# TITLE PAGE

- **Problem Statement ID – SIH1613**
- **Problem Statement Title- Automated System for Career Advancements of the Faculties of Higher Education**
- **Theme- Smart Education**
- **PS Category- Software**
- **Team ID-**
- **Team Name (Registered on portal):HexaCode**

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# IDEA TITLE

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## Solution Description

**FACULTY PERFORMANCE MANAGEMENT SYSTEM:** We have designed an advanced web portal that integrates machine learning, data visualization, and secure cloud computing to optimize faculty performance tracking and appraisal. This system provides a seamless and efficient platform for faculty to manage and improve their professional activities.

The portal features:

1. **Faculty Dashboards** for tracking attendance, research submissions, and performance metrics.
2. **Student Review Interface** enabling real-time feedback collection.
3. **Admin Dashboards** with leaderboards, appraisal management, and performance monitoring.
4. **AI-Driven Performance Scoring** calculating comprehensive faculty scores using weighted metrics.

## USP

**Google Scholar Sync:**
Automated tracking for accurate publication records.

**AI Insights:**
Personalized recommendations for faculty improvement.

**Dynamic Leaderboards:**
Real-time rankings to drive competition.

**Appraisal Forecasting:**
Predictive analytics for appraisal and promotion insights.

**Top-Tier Security:**
Unbreakable session management and anti-DDoS protection.

**Student Engagement Interface:**
A dedicated review page for students to provide feedback, improving faculty evaluation.

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# FEASIBILITY AND VIABILITY

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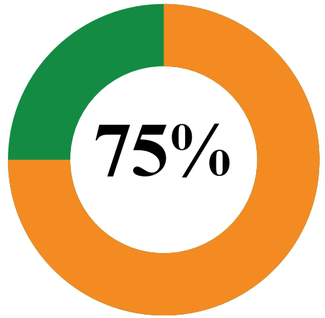
**Market Demand:**

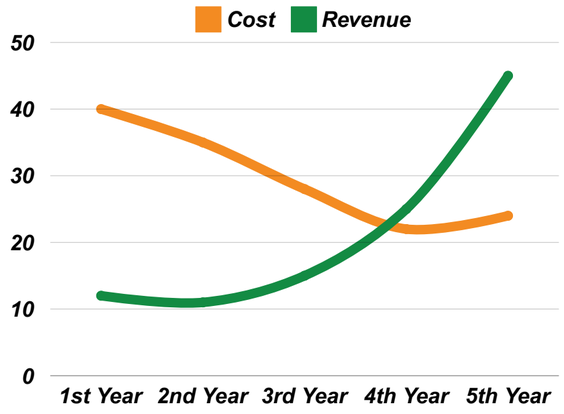
75% of institutions lack effective faculty management systems.




**Cost & Revenue Efficiency:**

60% admin cost reduction, with a scalable subscription model projected for growth.

60% admin cost reduction




**Potential Challenges:**

- Resistance to change
- Data security concerns
- Expansion to non-educational sectors

