

ECE1779 Assignment 3 AWS LAMBDA

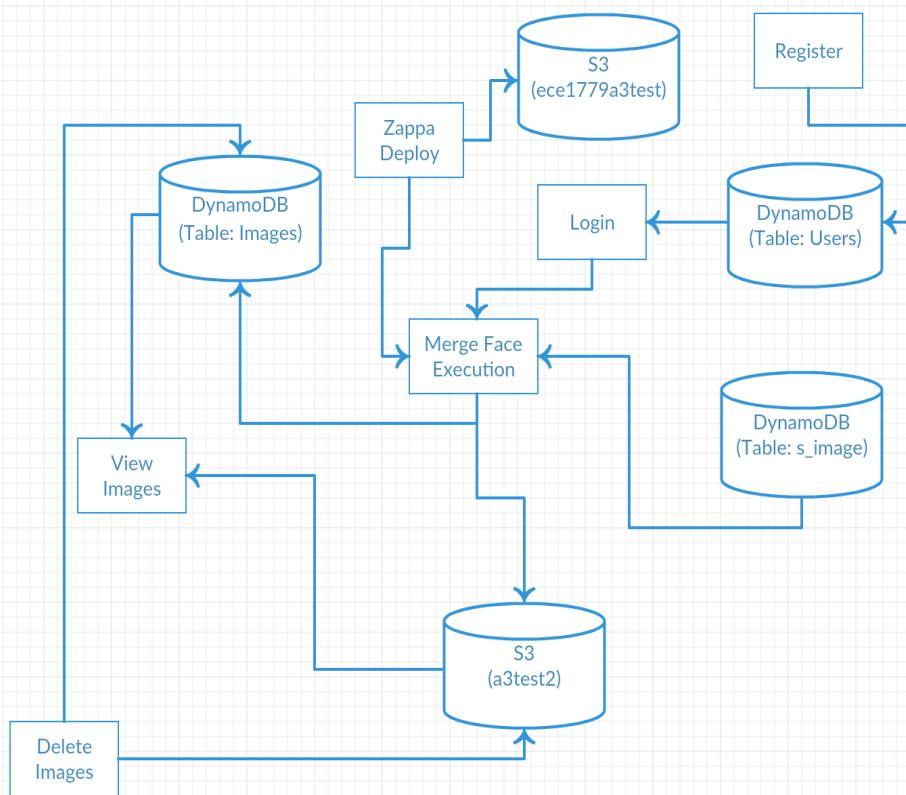
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I. General Description of Application

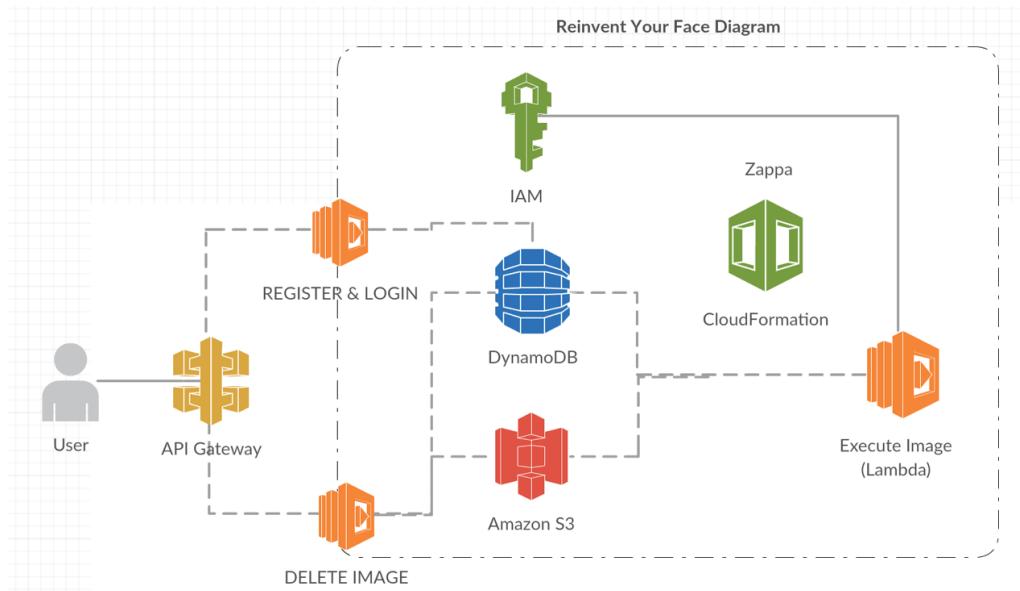
Nowadays, many people do plastic surgery to modify their original look. They would always raise the requirement such as merging super star A's eyes and super star B's nose in their own face. Our website provides them an opportunity of to upload their own images and see the effect of combining different facial features of different people in their own face.

