**Project Initialization and Planning Phase**

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| Date | 16 June 2025 |
| Team | 178047 |
| Project Title | Unemployed Insurance Beneficiary Forecasting |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

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| **Project Overview** | |
| Objective | To increase the efficiency of unemployment insurance benefit handouts using machine learning to detect various trends such as demographic and economic situation that can be used to predict the volume of requests. To be delivered to government agencies, research and insurance companies. |
| Scope | This project analyzes different trends in unemployment benefit insurance and optimizes the process according to the needs of various customers. |
| **Problem Statement** | |
| Description | Increasing efficiency in the unemployed benefits resource allocation, according to the demands of the client. |
| Impact | This project will help allocate resources with greater efficiency as it studies various trends in the past and uses the data analyzed, to optimize the handouts process with optimal risk management and better output. |
| **Proposed Solution** | |
| Approach | Studying past trends in the field to predict future demands, hence providing optimal solutions to the resource allocation process and reducing inefficiency. |
| Key Features | Machine learning based model that helps predict demand for unemployment insurance based on various factors, determined by analyzing old data. |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU | Intel i5/i7 or equivalent, 4-8 cores |
| Memory | RAM | 8-16 GB RAM |
| Storage | Disk space | 20 GB SSD (to store datasets, models, and logs) |
| **Software** | | |
| Programming Language | Python | Version 3.7 or higher |
| Frameworks | Application development | Flask |
| Libraries | Data processing & modeling | pandas, numpy, matplotlib, seaborn, plotly, statsmodels, prophet, scikit-learn |
| Development Environment | IDE and version control | Google Colab, VS code, Git |
| **Data** | | |
| Data | Source and format | NY State Open Data Portal, CSV format, ~14,000 rows, ~2 MB |
| Access Permissions | Data availability | Publicly accessible |