**MАRКЕТ REQUIREMENT DOCUMENT (MRD)**

Approved Product Name (if available): **Beautify**

Version: MRD 0.1

Author: Group 3

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1. **Executive summary**

Beautify helps to customize personal styles by enhancing the quality of the image leaving the users with various features. This module has several functions that makes the content of an image easy to crop, resize, and edit.

**Face recognition:**

To start with, this product identifies a person from a digital image.There are multiple methods in which facial recognition systems work, but in general, this is also described as a Biometric Artificial Intelligence based application that can uniquely identify a person by analyzing patterns based on the person's facial textures and shape.

It has various uses in recent times on mobile platforms and in other forms of technology, such as robotics. It is typically used as access control in security systems and can be compared to other biometrics such as fingerprint or eye iris recognition systems. This is widely adopted due to its contactless and non-invasive process. Recently, it has also become popular as a commercial identification and marketing tool. Other applications include advanced human-computer interaction, video surveillance, automatic indexing of images, and video database, among others.

**Designing**

* **Red Eye Removal** : We will focus on removing the red dot from the eye of the individual.
* **Blemish Removal** : Adds some basic makeup touch on the face hence beautifying the users look like it will remove the blemishes and any other marks leaving the skin smooth and bright
* **Moustache Addition:** Add moustache on the face of the person.
* **Spectacles Addition:** Add Spectacles on the face of a person.
* **Lipstick:** Add lipstick or change the color of the lipstick.

With this power of image modification the same way you would with software such as Microsoft Paint or Adobe Photoshop, Python can automatically edit hundreds or thousands of images with ease.It is done by detecting the face and eyes from an image using OpenCV and Pillow to manipulate it.

1. **The Problem we are solving** 
   1. Ecosystem map and value proposition for each member of the ecosystem. Identify target customers and enablers.

This project mainly focuses on beautifying images as desired by the users.In particular, this application can be a helping hand to those coming from a field of photography and beautician where they get a platform to experiment their abilities.

* 1. Value chain of products and services in this ecosystem

The application makes money through advertising once enough traffic is generated.

* 1. The most common use case(s)
* Run Program
* Desired styling
* Comparison of original and modified image
  1. High-level story and customer/consumer experience. Vision of how we will be solving their problem.

### Susan

Susan is a makeup artist and she wants to make sure which makeup suits her models so she can do a pre check before the big ramp day and make sure that her models look just right.

### Aish

Aish is a teenage girl who likes uploading her pictures on social media. She uses beautify to make changes to her image, remove some objects from the image like blemishes and/or apply lipstick.

1. **Business opportunity & justification**

* 1. Industry Trends that are creating the need for this product

In the era of Instagram and selfie obsession, face beautification software is on top of trends.While virtual makeovers allow you to try on cosmetics products via your mobile camera, the digital face beautification software can hide your imperfections and enhance skin.

* 1. Business model

This business model is an “Online Marketplace” and “Advertisement”. Our product will be a platform for the users to beautify their pictures. Apart from that, Advertising can also be made use to generate revenue once enough traffic is present.

1. **What we need to build**
   1. Key product features and benefits, in priority order, and form it needs to take.

* Spectacles/ Glasses
* Lipstick Addition
* Moustache Addition
* Red Eye Change
* Blemish removal
  + 1. Must Haves
* Laptop/ Desktop
* Python
  1. Customer interaction with key features.

The type of interaction with customers that brings the most satisfactory experience is when this project responds with the correct requirements.

* The image is transformed in a way the user fantasizes.
* Unwanted objects(i.e; blemishes) which are not required by the user are the only items being eliminated without displacing the other parts of the picture.
* Highlights and makeup to be implied accurately in the required areas like applying lipstick or changing the lip color.
  1. Support for brand promise

As mentioned earlier, this project can be of much use for photographers and makeup artists. Photographers can edit the picture and similarly remove the unwanted obstacles from the image. Similarly, the beauticians can try various styles of makeup to the picture first and then choose the best before performing a live makeup.