II. Software Architecture



Our Application uses DynamoDB and S3 to store all data. For DynamoDB, table Users is used to store information get from the register process. Login process read information from table Users to authenticate. Table s_image stores the images that our website provides to users for changing faces with. Table Images store the image information that generated by different users.

For S3, all images generated by different users and the data file are all stored in the bucket a3test2. Zappa deploy files are stored in ece1779a3test bucket. Users can view and delete the image they already generated, this would change both DynamoDB Images table and images in bucket a3test2.



Dynamo DB Tables

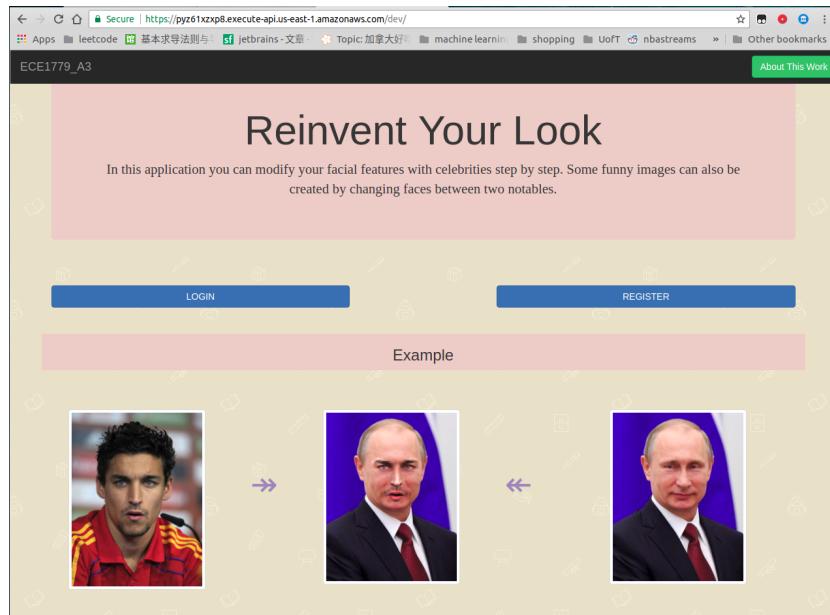
	Name	Status	Partition key	Sort key
●	Images	Active	username (String)	image (String)
●	s_image	Active	id (String)	pic (String)
●	Users	Active	username (String)	password (String)

III. User Manual

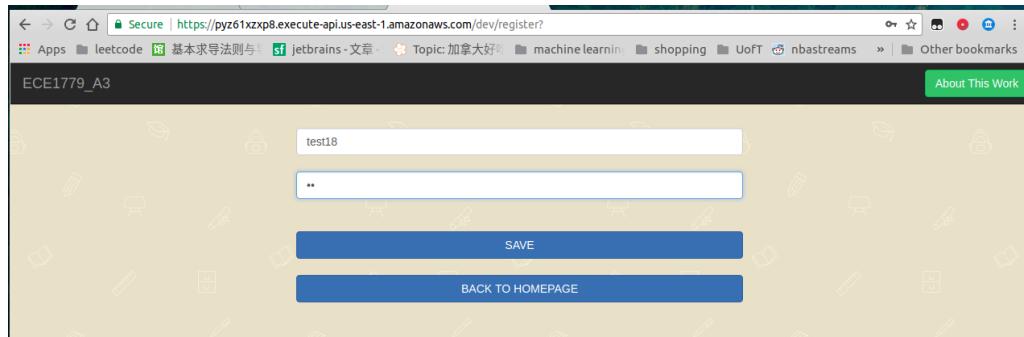
Our website URL:

<https://pyz61zxwp8.execute-api.us-east-1.amazonaws.com/dev/>

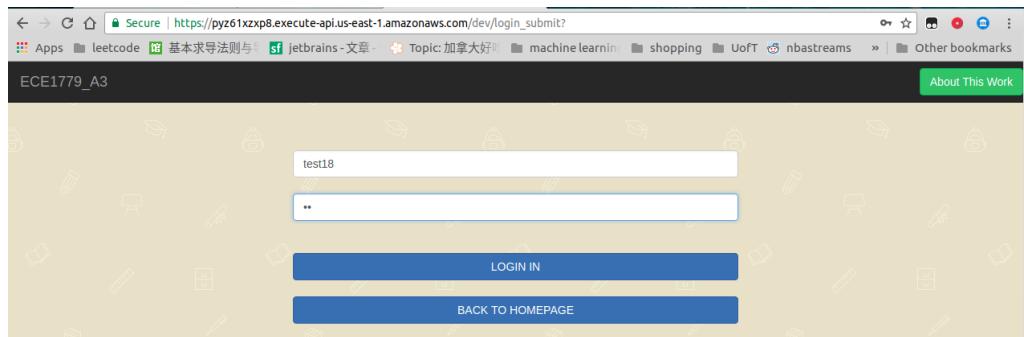
Our FrontPage is as follows:



