# Project Charter

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| **Group No: # 03** |  |  |
| **Team Members:** |  |  |
|  | **Srilakshmi Gummadidala: 0803509** | |
|  | **Yen Nga Le: 0824817** |  |
|  | **Tehsin Shaikh:0831234** |  |
|  | **Vinod Solomon Santhakumar: 0821990** | |

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| Project Identification | |
| **Name or Title** | Crime Rate Analysis in Toronto |
| **Description** | Implementation of a comprehensive crime analytics system to identify patterns, recommend prevention strategies, and enhance public safety in the city of Toronto. |
| **Project Sponsor** | Harpreet Vrik |
| **Project Manager** | Harpreet Vrik |
| **Start Date** | 5th Oct, 2023 |
| **Finish Date** | 15th April, 2024 |
| **Estimated Budget** | 116,000 CAD |

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| **Project OBJECTIVES (purpose)** |
| Aggregate diverse crime-related data sources to construct a comprehensive and well-organized dataset for in-depth analysis. |
| Implement cutting-edge analytical techniques to effectively identify, interpret, and visualize patterns and trends in crime data. |
| Develop a strategic framework that explores and recommends crime prevention strategies based on the insights derived from the identified patterns. |
| Assess and report on the current state of public safety in various areas within the city, incorporating metrics and indicators to measure safety levels comprehensively. |
| Provide stakeholders with user-friendly and interactive reporting tools, allowing for seamless exploration and understanding of crime-related data. |

| **Project's criteria for success (must be measurable)** |
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| Achieve a measurable reduction in overall crime rates within the specified timeframe, as compared to the baseline data. |
| Attain a stakeholder satisfaction regarding the usability and effectiveness of the implemented crime analytics system, measured through feedback surveys and user assessments. |
| Successfully complete the project within the estimated budget and timeline. |
| Demonstrate improvement in public safety by achieving positive changes in key metrics, such as reported incidents, citizen perceptions, and safety indicators. |
| Measure the effectiveness of the interactive reporting tools by tracking user engagement and the frequency of tool utilization |

| **Project SCOPE - HIGH LEVEL (INCLUDE PRODUCT AND PROJECT MANAGEMENT SCOPE)** |
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| **Product Scope:** |
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| Crime data collection and aggregation from diverse sources. |
| Implementation of data analysis techniques for pattern recognition. |
| Development of a crime prevention framework. |
| Geospatial mapping for visualizing crime patterns. |
| Interactive reporting tools for stakeholders. |
| Crime data collection and aggregation from diverse sources. |
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| **Project Management Scope:** |
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| Project planning, execution, and control. |
| Stakeholder communication and engagement. |
| Risk management and mitigation strategies. |
| Resource allocation and optimization. |

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| **key Project DELIVERABLES** | |
| **Name** | **Description** |
| **Comprehensive Crime-Related Dataset** | A consolidated and well-organized dataset comprising crime-related information sourced from diverse channels, including law enforcement records, community reports, and relevant datasets. |
| **Analytical Models for Pattern Recognition** | Implementation of advanced data analysis techniques, which may involve statistical analyses, machine learning algorithms, or other analytical methods, to identify and interpret patterns and trends within the crime data. |
| **Crime Prevention Framework Documentation** | Documentation outlining a comprehensive framework for exploring and recommending crime prevention strategies based on the patterns identified through data analysis. This documentation will serve as a guide for stakeholders to implement proactive measures. |
| **Geospatial Mapping Visualizations** | Integration of geospatial mapping capabilities to visually represent crime patterns and their spatial distribution across different neighborhoods in the city of Toronto. These visualizations will enhance the understanding of geographic crime trends. |
| **Interactive Reporting Tools** | Development of user-friendly and interactive reporting tools and dashboards for stakeholders. These tools will allow users to explore and comprehend crime-related data through features such as drill-down options, customizable views, and trend analyses. |

| **HIGH-LEVEL SCHEDULE** | | |
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| **Item** | **Major Events / Milestones** | **Dates** |
| 1.1 | Project Initiation | 05-Oct-23 |
| 1.2 | Data Collection | 10-Nov-23 |
| 1.3 | Descriptive Analysis | 17-Nov-23 |
| 1.4 | Data Cleaning and initial EDA | 27-Nov-23 |
| 1.5 | Tableau Dashboard | 18-Dec-23 |
| 1.6 | Base Model | 22-Jan-24 |
| 1.6 | Pre - Trained Model | 05-Feb-24 |
| 1.7 | Final Machine Learning Model evaluation | 26-Feb-24 |
| 1.8 | Report Generation with actionable insights and recommendations | 25-Mar-24 |
| 1.9 | Project Closure | 15-Apr-24 |

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| **CONSTRAINTS (Time, budget AND TECHNICAL)** |
| **Constraint Description** |
| **Time Constraint:** The project must be completed within the agreed-upon timeframe to ensure timely implementation of improvements. |
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| **Budget Constraint:** The project budget should not exceed the estimated budget to maintain cost-effectiveness. |
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| **Technical Constraint:** Availability of required tools and resources for data analysis. |
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| **Assumptions** |
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| **Description** |
| The project team will have access to necessary data and resources. |
| The project sponsor and manager will provide support and guidance. |

| **RISKS** |
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| **Description** |
| Potential delays due to unforeseen technical challenges. |
| Data sources may have inconsistencies or limitations. |
| Changes in legal or privacy regulations may impact system implementation. |

| **Signoff** |
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