Faculty of Science and Technology

Savitribai Phule Pune University

Maharashtra, India

Project Work Book

Fourth Year

Artificial Intelligence and Data Science

(2019 Course)

(With effect from A.Y. 2023-24)

Project Work Book

(Guidelines and Logbook)

Course Code: 417527 & 417536

(2020 Course)

Group ID/No: 10

Project Syndicate

Sr.	Name of the student	Phone No
1	Gautami Kadam, Project Leader	9975765596
2	Jay Sawant, Member	9028730241
3	Pranav Mule, Member	7020022091
4	Saurabh kale, Member	7588553193

Project Title: **Smart Shopping Cart with Automatic Pricing, Product Information and Recommendation System**

Project Domain/Area: IOT, ML

Project Guide (Internal): Ms. Jyotsna Babras (Barpute)

Project Guide (External): Mr. Anil Walke

Sponsorship: . . . . . .

Department of Artificial Intelligence and Data Science

DR. D.Y. PATIL INSTITUTE OF TECHNOLOGY, PIMPRI, PUNE – 18

Academic Year: 2023-24

Preamble

Project work is one of the most important components of the curriculum for an Engineering Graduate. Right from conceiving the idea to its materialization, is a journey that has to be systematized, well defined and well documented to enjoy the full benefits of the efforts undertaken. Every activity of the project development has its own importance. Team formation, conceiving the idea, preparing the hypothesis, reporting the progress and development to the guide(/mentor), Interactions, suggestions and improvements, relevant documentations in proper format, schedule plans and visit logs are some of the typical activities involved in project development. Every institute is following their own best methods and techniques as per the guidelines and curriculum of the affiliated university. To bring uniformity for the project work there is a need to come together and prepare comprehensive guidelines and to standardize the process. This project work book will serve the purpose and facilitate the job of students, guide and project coordinator. This document will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken. This document will definitely support the work undertaken.

Dr. Nilesh J. Uke

Chairman, Board of Studies Computer Engineering

Savitribai Phule Pune University

General Instruction

1. All students must enter the correct information in the work book.
2. All the entries in the project work book must be verified by the concerned project guide.
3. Students must report to their respective guide on project day as per the time table.
4. Activities of the project work should be completed as per the project plan only.
5. Project group must submit soft copies of Project Abstract, Project Report and Publications in PDF format only.
6. Project group member submit **two** hard copies of Project report in the format provided by department.
7. Project work book must be brought at the time of Project Reviews & Project Examination.
8. Any changes, if any, must be counter signed by the concerned project guide.
9. For any query, concerned guide should be consulted.

Program Educational Objectives

PEO1. To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.

PEO2. To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.

PEO3. To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking.

PEO4. To prepare the graduates with strong managerial and communication skills to work effectively as an individual as well as in teams.

Program Outcomes

Students are expected to know and be able –

PO1. To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.

PO2. To analyze the problem by finding its domain and applying domain specific skills

PO3. To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PO4. To find solutions of complex problems by conducting investigations applying suitable techniques.

PO5. To adapt the usage of modern tools and recent software.

PO6. To contribute towards the society by understanding the impact of Engineering on global aspect.

PO7. To understand environment issues and design a sustainable system.

PO8. To understand and follow professional ethics.

PO9. To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.

PO10. To demonstrate effective communication at various levels.

PO11. To apply the knowledge of Artificial Intelligence and Data Science for development of projects, and its finance and management.

PO12. To keep in touch with current technologies and inculcate the practice of lifelong learning.

Program Specific Outcomes (PSO)

A graduate of the Artificial Intelligence and Data Science Program will demonstrate-

PSO1: Professional Skills-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexities.

PSO2: Problem-Solving Skills- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3: Successful Career and Entrepreneurship- The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

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1. Project Work

The word *project* comes from the Latin word *projectum* from the Latin verb *proicere*, "to throw something forwards" which in turn comes from *pro-*, which denotes something that precedes the action of the next part of the word in time (paralleling the Greek πρό) and *iacere*, "to throw". The word "project" thus actually originally meant" something that comes before anything else happens". (Curtsey Ref-http://en.wikipedia.org/) The intention of Project work is to conceive an idea and to implement it systematically by using knowledge derived during the course of education mainly to innovate or facilitate.

