

C&P Course

Hackathon

Idea Submission Form

For students (instructor review required)

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Idea Submission Form

Capture your test idea by completing this simple form.

Samsung Innovation Campus

1. Team Member Names and Roles

NAME	Role in Team
Ms. Kavya Sharma	Team Leader, Model Builder
Mr. Nitish Kumar	Research & Testing
Mr. Suryansh Ranote	Data Lead
Ms. Prabhleen Kaur	Presentation & Demo

2. Test Name

Employee Record Management System (ERMS)

3. Test Description

Problem Statement

Many small and medium-sized organizations still rely on **manual record-keeping or fragmented digital tools** (spreadsheets, paper files, basic forms) to manage employee information. This leads to:

- Data inconsistency and duplication
- Time-consuming record updates
- Poor data security
- Difficulty in searching, updating, or maintaining employee records
- Such inefficiencies directly affect operational productivity and decision-making.

Proposed Solution

Our prototype, **Employee Record Management System (ERMS)**, is a **desktop-based application** that provides a **centralized, secure, and user-friendly platform** for managing employee records.

The system allows administrators to:

- Add, update, search, and delete employee records
- Store employee data securely in a structured MySQL database
- View records in a clean, tabular interface
- Perform operations efficiently with real-time UI updates

The solution is built using **Python**, **CustomTkinter**, and **MySQL**, ensuring both usability and scalability.

(1) What value your idea generating (environmental, social, financial and etc.)?

Value Generated by the Idea

- **Social Value:**
Reduces administrative workload and human error, enabling staff to focus on more productive tasks.
- **Operational Value:**
Improves efficiency in employee data handling and reduces dependency on manual processes.
- **Technical Value:**
Demonstrates real-world application of database management, UI design, and CRUD operations.
- **Scalability Potential:**
Can be extended to include authentication roles, analytics, payroll, and attendance modules.

(2) Are there any considerations that need to be taken into account for the community (will people love this idea, or have to get used to it, does it negatively affect any people?)

Community Considerations

- The system is **easy to use**, even for non-technical users.
- Minimal training is required due to its intuitive interface.
- Does not negatively impact any group; instead, it replaces outdated and inefficient workflows.
- Designed with simplicity and clarity to ensure high adoption.

(3) How will this impact the community (positively or negatively)?

Community Impact

Positive Impact:

- Faster and more accurate employee record management
- Better data organization and accessibility
- Increased transparency and accountability in organizations

Negative Impact:

- Initial adjustment from manual systems to digital tools (short learning curve)

Overall, the impact is **strongly positive**.

(4) Any outstanding questions and/or assumptions that you can answer about your idea?

Outstanding Questions / Assumptions

- The system assumes access to a local or hosted MySQL database.
- The current version assumes a single admin user.
- Future enhancements may require role-based access control.

(5) What are the largest unanswered or looming questions that would need to be answered before developing this idea further?

Largest Unanswered or Looming Questions

- How can the system be securely deployed in a multi-user environment?
- How can data encryption and advanced authentication be implemented?

- What cloud-based deployment options can be explored for scalability?

These questions guide future development phases

- (6) What is the primary goal or metric you are trying to impact for this test (e.g. purchases, average order value, lead form submissions etc.)

Primary Goal / Metric to Impact

- Reduction in time required to manage employee records
- Accuracy and consistency of employee data
- Ease of record retrieval and modification
- User satisfaction and adoption rate

Why This Idea Stands Out

- Solves a **real-world, common problem**
- Demonstrates **practical software engineering skills**
- Combines UI design, database management, and backend logic
- Easily extendable into a full enterprise solution