MINI PROJECT REPORT

Project title: Employee Training Platform
Name of the Institution :Ballari Institute of Technology and Management
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EMPLOYEE TRAINING PLATFORM

-TEAM 8

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Introduction to the Program:

This Python program is designed to manage employees and their assigned training modules in an employee training platform. It allows for adding, updating, deleting employees, assigning training modules, tracking employee progress, and listing all employees.ee training platform. It allows for adding, updating, deleting employees, assigning training modules, tracking employee progress, and listing all employees.

Scope:

- Employee Management
- Training Module Assignment
- Progress Tracking
- Employee Listing
- Interactive console

Limitations:

- Limited Data Persistence
- No Input Validation for Strings
- No User Authentication
- Scalability
- Limited Error Handling
- Lack of Module Information

Problem Statement: In organizations, managing employee training and tracking progress can be a time-consuming process. Employees often need to be assigned different training modules based on their roles and responsibilities, and it becomes essential for managers to track each employee's progress in completing the assigned modules. This program is designed to automate this process, offering a basic platform where employees can be added, updated, or removed, and their training modules can be tracked.

Main Goals or Aims of the Program:

- <u>Simplify Employee Management</u>: Provide an easy-to-use platform for adding, updating, and removing employee records, allowing for efficient management of employee information.

- <u>Automate Training Module Assignment</u>: Enable the assignment of training modules to employees in a structured and error-free manner, preventing duplicate assignments and simplifying the process for managers.

- <u>Track Employee Training Progress</u>: Allow users to track the progress of employees by listing the training modules assigned to them. This helps in monitoring the completion of required training.

- <u>Provide a Comprehensive Employee Overview</u>: Offer a quick and organized view of all employees along with their assigned training modules, giving managers a clear overview of the current training status.

- <u>Ensure Real-time Interactivity</u>: Allow for real-time updates and retrieval of employee and module data through an interactive console interface, making the process more dynamic and user-friendly.

- <u>Maintain Data Integrity</u>: Ensure that employee IDs and module assignments are unique and valid, preventing inconsistencies and redundant data in the system.

Algorithm for the Employee Training Platform Program:

1. Initialize Platform:

- Create a class Employee that has attributes employee_id, name, and training_modules (an empty list).

- gn_module(module_id):
- Adds a module Create methods within Employee:
- assiif not already assigned.
- generate_progress(): Displays the employee's assigned modules.
- Create a class EmployeeTrainingPlatform that manages multiple employees with:
- A dictionary employees to store employee objects (key: employee_id, value: Employee instance).
- Methods to add, update, delete employees, assign modules, view progress, and list all employees.

2. Interactive User Menu:

Display the following options repeatedly:
1. Add Employee   2. Update Employee   3. Delete Employee   4. Assign Module   5. Show Progress
6. List All Employees   7. Exit
- Based on the user's input, perform the corresponding action.

.3. For Each Menu Choice:

- Add Employee: Prompt for employee_id and name. Add to employees if the ID does not exist.

- Update Employee: Prompt for employee_id and new_name. Update the name if the ID exists.   -

- Delete Employee: Prompt for employee_id. Delete the employee if the ID exists.   -

- Assign Module: Prompt for employee_id and module_id. Assign the module if the employee exists and it is not already assigned.   -

- Show Progress: Prompt for employee_id. Show the employee's training modules.   -

- List All Employees: Display all employees with their assigned modules.   -

- Exit: End the program

4. Handle Invalid Input:

- If the user enters an invalid choice or non-existent employee ID, display an error message and prompt again

OUTPUT OF THE CODE

```
1. Add Employee
2. Update Employee
3. Delete Employee
4. Assign Module
5. Progress
6. Employee List
7. Exit
Choose: 1
ID: 01
Name: Amulya


1. Add Employee
2. Update Employee
3. Delete Employee
4. Assign Module
5. Progress
6. Employee List
7. Exit
Choose: 1
ID: 02
Name: Vasantha
```

```
1. Add Employee

2. Update Employee

3. Delete Employee

4. Assign Module

5. Progress

6. Employee List

7. Exit

Choose: 6

Employee List:

ID: 1, Name: Amulya, Modules: None

ID: 2, Name: Vasantha, Modules: None
```

Conclusion:

- This Python-based employee training management program provides a simple yet effective solution for managing employees and tracking their training progress. By utilizing object-oriented programming principles, the program efficiently handles employee data, training module assignments, and progress tracking. The interactive console interface makes it user-friendly, allowing real-time management of employee records without the need for advanced software.

- However, while the program serves its purpose in small-scale scenarios, it is limited by its lack of data persistence, input validation, and scalability. Future enhancements such as integrating data storage, adding authentication, and improving the user interface could transform it into a more robust and comprehensive tool for managing training programs in larger organizations. Nonetheless, it serves as a solid foundation for further development and showcases fundamental programming techniques for employee management applications.

- <u>This program manages employee training with key features:</u>
 1. Employee Class: Stores employee details and assigned modules.
 2. Platform Class: Manages adding, updating, deleting employees, and assigning modules.
 3. Menu Interface: Allows users to interact with the system via a console menu.

- <u>Lessons:</u> - Organized code using classes and methods.- Modular design for scalability.- Basic input validation and user interaction.