Hack O Holics

SKINEGY - A Skin Cancer Diagnosis Solution

The best diagnosis tool for skin care.

Overview-Problems we are facing currently

During the past two decades, India has been one of the world's best performing and most stable economies, and this economic development has given rise to vast socioeconomic changes, with an increasing risk of non-communicable diseases, including cancer. Globally, noncommunicable diseases (NCDs) accounted for 71% of total deaths. In India, NCDs were estimated to account for 63% of all deaths, and cancer was one of the leading causes (9%). One of the key problems in the treatment of cancer is the early detection of the disease. Often, cancer is detected in its later stages, when it has compromised the function of one or more vital organ systems and is widespread throughout the body.

Our Solution

We aim at providing early detection and treatment of patients suffering from skin cancer. This would definitely help in reducing the mortality rate due to cancer and improve the health care sector of our country.Our application gauges the possibility of skin cancer and assist in booking auto appointment(if susceptible)

Functionality of our solution

★   We aim at designing a web page and an android application which will be beneficial for the healthcare sector in quick detection and analysis of skin cancer. Foremost after logging in, the patient needs to enter his/her basic details. Then the patient would have to upload an image of the lesion. Our model will analyze this image and apply the ML algorithm (Convolution Neural Network) thereby predicting the probability of the skin lesion being benign or malignant. Further it will also classify its subtype, if malignant.

★   Besides detection of skin cancer, it will also enable quick treatment which can save a person's life as it will automatically fix an appointment in the nearest diagnostic centre and transfer all the metadata like age,sex,place of lesion,etc of the patient.

Why Skinegy ? How is it better than its existing counterparts?

01

The latest research proves that Skinegy can detect 98% of Malignant/Benign and 90% in their further subtypes . The sensitivity of general practitioners ranges from 61% and 66%, while the sensitivity of dermatologists is between 75% and 92%.

02

Our application not only gauges the possibility of skin cancer,but also provides information about the type of the skin cancer.The model is trained to detect and point out 8 types of skin cancer namely Melanoma (malignant), melanocytic nevus (benign)/ normal skin /rash, basal cell carcinoma (benign),actinic keratosis (benign), benign keratosis (benign), dermatofibroma (non cancerous-benign), vascular lesion (maybe benign maybe malignant) and squamous cell carcinoma(malignant).Our counterparts are detecting at most 2 sub categories.

Target audience and Publicity

Skinegy is here to benefit all with its early diagnosis and aid in detection of skin cancer.

We will start its publicity locally, make people aware about its use.According to their feedback we will try to improve our application.Once we become proficient in handling the local areas then we will try to ace nationally.

We hope that this effort brings a revolution and lives are saved!

Cycle diagram

Prototype

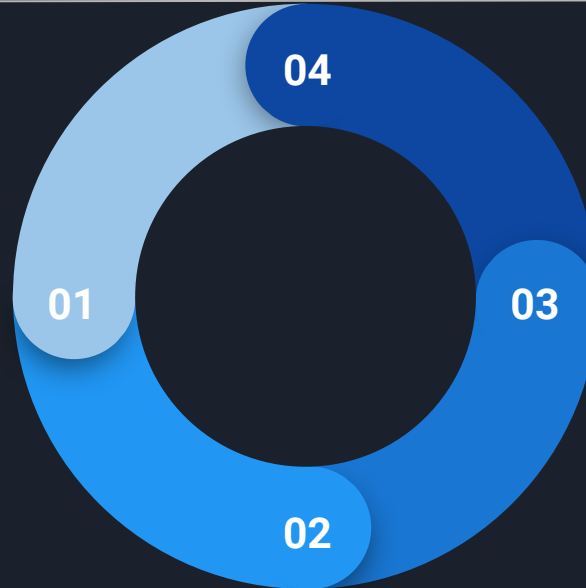Building the model, integrating with web and android applications.

Refine

Testing it with local people

Share

Publicising our application nationally

Get feedback

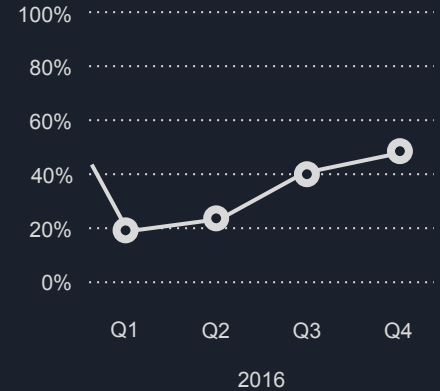Collecting feedback and working upon it

01

02

03

04

Business Perspective

Our application will provide auto-appointment facility to the patients in case any possibility of skin cancer is detected.

So we can start collaborating with the local diagnostic centers and then increase our scale gradually.
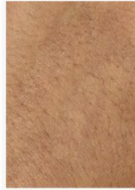
100%	
80%	
60%	
40%	
20%	
0%	

Q1   Q2   Q3   Q4

2016

Few glimpses of our web application

Help

Please Choose the ECG Image file

Choose...