A group of Under Graduate students at Final Year will undertake project over academic year. Work involves study of feasibility of the project, planning of project, studying existing systems, tools available to implement the project and state of art software testing procedures and technology with use of case tools, design is to be implemented into a working model (software or hardware or both) with necessary software interface as an executable package.

1.1 Project Review Committee (PRC):

It is recommended to form a departmental “Project Review Committee” to monitor project activities comprising of Head, Project Coordinator, Industry Expert(s), External Expert(s), Department Academic Coordinator and few senior guides.

1.2 Mapping of Course Outcomes (CO) of Project Work and Program Outcomes (PO) for Stage-I:

The proper assessment of the COs and POs is one of the most important processes and it is to be done with precision and planning. It is recommended to assess the students continuously as they progress through the program. It is collectively one or more processes that define, collect, and prepare data to evaluate the achievement of Program Outcomes. Every COs are to be mapped to different POs based on their influence of COs on them. Sample mapping of PO and CO for project work stage I is given in table 1.

Table 1: Mapping of CO and PO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		3	3	2	2	3	3	2		2
CO2	3	3		3	3	2	2	3	3			2
CO3	2	3	2	3	3	3	2	3	3		3	2
CO4								3	3	3	2	2
CO5								2	3	3	2	2

Course Objectives

- To Apply the knowledge for solving realistic problem
- To develop problem solving ability
- To Organize, sustain and report on a substantial piece of team work over a period of several months
- To Evaluate alternative approaches, and justify the use of selected tools and methods
- To Reflect upon the experience gained and lessons learned
- To Consider relevant social, ethical and legal issues
- To find information for yourself from appropriate sources such as manuals, books, research journals and from other sources, and in turn increase analytical skills
- To Work in team and learn professionalism

Course Outcomes: On completion of the course, student will be able to–

CO1: Solve real life problems by applying knowledge

CO2: Analyze alternative approaches, apply and use most appropriate one for feasible solution

CO3: Write precise reports and technical documents in a nutshell

CO4: Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work

CO5: Inter-personal relationships, conflict management and leadership quality

Mapping of Course Outcomes (CO) of Project Work and Program Outcomes (PO) for Stage-II :

The proper assessment of the COs and POs is one of the most important processes and it is to be done with precision and planning. It is recommended to assess the students continuously as they progress through the program. It is collectively one or more processes that define, collect, and prepare data to evaluate the achievement of Program Outcomes. Every COs are to be mapped to different POs based on their influence of COs on them. Sample mapping of PO and CO for project work stage II is given in table 2.

Table 2: Mapping of CO and PO

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1							2	3	3	3		3
CO2	2	3	3	3	3	3	2	3	3		3	2
CO3	1	3	3	3	3	3	2	3	3		3	2
CO4		3	3	3	3		2	3	3		3	2
CO5								3	2	2	2	2

Course Objectives:

- To follow SDLC meticulously and meet the objectives of proposed work
- To test rigorously before deployment of system
- To validate the work undertaken
- To consolidate the work as furnished report

Course Outcomes:

After completion of the course, learners should be able to-

CO1: Show evidence of independent investigation

CO2: Critically analyze the results and their interpretation

CO3: Report and present the original results in an orderly way and placing the open questions in the right perspective

CO4: Link techniques and results from literature as well as actual research and future research lines with the research

CO5: Appreciate practical implications and constraints of the specialist subject

Semester I – Syllabus (Stage I)

Guidelines

Project work Stage – I is an integral part of the Project work. In this, the student shall complete the partial work of the Project which will consist of problem statement, literature review, SRS, Model and Design. The student is expected to complete the project at least up to the design phase. As a part of the progress report of project work Stage-I, the candidate shall deliver a presentation on the advancement in Technology pertaining to the selected project topic. The student shall submit the duly certified progress report of Project work Stage-I in standard format for satisfactory completion of the work by the concerned guide and head of the Department/Institute. The examinee will be assessed by a panel of examiners of which one is necessarily an external examiner. The assessment will be broadly based on work undergone, content delivery, presentation skills, documentation, question-answers and report.

