TITLE OF THE PROTOTYPE: Sk-Canner

TEAM NAME: Heal_ium

TEAM MEMBERS:

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ABSTRACT

What's the first thing you would do if a random rash appeared on your hand? You would google the symptoms and the visible features of the rash, right? And one generally lands up "**self-diagnosing themselves**" with "**SKIN CANCER**"!! The very fact that there exists a probability that your rash could develop into something cancerous would result in you spending the rest of the day or even the week bothered by the same. If you were lucky, you would figure out the condition that you're suffering from. You might then start looking for a skin specialist nearby, to consult and diagnose your rash. What next? Remedial measures to treat that condition/disease right? All this would demand a lot of time, energy and one's mental peace as well.

What if we told you that we have a device that would do all of this work? Yes, you heard it right!! We propose a **standalone device** that can **predict the probability of skin cancer, categorize its kind, suggest nearby skin specialists and also suggest remedial measures in the form of expertized websites**. The user needs to take a picture of the rash, send it to our device, which will then predict whether it is cancerous or not and if it is cancerous, and classify it as melanomic or non-melanomic. It then displays a list of nearby hospitals as well as specific websites with probable remedies for the predicted class. Okay but how are we ensuring that our device will predict accurate results and suggest appropriate remedies? That's why we have a teammate from Biotech who has taken utmost care to ensure that all the data sets and remedies suggested are accurate, meanwhile our CS and ECE teammates have ensured that this entire process is seamless and easy to use by anyone anywhere!

TECH STACK:

SOFTWARE:

- Python 3.6x
- Location Api Service Provided By Unwired Labs
- Raspcontroller
- Here Api For Nearby Hospitals
- Numpy
- Pandas
- OpenCV
- Local Binary Patterns (Scipy)
- ImageDataGenerator
- Sklearn
- Pillow

HARDWARE:

- Raspberry Pi 2b
- Wi-Fi Adapter For Raspberry Pi 2b
- 3.5 Inch Raspberry Pi Touchscreen Tft Display With Stylus
- Gps Module Neo6mv2
- Power Supply Of 3.3 V