

Project Initialization and Planning Phase

Date	5 october 2024
Team ID	SWTID1726832093
Project Title	Analysis of Amazon Cell Phone Reviews Using NLP Technique
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	Analyze Amazon cell phone reviews using natural language processing (NLP) techniques in order to extract sentiment, identify key features, and uncover consumer insights that inform product development and marketing strategies.
Scope	The project will analyze Amazon cell phone reviews from the past two years using NLP techniques to extract sentiment and key features, focusing exclusively on a predefined set of brands and models while excluding external factors and non-English reviews.
Problem Statement	

Description	The project involves applying natural language processing techniques to analyze customer reviews of cell phones on Amazon, aiming to extract sentiment, identify key features, and uncover insights that can inform product development and marketing strategies.
Impact	Effectively analyzing Amazon cell phone reviews using NLP techniques can lead to enhanced customer insights, improved product development, data-driven decision making, and a competitive advantage, ultimately fostering stronger customer relationships and driving business success.
Proposed Solution	
Approach	<i>The project will utilize web scraping for data collection, followed by text preprocessing, sentiment analysis using models like VADER or TextBlob, feature extraction through techniques such as TF-IDF, and trend analysis, culminating in visualizations and reports to provide actionable insights into customer opinions on cell phones.</i>
Key Features	The proposed solution uniquely combines advanced NLP techniques for sentiment analysis and feature extraction, enabling real-time insights into customer feedback trends, brand comparisons, and actionable recommendations tailored to enhance product development and marketing strategies in the cell phone market.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU specifications, number of cores	4 x Intel i7 CPUs (or higher)
Memory	RAM specifications	16 GB DDR4 RAM

Storage	Disk space for data, models, and logs	512 GB SSD
Software		
Frameworks	Python frameworks	Flask (for any web interface needed)
Libraries	Additional libraries for NLP and data processing	NLTK, SpaCy, Scikit-learn, Pandas, Matplotlib
Development Environment	IDE and version control	Jupyter Notebook, Git
Data		

Data	Source, size, format	Amazon reviews c format
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