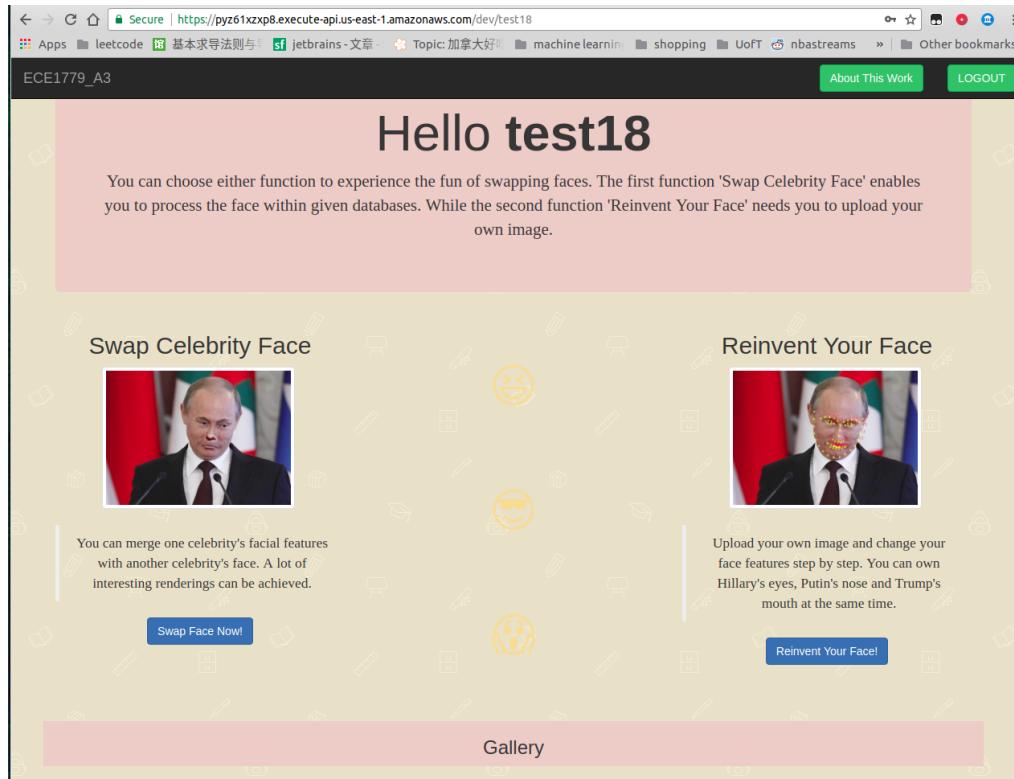
New users can register their own account by clicking REGISTER button and go into register page. Users need to enter in their username and password and press Save button.



It would go back to the front page automatically then user can press Login button. Enter login page and enter the username and password just registered.



