# -Cover Page-

Skin Spot Surveyor - S3

Ryan Keller - Computer Science

Robin Taber - Arts & Graphics

Andrew Kippenhan - Computer Sci/Eng

Tina Torres - Medical Student

Frantz Dumornay - Computer Engineering

**Software Hardware Code Design**

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# -7 Sentence Abstract-

There come a time in everyone’s life where one realized that he or she is not invincible. That wellness is a blessing and sickness cannot be avoided, for the most part. As the largest organ in the human body, the skin is also susceptible to a number of skin conditions. The most common skin conditions include: moles, chickenpox, acne, rashes, hives, eczema (atopic, allergic, or nummular dermatitis) skin cancer and rosacea.

It is advisable to go see a doctor for each one of those conditions. But what does it make sense to keep going back and forth to a doctor’s office? If you could send, in essence, a picture of your condition as time progress to your doctor after the major appointment meetings, wouldn’t that be nice? With Skin Spot Surveyor you can do just that.

The concept is to reduce unnecessary time to and from the doctor’s office, while keeping the condition under control. Skin Spot Surveyor is design to enable the user to take pictures of various skin conditions then submitting those pictures you their respective doctor. The medical professional would then provide advising for proper care and maintenance.

# -Background-

In an age where chronic illness is plaguing the healthcare field in is imperative to encourage individuals to take an active role in their own health promotion and prevention. Many of the illnesses and diseases today are result of lifestyle choices and modifiable risk factors. Educating and promoting health and well-being is essential to minimizing illness and disease in the future. Technological advancements in the healthcare industry, such as our Smartphone application, the Skin Spot Surveyor, allows for individuals to identify, track, and monitor questionable skin lesions.

In addition, storage of patient data will be confidential and shared with appropriate health care providers allowing for more fluid medical information sharing, better patient-provider communication, and early identification and treatment of troublesome lesions. Lastly, our application is an educational source for individuals and provides prevention measures that are backed by the latest research and evidence.

Sun damage prevention is key to promoting healthy skin here in Florida as excessive exposure to sun can damage skin cells and is linked to nonmelanoma and melanoma skin cancers. Individuals who are at high risk those who have fair skin, burn easily, have freckles, light colored eyes and hair, geographic location near equator, weakened immune system, and high sun exposure must be educated and vigilant in taking measures to prevent skin cancers. Screening and early identification of cancerous lesions decreases complications including death associated with skin cancer.

Our application will provide individuals with the tool, information, and resources to promote their well-being and skin health in hopes to reduce the incidence of sun damaged skin and cancerous skin lesions.

# -Methods-

## Process

From the software engineering side, we used Android Studio to develop the functional part of the app. We used java to program the activities and xml for the layouts. For each “screen” in the app we have a separate class and layout to control the content and functionality in logical segments. When sharing code across individual devices we used Github as a means of version record keeping and a way to store and access the latest updates. Each screen has art attached to it provided by the art designer.

For our visuals, we would use Photoshop to draw out and design our interfaces. These would be sent to the engineering team to be integrated into the app. Our medical expert used her own expertise and research skills to provide heaps of information regarding accurate skin care facts that will be available to users of the app. She also guided the interactive content that is concerned with analyzing the pictures to be taken so that the information provided by users is precisely what the medical professional will be looking for.

## Team Dynamics

We were very fortunate to have a hard working and collaborative group of engineering students. News came in that many groups are operating without an Art student or without a Medical student, that wasn’t the case for us. Our team members did a wonderful job at staying focus and communicating in a timely manner. We can genuinely say we didn’t have any major problems in the group. Everyone put in work and delivered when they were called to do so.

The technical segment consists of Ryan Keller, a Computer Science major, Andrew Kippenhan a Computer Science and Engineering student and Frantz Dumornay as the Computer Engineering undergrad. Robin Taber singlehandedly handles the creative aspect of the app project. Tina Torres wasted no time on making sure we had as much medical information that was necessary to get the app on the right path.

# -Results-

|  |  |  |
| --- | --- | --- |
| Initial starting app page | Beta Login page | Testing the camera feature |
| Prevention Screen | Resources Page | Log In Finished Product |

# -Discussion-

We had our share of challenges, from technical to programming and formatting user interface and graphics. Many of those things were challenging because our skill set was novice in comparison to what was need of us to accomplish our desired project. We had to find a way to make a visually appealing android app, that had complex functions, and that could store data, along with pictures.

We had to come up with a type of database that can both hold pictures and content. We made sure this database could be connected so that the users and doctors had access to the same data. We wanted to be able to educate the user on skincare and the various conditions that can occur, such as: moles, chickenpox, acne, rashes, hives, eczema (atopic, allergic, or nummular dermatitis) skin cancer and rosacea.

Our core problem came forth when we had problems with pulling up the camera, browsing the various activities, saving user names and password. Though long hours and hard work the camera has successfully launched and a new sets of problems emerged. Upon taking pictures the app made it its mission to malfunction. It refused to store the picture file for latter uses. That had to be fixed.

Come up with different ways of making app aesthetically pleasing while not compromising on the functionality. Although we had a great art student and graphics handler on out tem, making sure the designs are flash with screen sizes took more attempts than we wouldn't have liked. For future works, we would to need to stay educated on the best tools to solve a specific problem that we encountered for future group projects and or individual application.

# -Conclusions-

# -References-

Opening Graphics: [www.youtube.com/watch?v=-oUEzanVsXA&feature=youtu.be](http://www.youtube.com/watch?v=-oUEzanVsXA&feature=youtu.be)

Video Presentation: <https://www.youtube.com/watch?v=ZOXYWGcOnyg&feature=youtu.be>

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# -Appendix (Github)-

Full version history: <https://github.com/HealthCareApps/Group-5-Healthy-Skin/tree/with-login>