SEMESTER II – SYLLABUS (STAGE II)

Guidelines

In Project Work Stage–II, the student shall complete the remaining project work which consists of Selection of Technology and Tools, Installations, UML implementations, testing, Results, performance discussions using data tables per parameter considered for the improvement with existing/known algorithms/systems and comparative analysis and validation of results and conclusions. The student shall prepare and submit the report of Project work in standard format for satisfactory completion of the work that is the duly certified by the concerned guide and head of the Department/Institute.

1.3 Guideline for Project Selection, Finalization and Guide Allotment

General Instructions

1. Students should enter correct information in the work book and get verified by respective project guide(s) and Project Coordinator.
2. Students should report to their respective guides as per the schedule and its log is to be maintained in the work book.
3. Follow all deadlines and submit all documents strictly as per prescribed formats.
4. The work book should be produced at the time of all discussions, presentations and examinations.
5. The work book must be submitted to project coordinator/ guide/ department / College / University after successful examination at the end of year or whenever asked for.
6. All documents and reports are to be prepared in Latex/Lyx only (All the formats specifications provided adheres to MS Word but consequently applicable to finalized project report published using Latex/Lx)
7. Students can use online tools like overleaf, papeeria, latexbase etc for effective collaborations with group members and project guides.
8. Submit Black Book (number of students+2 copies) as well as soft copy and maintain copy with each member.

Guidelines for Project Group Formation:

1. Project group may consist of **THREE to FOUR** students in one project group.
2. Students of other programme/course may be part of the project group; in such case the group strength can be up to **SIX** students to promote inter disciplinary project topic.
3. In the process of finalization of project groups, Project Coordinator(s) can ensure to have combination of bright and weak students in a group and also to provide the flexibility of choosing the group partners.
4. Group leader submit the project registration form to the project coordinator.

5. Individual member of the group must be allocated with the specific tasks/modules from the project and their contributions must be seen at the time of evaluation and assessment.
6. Every project group member MUST demonstrate his/her significant contributions in development of the project.

Guidelines for Project Topic:

1. Project is one of the significant contributory team works that has to be completed with distinct impression. It is necessary to explore the domain of interest / research/ thrust area/ societal needs. In to one cannot figuratively define best project but still there are certain parameters on which we can gauge the quality of project work done. It will be better suited to go for well-defined and relatively safe projects that provide scope for demonstrating proficiency with a low risk of failure especially at Under Graduate level.
2. Undergraduate project is a capstone of engineering education. Therefore, it is very important to select a right topic.
3. Project can be undertaken on any subject addressing recent advancement in Artificial Intelligence, Data Science domain. Research and development projects on problems of practical and theoretical interest should be encouraged.
4. Students can certainly take ideas from anywhere, but be sure that they should evolve them in the unique way to suit their project requirements.
5. The project work can be undertaken in a research institute or organization/company/any business establishment.
6. Student must consult internal guide along with external guide (if any) in selection of topic.
7. Project Coordinator, Head of department and senior staff in the department will take decision regarding selection of projects.
8. In case of industry projects, visit by internal guide is preferred, at last once during the semester.

Guidelines for Project Guides: -

1. Considering the area of interest/domain and expertise of guide, the Project coordinator in consultation with PRC tentatively allots Project guides.
2. Project Groups may come up with sponsored project (Title suggestion and associated guidance by external institute/Company).
3. Project Proposal must include project title, group member details, sponsorship details (if any), detailed problem definition, area, Type of Project [Sponsored/Non Sponsored, AND viz- 1. Framework, 2. System as - Application/ Systems Software with or without Hardware 3. Research, 4. Survey], abstract, details of existing similar systems if any, scope of the project and software-hardware requirements. [Sponsorship details include name of sponsoring authority, address, name of guide, sponsorship terms and conditions and respective documents certifying the same from authorities].
4. PRC should ensure the use of Artificial Intelligence and Data Science concepts or technologies in their project.
5. A Panel of experts will approve the project group and title. Discussion / presentation may be arranged covering topics listed in the proposal.
6. Once project titles are finalized by PRC, guides are reallocated/ changed, if required.
7. It is recommended to seek guidance from PG students and/or alumni.
8. It is recommended to maintain record of all meetings, discussions, suggestions, contributions and roles played by each member of the team.

