**Project Initialization and Planning Phase**

| Date | 10 July 2024 |
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| Team ID | 739716 |
| Project Name | Predicting Base line histological staging in HCV patients using Machine Learning |
| Maximum Marks | 3 Marks |

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

**Certainly! Predicting the baseline histological stage in patients with Hepatitis C (HCV) using machine learning is a fascinating area of research. Let’s break down the problem statement:**

1. **Background:**
   * **Hepatitis C (HCV): HCV is a viral infection that primarily affects the liver. It can lead to chronic liver damage, cirrhosis, and even liver cancer if left untreated.**
   * **Histological Stage: Histological staging refers to assessing the severity of liver damage based on tissue samples (biopsies). It helps determine the extent of fibrosis (scarring) in the liver.**
   * **Baseline: The initial assessment when a patient is diagnosed with HCV.**

**2.Problem Statement:**

* **Objective: Develop a machine learning model that predicts the baseline histological stage in HCV patients based on relevant features.**
* **Input Features:**
  + **Clinical Data: Demographic information (age, gender, etc.), medical history, symptoms, and other relevant clinical factors.**
  + **Biomarkers: Blood-based markers (e.g., liver enzymes, viral load) that provide additional information about disease progression.**
* **Output: A predicted histological stage (e.g., mild fibrosis, moderate fibrosis, severe fibrosis, cirrhosis).**

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| **Problem**  **Statement (PS)** | **I am**  **(Customer)** | **I’m trying to** | **But** | **Because** | **Which makes me feel** |
| PS-1 | I am a HCV patient | Know the stage of HCV | Hard to know the stage of HCV | By knowing the stage I can recover | Optimizing to know about HCV stage |