Project Work Book

Fourth Year Computer Engineering

Year 2023 - 2024
Semester II

Group/Project ID: | | | | |

Team Members:

1. _____
2. _____
2. _____
4. _____

Project Title: _____

_____

_____

_____

Project Guide:_____

Area of the Project:_____

Department of Computer Engineering
Amrutvahini Sheti & Shikshan Vikas Sanstha's
Amrutvahini College of Engineering, Sangamner
Amrutnagar, Sangamner – 422 608
Affiliated to Savitribai Phule Pune University, Pune

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER

Vision

To create opportunities for rural students to become able engineers and technocrats through continual excellence in engineering education.

Mission

Our mission is to create self-disciplined, physically fit, mentally robust and morally strong engineers and technocrats with high degree of integrity and sense of purpose who are capable to meet challenges of ever advancing technology for the benefit of mankind and nature.

We, the management, the faculty and staff, therefore promise to strive hard and commit ourselves to achieve this objective through a continuous process of learning and appreciation of needs of time.

DEPARTMENT OF COMPUTER ENGINEERING

Vision

To serve the needs of society through competent technical education, promoting Industry-Institute Interaction and develop competent and cultured computer Engineers.

Mission

M1: The Mission of computer Engineering Department is to effectively develop and channelize creative talents of students to face challenges posed by ever- changing computing industry with enhancement in Industry-Institute interaction.

M2: We, the faculty & the staff of Computer Engineering department commit ourselves to inculcate good moral values and shape a strong academic background of the pupil so important to work towards the betterment of the society as able technocrats & responsible citizens.

Program Educational Objectives (PEO's)

1. **To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.**
2. **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.**
3. **To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking.**
4. **To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as in teams.**
5. **To Provide opportunities of Industry-institute interactions and to promote Entrepreneurship and Start-ups.**

Program Specific Outcomes (PSO's)

A graduate of the Computer Engineering Program will demonstrate-

1. **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.**
2. **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.**
3. **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.**

Program Outcomes (PO's):

Students are expected to know and be able –

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

General Instructions

1. **Students should enter the correct information in the work book.**

2. **Get all entries verified by respective project guide. No changes are to be made without project guide's permission.**

3. **Students should report to their respective guides as per the schedule and its log is to be maintained in the work book.**

4. **Follow all deadlines and submit all documents strictly as per prescribed formats.**

5. **The work book should be produced at the time of all discussions, presentations and examinations.**

6. **The work book must be submitted to project coordinator/ guide/ department / College after successful examination at the end of year.**

7. **All documents and reports are to be prepared in Latex only (All the formats specifications provided adheres to MS Word but consequently applicable to final project report published using Latex)**

8. **Submit hard as well as soft copy. Maintain one copy with each member.**

Guidelines for Selection of Project Work

Project is one of the significant contributory team works that has to be completed with distinct impression. It is really very difficult to explore the domain of interest/research/ thirst area/ society need. In Toto 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.

General Guidelines:

- **Identifying domain, feasibility and usability of work.**
- **Project work is expected to involve a combination of sound background research (thorough study/ follow a line of investigation), and methodical implementation.**
- **Instead of fancied and driven behind the gaudy and ostentatious ideas, the utility has to be emphasized. It is also acceptable to identify the discrepancies/ flaws in the existing system and work accordingly to rectify or improve.**
- **It is irrational to select the IDE and the software/ tools before the idea is not yet finalized.**
- **Understanding the way project will be materialized and progressed.**

University Syllabus
Savitibai Phule Pune University

Term II

Teaching Scheme: **Term Work Assessment: 100 Marks**
TH: 6 Hours/Week **Presentation/Oral: 50 Marks**

Course Objectives:

- **To develop problem solving abilities using mathematics;**
- **To apply algorithmic strategies while solving problems;**
- **To develop time and space efficient algorithms;**
- **To develop software engineering documents and testing plans;**
- **To use algorithmic solutions using distributed, Embedded, concurrent and parallel environments.**
- **To encourage and expose students for participation in National/ International paper presentation activities.**
- **Exposure to Learning and knowledge access techniques using Conferences,**
- **Journal papers and participation in research activities.**

Course Outcomes:

- **To solve problem and demonstrate the results of the project.**
- **To perform various test cases for project.**
- **To develop SRS, and other software engineering documents in the project report;**
- **To solve problems using multi-core, distributed, embedded, concurrent/Parallel environments.**
- **To participate in project exhibition/competition.**
- **To demonstrate presentation, communication and team-work skills.**

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Undertaking by Students

We, the students of B.E. Computer hereby assure that we will follow all the rules and regulations related to project activity for the academic year 2023 - 2024.

