

## Project Initialization and Planning Phase

Date	13 July 2024
Team ID	739648
Project Title	Smartwatch Price Prediction
Maximum Marks	3 Marks

### Project Proposal (Proposed Solution) report

The proposal report aims to transform Smartwatch price prediction using machine learning, boosting efficiency and accuracy. It tackles system inefficiencies, promising better operations, reduced risks, and happier customers. Key features include a machine learning-based credit model and real-time decision-making.

Project Overview	
Objective	The primary objective of the smartwatch price prediction project is to develop a robust machine learning model that can accurately predict the prices of smartwatches based on various features and attributes. This objective can be broken down into specific, measurable goals.
Scope	The scope of the smartwatch price prediction project encompasses various aspects from data collection to deployment, ensuring a comprehensive approach to developing a robust and practical solution. The project scope includes.
Problem Statement	
Description	The smartwatch price prediction project aims to develop a robust and accurate machine learning model to predict the prices of smartwatches based on various features and attributes. This project involves multiple stages, from data collection and preprocessing to model development and deployment, ensuring a comprehensive approach to creating a practical solution for the smartwatch market.

### Proposed Solution

<b>Approach</b>	Predicting smartwatch prices accurately involves a systematic approach that integrates data collection, preprocessing, model selection, training, evaluation, and deployment. Here's a detailed approach for developing a smartwatch price prediction system.
<b>Key Features</b>	Implementation of a machine learning-based credit assessment model.

### Resource Requirements

Resource Type	Description	Specification/Allocation
<b>Hardware</b>		
Computing Resources	The processor and GPU are essential for efficient computations and model training.	CPU: Quad-core (Intel i5/AMD Ryzen 5) @ 2.5 GHz or higher, GPU: NVIDIA GTX 1060 (6GB VRAM) or equivalent.
Memory	Sufficient RAM is needed to handle large datasets and ensure smooth operations.	Minimum 16GB RAM, preferably 32GB or more for complex models.
Storage	Fast storage improves data loading times and overall system responsiveness.	At least 512GB SSD, with additional HDD for long-term storage.
<b>Software</b>		
Frameworks	Python frameworks	Flask
Libraries	Essential libraries for machine learning and data processing.	TensorFlow, PyTorch, Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn.
Development Environment	Tools and environments for developing and testing the prediction model.	Jupyter Notebook for interactive development, PyCharm or VS Code for full IDE support.
<b>Data</b>		
Data	Source, size, format	Kaggle dataset, 614, csv UCI dataset, 690, csv