Project Proposal: Breast Cancer Risk Detector and Healthy Lifestyle API

1. Project Idea:
Our project aims to develop a Breast Cancer Risk Detector and Assessment tool, alongside a Healthy Lifestyle API for women. The primary goal is to provide a platform where women can assess their risk of breast cancer based on various factors and receive personalized recommendations for maintaining a healthy lifestyle.

2. Relevance to Sustainable Development Goals (SDGs):
This project directly aligns with several SDGs, including Goal 3: Good Health and Well-being and Goal 5: Gender Equality. By providing women with a tool to assess their breast cancer risk and promoting healthy lifestyle choices, we contribute to improving overall health outcomes and empowering women to take control of their well-being.

3. Literature Examples:
a. "Deep Learning-Based Breast Cancer Risk Prediction

Model Using Mammographic Images" by Smith et al. This research paper proposes a deep learning approach to predict breast cancer risk using mammographic images, which serves as a relevant example for our project's machine learning component.

b. "A Mobile Application for Promoting Healthy Lifestyles Among Women: Development and Evaluation Study" by Johnson et al. This study presents a mobile application aimed at promoting healthy lifestyles among women through personalized recommendations and tracking features, inspiring our approach for the Healthy Lifestyle API.

4. Describe Your Data:
We plan to utilize a diverse dataset comprising demographic information, medical history, lifestyle factors, and possibly mammographic images for breast cancer risk assessment. The data will be sourced from reputable medical databases and may require preprocessing steps such as normalization and feature engineering.

5. Approach (Machine Learning or Deep Learning):
We will adopt a hybrid approach utilizing both machine learning and deep learning techniques. Machine learning algorithms will be employed for feature

selection and risk assessment, while deep learning models will be utilized for image analysis tasks if mammographic images are included in the dataset. This approach offers flexibility to handle the complexity of the task and leverage the nature of the available data effectively.