Domain -

_____

The Project entitled-

_____

_____

_____

_____

_____

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.

Name of the student	**Signature**
1._____	**_____**
2._____	**_____**
3._____	**_____**
4._____	**_____**

AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER

Department of Computer Engineering

BE Project Calender 2023-24

Semister – II

Class:- BE Computer
Date:- 01/01/2024

January					February					March					April			
1st Week	2nd Week	3rd Week	4th Week	5th Week	1st Week	2nd Week	3rd Week	4th Week	5th Week	1st Week	2nd Week	3rd Week	4th Week	5th Week	1st Week	2nd Week	3rd Week	4th Week
Modeling (Model Refinement and Algorithm development)			**Fifth Presentation (Review V)**	**Coding / Implementation**					**Sixth Presentation (Review VI)**	**Validation and Testing**		**Seventh Presentation (Review VII)**	**Report Writing**				**Mock Project Examination**	
SDPM ? Identify data objects,their attributes and relationships?	Mathemathical Model ?	Functional Dependencies, Architectural Model ?	***PPT Content*** ***1. Process Model*** ***2. Mathematical model*** ***3. Architectural model*** ***4. component diagram*** ***5. Deployment diagram*** ***6.NP-completeness***	Are all functions in the design coded? Are all comments consistent with the code?					***PPT Content*** **Project Demo**	alpha testing & beta testing ? code using standard datasets code in real time environment?		**PPT Content** **1. Manual Test cases** **2. Automatic Test cases**	Submission of Draft of Report for checking	report properly organized, spelled, grammatically correct	complete results and comparative graphs	***PPT Content*** **1. Abstract** **2. Introduction** **3.Literature Survey** **3. Architecture** **4. Algorithm /Methodlogy Used** **5. Implenetation** **6. Testing** **7. Results** **8. Conclusion** **9. References**	
Check Contents			Presentation	Check Contents					Presentation	**Review of Participation Activity**		Presentation	prescribed format?plagiarism free? Are all figures and tables properly cited? Weather references are properly cited?			Presentation		
Verify Checklist Review V			Fill Marks Review V	Verify Checklist Review VI					Fill Marks Review VI	Verify Checklist Review VII		Fill Marks Review VII	Verify Checklist Review VIII Fill Marks Review VIII			Fill Internal Evalution Sheet -Workbook		

Note:- All project guides request to maintain all documents of your groups and submit to project co-ordinator.

Dr. D.R.Patil
Project Co-ordinator

Dr. R.G.Tambe

Dr. S.K.Sonkar
HOD

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Project Review V

Modelling (Model Refinement and Algorithm development)

Student is expected to deliver presentation covering Modelling. **Date: / /20**

Sr. No.	Question	Yes/No	Students Name			
1)	Which software Development Process model is used? (Water fall, Incremental, RAD) How?(at this level?)					
2)	Do you clearly identify data objects, their attributes and relationships? (All constraints from SRS are captured or not?)					
3)	Have you clearly matched the objects with respective classes and their responsibilities?					
4)	Have you analyzed the requirements and represented them into respective models?					
5)	Can you differentiate between different system states and depict 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)	Does the interface between the modules properly identified?					
9)	Does any functional dependencies are identified and described?					
10)	Which architectural model does your system supports?					
11)	Whether Deployment diagram is inline with selected architecture?					
12)	Whether all components are designed properly and represented in component diagram?					
13)	Whether NP-completeness of algorithms is checked or not?					
	Average Marks					
Remark and Suggestions:						

Name and Sign of Reviewers:

