

ABSTRACT

Technology will continue to develop over time, therefore people must be able to adapt to this. One of them is a computer, not many people can use the tool. This leads to a lack of society in knowledge of technology, therefore Human Computer Interaction (HCI) is inseparable from computers. HCI a science that studies relationships to make it easier for humans to use computers. One of the communication technologies that can interact directly is virtual. So to overcome this problem, efforts are made to interact with computers so that the public can understand it.

In this final project, a virtual build based on image processing has been designed using the python programming language. This design will later interact between humans and the computer directly, using a camera or webcam. To do this, a driving object and color are needed as the marking medium. To detect colors through a webcam or camera captured in real-time.

In this final project, cursor click testing has been carried out with indoor and outdoor conditions using red, green, blue, yellow, and pink colors has a 100% accuracy rate with the best distance between laptop cameras or smartphones with image color is 25 cm, and drag cursor testing with the same image condition and color has an accuracy rate of 85%.

Keywords: : *Virtual, webcam, image processing*