This document provides an overview of the Self-Analysis Mental Health Model, covering data preprocessing steps, model selection rationale, inference and testing instructions, and UI usage.

1. Dataset Preprocessing Steps

1. **Data Loading:**
   * The dataset was loaded using pandas.
   * dataset = pd.read\_csv('Mental Health Dataset.csv')
2. **Handling Missing Values:**
   * Missing values were filled with the string "Unknown."
   * dataset = dataset.fillna("Unknown")
3. **Categorical Feature Encoding:**
   * Categorical features were encoded using scikit-learn's LabelEncoder.

2. Model Selection Rationale

* A Random Forest Classifier was selected.
* Reasons for choosing Random Forest:
  + Handles non-linear relationships well.
  + Provides feature importance estimates.
  + Relatively robust to outliers.
  + Achieves good performance on multi-class classification tasks.

3. UI Usage Instructions (Gradio Interface)

1. **Running the Interface:**
   * Execute the Python script containing the Gradio code (e.g., python mental\_health\_ui.py).
2. **Accessing the Interface:**
   * Gradio will provide a local URL (usually http://127.0.0.1:7860 or similar). Open this URL in your web browser.
3. **Inputting Data:**
   * The interface will display number boxes for each feature in your dataset. Enter the appropriate values.  
     \*The UI takes numbers as input. Make sure the columns are in the proper numerical format.
4. **Getting Predictions:**
   * Click the "Submit" button. The predicted mental health condition will be displayed in the output text box.
   * *The predictions will be displayed as numerical categories. These categories will be related to the Label Encoding used.*
   * The Gradio interface code is included as a base.  
     *If changes were made, the latest notebook used to implement Gradio should be provided.*

This comprehensive documentation covers dataset preprocessing, model selection, inference, and UI usage, providing a clear overview of your Self-Analysis Mental Health Model.