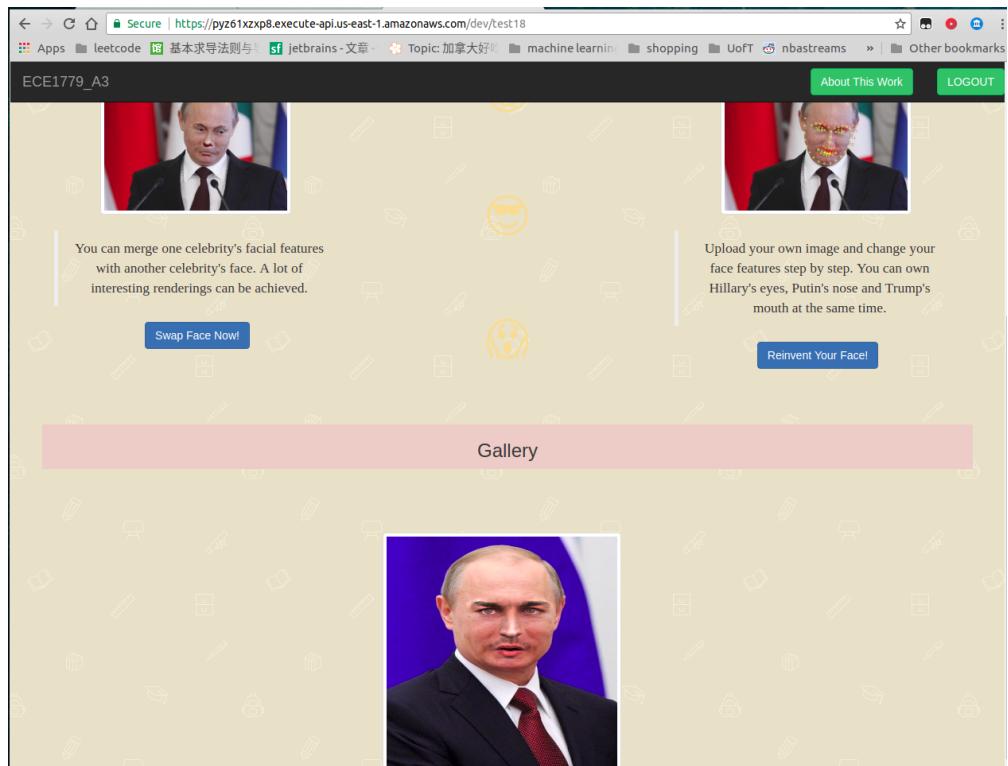
Successfully login would lead user enter their own homepage as follows.



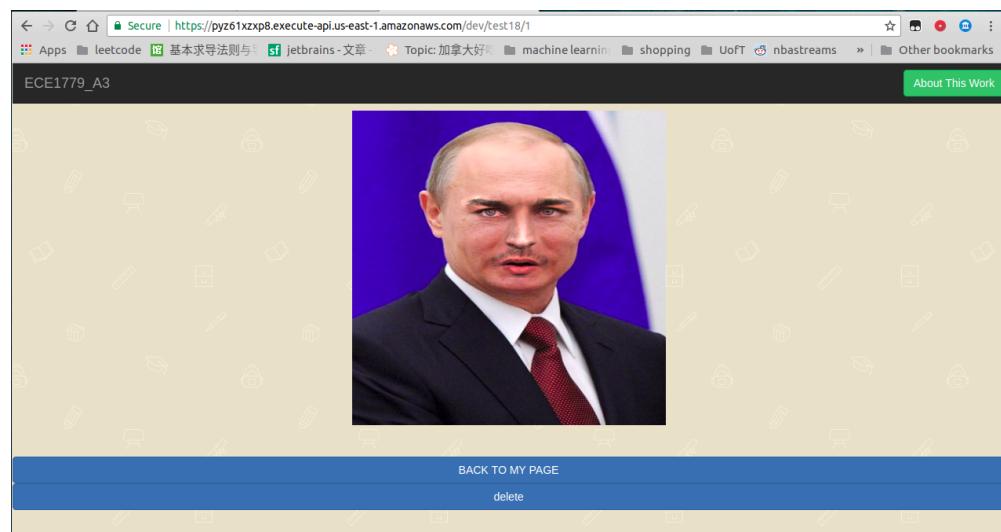
The left part Swap Face Now provides the function of swapping two given faces totally. The given images are all stored in S3. This part acts as an example for the right part function Reinvent Your Face.



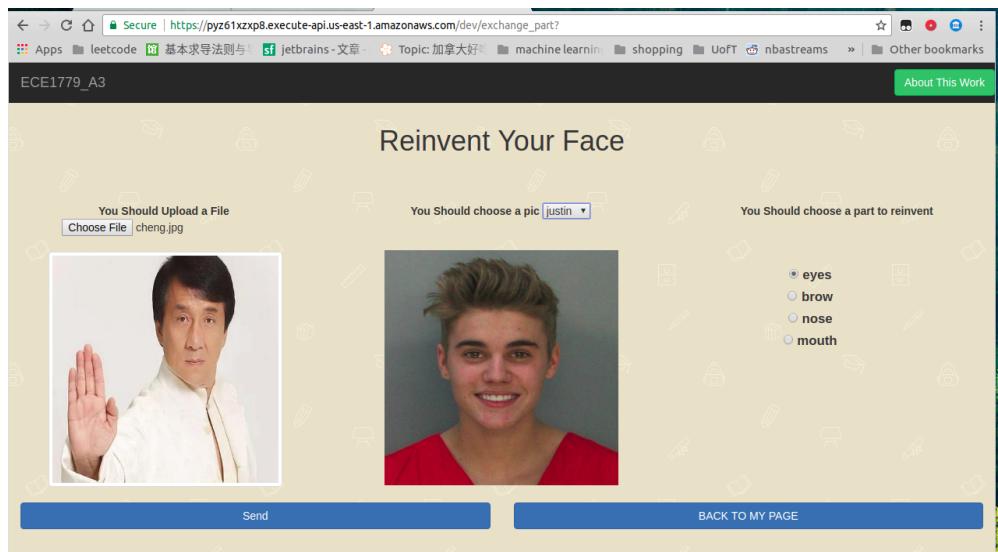
After click Send Button, it would go back to user's own homepage automatically and the generated image is listed in Gallery.