1.4 General Project Evaluation Parameters:

Project work is to be evaluated jointly by both Internal and External examiners, unanimously agreeing upon the following parameters amongst many others.

1. Problem definition and scope of the project.
2. Thorough literature survey.
3. Exhaustive and rational requirement analysis.
4. Appropriate software engineering approach followed.

5. Use of project management tools.
6. Use of Artificial Intelligence and Data Science Concepts.
7. Comprehensive implementation
8. Optimization considerations (memory, time, resources, costing).
9. Use of parallel/multi-core, embedded, distributed computing approach.
10. Thorough testing of all modules and integration of modules done.
11. Project presentation and demonstration.
12. User interface, ease of use, usability and GUI.
13. Understanding individual capacity, role and involvement in the project.
14. Team work (roles defined, distribution of work, intra-team communication and togetherness).
15. Participation in various contests (like SIH, Project Competitions), publications and IPR.
16. Presentation of work in the form of project report(s). Documents /manuals - project report, quick reference, system, installation guide etc
17. Outcomes / usability/ commercial value/ product conversion of work
18. Consideration of social, safety, environmental, ethical and legal issues.

1.5 Participation in Project Competition/Exhibition Guidelines:

Project Competition / Exhibition is a technical event in which the students should present implemented project. Students should participate in at least one project competition or exhibition by concerning with project guide.

Colleges can come together to organize the Poster Competitions in Semester I and Project Competition / Exhibition in Semester II. Industry personal and alumni can be invited to evaluate the best projects.

Students are encouraged to actively participate in Avishkar, Smart India Hackathons and Project competitions organized by the SPPU affiliated institutes.

1.6 Publications Guidelines:

The work undertaken is to be appreciated and recognized by the significant publications and/or IPR. The quality of the publications reflects the efforts and recognition of the work.

It is recommended to publish work in consultation with the guide in referred national and international Journals and/or conferences of repute. Guides can suggest appropriate UGC CARE journals for publications or Scopus conference. They should refrain from publication in clone and Predatory journals. Refer the List of Cloned Journals UGC-CARE Group II at

https://ugccare.unipune.ac.in/apps1/home/index

Students can also participate in various Hackathons and Project competitions organized by the SPPU affiliated institutes.

UNDERTAKING BY STUDENTS

DR. D.Y. PATIL INSTITUTE OF TECHNOLOGY, PIMPRI, PUNE – 18

With reference to circular (ref-project/2009/3369) regarding malpractices in project work from DTE, Pune following undertaking is to be submitted.

UNDERTAKING BY STUDENT

We, the students of B.E. Artificial Intelligence and Data Science hereby assure that we will follow all the rules and regulations related to project activity for the academic year 2023-24. The Project titled **Smart Shopping Cart with Automatic Pricing, Product Information and Recommendation System**

will be fully designed/ developed by us and every part of the project will be original work and will not be copied/ purchased from any source. We also declare that this project represents our ideas in our own words without plagiarism and wherever others' ideas or words have been included, we have adequately cited and referenced the original sources.

We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our project work.

We promise to maintain minimum 75%attendance, as per the Savitribai Phule Pune University norms. We understand that any violation of the above will be cause for disciplinary action by the Institute.

