410248 & 410256: Project Work Book (Guidelines and Logbook)

Final Year Computer Engineering

Year 2021 - 2022

Group ID: B22

Team Members:

1. Prasann Shimpi
2. Sanket Halake
3. Shivam Dharmshetti
4. Shashank Singh

Project Title : Neural Network based Message Concealment Scheme.

Project Guide: Dr. Amol Dhakne

Project Coordinators: Dr. Amol Dhakne/Mrs. Nalini Jagtap

Area of the Project: Cyber Security, Artificial Intelligence

Project Type: Cryptography

Department of Computer Engineering
Dr. D. Y. Patil Institute of Engineering, Management and Research, Akurdi, Pune – 44
Affiliated to Savitribai Phule Pune University

Prologue

Project work is one of the most important components of the curriculum for the Engineering Graduates. From conceiving the idea to the materialization of it 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 and typical activities are like: Team formation, conceiving the idea, preparing the hypothesis, reporting the progress / development to the guide/ mentor, Interactions, suggestions and improvements, relevant documentations in proper format, schedule plans and visit logs.

Every institute is following their own best methods and techniques as per the guidelines and curriculum at the affiliated university. To bring the uniformity and standardization for the project work there is a need to come together and prepare the comprehensive guidelines regarding it.

This work book for the project work 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.

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/project coordinator 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)

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

Savitribai Phule Pune University, Pune
Computer Engineering

Program Educational Objectives

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.

Program Outcomes

Students are expected to know and be able –

1. To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.
2. To analyze the problem by finding its domain and applying domain specific skills
3. 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.
4. To find solutions of complex problems by conducting investigations applying suitable techniques.
5. To adapt the usage of modern tools and recent software.
6. To contribute towards the society by understanding the impact of Engineering on global aspect.
7. To understand environment issues and design a sustainable system.
8. To understand and follow professional ethics.
9. To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.
10. To demonstrate effective communication at various levels.
11. To apply the knowledge of Computer Engineering for development of projects, and its finance and management.
12. To keep in touch with current technologies and inculcate the practice of lifelong learning.

Program Specific Outcomes (PSO)

Program Specific Outcomes (PSO)

A graduate of the Computer Engineering 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.

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.

Table of Contents

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 Audit Committee (PAC):

It is recommended to form a departmental "Project Audit 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. 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, 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.

1.2 Course Outcomes:

Students are expected to know and be able to-

CO1. Knowledge Application & Independent Learning: Solve real life problems by applying knowledge and skills keeping eye on current technologies and inculcating the practice of lifelong learning

CO2. Problem Solving Skills: Analyze alternative approaches, apply and use most appropriate one for feasible solution exhibiting project management skills Project Work Book

CO3. Communication: Demonstrate effective communication at various levels and write precise reports and technical documents in a nutshell

CO4. Collaboration: Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work, Inter-personal relationships, conflict management and leadership quality

CO5. Ethics: Provide solution to problems considering social, safety, environmental, ethical and legal issues.

1.3 Mapping of Course Outcomes (CO) of Project Work and Program Outcomes (PO):

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 is to be mapped to different POs based on their influence of COs on them. Sample mapping of PO and CO for project work 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	√	√	√		√	√						√
CO2	√	√	√	√							√	
CO3											√	
CO4									√	√		
CO5						√	√	√				

1.4 Guidelines for Project Work Selection, Finalization and Guide Allotment:

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/ thirst area/ society needs. 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.

Process in General:
1**.** Project teams and their areas of interest is to be registered with project Coordinator preferably in second semester of third year.
2**.** Students are provided with list of guides & their domain of expertise, list of earlier three years projects, constitution of PAC and copy of logbook giving all guidelines.
3. Considering registered teams' area of interest/domain and expertise of guide, the Project coordinator in consultation with PAC tentatively allots Project guides.
4. Team may come up with sponsored project (Title suggestion and associated guidance by external institute/Company).
5. Teams in consultation with guide prepare project proposal(s)
6. Project Proposal must include project title, group members, 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].
7. A Panel of experts will approve the project group and title. Discussion / presentation may be arranged covering topics listed in the proposal.
8. Once project titles are finalized by PAC, guides are reallocated/ changed, if required.
9. It is recommended to seek guidance from PG students and/or alumni and assistance from third year students.
10. It is recommended to maintain record of all meetings, discussions, suggestions, contributions and roles played by each member of the team.

