# LearnNova - Personalized Learning Pathway Generator

Project ID : AD0051

# Problem Statement :

# Today, there are a lot of online learning resources available, but learners often feel confused and lost. With so many options, it's hard to know where to start, what to follow, and how to stay on track. Many people lose motivation or get stuck because they don’t have a clear, step-by-step plan. Most learning platforms offer the same courses to everyone, instead of creating a learning path based on each person's goals, skill level, and time.

# Project Idea: Learn Nova :

# Learn Nova is a smart learning platform that helps users reach their career goals by creating a custom learning path just for them. Based on what the user wants to achieve, how much they already know, how much time they have, and how they like to learn, the platform builds a step-by-step plan. It also makes learning fun by using game-like features to keep users motivated and on track.

Ex : A college student wants to become a **Data Analyst**. They enter their goal, current skills, available time, and learning preferences into **Learn Nova**.

The platform creates a personalized daily plan with tasks like:

* Learn Python basics
* Practice data cleaning with Pandas
* Build a mini data project

As they complete tasks, they earn **XP points**, **badges**, and maintain **streaks**—all shown in a fun, game-like interface to keep them motivated.

# What Will It Do?

Learn Nova will:

* Ask users about their goal, time, and current skills
* Create a step-by-step learning plan (like becoming a Data Analyst)
* Divide the plan into smaller goals and daily tasks
* Suggest useful resources (videos, articles, projects)
* Provide a daily schedule to stay on track
* Make learning fun with points, badges, streaks, and a game-like layout
* Let users connect with friends and track progress on a leaderboard (optional)

# Team Roles (Excluding Team Leader)

**Data Science Engineer:**

* Collaborates on designing the learning path generation model
* Develops recommendation logic and adaptive learning algorithms
* Works on user profiling, XP scoring, and task difficulty progression

**Frontend Developer :**

* Builds the interactive web interface using React.js
* Implements gamified UI (Candy Crush-like layout)
* Designs dashboards, progress bars, streak trackers, and XP meters
* Ensures smooth, responsive, and engaging user experience

**Backend Developer :**

* Develops APIs for user authentication, learning path, progress, and gamification tracking
* Designs and manages the database
* Implements XP, badges, and streak logic on the server
* Ensures secure and scalable backend architecture

**DevOps :**

* Designs the system architecture, defining communication between services
* Handles deployment, scalability, and performance tuning
* Sets up CI/CD pipelines for automated testing and deployment
* Manages containerization (Docker), server hosting, and monitoring
* Implements caching, load balancing, and secure API gateways