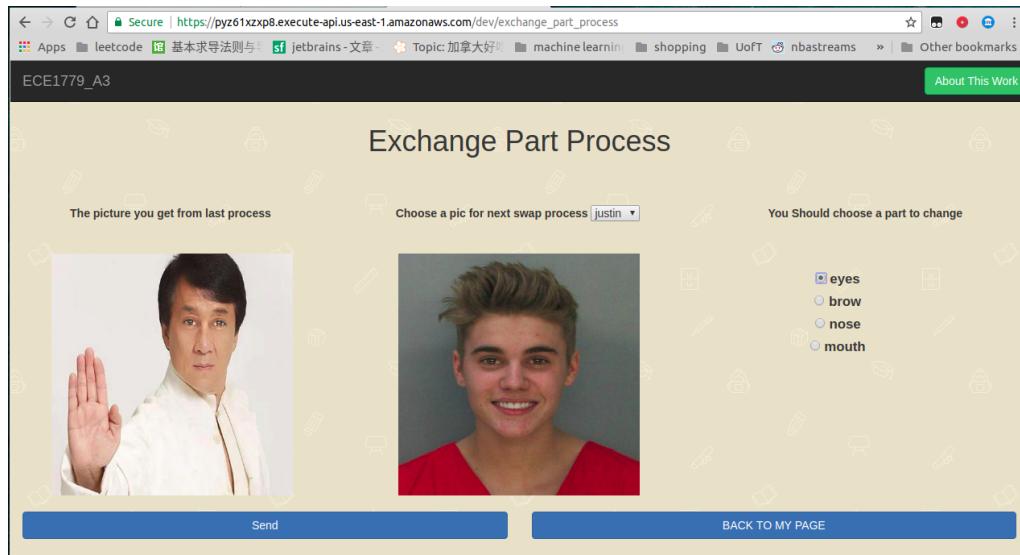
Users can click the image in Gallery to see the full size original image.



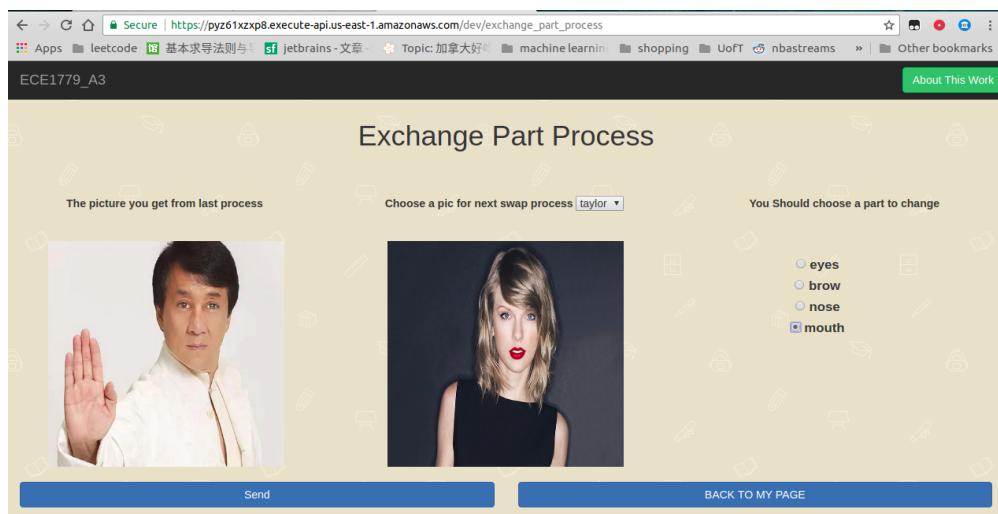
The right function Reinvent Your Face need user to upload their own image. Taking Jackie Chan as an example. User can modify their own chosen facial feature with one of the given super star we provided. In this case we choose Justin Bieber. We change their eyes.



