**VASIREDDY VENKATADRI INSTITUTE OF TECHNOLOGY**
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Accredited by NAAC with 'A' Grade, ISO 9001:2008 Certified
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**Department of CSE - Artificial Intelligence & Machine Learning**

### CSM & AIML Students' Major Project Review Guidelines

➤ **Every Project-Supervisor**

- should sit with the project teams for at least one hour a day to make the features of the project developed and a prototype is made ready on time.
- It is the responsibility of the supervisor to coordinate with students and the implementation of the project.

➤ **Instructions for students**

- Students are advised to use the FIGMA Technology to develop the static webpages.
- Students may choose the Udemy FIGMA courses suitably, for help. (https://www.udemy.com/course/uiux-design-with-figma-5-real-world-projects2022/?kw=figma+projects&src=sac&subs_filter_type=subs_only&couponCode=KEEPLEARNING )
- Useful You tube video for understanding FIGMA: Figma UI Design Tutorial - How To Redesign Any Website (A Beginner's Guide)

**Students should come with:**

- GitHub Repo ready and Day wise Update Version
- Project Implementation Review will be conducted only if the Proposing System was Deployed onto the server only from the Review-0.
- For Every Review all Team Members must submit Task Completion Logs to the guide and duly sign before the any Review.
- If Any Student absent for any Review , 0 marks will be awarded, if & only with HoD's Permission, Considers only 50% of the Marks of the Attendance.

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**Annexure 1.**

**Rubrics for Project Evaluation**

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## 1. Web Application Functionality (15 marks)

- **Core Features (8/15 marks):**

Assess the functionality of the web application, including basic features (e.g., user authentication, CRUD operations) and how well these features are implemented.

  - Example: All core features are implemented but require optimization for user experience.

- **User Interface (UI) Design (4/15 marks):**

Evaluate the aesthetics, intuitiveness, and consistency of the UI design across various devices.

  - Example: The design is appealing and responsive, but certain UI elements could be more user-friendly.

- **User Experience (UX) (3/15 marks):**

How smooth and intuitive is the user experience? Are there any usability or navigation issues?

  - Example: Navigation is intuitive, but a few actions are not clearly defined for users.

**Total: 13/15**

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## 2. Back-End Development (15 marks)

- **Server-Side Logic (8/15 marks):**

Review the server-side code, including API implementation and how well it communicates with the machine learning models and cloud infrastructure.

  - Example: API integration is good but lacks error handling for edge cases.

- **Database Design and Performance (5/15 marks):**

Assess the database schema, indexing, and optimization for the web application.

  - Example: Database structure is logical, but query performance under heavy loads could be improved.

- **Security (2/15 marks):**

Evaluate how well security measures such as encryption, input validation, and authentication are implemented.

  - Example: Authentication and encryption are in place, but CSRF protection is missing.

**Total: 12/15**

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**3. Cloud Infrastructure and Integration (20 marks)**

- **Cloud Service Usage (8/20 marks):**

  Assess the use of cloud resources such as AWS (or other cloud providers) for hosting, storage, and database management. Were cloud services like EC2, S3, and RDS used effectively?

  - o Example: EC2 and S3 are well utilized, but cost management through reserved instances could have been better.

- **Scalability and Performance (5/20 marks):**

  Evaluate the use of cloud features like autoscaling, load balancing, and caching for optimizing performance.

  - o Example: Autoscaling is implemented, but performance could be enhanced using load balancing.

- **Deployment and Monitoring (4/20 marks):**

  Review the continuous integration/continuous deployment (CI/CD) pipeline and the use of monitoring tools (e.g., AWS CloudWatch).

  - o Example: CI/CD pipeline is functioning well, but monitoring is only partially set up.

- **Cost Optimization (3/20 marks):**

  Assess whether the team used cloud resources cost-effectively, considering reserved instances or serverless computing.

