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Abstract
As the technology is getting more advanced each day, the interaction methods of human and computers interacting have been valuated heavily by time; therefore the human-machine interface is more important than never. Especially when no extra communication equipments are required, to interact with machines only by human languages and body movements have become the most popular research topic in these days. Currently touch panels are one of the popular interaction methods between human and machines, but the problem is that touch panels are usually only working as guidance function, label choosing system and handwriting recognitions. But the cost of a touch panel screen increases as its size goes; therefore, to develop a new solution to make the actual price stable not increasing alone with the screen sizes has become the target of our research goal.
Our research tem uses the rear projection method of the projector to put the image on the glass table and record the image by a video camera. When the user’s finger touches the image on the glass, we can detect and trace the user’s finger by prior process, hand area and finger detection. After calculating all information, we can find out the object of the image on the glass which user is selected to reach the interaction effect. And we can record multi moving objects to reach the functions of dragging, rotating and re-scaling to make this system more practical.
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