Dos and Don'ts:

1. Project work is expected to involve a combination of study (literature study/ line of investigation), and methodical implementation.

2. Instead of fancied and driven behind the gaudy and ostentatious ideas, utility needs to be emphasized. It is also acceptable to identify the discrepancies/ flaws an existing system and work accordingly to rectify or improve.

3. It is irrational to select the IDE and the software/ tools before the idea is not yet finalized.

4. Identify domain, feasibility and usability of work.

5. Understand the way project will materialize and progress is of at most importance.

1.5 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 done.

3. Exhaustive and rational requirement analysis.

4. Appropriate software engineering approach followed.

5. Use of project management tools.

6. Comprehensive implementation

7. Optimization considerations (memory, time, resources, costing).

8. Use of parallel/multi-core, embedded, distributed computing approach.

9. Thorough testing of all modules and integration of modules done.

10. Project presentation and demonstration.

11. User interface, ease of use, usability and GUI.

12. Understanding individual capacity, role and involvement in the project.

13. Team work (roles defined, distribution of work, intra-team communication and togetherness).

14. Participation in various contests, publications and IPR.

15. Presentation of work in the form of project report(s). Documents /manuals -project report, quick reference, system, installation guide etc

16. Outcomes / usability/ commercial value/ product conversion of work

17. Consideration of social, safety, environmental, ethical and legal issues

1.8. 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. So, it is highly recommended to publish work in consultation with the guide in referrednational and international Journals of repute, with high Impact Factor and also in recognized conferences. There are some journals operating in different regions which use 'International' word, but in true sense are not International. Refer

1. http://www.fi.dk/viden-og-politik/tal-og-analyser/den-bibliometriske-forskningsindikator/autoritetslister-for-tidsskrifterog-forlag/bfi-publishers-2011.pdf

2. http://www.fi.dk/viden-og-politik/tal-og-analyser/den-bibliometriske-ingsindikator/autoritetslister-for-tidsskrifter-og-forlag/Autoritetslisten%20for%20tidsskrifter%202011%20-20med%20niveauer.pdf

1.9. IPR Guidelines:

The first legislation in India for protection of Industrial Designs was The Patents & Designs Protection Act, 1872. It supplemented the 1859 Act passed by Governor General of India for granting exclusive privileges to inventors and added protection for Industrial Design. The 1872 Act included the term ―any new and original pattern or design, or the application of such pattern or design to any substance or article of manufacture '.

Hence it is recommended that students should know about Copyright and Patents.

Refer-

1. http://www.ipindia.nic.in

2. http://www.ipindia.nic.in/writereaddata/Portal/IPOGuidelinesManuals/1_30_1_manual-designs-practice-and-procedure.pdf

2. University Syllabus (semester I)

Project Work Stage I

Presentation: 50 Marks

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–
- ✓ Solve real life problems by applying knowledge.
- ✓ Analyze alternative approaches, apply and use most appropriate one for feasible solution.
- ✓ Write precise reports and technical documents in a nutshell.
- ✓ Participate effectively in multi-disciplinary and heterogeneous teams exhibiting team work, Inter-personal relationships, conflict management and leadership quality

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, design, scheme of implementation (Mathematical Model/SRS/UML/ERD/block diagram/ PERT chart, etc.) and Layout & Design of the Set-up. The student is expected to complete the project up to the design phase. As a part of the progress report of Dissertation 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 examiner 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 and report.

Project Work Stage II

Term Work: 100 Marks
Presentation: 50 Marks

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:

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

- ✓ Show evidence of independent investigation
- ✓ Critically analyze the results and their interpretation.
- ✓ Report and present the original results in an orderly way and placing the open questions in the right perspective.
- ✓ Link techniques and results from literature as well as actual research and future research lines with the research.
- ✓ Appreciate practical implications and constraints of the specialist subject

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.

