Private Higher School of Engineering and Technology



CBL Project

***Maintaining Healthy Skin and Preventing Skin Disorders***

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# Chapter 1: Study of CBL Project

1. **Introduction**

Challenge Based Learning (CBL) is an educational approach that involves students in solving real-world problems or addressing complex issues through collaboration and critical thinking. It is similar to project-based learning, but with a focus on addressing a specific challenge or problem.

# BIG IDEA: Health Care

Healthcare is an ever-evolving field that relies on cutting-edge technology to deliver the best possible care to patients. In recent years, the combination of dermatology and AI technology has emerged as a powerful tool that offers new and innovative ways to improve patient outcomes and streamline operations.

Challenge: How can we maintain healthy skin and prevent skin disorders?

# Essential Questions

1. What does it mean to be healthy?
2. What do we need to do to be healthy?
3. Why should I take care of my health?
4. What are the barriers to being healthy?
5. What behaviors positively and negatively impact our health?
6. What are long-term consequences of being unhealthy?
7. How does skin health relate to overall health and well-being?
8. What is the importance of skin health?
9. What is dermatology?
10. What are common skin disorders and how are they treated?
11. Etc...

# Challenge

Design and implement a plan to improve healthcare systems and address disparities in access and quality of care:

Dermatology is the branch of medicine that deals with the diagnosis and treatment of skin-related disorders , is a complex field that requires a high degree of accuracy and precision.

AI technology is able to analyze vast amounts of dermatological data, including images, symptoms, and medical history, in a fraction of the time it would take a human dermatologist. This technology can be used to identify and diagnose skin diseases, including skin cancer, with a high degree of accuracy. AI algorithms can also be used to recommend treatment options and monitor the effectiveness of treatments over time.

# Chapter 2: Main Idea and Goals

# Main Idea

The main idea is to utilize the power of advanced machine learning algorithms to improve the accuracy and efficiency of diagnosing skin conditions. By analyzing large amounts of data in the form of skin images, deep learning models can learn to accurately identify skin conditions, including common skin diseases, rare conditions, and skin cancers. Deep learning models can identify subtle patterns and features that may be difficult for human dermatologists to detect, and can provide a quick and accurate diagnosis, potentially leading to earlier treatment and better outcomes for patients. The ultimate goal of a deep learning project in dermatology is to improve the speed and accuracy of diagnosis, which can ultimately lead to better patient outcomes and potentially save lives

# 2. Goals

1. Improved accuracy of diagnosis: The primary goal of a deep learning project in dermatology is to improve the accuracy of diagnosis of skin conditions. By utilizing advanced machine learning algorithms, deep learning models can identify subtle patterns and features in skin images that may be difficult for human dermatologists to detect, leading to more accurate diagnoses.
2. Earlier detection and treatment: Deep learning models can quickly analyze large amounts of data, potentially leading to earlier detection and treatment of skin conditions. This can result in better patient outcomes and potentially save lives.
3. Development of user-friendly software: Another goal of a deep learning project in dermatology may be the development of a user-friendly software tool that can assist dermatologists in their diagnoses. Such a tool can potentially improve efficiency and accuracy in clinical settings.
4. Identification of new skin conditions: Deep learning models can potentially identify new skin conditions that may have been missed or misdiagnosed with traditional diagnostic methods. This can lead to new discoveries and insights in the field of dermatology
5. Creation of a large database of skin images: Deep learning projects can create a large database of skin images that can be used for future research and training of deep learning models. This can facilitate the development of more accurate and efficient models, ultimately leading to better patient outcomes

**3. SDG**

1) Good Health and Well-being (SDG 3): This goal aims to ensure healthy lives and well-being for all. Developing more accurate and efficient methods for diagnosing and treating skin diseases can contribute to improving health outcomes and reducing the burden of disease.

2) Partnerships for the Goals (SDG 17): The development and implementation of this technology require collaboration between healthcare professionals, technology experts, and policymakers to build partnerships to achieve SDGs.

3)Reduced Inequalities (SDG 10) - By developing accurate and efficient deep learning models for diagnosing skin diseases, we can reduce the disparities in healthcare access and treatment between different regions and demographics.

# Chapter 3: Partnership

1. **Dr Chaffik Jarraya**

Dr. Chafik JARRAYA is a highly experienced and renowned dermatologist in his profession. He received his medical training at the University of Tunis El Manar before specializing in dermatology at the Habib Thameur Hospital in Tunis. Since then, he has worked in many hospitals and clinics in Tunisia, France, and Switzerland, gaining valuable experience in the treatment of a wide range of skin problems. In addition to his clinical practice, Dr. JARRAYA is also a passionate teacher, sharing his expertise with medical students and residents in dermatology training programs. With his in-depth knowledge of dermatology and caring approach to his patients,

1. **Dr Riadh Jlassi**

Dr. Riadh Jelassi is a general practitioner in Mahdia, Tunisia. According to this website, Dr. Jelassi received his general medical degree from the Faculty of Medicine in Tunis in 1992. He also received training in occupational medicine and is a member of the Tunisian Society of General Medicine.

1. **Dr Talel Badri**

Dr. Talel Badri is a dermatologist practicing in Tunis, Tunisia. He specializes in the diagnosis and treatment of skin, hair, and nail diseases, as well as cosmetic procedures and dermatological surgical interventions. He obtained his medical degree from the Faculty of Medicine in Tunis and pursued his specialized training in dermatology and venereology at the Charles Nicolle Hospital in Tunis. He is a member of the Tunisian Association of Dermatology and the French Society of Dermatology.

1. **Kilani Group**

As a major player in the fields of health, beauty, well-being, and hygiene in Tunisia and abroad, Kilani Group is guided in its development by its passion for the profession, ethics, and customer and partner satisfaction. With more than 1,800 employees and over 25,000 clients, the Kilani Group is one of the largest Tunisian groups. The company has also developed partnerships with international companies in order to expand its product portfolio and strengthen its position in local and regional markets.

1. **Menara FM**

Menara FM is a Tunisian radio station broadcasting on the frequency 100.7 FM. It is based in Monastir, a coastal city located in eastern Tunisia. The station began broadcasting in 2011 and offers a diverse program, including news, entertainment, sports, culture, as well as music of different genres.

1. **Tunisian Television 1 (TV1)**

TV1 is considered one of the main sources of information and entertainment for Tunisians. The channel offers a variety of programs, including news, cultural shows, TV series, sports shows, and children's shows. It also broadcasts live events, such as official speeches, sports competitions, and concerts.