List of Tables

1 Background and Literature Review

1.1 Survey of online methods for changing and matching skin colour in Photoshop

2 Methods

We tested progressive iterations of the algorithm on a set of hand images with varying skintones. The images are as follows:

We iterated from simple to more complex algorithms, at each step testing the algorithm on the hand images and evaluating the results. For each test, we call the recolor program to transform the image of one hand to have the skintone of the hand in another image. We perform the transformation, for each iteration of the algorithm, on all possible combinations of our test images, paying particular attention to the extreme cases as well as cases that start with a midtoned hand (as this is the most likely use case for applications that change a model's hand to match a range of skintones). We evaluate the resulting images subjectively, based on whether the processed hand looks believably like a hand naturally of that skintone, and note any flaws that we attempt to correct with the next iteration of the algorithm.

Below we summarize the results of each algorithm and our evaluation of the results.

2.1 Simple brightness addition / subtraction

See Appendix for full results.

2.2 Proportional adjustment relative to average color

See Appendix for full results.

Appendix

Table 1: Test results of simple addition / subtraction brightening function.

No.	Original	Target	Results
1.1