

## Project Plan for Bangkit 2022 Product-based Capstone

**Team ID : C22-PS135**

**Active Team Member:**

- (ML) M2011G1151 - Miftahul Ardli - Universitas Padjadjaran
- (ML) M2232F2123 - Ni Luh Melika Candra Widyani Mas - Universitas Katolik Parahyangan
- (MD) A7009F0996 - Tegar Naufal Hanip - Universitas Gunadarma
- (MD) A2009f0997 - Vinna Mariska - Universitas Gunadarma
- (CC) C2007F0655 - Alvin Steven - Universitas Dian Nuswantoro
- (CC) C7007F0656 - Muhammad Alwi Abdul Aziz - Universitas Dian Nuswantoro

**Final Selected Themes**

- **Human Healthcare & Animal Welfare**

**Title of the Project:**

Health Lens

**Executive Summary/Abstract:**

- **Problem Statement**

Nowadays, people are becoming aware about their facial health. Especially about their facial problems, specifically, like their skin doesn't look healthy, have acne, and problem skin-related. There are many kinds of skincare products with many variants like products, ingredients, and usefulness. The problems are people find it hard to identify which one skincare product is right for them because there are so many problems related to facial skin. The people aware of the skin do not look healthy, have acne, or problem skin.

- **Research Questions**

This, there are chances that people don't use the skincare product wisely and suitable for them and only just make their facial problem more severe for themselves. Chances are high because sometimes people use skincare without consulting the professional, before. Mainly because of the high cost for them and there is a lack of professional facial doctors who could resolve the problem in their regions or residence. Briefly to conclude, we need some automation tools that could meet human professional-like intelligence for resolving the problems without being needed to consult a professional facial-skin doctor.

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- **Background Information**

Case of wrong cosmetic:

<https://www.fimela.com/beauty/read/3727264/7-kasus-kulit-rusak-karena-kosmetik>

- **Why?**

1. Could help many people to be careful about their skin health,
2. Prevent health damage early on especially in skin health problems.
3. Help people who can't afford to pay a dermatologist for identify their skin problem by spending a little money to see the condition quickly.
4. Make people know right cosmetics for their kind of skin.

### **How did your team come up with this project?**

We do team briefing to find ideas together, in the session first we have 5 ideas, and the idea we do research again and find a health lens can be a nice project. With requirements, how people need to care for the skin, body, and face. So health can be help people and make opportunity

### **Project Scope & Deliverables:**

In-Scope & Deliverables :

Application which functionally good, Reliable Machine Learning Model, Object-detection skin facial problem, and also recommendation for how to treat the disease include suggestions and product recommendation.

### **Project Schedule:**

The project schedule:

[https://docs.google.com/spreadsheets/d/1pulZAWW3Ro5uRbC2a\\_n\\_pTQ0OPhePAHCYCKq7XuGjsw/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1pulZAWW3Ro5uRbC2a_n_pTQ0OPhePAHCYCKq7XuGjsw/edit?usp=sharing)

### **Based on your team's knowledge, what tools/IDE/Library and resources that your team will use to solve the problem?**

Visual Studio Code

Google Collab

Android Studio

Postman

Figma

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Adobe XD

Google Cloud

Tensorflow Library

**Based on your knowledge and explorations, what will your team need support for?**

1. Dataset (health skin, acne, all relate skin problem)
2. Google Cloud Credit,
3. Mentors who know Android Development

**Based on your knowledge and explorations, tell us the Machine Learning Part of your capstone?**

- The scope of problems about facial skin must be defined.
- Team must find the right dataset for the problem. The dataset can be found by collecting manually or using already existing data.
- The data cleaning and preparation to make the right data structure before making a model.
- Making a neural network model and train/test/validation data the model until get at least 90% accuracy at test set and 85% accuracy at validation set.
- Deploy model at cloud to make API. So, the device can access the model.

**Based on your knowledge and explorations, tell us the Mobile Development Part of your capstone?**

- Team has to use native Kotlin/Java and Android Studio to create the Android app.
- Team uses firebase and MVVM Architecture.
- Team can use figma to make mockup design apps.

**Based on your knowledge and explorations, tell us the Cloud/Web/Frontend/Backend Part of your capstone?**

- Team use DataFlow to manage mechanic learning and storage
- Team Use Backend Rest Api - to create Api for authentication
- Team Using DataPrep to add dataset support

**Based on your team's planning, is there any identifiable potential Risk or Issue related to your project?**

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- The ML model has the risk that it can't accurately identify the skin problem based on a real camera because of model failure or training failure.
- The project has a risk of not delivering on time because of unexpected problems like errors, social issues, being stuck and many more problems.

### **Any other notes/remarks we should consider on your team's application**

Fast scanning your face and the health lens could automatically give you information so quickly, like your type skin, and the facial skin defect, and the health lens gives you tips to suggestions for improving and making healthy patterns and products.

### **Another resource**

<https://docs.google.com/forms/d/e/1FAIpQLScm3utl91Cc3OM-mUUVEdUDC5MxVScUB7cPlb5e8ehcwRonyg/viewform>

[https://docs.google.com/document/d/1uoR6Bj0Fx\\_w\\_32LoTaCp27rcZNMUJZrsiDf4T9Amwh8/edit?usp=sharing](https://docs.google.com/document/d/1uoR6Bj0Fx_w_32LoTaCp27rcZNMUJZrsiDf4T9Amwh8/edit?usp=sharing)