Proposal

Skin4You

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Submitted in partial fulfillment

Of the requirements of CSC-431

Software Engineering course project

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**Preface**

This is a proposal for the Skin4You project for partial fulfillment of the requirements of a Software Engineering course (CSC431) project in the department of Computer Science at the University of Miami.

This proposal provides the scope and context of the project to be undertaken. It details the intended user group and the value that the system will have to them.

The intended audience of this document is the course professor and teaching assistants so that they can determine whether the project should be approved as proposed, approved with modifications, or not approved.

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# **1.0** **Overview**

## **1.1.** **Purpose, Scope and Objectives**

Skin4You will allow customers to find a personalized skin care routine specific to their skin type and color. The app will recommend dermatologist approved products and provide a link to and or location as to where the product could be bought. Users can share their reviews and own routine with friends and family through the interface, making the vast world of skin care products easier to navigate. Skin4You will be free for everybody with an additional cost if the users would like to access the premium benefits such as a wide array of discounts on a variety of dermatologist approved skin care brands/products.

§ Who needs it and what is the intended user group?

* General public with a focus on users who aim to maintain their skin care routine in a simpler and more social way

§ Where will it be used?

* Skin4You can be accessed anywhere through the mobile app

§ What hardware and software will be required?

* Facial recognition software (Face ID)
* Machine learning model for image recognition of skin types (YOLO v8)
* Software for social media
* Operating system (Android, iOS, Windows)
* Camera
* Internet connection
* GPS/location services

## **1.2.** **Project description**

People oftentimes struggle with finding a skin care routine and specific skin care products that work well with their skin type while also making sure that the products’ ingredients are clean/are not causing any harm. The lack of knowledge combined with the expensive costs of the products makes it difficult for people to trial and error skin care products until they find a routine that works.

§ Services to be Provided by the System

* Recommend custom dermatologist approved skin care/makeup products to each customer
  + Customized to THEIR specific skin type/color
* Allow users to leave reviews on products they have tried and connect with friends by sharing their current products/routine
  + can search for others with a similar skin type and learn about how the product worked for them before committing to a purchase
* Provide users a link and or location to find the most convenient way for them to purchase the recommended product
* Through premium membership, a discount will be applied to products bought through app

§ System Features and Requirements

* The system will require use of facial recognition, therefore a camera and operating system such as Android, iOS and Windows. The application could utilize pre-installed GPS/location services in order to recommend nearby stores. The system will also require internet connection in order to search for products and provide a link/location to where the product could be bought. It will also use social media networking. The system will require a machine learning model to match the user's skin (collected through the front-facing camera) to a specific skin type (based off of a vast collection of images/videos from the web). The system will implement YOLO v8, a model used for object detection and image recognition. In order for the application to accurately match skin types, training and validation datasets are required to train the model.