Poker Hill Innovation Inc.

Make Me Up

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Literature Survey and Competition Report V1.0

1-INTRODUCTION

Nowadays, people tend to consume in an informed manner in order to meet their needs. Before they consume or buy their needs , people research into all kind of products deeply and they want to try on those products. Then, they can decide on and buy. According to a survey, %83 of shopping made by women[1]. Daniel Kruger, an evolutionary psychologist at the University of Michigan School of Public Health tells that "Women would want to have more things to search through and to be able to experience them, touch them, feel textures and see colors," [2]. In the light of these information, women are the most important target group for shopping sector. Then, which consumer market is the most favored by women? Without a shadow of a doubt, it is cosmetic market. Women want to apply lipstick, apply nail polish and rouge before they buy so they can see that those products are proper for their skins or not.

By using our device, customers can see a picture of their face with applied products that are desired to be bought. Firstly, the device takes a photo of woman. Then, it display the photo on its screen. Finally, when desired make up product is scanned by its barcode system, it edits the photo and show the face with the product applied by using software codes. Also, The device can be used for combination of products such as lipstick and eyeshadow. Therefore, after our device, women do not need to test a lot of product on their skins anymore and buying cosmetic products will be much quicker and easier for them.

2- A BRIEF EXPLANATION OF HARDWARE DESIGN

The basic block diagram is seen as follows:

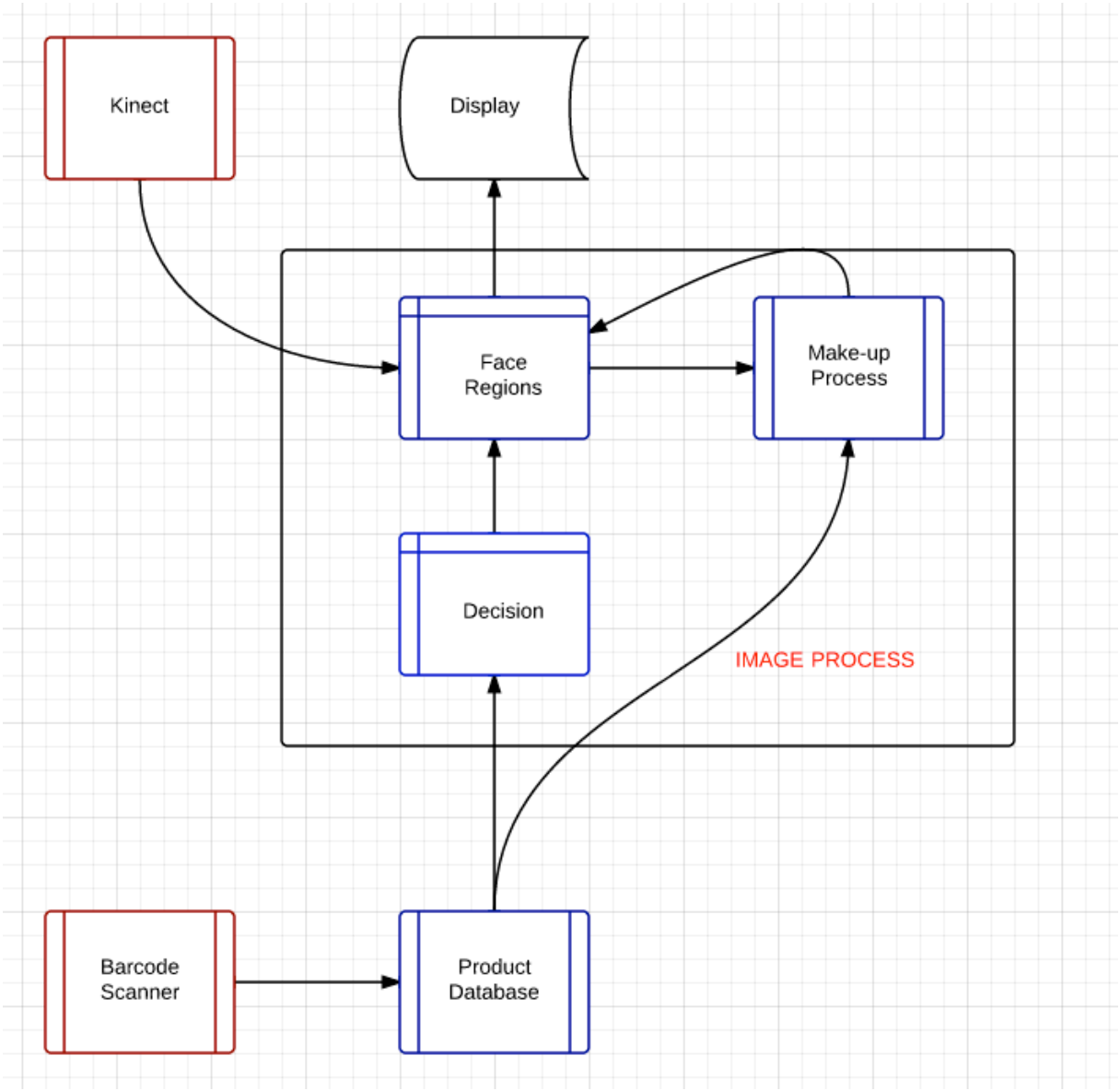
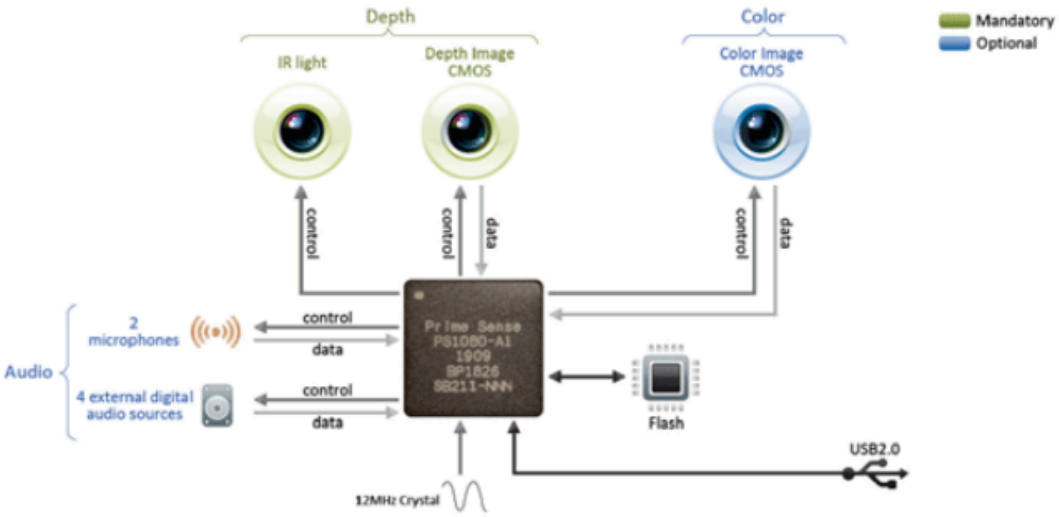