Name of the student Signature

1. **Saurabh Kale**
2. **Jay Sawant**
3. **Gautami Kadam**
4. **Pranav Mule**

2. Schedule of Project Work

Semester I

Sr. No.	Activity Scheduled	Deadline
1.	Registration of Project Teams	Year Semester II/ Mid of June
2.	Submission of Project Proposal	Last Week of June
3.	Project presentations	First week of July
4.	Finalization of projects & allotment of guide	Second week of July
5.	Submission of final Proposal	Third week of July
6.	Project Review I - **(Completion of Literature Survey)**	Last week of July
7.	Project Review II – **(Completion of SRS)**	Third week of August
8.	Project work III – **(Completion of Design)**	Second week of Sept
9.	Verification of Project Work Book By Internal Guide (before submission of Preliminary Project Report)	Third week of Sept
10.	Submission of Project Report Stage I	1st Week Oct
11.	Project Stage I Examination	As per SPPU Notification

Semester II

Sr.	Activity Scheduled	Deadline
1.	FTR (Formal Technical Review) **– I (30% Coding Completed/Two Modules)**	Third week of Semester Commencement
2.	FTR(Formal Technical Review) – **II (60% Coding Completed/Two Modules)**	Seventh week of Semester Commencement
3.	Project Review **(90% Coding Completed) and Project Exhibition**	Tenth week of Semester Commencement

4.	Submission of Final Project Report and Project Work	Twelfth week of Semester Commencement
5.	Project Examination	As per SPPU Notification

3. Project Review (Semester I)

The group members are expected to present their work undertaken during the semester. Journey of development has to be rationally presented with thorough literature survey in review meeting.

3.1 Project Review-I:

Problem Statement, Motivation, Aim and Objectives and Literature Review

Project Group members are expected to deliver presentation covering Problem Statement, Motivation, Aim and Objectives and Literature Review.

Sr.	Question	Yes/No	Remark(s)
1)	Is the motivation of project clearly identified?		
2)	Is the aim of project clearly defined?		
3)	Are the listed objectives aligned to the aim of the project		
4)	Is the project problem statement short and concise?		
5)	Do similar type of methodology /systems /model exists?		
6)	Is the studied literature sufficient to decide scope of the project?		
7)	Can a laymen understand scope of the project by reading the project problem statement?		
8)	Does the project contribute to our Society by any means?		
9	Does the AIDS concepts used in the project		

Name and Sign of Reviewers:

1.

2.

PROJECT REVIEW–I

STUDENT PERFORMANCE EVALUATION

Student's Contribution Performance:				**Marks (25M)**
Particulars	**Group Members**			
	1	**2**	**3**	**4**
1. Background and Topic (4M)				
2. Project Scope and Objectives (4M)				
3. Literature Survey (5M)				
4. Project Planning (4 M)				
5. Presentation Skills (4M)				
6. Question and Answer (4M)				
Total (25M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

*Whether the presentation / evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review – I: Deliverables

- Problem Statement / Title
- Purpose, Scope, Objectives
- Abstract (System Overview)
- Requirement, Test Environment/Tools
- (System Overview- Proposed system & Proposed outcome)
- Architecture & DFD
- References
- Project Plan 1.0

Name & Signature of evaluation committee-

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

3.2 Project Review-II: SRS

Student is expected to deliver presentation covering Feasibility, Scope and SRS

Sr. No.	Question	Yes/No	Remark(s)
1)	Are the required identified clearly?		
2)	Is the project goal statement in alignment with the sponsoring organization's business goal and mission?		
3)	Who is the project's end user?		
4)	What is the projected cost of producing a product?		
5)	Is project achievable in specified (Time, Cost Budget)?		
6)	Are the requirements within the scope of the project?		
7)	Is the scope properly defined?		
8)	Does the problem statement clearly define scope of the project?		
9)	Do the project requirements fit into available software and hardware?		
10)	Whether the milestones are stated Completely and project timeline is given?		
11)	Whether risks like technical risks, Operational risks, schedule risks, business risks are identified Correctly or not?		
12)	Whether Risk prioritization is done properly and any back up plan is decided?		

Name and Sign of Reviewers:

1.

2.

