Real-Time Face Warping

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Introduction

In this project, we integrate image warping and control point detection together, which offers users fun experience and directly interact with computers. To complement the rigid and inflexible parts in imagewarping, we construct a real time user-friendly expression warping system. Users are provided several ways to experience our system, you can choose your own way for this fantastic scientific trip!

System Design

Our system is implemented on board and works with a camera capture the motion of the control points. We input four original images for users to choose in order to keep user-friendly. We detect the position of makers (we set them to be yellow) and get their coordinates. Then we transfer these data into warping function and using triangular warping algorithm smoothly realize different expression transform.

Challenge and Future

In our project, the most challenging part is to speed up the warping procedure and efficiently connect the detection to warping. We successfully reduce the processing time from 20s down to less than 1s. Before publishing, there are something that we need to modify, such as further improve the processing speed, add more functions at the user side and so on. The final goal is to create a robust system with diverse functions and more friendly user interface.