

**Project Design Phase-I**  
**Proposed Solution Template**

Date	10-11-2023
Team ID	Team - 591770
Project Name	Accurate body fat prediction using Machine Learning
Maximum Marks	2 Marks

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

S.No	Parameter	Description
1.	Problem Statement (Problem to be solved)	Developing a machine learning-based solution that provides highly accurate and personalized body fat predictions, empowering individuals to take proactive steps towards achieving and maintaining optimal body composition and overall health.
2.	Idea / Solution description	Develop a suitable model evaluating several regression models to predict body fat percentage. The models include Linear, Random Forest etc. regression models. Access their performance using evaluation metrics such as Root Mean Squared Error, Mean Squared Error, Mean Absolute Error. This helps in building an effective model for body fat prediction.
3.	Novelty / Uniqueness	Evaluation of several regression models ensures to use the model with accuracy and efficiency. This approach makes our application unique helps to perform the prediction in effective means than other tools already existing.
4.	Social Impact / Customer Satisfaction	By our approach we develop a user-friendly interface, standardized application that can be deployed on a wide range of devices, making them more accessible for wide range of users.
5.	Business Model (Revenue Model)	The core business revolves around the aspect of standardized model which can be deployed on a wide range of devices. The revenue streams on some aspects like maintenance services, promotions, collaboration with several fitness trainers, healthcare professionals, partnering with several wearables companies to integrate our tool with their devices,

		providing personalized recommendations based on individual body fat percentage data.
6.	Scalability of the solution	From the perspective of collaborating with companies, we try to collaborate with scalable partners with other platforms and services helping in mutual growth. Continuously improvising and scaling user interface according to feedback received from users. Exploring methods for incremental learning to update models with new data effectively, avoiding the need of training the entire model from scratch. Like this we improvise scalability of our solution.