Result: MELANOCYTIC NEVUS (BENIGN)/ NORMAL SKIN /RASH

Name :	Anonymous
Age :	Anonymous
Sex :	Anonymous
Email-id :	miharsh2612@gmail.com

Getting Started

Take a photo of your skin spot
Open the Skinega camera and take a photo of the skin spot that concerns you or manually upload a photo. Our app will assess your photo using our CE marked

Receive your risk assessment
Within 30 seconds, you'll receive one of eight risk assessments based on the risk class including malignant/benign and then further sub-categories.
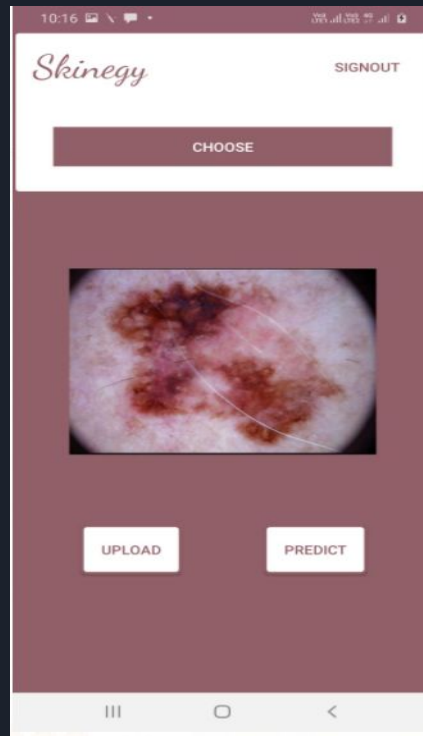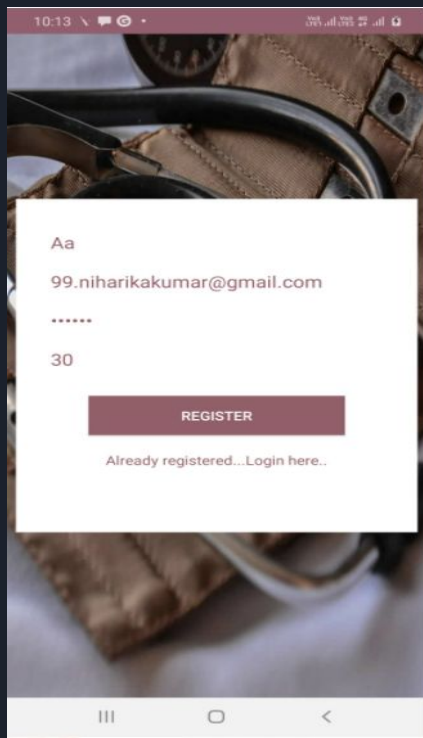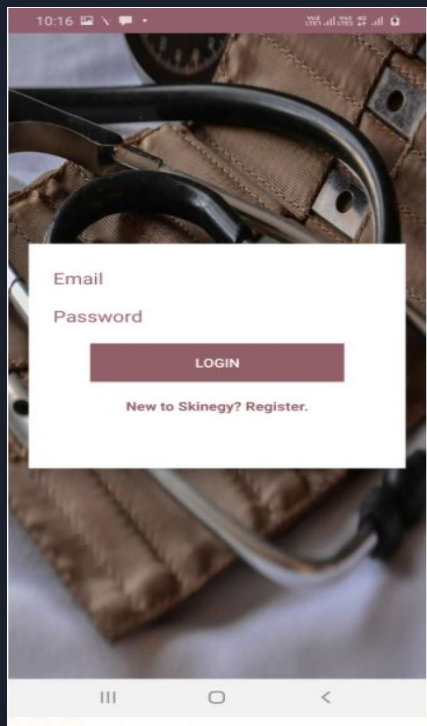
Track your skin spots
Securely save photos of your skin spots so you can look for changes over time. Set reminders so you can check your skin regularly.

BEST SCANS
TO DETECT CANCER

Few glimpses of our android application

Skinegy

"At least 7 million lives could be saved over the next decade, by identifying the most appropriate science for each country situation, by basing strong cancer responses on universal health coverage, and by mobilizing different stakeholders to work together", said Tedros Adhanom Ghebreyesus, director-general, WHO.
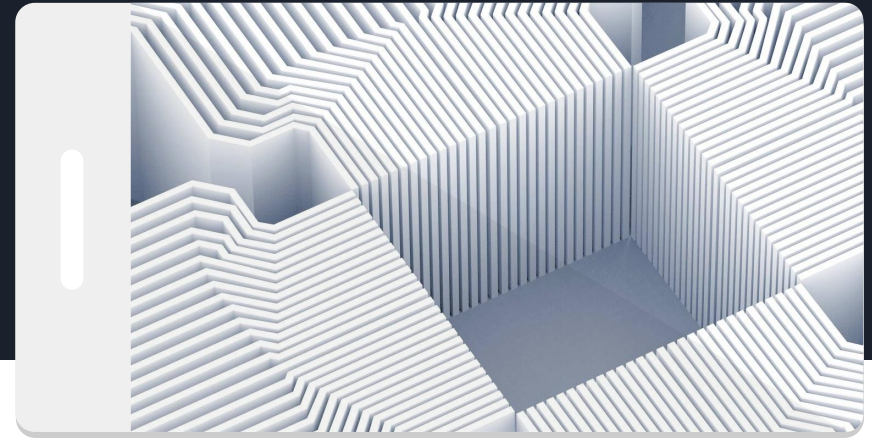
Thank You

Team members

Harsh Mishra

Niharika Kumar

Sonali Verma

Taneesh Gupta