1. _____ _____

2. _____ _____

Project Guide

Project Co-ordinator
(Dr. D. R. Patil/ Dr. R. G. Tambe)

HOD
(Dr. S. K. Sonkar)

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Project Review VI

Coding / Implementation

Student is expected to deliver presentation covering Coding / Implementation. **Date: / /20**

Sr. No.	Question	Yes/No	Students Name			
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)	Does the language used for coding is 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 or not?(By using language features)					
	Average Marks					
Remark and Suggestions:						

Name and Sign of Reviewers:

1. _____ _____

2. _____ _____

Project Guide

Project Co-ordinator
(Dr. D. R. Patil/ Dr. R. G. Tambe)

HOD
(Dr. S. K. Sonkar)

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Project Review VII
Validation and Testing

Student is expected to deliver presentation covering Validation and Testing. **Date: / /20**

Sr. No.	Question	Yes/No	Students Name			
1)	Have you done alpha testing?					
2)	Have you done beta testing?					
3)	Have you validated the requirements, design and code as per standard?					
4)	Have you performed GUI testing of project? How?					
5)	Does your system comply with basic usability norms?					
6)	Have you tested the code using standard datasets available in your area of project?					
7)	Have you tested the code in real time environment?					
8)	After integration of all components whether total performance of system is checked or not?					
9)	Whether repository of all components along with versions is documented or not?					
	Average Marks					
Remark and Suggestions:						

Name and Sign of Reviewers:

1. _____ _____

2. _____ _____

Project Guide

Project Co-ordinator
(Dr. D. R. Patil/ Dr. R. G. Tambe)

HOD
(Dr. S. K. Sonkar)

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Date: / /20

Updates on weekly task(s) Achieved

Points to be consider:

Any risk or issues identified

Points to be consider:

New ideas and change in project direction

Any other discussion:

Project Guide	Reviewer	Project Co-ordinator	HOD
	1. _____	1. Dr. D. R. Patil	Dr. S. K. Sonkar
	2. _____	2. Dr. R. G. Tambe	

Project Review VIII

Report Writing

Student is expected to deliver presentation covering Report Writing. **Date: / /20**

Sr. No.	Question	Yes/No	Students Name			
1)	Is the report written 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? (Mention Percentage of Uniqueness)					
5)	Is the report precise and written to the point?					
6)	Is the report contains 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?					
	Average Marks					
Remark and Suggestions:						

Name and Sign of Reviewers:

1. _____ **_____**

2. _____ **_____**

Project Guide

Project Co-ordinator
(Dr. D. R. Patil/ Dr. R. G. Tambe)

HOD
(Dr. S. K. Sonkar)

Amrutvahini Sheti & Shikshan Vikas Sanstha's

Amrutvahini College of Engineering, Sangamner

Department of Computer Engineering

Contest Participation Details

A. Participation in Project Competition / Exhibition:

Sr. No.	Name and Place of Project Competition / Exhibition	Date	Certificates / Prizes won

B. Paper Publication/ Presentation/IPR

Sr. No.	Name of Organizer	Date	Certificates / Prizes won

Any other

Note: Attach copy of certificate(s) in report as well as submit hardcopy to respective guides.

Project Guide | Project Co-ordinator (Dr. D. R. Patil/ Dr. R. G. Tambe) | HOD (Dr. S. K. Sonkar)

Internal Evaluation Sheet (Semester II)

Sr. No.	Name(s) of the student in the project group	Modelling (10)	Coding and Implementation (40)	Testing (10)	Understanding, Individual Involvement / Contribution in the project (10)	Team Work (10)	Demonstration and Presentation (10)	Documents and Report (10)	Total (100)

Note: **Evaluation Committee must evaluate group members separately (separate evaluation sheet will be provided by guide) and average marks must be filled in above evaluation table by guide in the presence of evaluation committee. Evaluation sheet should be completed before external examination.**

Name and Signature of Internal Evaluation Committee:

1. **Prof.** 2. **Prof.**

Examiners Feedback and Suggestions:

Project Guide

Project Co-ordinator
(Dr. D. R. Patil/ Dr. R. G. Tambe)

HOD
(Dr. S. K. Sonkar)