**User Guide**

**Purpose**

The User Guide provides detailed instructions on how to operate the authorship identification system effectively. It outlines the operational process of the system, focusing on successful usage scenarios. Users can refer to this guide to understand how to utilize the system for authorship attribution tasks.

**Operational Process**

**1. Initialization**

* Ensure that the required dependencies, including Python and PyTorch, are installed on your system.
* Download the pre-trained BERT model and tokenizer from the Hugging Face model repository.
* Clone or download the project repository containing the ABSA classes (`ABSAModel`, `ABSABert`, `ABSADataset`) and the main script.

**2. Data Preparation**

* Organize your text data into CSV files following the specified template: tokens, tags, polarities.
* Each CSV file should contain texts attributed to specific authors, with polarities indicating Shakespearean (2) or non-Shakespearean (0) texts.

**3. Model Training**

* Initialize an instance of the `ABSAModel` class, specifying the tokenizer to use.
* Load the training data using the `ABSADataset` class, passing the CSV file paths and the tokenizer.
* Train the model's additional layer using the `train\_new\_layer` method, specifying the number of epochs and device (e.g., 'cpu' or 'cuda').

**4. Model Testing**

* Load the trained model using the `load\_model` method, specifying the model file path.
* Prepare the test data using the `ABSADataset` class, like the training data preparation.
* Test the model's performance using the `test\_model` method, passing the test dataset and device.

**5. Prediction**

* Once the model is trained and tested, it can be used to predict the authorship of new texts.
* Prepare the text data to be predicted in the same CSV format as the training and testing data.
* Initialize an instance of the `ABSADataset` class with the new text data.
* Use the `predict\_text\_writer` function to predict the authorship of the texts, passing the dataset as input.

**6. Result Analysis**

* Analyze the predictions generated by the model to determine the authorship of the texts.
* Shakespeare predictions will be labeled as 'Shakespeare', while non-Shakespeare predictions will be labelled as 'non-Shakespeare'.
* Review the predictions and use them for further analysis or decision-making.