**Mitigation Strategies:**

User Training to ease transition

Military-Grade Security with encryption and anti-DDoS

Modular Design for broader applications

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# TECHNICAL APPROACH

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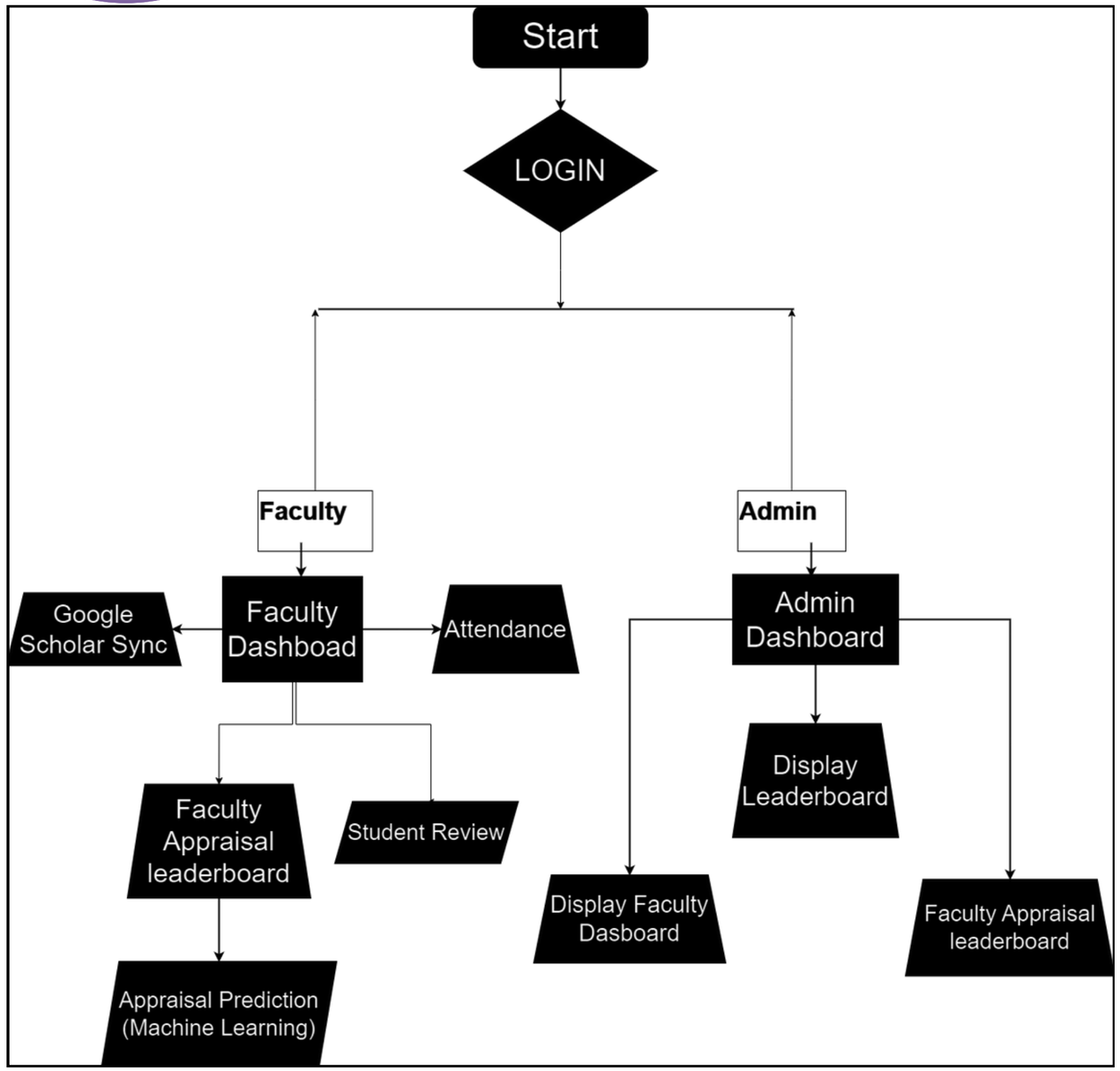

