**Project Initialization and Planning Phase**

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| Date | 15 July 2024 |
| Team ID | 739766 |
| Project Name | **SDSS galaxy classification using Machine Learning** |
| Maximum Marks | 3 Marks |

**Define Problem Statements (Customer Problem Statement Template):**

Astronomers face significant challenges in classifying galaxies based on their Sloan Digital Sky Survey (SDSS) data. As an astronomer, I want to leverage machine learning to streamline and enhance the galaxy classification process. However, the current manual classification method is exceedingly time-consuming and prone to errors due to the sheer volume of data and the subjective nature of human classification. This situation leaves me feeling frustrated and inefficient, highlighting the urgent need for a more automated and reliable solution.

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| **Problem**  **Statement (PS)** | **I am** | **I’m trying to** | **But** | **Because** | **Which makes me feel** |
| PS-1 | An astronomer | Classify galaxies based on their SDSS(Sloan Digital Sky Survey)data using machine learning | The manual classification process is time-consuming and prone to errors | There is a large amount of data,and human classification is subjective | Frustrated and inefficient |
| PS-2 | A researcher in astrophysics | Utilize machine learning to automate and improve the accuracy of galaxy classification | The current manual classification method is labor-intensive and inconsistent | The SDSS dataset is vast and diverse,making manual classification impractical and error-prone | Overwhelmed by the volume of data and uncertain about the reliability of classifications |