PROJECT REVIEW–II STUDENT PERFORMANCE EVALUATION

Students' Contribution and Performance	Marks (25 M)			
Particulars	Group Members			
	1	2	3	4
1. System Architecture & Literature Survey (Review-I)				
2. Project Planning (4 M)				
3. Software Requirement Specification(8M)				
4. Requirement of Techniques/Methodology /Algorithms and Project Features (3 M)				
6. Presentation Skills (4 M)				
7. Question and Answer (2 M)				
8. Summarization of Ultimate findings of the Project (2 M)				
9. Test Results(2 M)				
Total (25 M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

*Whether the presentation / evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review-II : Deliverables

- Problem Statement / Title
- Abstract
- Introduction
- Literature Survey (comparison with existing system)
- Architecture
- Software Requirement Specification
- Requirement of Design / algorithms / techniques used
- Modules Split-up
- Proposed System
- Software Tools/Technologies to be used
- Project Plan 2.0

Name & Signature of Evaluation Committee –

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

3.3 Project Review-III: Completion of Design

Student is expected to deliver presentation covering Design Document

Sr. No.	Question	Date	Remark / Grade	Sign of Guide
1)	Is information domain analysis complete, consistent and accurate?			
2)	Is problem statement categorized in identified area and targeted towards specific area there in?			
3)	Is external and internal interfacing properly defined?			
4)	Are requirements consistent with schedule, resources and budget?			
5)	All the modules are covered in the design of the project			
8)	Is identification of Users or stakeholders done properly?			
9)	Whether all requirements are captured and documented in line with scope?			
10)	Whether all type of analysis classes are identified?			
11)	Whether the Acceptance criteria is decided			
12)	Is SRS document as per IEEE format complete and correct?			
Remark and Suggestions:				

Name and Sign of Reviewers:

1.

2.

PROJECT REVIEW–III STUDENT PERFORMANCE EVALUATION

Students' Contribution and Performance	Marks (25 M)			
Particulars	Group Members			
	1	2	3	4
1. System Architecture & Literature Survey (Review-II)				
2. Project Design (4 M)				
3. Techniques/Methodology /Algorithms and Project Features (3 M)				
4. Project Planning (4 M)				
5. Basic details of Implementation (Working module) (4 M)				
6. Presentation Skills (4 M)				
7. Question and Answer (2 M)				
8. Summarization of Ultimate findings of the Project (2 M)				
9. Test Results(2 M)				
Total (25 M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

* Whether the presentation / evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review-III : Deliverables

- Problem Statement / Title
- Abstract
- Introduction
- Literature Survey (comparison with existing system)
- Methodology
- Design / algorithms / techniques used
- Modules Split-up
- Proposed System
- Software Tools/Technologies to be used
- Working module
- Partial Report (Semester – I)
- Project Plan 2.0

Name & Signature of Evaluation Committee –

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

INTERNAL EVALUATION SHEET (SEMESTER I)

PROJECT REVIEW SUMMARY – I TO III

Summary of Project Work Evaluation Sheet

Note: Convert total marks 75 out of 50

Sr. No	Exam No.	Name Of Student	I	II	III	Total	Signature
1.		**Saurabh Kale**					
2.		**Jay Sawant**					
3.		**Gautami Kadam**					
4.		**Pranav Mule**					

Overall Remarks or Comments (if any)

Internal Guide

PARTICIPATION IN PROJECT COMPETITION/EVENT/SEMINAR

Sr. No.	Name & Place of Project Competition/ Exhibition	Date	Certificate/ Prizes won (if any)

*** Photocopy of the certificate must be attached to this booklet.**

Internal Guide **Project coordinator** **HOD**

4. PROJECT REVIEW: (SEMESTER II)

The group members are expected to present their work undertaken during the semester. Journey of development has to be rationally presented.

Project Review-I: Modeling (Model Refinement and Algorithm development)

Student is expected to deliver presentation covering Modeling

Sr. No.	Question	Date	Remark/ Grade	Sign of Guide
1)	Which Software Development Process used? (Water fall, Incremental, RAD) How?(all this level)			
2)	Are data objects, their attributes and Relationships clearly identified? (All constraints from SRS are captured or not?)			
3)	Have the objects and respective classes and their responsibilities?			
4)	Have you analyzed the requirements been analyzed and represented into respective models?			
5)	Have the different system states been differentiated and depicted them in the form of state transition diagram?			
6)	Does the mathematical model clearly imply design of the project?			
7)	Does the mathematical model clearly states goal of project?			
8)	Is the interface between the modules properly identified?			