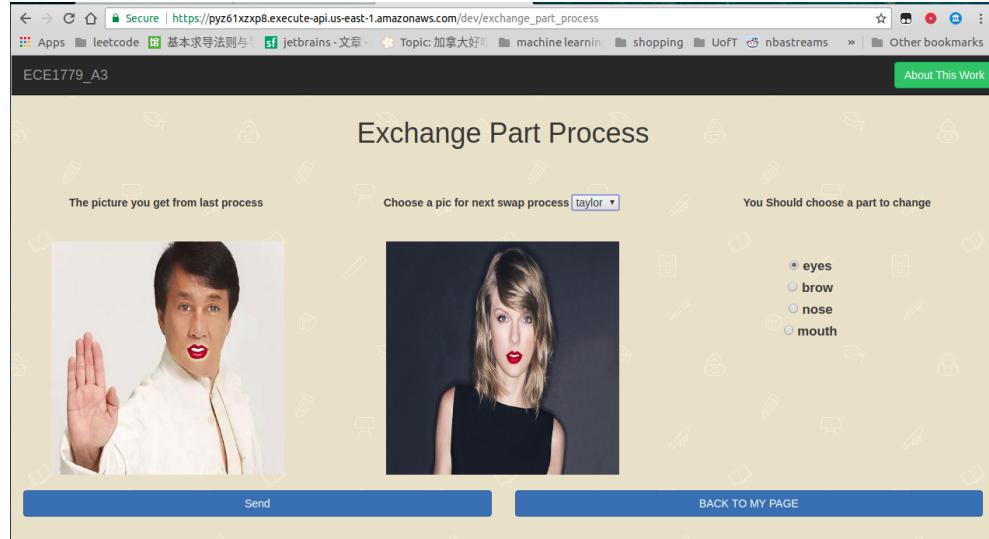
The result is given as follows, the image got from last step is presented in the left part.



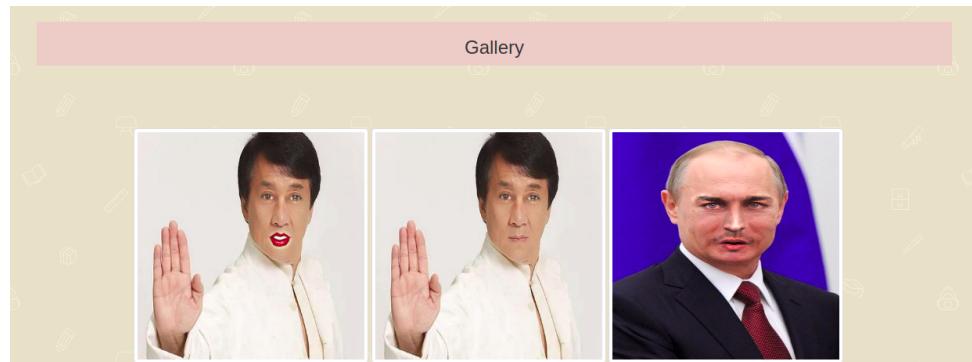
We can then choose for the next facial feature we want to change of Jackie Chen. In following case, we change Jackie Chen's mouth with Taylor Swift.



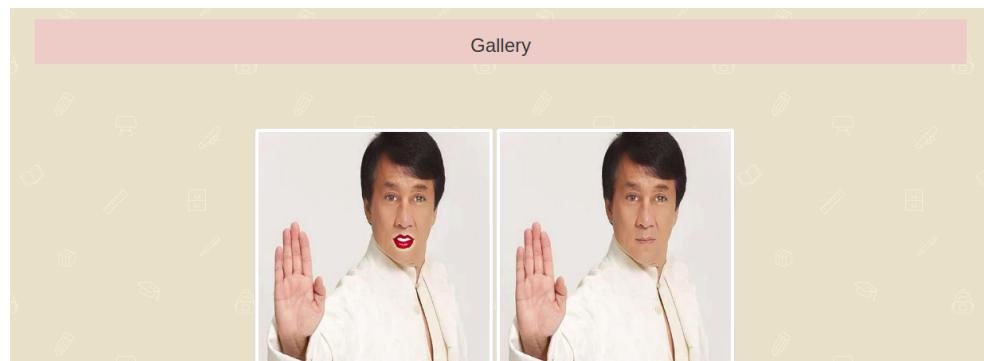
The output is as follows. By now Jackie Chen owns the eyes of Justin Bieber and mouth of Taylor Swift.



When users go back to their own home page they can see the images that they have already created.



