**Model Development Phase Template**

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| Date | 15 March 2024 |
| Team ID | PNT2022TMID124356 |
| Project Title | SmartLender - Applicant Credibility  Prediction for Loan Approval |
| Maximum Marks | 6 Marks |

**Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This

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| **Model** | **Description** | **Hyperparameters** | **Performance**  **Metric (e.g.,**  **Accuracy, F1**  **Score)** |
| Random  Forest | Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance for loan approval prediction. | - | Accuracy score =  81% |
| Decision  Tree | Simple tree structure; interpretable, captures non-linear relationships, suitable for initial insights into loan approval patterns. | - | Accuracy score =  73% |
| KNN | Classifies based on nearest neighbors; adapts well to data patterns, effective | - | Accuracy score =  77% |

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|  | for local variations in loan approval criteria. |  |  |
| Gradient  Boosting | Gradient boosting with trees; optimizes predictive performance, handles complex relationships, and is suitable for accurate loan approval predictions. | - | Accuracy score =  81% |

comprehensive report will provide insights into the chosen models and their effectivenes.