Project Initialization and Planning Phase

Date	7 July 2024
Team ID	SWTID1720075414
Project Name	Panic Disorder Detection
Maximum Marks	3 Marks

Problem Statements :

Panic disorder, characterised by recurrent and unexpected panic attacks, affects millions globally and can significantly impair daily functioning. These attacks manifest as sudden episodes of intense fear, often accompanied by physical symptoms such as palpitations, sweating, and shortness of breath. The diagnosis of panic disorder is predominantly based on self-reported symptoms and clinical interviews, which can be subjective and vary widely between patients. This reliance on subjective reporting often leads to under-diagnosis or misdiagnosis, delaying appropriate treatment and worsening patient outcomes.

There is a critical need for an objective, efficient, and accurate method to detect panic disorder early. The goal of this project is to develop a reliable and automated detection system using machine learning techniques. This system will analyse patterns in physiological data (e.g., heart rate, electrodermal activity), behavioural indicators (e.g., activity levels, sleep patterns), and psychological assessments (e.g., standardised questionnaires) to identify individuals with panic disorder.

To achieve this, we will collect a comprehensive dataset, perform feature engineering to extract relevant indicators, and train machine learning models to differentiate between individuals with and without panic disorder. The system's performance will be evaluated using metrics such as accuracy, sensitivity, and specificity. Ensuring data privacy and model interpretability will be paramount throughout the project.

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A patient suffering from frequent panic attacks	Find a reliable and objective way to get diagnosed and treated for my condition	I struggle with inconsistent and subjective clinical assessments	the current diagnostic methods heavily rely on self-reported symptoms and clinician interpretation	frustrated, anxious, and unsure about my health and treatment options.

| PS-2 | A healthcare professional specializing in mental health | accurately diagnose patients with panic disorder to provide effective treatment | face difficulties due to the variability of symptoms and reliance on patient self-reports | there is a lack of objective and consistent diagnostic tools available | concerned, limited, and pressured to ensure accurate patient care. |