

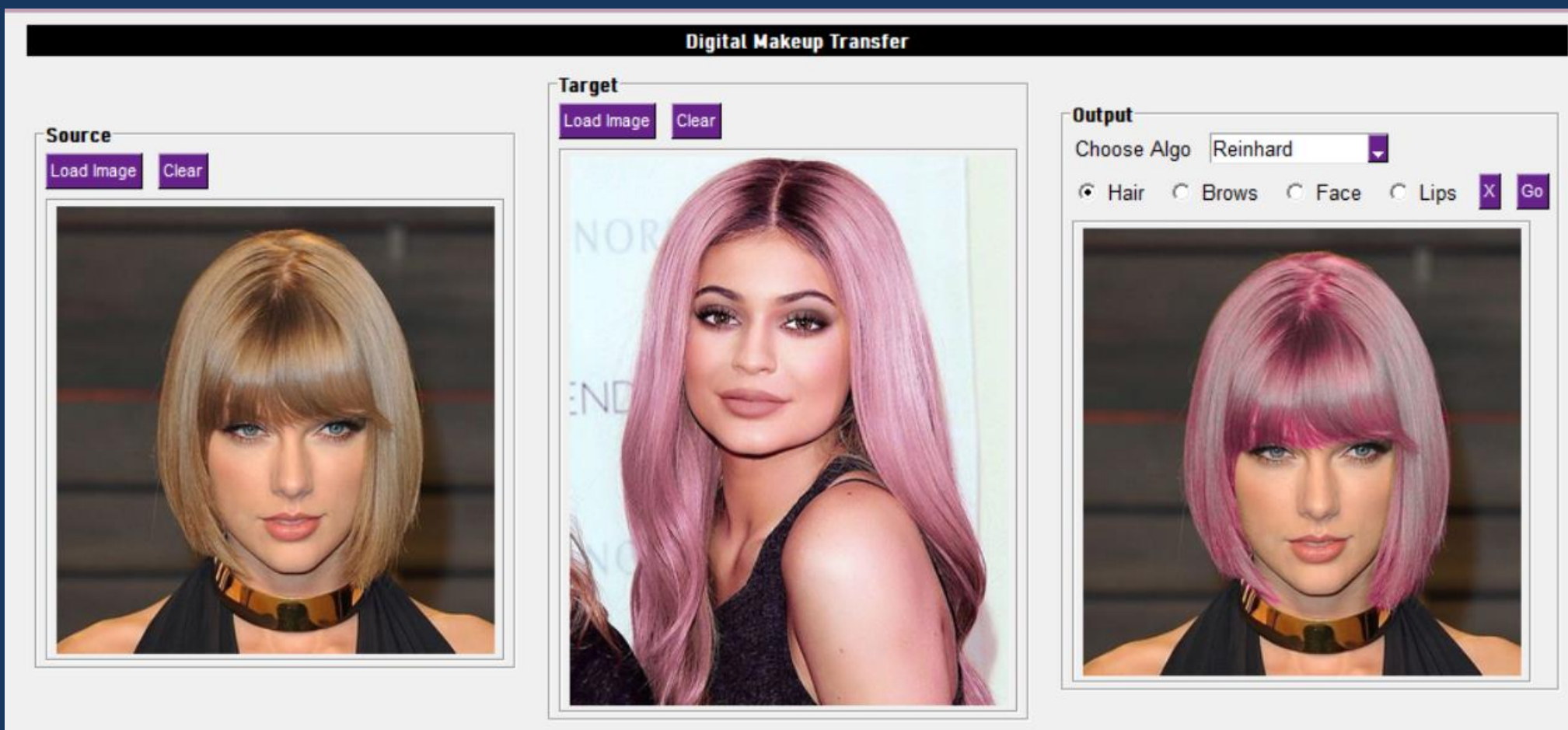
# Digital Makeup Transfer

## Using Machine Learning Algorithms

Student: Joey Lim Soo Yee

Supervisor: Associate Professor He Ying

### Makeup Transfer GUI



### Functionalities

#### Choice of Algorithm

- Reinhard Colour Transfer Algorithm
- N-dimensional PDF Transfer Algorithm

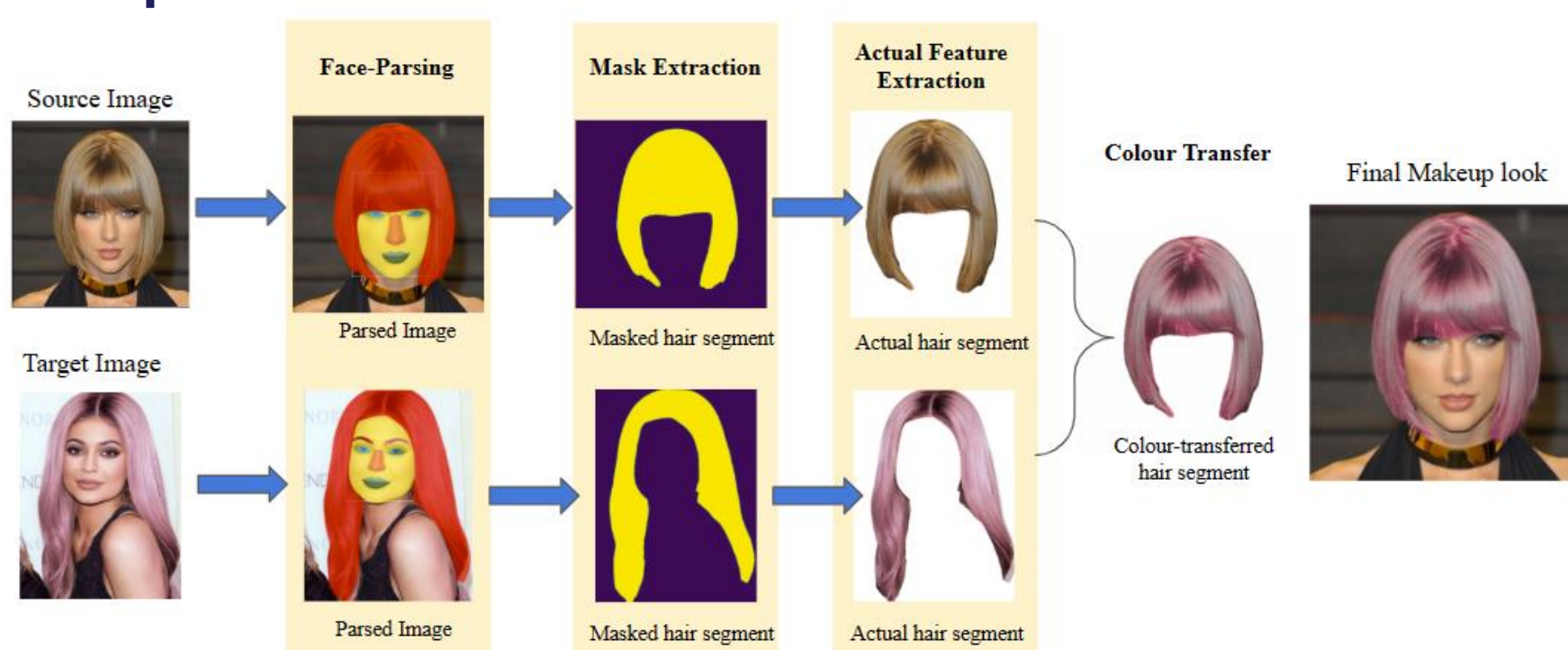
#### Choice of Transfer

- Hair
- Face
- Brows
- Lips

## Project Objective

Posting self-portraits have become increasingly popular on social media platforms, leading to a rise in demand for photo-editing applications as a way to beautify their self-portraits. However, current applications available for photo editing are designed solely for raster images, which can result in a loss in image quality when resized. This project presents the design and implementation of a digital makeup transfer algorithm using machine learning algorithms which will allow users to apply makeup to their portrait images digitally. This project aims to develop a makeup transfer algorithm that edits vector graphics such that image quality is maintained. Different colour transfer methods and facial segmentation models were also examined and further discussed.

## Makeup Transfer Process



## Makeup Transfer Sample Results



Reinhard  
Algorithm

N-dimensional  
PDF Transfer