Fig 1 = Block Diagram of "Make Me Up"

Our product will modify the human face according to cosmetics, so we will edit the relevant pixels. This technology can implement to whole body or any other object instead of human face. The components which we require are:

Kinect = A device that has 2 cameras for depth and 1 for color. We will process the data that will be the output of this device. Kinect has a 640 x 480 resolution camera.



Barcode Reader= Barcode reader will read the barcode and with this device's output the software program will continue processing which make up processes will be handled. Barcode Reader's output will be an input for Product Database.

Product Database = For all make up products the database will hold the information about product's pixel values and the regions that these products will be used for.

- Product Database informations will include the product's pixel values and at which region it will be implemented

DATABASE

Barcode no	Pixel Values	Face Region
111111111	r:15,b:0,15,g:3	1(lips)
111111112	r:10,b:0,15,g:7	2(eye)
……	……	……

Fig 2 = In the figure the database holds the pixel values which are the input for Make Up Process for the region' s pixel changing. Also it holds the region information which is the input of Decision process.

Decision Process = According to the output of product database Decision Process part will decide which region will be processed and will give an input to Face Regions part.

Face Regions = For face mapping, datas will come from kinect device with the help of the software "make me up" will detect the regions of face like eyes, lips, chicks.

- According to the input that come from Decision Process Face Regions will give an output to the Make Up Process this output will include the information about regions.
- After the image process it will send an input to display. The display unit will Show the latest processed image to the customer.

Make Up Process = The datas that come from product database and Face Regions part will be proccessed at this part. Ex: The software will change the pixel values of lips according to the lipstick that's pixel values already loaded to Product Database.

The processed region will be sent back to the Face Regions part because we decided only taking the neceserray region, processing it and sending back to the Face Regions Part, will decrease the delay at image processing and will provide a batter service for customers.

