

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

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S.No.	Parameter	Description
1.	Data Collection and Preprocessing	Gather a dataset of text data from the target domain (e.g., social media posts, articles). Preprocess the text data by removing special characters, converting text to lowercase, and tokenizing the text into words
2.	Rule-Based Hashtag Extraction	Develop a set of rules and heuristics for extracting hashtags from the text data. These rules could include: 1. Identifying words or phrases preceded by the '#' symbol. 2. Extracting hashtags based on certain patterns (e.g., words with capital letters). 3. Identifying trending or popular hashtags from the data.
3.	Frequency Analysis	Analyze the frequency of words and phrases in the dataset to identify common terms and phrases that could be potential hashtags.
4.	N-gram Analysis	Extract and analyze n-grams (e.g., bi-grams, tri-grams) to identify meaningful and relevant phrases that can be turned into hashtags
5.	Machine Learning Model:	Train a machine learning model, such as a Recurrent Neural Network (RNN) or a transformer-based model (e.g., GPT-3), on the preprocessed text data
6.	Evaluation	1. Evaluate the generated hashtags for relevance, accuracy, and effectiveness. 2. Use metrics like precision, recall, and F1-score to assess the quality of the generated hashtags