9)	Are any functional dependencies identified and described?			
10)	Which architectural model does the system support?			
11)	Whether Deployment diagram is in line with selected architecture?			
12)	Whether all components are designed properly and represented in component diagram?			
13)	Whether NP-completeness of algorithms is checked?			
Remark and Suggestions:				

Name and Sign of Reviewers:

1.

2.

STUDENT PERFORMANCE EVALUATION

Students' Contribution and Performance	**Marks (25 M)**			
Particulars	**Group Members**			
	1	**2**	**3**	**4**
1. Architecture / System Design -(if any modification)				
2. Algorithm Development (10 M)				
3. Interface Identified (7 M)				
4. Presentation skills (4 M)				
5. Question and Answer (4 M)				
6. Summarize the methodologies / Algorithms				
7. implemented / to be implemented				
Total (25 M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

* Whether the presentation / evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review – I: Deliverables

- Detailed Design (if any deviation)
- Algorithm development
- Some Experimental Results
- Project Plan 3.0

Name & Signature of Evaluation Committee –

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

Project Review-II: Coding / Implementation

Student is expected to deliver presentation covering Coding / Implementation

Sr. No.	Question	Date	Remark/ Grade	Sign of Guide
1)	Does the code completely and correctly implement the design?			
2)	Does the code comply with the coding standard?			
3)	Is the code well structured, consistent in style, and consistently formatted?			
4)	Are all functions in the design coded?			
5)	Does the code make use of object oriented concepts?			
6)	Does the code support granularity?			
7)	Is the language used for coding correctly chosen as per the project need?			
8)	If any off-the-shelf components are used, Have you understood the functionalities of using it?			
9)	Are all comments consistent with the code?			
10)	Whether code optimization is done properly?(By using language features)			
Remark and Suggestions:				

Name and Sign of Reviewers:

1.

2.

STUDENT PERFORMANCE EVALUATION

Students' Contribution and Performance	**Marks (25 M)**			
Particulars	**Group Members**			
	1	**2**	**3**	**4**
Implementation with all interface (100%) (10 M)				
Results (7 M)				
Presentation skills (4 M)				
Question and Answer (4 M)				
Total (25 M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

* Whether the presentation/evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review – II: Deliverables

- Detailed Design
- 100% of code implementation
- Experimental Results
- Performance Evaluation

Name & Signature of Evaluation Committee –

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

Project Review-III: Validation and Testing

Student is expected to deliver presentation covering Validation and Testing

Sr. No.	Question	Date	Remark/ Grade	Sign of Guide
1.	Has alpha testing been done?			
2.	Has beta testing been done?			
3.	Have been validated the requirements, design and code as per standard?			
4.	Has GUI testing of project been performed? How?			
5.	Does the System Comply with basic usability norms?			
6.	Has the code been tested using standard Datasets available in your area of project?			
7.	Has the code been tested using standard dataset available in your area of project?			
8.	Has the code been tested in real time environment?			
9.	After integration of all components whether total performance of system is checked?			
10.	Whether repository of all components along with versions is documented?			
11.	Have social, safety, environmental, ethical and legal issues been considered while providing solution to problem?			
Remark and Suggestions:				

Name and Sign of Reviewers:

1.

2.

PROJECT REVIEW – III

STUDENT PERFORMANCE EVALUATION

Students' Contribution and Performance	**Marks (25 M)**			
Particulars	**Group Members**			
	1	**2**	**3**	**4**
Performance Comparison (4M)				
Validation and Testing (13 M)				
Presentation skills (4 M)				
Question and Answer (4 M)				
Total (25 M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

* Whether the presentation/evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review – III: Deliverables

- Validation and Testing
- Performance Evaluation
- Test Cases
- Result Analysis and Conclusion