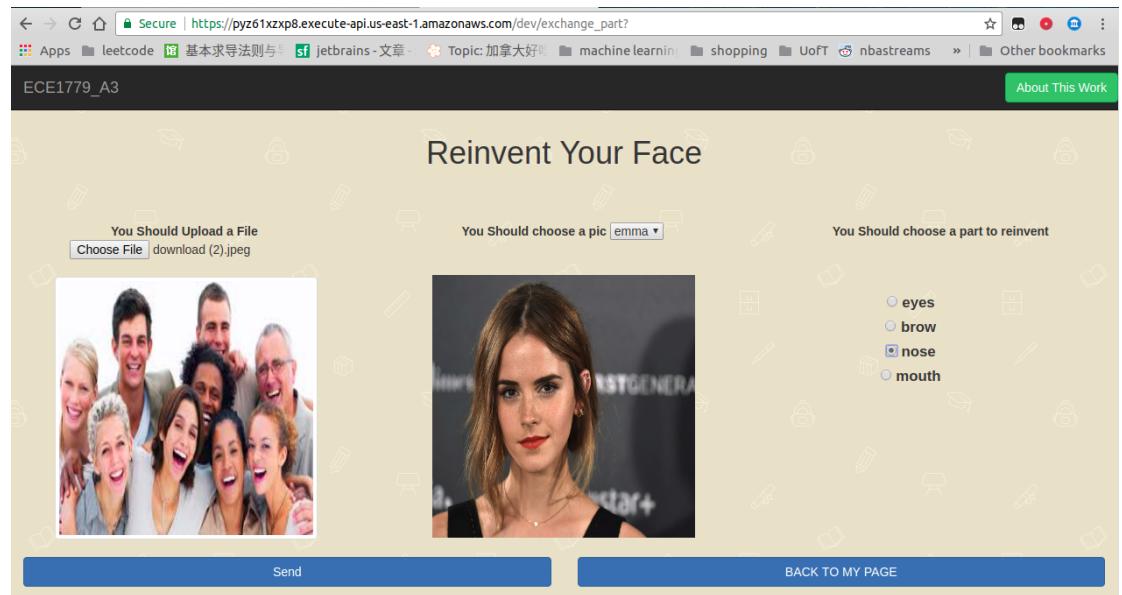
The page for seeing full size image also provide the function of deleting certain image, after deleting Putin image, the gallery of user home page shows as follows:



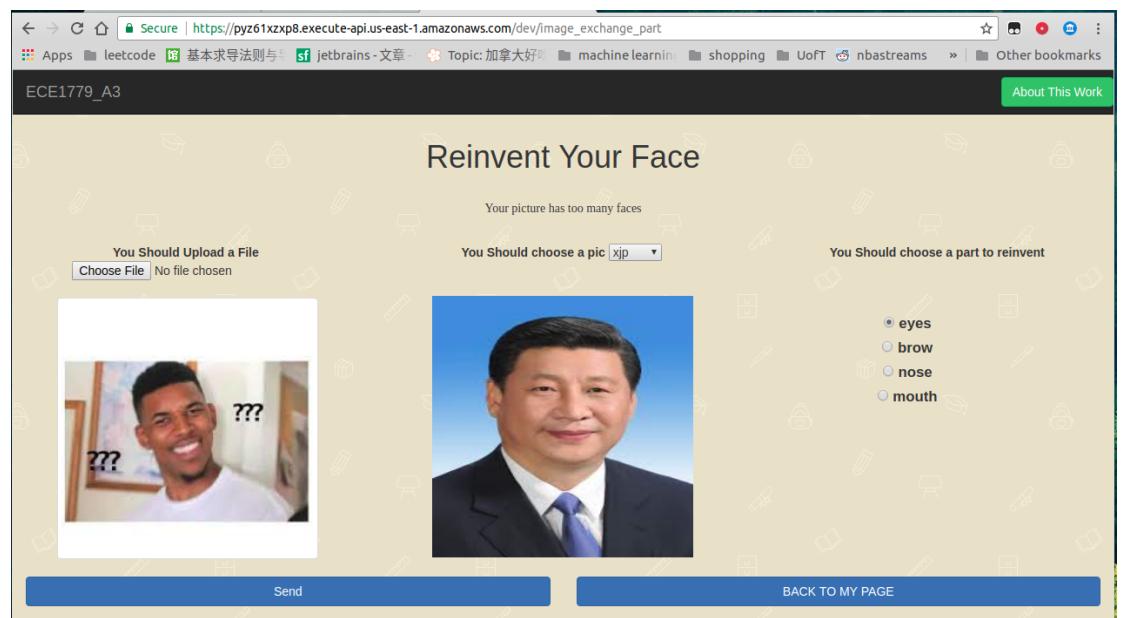
IV. Error Mechanism

We also provide wrong reminder for users when there are too many faces or no face in the uploaded images as follows.