  - o Example: Cost management is decent, but opportunities for using cheaper spot instances were missed.

**Total: 17/20**

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**4. Machine Learning Model (25 marks)**

- **Model Development and Accuracy (10/25 marks):**

  Assess the complexity and relevance of the machine learning model used. How accurate is the model, and does it meet the project's requirements?

  - o Example: The model performs well but could be further tuned for accuracy.

- **Data Preprocessing and Feature Engineering (5/25 marks):**

  Review how well the team handled data preprocessing (e.g., cleaning, normalization) and feature selection.

o Example: Data preprocessing is thorough, but feature selection could be improved.

- **Integration with Web Application (5/25 marks):**

Evaluate how well the machine learning model is integrated into the web application. Is the inference process seamless for the user?

o Example: The model is integrated well, but the response times for inference are slightly delayed.

- **Model Deployment in the Cloud (5/25 marks):**

Review how the machine learning model is deployed in the cloud (e.g., AWS SageMaker, Azure ML) and the use of cloud resources for scalability.

o Example: The model is deployed via AWS SageMaker but lacks real-time scalability.

**Total: 21/25**

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## 5. Security and Compliance (10 marks)

- **Web Security (5/10 marks):**

Evaluate the security of the web application, including HTTPS, CSRF protection, and other security best practices.

o Example: HTTPS is implemented, but input validation needs improvement.

- **Cloud and Model Security (5/10 marks):**

Review cloud security practices, including IAM roles and encryption, as well as securing machine learning APIs.

o Example: Cloud security is handled well, but securing ML API access requires more attention.

**Total: 8/10**

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## 6. Performance and Optimization (10 marks)

- **Front-End Optimization (3/10 marks):**

Evaluate how well the front-end is optimized, including load times, caching, and responsiveness.

o Example: Front-end performance is generally good, but large images could be optimized.

- **Back-End and ML Model Optimization (4/10 marks):**

  Assess how well the back-end and ML model handle load and inference times. Were optimization techniques applied to enhance speed and performance?

  - Example: The back-end performs well under light loads, but ML model inferences could be faster.

- **Database and API Optimization (3/10 marks):**

  Review database and API performance for handling large-scale data and requests.

  - Example: Database queries are optimized, but API response times slow under heavy traffic.

**Total: 7/10**

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### 7. Team Collaboration and Project Management (5 marks)

- **Role Distribution and Communication (3/5 marks):**

  Review how well the team worked together, including role assignment and communication.

  - Example: The team worked well, but communication during deployment phases could have been smoother.

- **Project Timeline and Delivery (2/5 marks):**

  Assess whether the project was delivered on time and according to plan.

  - Example: The project was delivered late due to delays in integrating the machine learning model.

**Total: 4/5**

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### 8. Challenges and Innovation (5 marks)

- **Problem-Solving Approach (3/5 marks):**

  Review how well the team addressed technical challenges throughout the project.

  - Example: The team handled cloud deployment challenges but struggled with model integration.

- **Innovation in Web, Cloud, or ML (2/5 marks):**

  Did the team implement any innovative features or advanced cloud/ML solutions?

  - Example: The recommendation system using the ML model is an innovative feature, but further advancements in automation could have been explored.

**Total: 5/5**

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**Bonus (if applicable):**

- **Extra Credit for Advanced Features (up to 5 marks):**
  Award additional marks for advanced cloud services, unique machine learning models, or innovative web features.
- Example: No advanced features beyond the project scope were implemented.

| Category | Marks Awarded | Total Marks |
|---|---|---|
| Web Application Functionality | | 15 |
| Back-End Development | | 15 |
| Cloud Infrastructure and Integration | | 20 |
| Machine Learning Model | | 25 |
| Security and Compliance | | 10 |
| Performance and Optimization | | 10 |
| Team Collaboration and Project Management | | 5 |
| Challenges and Innovation | | 5 |
| **Total** | | **100** |