3- FLOW CHART OF SOFTWARE

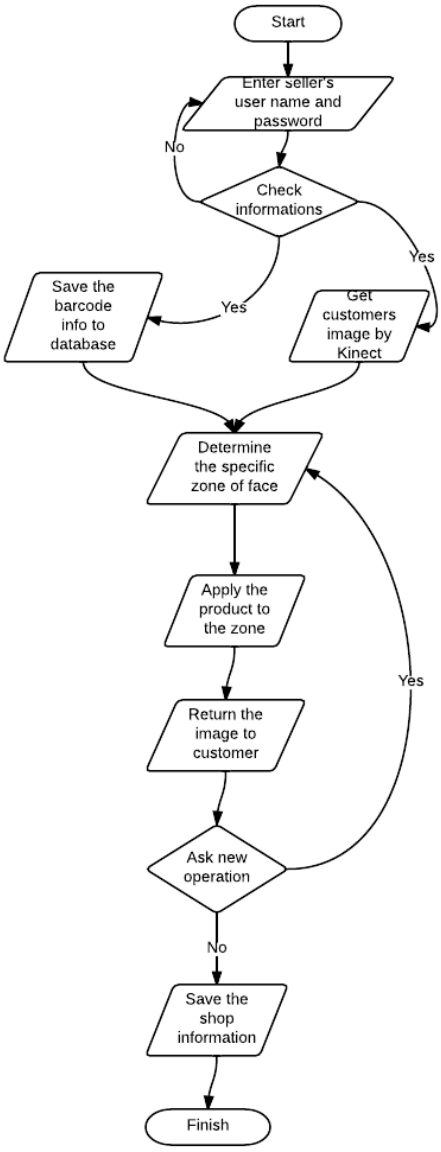


Fig 3 = Flow Chart of Make Me Up Device

4- LITERATURE ABOUT THE UNDERLYING TECHNOLOGIES

In project we will use the advantages of some technologies and improve our methods. Firstly, we will get the image by using a device called Kinect. There are 3 cameras to determine the objects with their depth and color. Kinect provides us to recognize the face and its parts approximately.

Other system we will set up is barcode scanner. It is a well known and common system for recognizing the product due to its barcode. Device will scan the product and deliver its information to our database system.

Our main operations will be in image processing part. Image processing is a form of signal processing. Our input, the image, will be edited according to properties of cosmetics and new image will display as output.

Notes on possible applications of your product other than the mainstream product you are proposing (DETAYLARI YAZACAĞIM)

- The device can be used for clothes and glasses
- In the future, iPhone application software code can be written and people can make up themselves artificially by using their smart phones.
- For online shopping, a software code can be written and people can make up themselves artificially by using their computers.

Direct competition from the existing products and services in the World ??????????

We cannot find any competitors in this terms. Also in Turkey, there is no such a project that is used by both cosmetic firms and others.

Possible direct competition which might come around at the expected time of your introduction to the market which might arise from the introduction of new technologies and/or new emphasis on applications and/or new trends in the society.

Our product aims to reach young women who like making up and familiar with new technologies.

This project provides a product never seen in market so far. There are some similar applications but our target is to take place near the cosmetics shelves. Also women use this programme when they go to the shops. They use this programme to make up artificially so they can see how they look. They can combine some products and they can keep the screenshots to decide whether buy or not.

Indirect competition from similar products, i.e., similar products which can fulfill a similar gap in the market

There is no existing indirect competition for cosmetic products. In cosmetic sector, customers traditionally tent to do shopping in shops and test products on their skins. So we try to break this rule to emphasis on new trends in the society.

There is a project conducting by there of Bilkent university students. They are studying on 3D artificial fitting room and using kinection technology.

Pricing information of the products comparable to yours in your sector in the market.

This project provides a product never seen in market so far. There are some similar applications in different sectors but our target is to take place near the cosmetics shelves. Therefore it is hard to compare with prices of any product. However we will purchase some technologies such as Kinect,which costs almost 250 $ and a screen for display which costs almost 100$. The other components' prices cannot be predictable in a short term.

To conclude, there is no similiar project in cosmetic sector. So it is hard to predict any futuristic conjecture. To be honest we can have an optimistic vision and cosmetic sector opens to implement innovations and our product seems to be innovative and meet to expectations in terms of cost, efficiency, sustainability and usability.