# Model Development Phase Template

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| Date | 08 July 2024 |
| Team ID | SWTID1720082372 |
| Project Title | Early Prediction of Chronic Kidney Disease Using Machine Learning |
| 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 comprehensive report will provide insights into the chosen models and their effectiveness.

**Model Selection Report:**

| Model | Description | Hyperparameters | Performance Metric (e.g., Accuracy, F1 Score) |
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| Random Forest | Ensemble of decision trees; robust, handles complex relationships, reduces overfitting, and provides feature importance for diverse prediction tasks. | - | Accuracy Score=97% |

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| Decision Tree | Hierarchical model; intuitive, interpretable, handles non-linear relationships, but prone to overfitting if not properly pruned. | - | Accuracy Score=94% |
| Logistic Regression | Linear model for classification; simple, interpretable, efficient for linearly separable data, but may underperform on complex, non-linear relationships. | - | Accuracy Score=90% |
| KNN | Instance-based learning; flexible, non-parametric, works well with non-linear data, but can be computationally expensive and sensitive to irrelevant features. | - | Accuracy Score=53% |