HCI features helping users to view and edit their photos on the easier way		To solve a major problem of interaction with the same applications which were their dependence on using devices physically and touch them directly
DEPENDENT VARIABLES		
<ul style="list-style-type: none">• A posture: static finger configuration without hand• A gesture: dynamic hand movement, with or without finger motion• Sensor Base: that number of sensors are attached to the user’s body in order to detect movement, rotation and angles• - Image Base: which is not using sensors benefits a video camera source and an image processing engine to detect body and track movements.• a number of cameras, speed, latency, computer vision and image understanding, 2D or 3D representation		
INDEPENDENT (AND HYPOTHESES)		
<ul style="list-style-type: none">• uses image processing in order to detect and position user movements and track user’s skeleton in the skeleton engine• Kinect is using an RGB camera [14] and a depth infrared sensor combination [8]to provide 3D information about objects in a scene• powerful monochrome CMOS chip to capture 3 dimensions in low light condition• a Kinect device is to produce a depth map out of a scene		
METHODS		ANALYSIS
<ul style="list-style-type: none">• combination of skeletal detection and image processing• prediction engine by applying Markov algorithm with finite state machine and 5 states transition matrix		<ul style="list-style-type: none">• a fast response system while it benefit processing of the raw RGB frame• two processes which are finit number of states and random function for each of the states
FINDINGS		

- Two tables show a different sequence to see how the prediction engine will give out the output which is the predicted gesture. First sequence predicted “Previous” and the second sequence predicted “Rotate”.
- The occurrence probability of each state can increase or decrease by change of recognized gesture and the application will study user behavior through this way.
- when number of experiments using this system increases the accuracy of prediction is increasing due to low change in probability of each state
- The coverage ratio is decreasing with increase the number of experiments because the test set that do not have corresponding states in the higher order Markov model; thus, reducing their coverage

FUTURE RECOMMENDATION/GAP	R E M A R K S	<ul style="list-style-type: none"> • How gesture used in the system is quite vague (not mention how it will implemented) • The paper just reports on the gesture work and shows prediction engine results.
No future recommendation stated		