Project Initialization and Planning Phase

Date	20 June 2024
Team ID	740079
Project Title	A Comprehensive Measure of Well-Being:The Human Development Index Using Machine Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) report

The Human Development Index (HDI) is a composite statistic used to rank countries based on human development. It takes into account factors such as life expectancy, education, and income per capita. Traditional methods of calculating HDI have limitations in capturing the nuances and complexities of human development. This project aims to enhance HDI prediction using machine learning techniques and to provide an interactive web application for users to predict HDI based on their inputs.

Project Overview	
Objective	The primary objective of the Human Development Index is to shift the focus of development policies from purely economic growth towards improving the well-being and capabilities of people, thereby promoting sustainable and inclusive development
Scope	The project comprehensive evaluation of human well-being and development across countries, aiming to go beyond purely economic measures to provide a more nuanced understanding of societal progress and challenges
Problem Statement	

Description	It serves as a powerful tool for assessing and monitoring human development globally, providing a broad and inclusive perspective on the well-being and capabilities of people around the world.
Impact	It serves as a critical tool for assessing and comparing human development across countries, guiding policy decisions, and promoting international cooperation towards achieving higher standards of living and well-being for all people
Proposed Solution	
Approach	The approach is multidimensional, inclusive, and forward-looking, emphasizing the importance of enhancing human capabilities and promoting sustainable development globally
Key Features	- Implementation of a robust linear regression model trained on a comprehensive dataset to provide accurate HDI predictions.

	-**Real-Time Results**: **Instant Prediction**: Upon submitting the form, users receive immediate HDI predictions without any noticeable delay, enhancing user satisfaction. **Dynamic Feedback**: The application dynamically displays the predicted HDI value on the same page, providing a smooth and interactive user experience.

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask
Libraries	Additional libraries	scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Jupyter Notebook, pycharm

Data		
Data	Source, size, format	Kaggle dataset, 614, csv UCI dataset, 690, csv