Moving further we can also enlarge this application to various brands in the market where the customers can try different shades of makeup products of various brands and choose what suits them the best before purchasing the product. In such a way this is going to be beneficial for both the brand and customers where customers get their perfect shade and the brand knows which shades are being sold out more for more productivity in that area.

* 1. Performance benchmark and other system requirements

The performance threshold has to be set up in such a way that even if 10000 people start using this project at once, they shouldn't be facing any issues.

The processing time should be considerably similar irrespective of the device being used.

* 1. Cross-vertical synergies and opportunities to consolidate products

This product can be benefited by the market outside, say :

* The **photographers**: after clicking a picture and before selling out the copies to the customer, they can make various changes to the image by removing unwanted obstacles from the photograph and even add a basic makeup leaving the final output natural yet elegant.
* **Beauticians**: Having some free time in between the work, the makeup artists can try new looks on a picture with ease and show their creativity to the customer. By this even the customer gets a preview of the outcome and they can share their views to the look as well.
* **Brands**: The leading brands can be benefitted by loading a data of various shades available by which the customer can try various shades and purchase that one perfect shade which suits them just right.
  1. Additional requirements by country or region

The features present currently in this application are most commonly required by every customer worldwide. However with the customer feedback option, we can try to add extra features requested by a maximum amount of people across the world.

* 1. Target pricing and costs

The Product is freely distributable and the revenue can be generated from advertisements

* 1. Internal and external testing and interoperability requirements
* The different types of tests which the product will be put through are:

· Unit Testing

· End-to-End Testing

· Performance Testing

* The types of testing done by the customer are:

· Acceptance Testing

· Beta Testing

· Compatibility Testing

1. **When we need it**

* 1. Requested product delivery date(s) design-in windows, business cycle deadlines

We need the delivery by June 2nd, 2020.

* 1. Requested timeline

Milestone 1 :- Technical Feasibilities 25 Mar 2020

Milestone 2 :- Requirement Gathering 3 Apr 2020

Milestone 3 :- Coding start 06 Apr 2020

Milestone 5 :- Testing the Project 25 May 2020

Milestone 6 :- Product Launch 02 Jun 2020

* 1. Requested product launch date

Beautify will be ready to be launched by this Lockdown Season of 2020, So we expect, 2nd June 2020 should be the perfect date. We can also throw an event where this project can be discussed and published. Promotions in social media groups and meetups can give a booster in the working.

* 1. Anticipated evolutionary development of the product

This product is designed based on an imagination of what people might require. After the launch and once this project is out in use, with regular feedback and depending on how well the product is being received, further changes will be made accordingly and newer versions will be available for the users to upgrade the project.

1. **Deployment**
   1. Key channels

Since our project is a software based product, it will be released solely on the internet.

* 1. Go To market outline

From our research we have come across many such apps that are already available in the market but the one thing that Beautify promises to deliver is landmark identification on the face and not just brightening the face color which is why this product will be received well and can be a front runner among the others.

1. **Risk Assessment (High, Med, Low and Probability) and why**
   1. Market and competitive risks

* Customers might not understand the working of this project and lose interest.
* The project failed to work due to certain issues with the user's device, yet blames the application.
  1. Internal challenges
* Less experience in the business field.
* Low investment while in a phase of branching beautify further.
* The project might face difficulty in detecting the face i.e; the user uploads his/her image in an angle in which the face is not clearly visible.

1. **Reviewers and approvers** 
   1. Reviewed by Sales (regionally), and selected cross-vertical leads

* Akash mane
* Suraj sunil Naik
* Pujitha Peri
  1. The final approval should be decided by the team members and by the lead, Mr. Alexander Iliev

Mr. Alexander Iliev

Suraj Naik

Akash Mane

Pujitha Peri