Name & Signature of Evaluation Committee –

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

Project Review-IV: Report Writing

Student is expected to deliver presentation covering Report Writing

Sr. No.	Question	Date	Remark/ Grade	Sign of Guide
1)	Is the report writing as per the prescribed format?			
2)	Is the report timely prepared?			
3)	Is the report properly organized, spelled, grammatically correct?			
4)	Is the report plagiarism free?			
5)	Is the report precise and written to the point?			
6)	Does the report contain complete results and comparative graphs?			
7)	Are all figures and tables properly numbered and labeled?			
8)	Are all figures and tables properly cited?			
9)	Weather references are properly cited?			
Remark and Suggestions:				

Name and Sign of Reviewers:

1.

2.

PROJECT REVIEW – IV

STUDENT PERFORMANCE EVALUATION

Students' Contribution and Performance	Marks (25 M)			
Particulars	Group Members			
	1	2	3	4
Final Project Report (10 M)				
Publications (7 M)				
Presentation skills (4 M)				
Question and Answer (4 M)				
Total (25 M)				
Comments (if any)				

To be filled by internal guide & reviewer(s) only.

* Whether the presentation/evaluation is as per the schedule. : YES / NO (If NO mention the reasons for the same.)

Review – IV: Deliverables

- Detailed Design
- 100% of code implementation
- Experimental Results
- Final Report

Name & Signature of Evaluation Committee –

Name of Reviewer 1 **Name of Reviewer 2**

Name of Internal Guide

PROJECT REVIEW SUMMARY – I TO IV

Summary of Project Work Evaluation Sheet

Sr. No	Exam No.	Name Of Student	I	II	III	IV	Total	Signature
		Saurabh Kale						
		Jay Sawant						
		Gautami Kadam						
		Pranav Mule						

Overall Remarks or Comments (if any)

Signature of Guide **PRC** **Name and Signature [Name of Guide]**

Head of Department

CONTEST PARTICIPATION DETAILS

9.1 Participation in Project Competition

Sr. No.	Name and Place of Project Competition and Exhibition	Date	Certificates / prizes won, if any
1.			
2.			
3.			
4.			

Attach attested copy of certificate(s)

9.2 Paper Publication/ Presentation/IPR

Sr. No.	Name of Organizer	Date	Certificates/ Prizes won, if any
1.			
2.			
3.			
4.			

Attach attested copy of certificate(s)

RUBRICS

Idea Inception

Grade (Grade Point)	Excellent (10-9)	Very Good (6-8)	Fair (3-5)	Poor (1-2)
Parameter				
Problem Definition and Scope of the Project				
Literature Survey				
Software Engineering Approach				
Requirement Analysis				

Implementation

Grade (Grade Point)	Excellent (10-9)	Very Good (6-8)	Fair (3-5)	Poor (1-2)
Parameter				
Implementation- Design, platform, coding,				
Optimization considerations(Memory, time, Resources, Costing)				
Thorough Testing of all modules				
Integration of modules and project as whole				

Documentation

Grade (Grade Point)	Excellent (10-9)	Very Good (6-8)	Fair (3-5)	Poor (1-2)
Parameter				
Proposal				
Project Report				
Quick references				
System manual				
Installation Guide				
Work Book				

Demonstration

Grade (Grade Point)	Excellent (10-9)	Very Good (6-8)	Fair (3-5)	Poor (1-2)
Parameter				
Project Presentation and Demonstration (User Interface, ease of use, usability)				
Understanding individual caPRCity & involvement in the project				
Team Work (Distribution of work, intra-team				

communication and togetherness)				
Outcomes / Usability				

Contest Participation / Awards, Publications and IPR

Grade (Grade Point)	Excellent (10-9)	Very Good (6-8)	Fair (3-5)	Poor (1-2)
Parameter				
Participation in various contests				
Appreciation and Awards				
Publications				
Copyright				
Patent				
Commercial value /product conversion of Work				

Environment & Ethics (solution to problems considering)

Grade (Grade Point)	Excellent (10-9)	Very Good (6-8)	Fair (3-5)	Poor (1-2)
Parameter				
social				
safety				
environmental				
ethical				
Legal issues				