# Project Initialization and Planning Phase

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| Date | 15 July 2024 |
| Team ID | 740044 |
| Project Title | **One Year Life Expectancy post on Thoracic Surgery using Machine Learning** |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) report**

The proposal report aims to Predict one-year life expectancy after thoracic surgery is crucial for patient well-being and clinical decision-making. Machine learning (ML) offers advanced capabilities to analyze complex datasets and provide accurate predictions, aiding in better management and outcomes for patients undergoing thoracic surgery

| **Project Overview** | |
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| Objective | The primary objective is To explores the ML approach to predicting one year survival, identifying key influencing factors, and emphasizing the importance of these predictions in clinical practice. |
| Scope | By training models on historical patient data, ML can predict the likelihood of a patient surviving one year post surgery, providing valuable insights for clinicians. |
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| **Problem Statement** | |
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| Description | Given patient data after thoracic surgery, our goal is to predict whether the patient will survive for one year after the surgery or not. Specifically, we want to determine if the patient will:- |
| Impact | "Predicting life expectancy after thoracic surgery involves training a model on a d estimate the likelihood of survival one year post-surgery." |

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| Key Features | - Implementation of a machine learning-based predicting assessment model. |

**Proposed Solution**

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**Resource Requirements**

| **Resource Type** | **Description** | **Specification/Allocation** |
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| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | Intel Graphics |
| Memory | RAM specifications | 8 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | Flask |
| Libraries | Additional libraries | scikit-learn, pandas, numpy, matplotlib, seaborn |
| Development Environment | IDE | Jupyter Notebook, spyder |
| **Data** | | |
| Data | Source, size, format | dataset, 614, csv dataset, 690, csv |

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| Approach | Employing machine learning techniques to analyze and<br>, creating a Model and train on data set to predict the patient life expectancy<br>. |