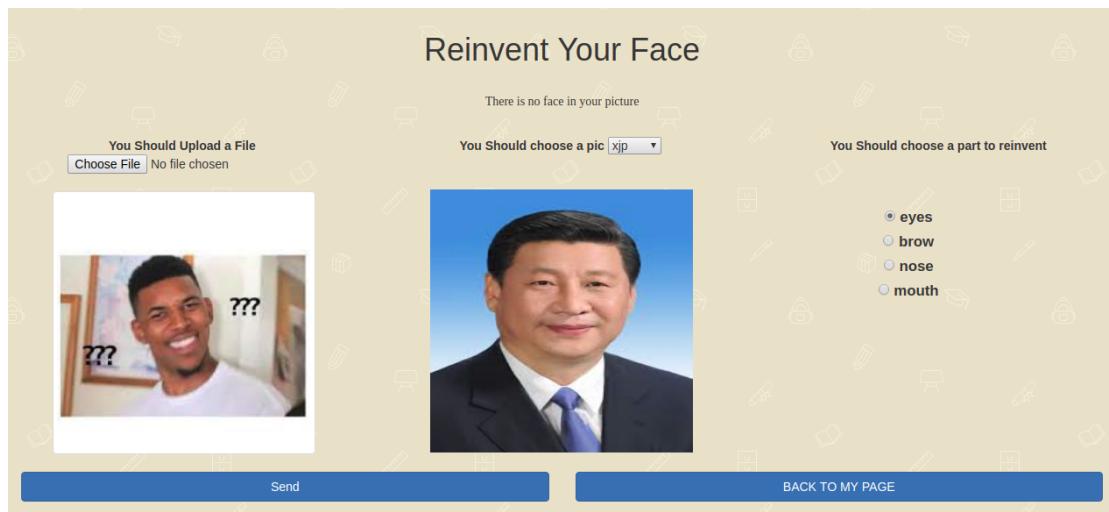
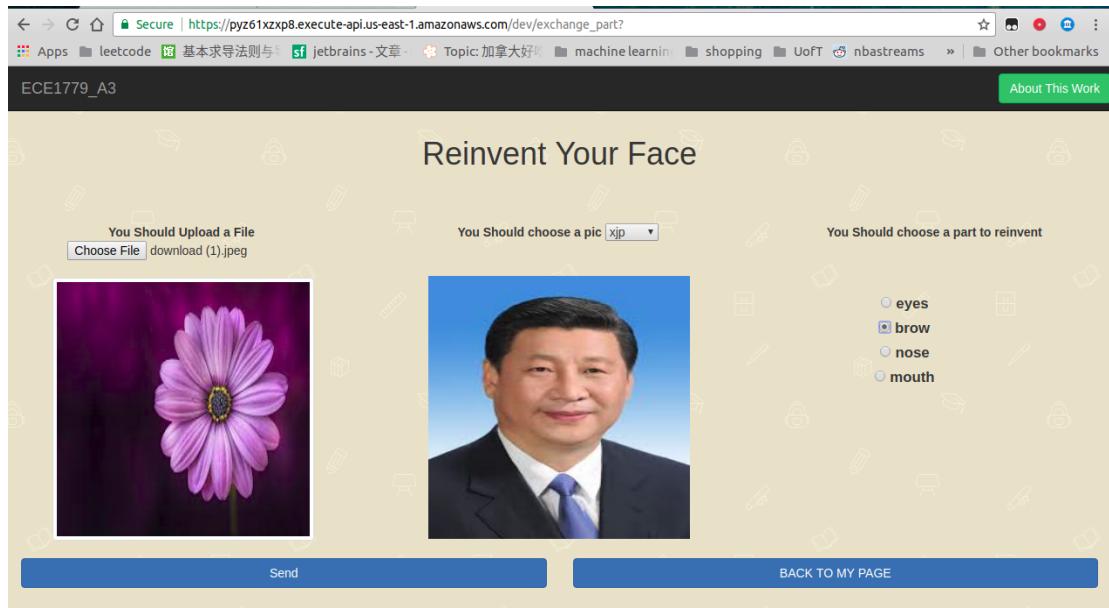
Too many faces case:



Output:



No-face case:



V. Future Works

Our group plan to add the feature of sharing generated photos to user's public social platform such as Facebook and Instagram after the photo created on the website. What's more, a search function for generated images which based on the original uploaded image would be add to our website. This would facilitate users for searching certain people. The last but not the least, we would add more images to our S3 which enables users to have more choices to swap their face with.