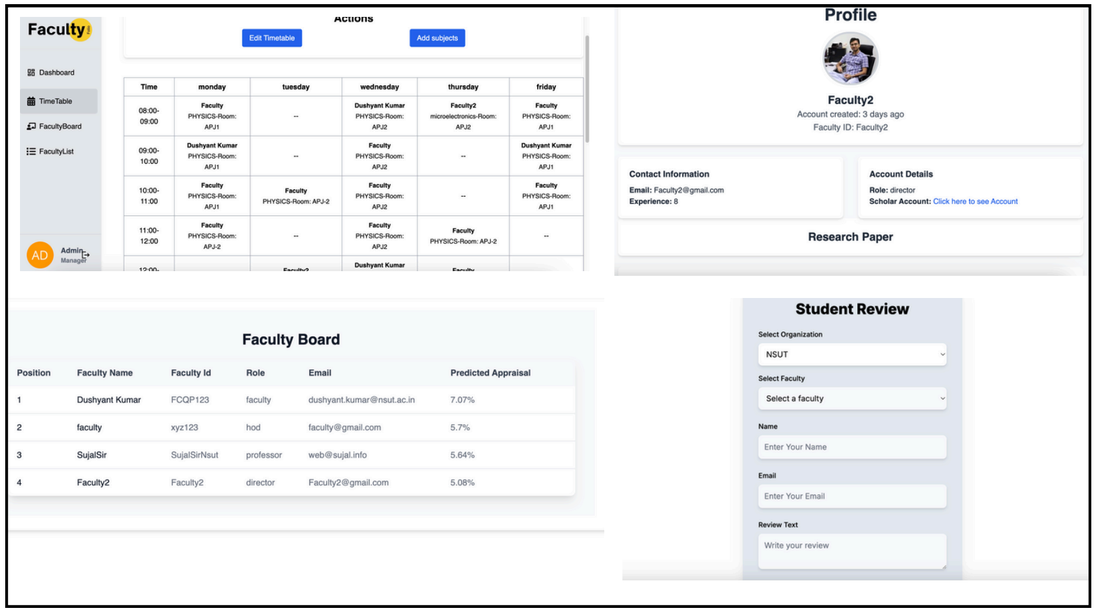

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# IMPACT AND BENEFITS

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## Impact

**Faculty:**

- Fair Appraisals
- Growth
- Less Admin Work

**Students:**

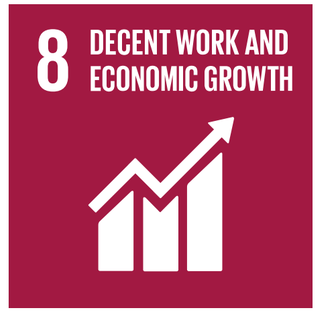
- Improved Learning
- Better Engagement

**Administrator:**

- Efficient Management
- Cost Savings

## Benefits

1. **Social:** Promotes transparency, equity, and a culture of growth within the institution.
2. **Economic:** Increases productivity, reduces costs, and improves faculty retention.
3. **Environmental:** Minimizes paper use and energy consumption through digital processes.



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# IMPACT AND BENEFITS

SMART INDIA HACKATHON 2024

## Impact

### 1.Faculty :

- **Growth:** Provides insights for continuous improvement.
- **Fair Appraisals**: AI ensures unbiased evaluations.
- **Less Admin Work**: Automates tasks like attendance.

### 2.Students:

- **Improved Learning**: Real-time feedback boosts teaching.
- **Better Engagement**: Encourages open communication.

### 3.Administrator:

- **Efficient Management:** Data-driven decisions.
- **Cost Savings:** Reduces admin expenses.

## Benefits

1. **Social:** Promotes transparency, equity, and a culture of growth within the institution.
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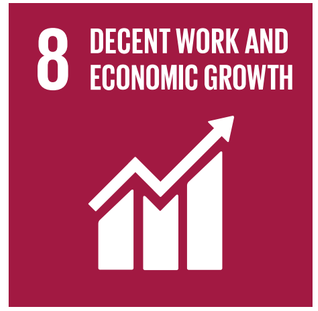

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# RESEARCH AND REFERENCES

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- Research on Faculty Evaluation and Performance Appraisal .

  https://files.eric.ed.gov/fulltext/ED367410.pdf#page=405

- Research paper on linear regression algorithm used for machine learning with Limited Observation.

  https://icml.cc/2012/papers/433.pdf

- Research paper on ridge regression algorithm also sought for machine learning.

  https://www.researchgate.net/publication/243779628_Ridge_Regression_in_Practice