3. Undertaking by Students

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

Dr. D. Y. Patil Institute of Engineering, Management and Research, Akurdi, Pune – 44

UNDERTAKING BY STUDENT

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 2020-2021. The Project entitled-

Home – Credit risk analysis and prediction modeling

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

1. Prasann Shimpi
2. Sanket Halake
3. Shivam Dharmshetti
4. Shashank Singh

Signature

Prasann Shimpi

Sanket Halake

Shivam Dharmshetti

Shashank Singh

4. **Schedule of Project Work**

Semester I

Sr.No	Project Schedule	Date	Members	No. of Copies and Guide
1	Group Formation	02/08/21	Project Co-ordinator	Nil
2	Select The Domain	09/08/21	Project Co-ordinator	Nil
3	Topic Submission	16/08/21	Project Co-ordinator	3 IEEE Paper (2016 to 2019)
4	Topic Review	23/08/21	Project Co-ordinator& Assign Team	3 Paper
5	Topic Selected with Group Members and Guide Assign	06/09/21	Co-ordinator	1 Guide per Group
6	Literature Survey (Presentation)	20/09/21	Guide with Project Co-ordinator	Hard Copies of Serching Documents and References
7	Literature Survey (Presentation)			
8	Submission of Project Title, Synopsis and SRS	27/09/21	Guide with Co-ordinator	Hard Copies of Abstract, Synopsis,SRS
9	Understanding of topic (Clear Doubt from Guide)	04/10/21	Guide with Co-ordinator	Hard Copies of Serching Documents and References
10	Review -1: - Domain Knowledge, Title Knowledge, Abstract, Existing System, Proposed System, Architecture, Modules and Functionality	11/10/21	Guide with Staff Member	PPT, Hard Copies of Serching Documents and References
11	Start Paper writing and Publish First paper in international Journal	18/10/21	Guide with Co-ordinator	Hard Copies of Base Paper, References and Final Published Paper
12	Design Phase (All UML Diagrams) (Prsentation)	25/10/21	Guide	Hard Copies of Design Documents (UML) and PPT
13	Review -2: - Review-1 data and UML Diagrams, Design Interfaces of Modules, Mathematical Module.	01/11/21	Guide with Staff Member	Hard Copies of Design Documents (UML) and PPT
14	Start Paper writing and Publish Second paper in international Conference	08/11/21	Guide with Co-ordinator	Hard Copies of Base Paper, References and Final Published Paper

15	Submission of Published paper details.	15/11/21	Co-ordinator	Acceptance Letter, Hard and Soft Copies of Published Paper, Certificates
16	Project- Report	22/11/21	Guide and Co-ordinator	Demo Report with Seminar Presentation and Hard Copies of Serching Documents and References
17	Review -3: - Review 1&2 data, Algorithm, Advantages, Application,Conclusion, Future Scope, References	29/11/21	Guide and Co-ordinator	Demo Report with Seminar Presentation and Hard Copies of Serching Documents and References
18	Review- 4 (Final Report & Final Seminar Internal (Presentaion))	06/12/21	Guide, Co-ordinator , all Staff and All BE Students	Final Report with Seminar Presentation and Hard Copies of Serching Documents and References
19	Project Phase-I Examination	13/12/21	External Examinner	Project File, Project Report, Project Presentation, CD

Dr. Amol Dhakne
Mrs. Nalini Jagtap
Project Co-ordinators

Prof. P. P. Shevatekar

Head of the Department

Semester II

Sr.No	Project Schedule	Date	Members	No. of Copies and Guide
1	Submit First Paper Publication Details	In Progress	Project Coordinator	Hard Copies of Published Paper, Acceptance letter & Certificate
2	Design Phase	7/1/22	Guide & Project Coordinator	Hard Copies of Design (GUI if any)/Hardware Interfacing Procedure
3	Modeling Phase (Implementation if any)	14/1/22	Guide	Hard Copies of Design (GUI if any) and Its Module code (Minimum 1 Module is required)
4	Modeling Phase (Implementation if any)	21/1/22		
5	Implementation	28/1/22	Guide	Module code (Minimum 2 Module are required)
6	Implementation	4/2/22	Guide & Project Coordinator	All Modules should be ready
7	Second Paper Publication	In April	Guide & Project Coordinator	Hard Copies of Published Paper, Acceptance letter & Certificate
8	Testing Phase	11/2/22	Guide	Testing Report Automated and Mannual Testing of all developed modules
9	Testing Phase	18/2/22		
10	Project Demo Review	25/2/22	Guide with Co-ordinator	Demo Of Runnig Project
11	Project Demo Review	4/3/22		
12	Working Prototype demostration	11/3/22	Reviewer Team & Students	Demo Project Presentation and Hard Copies of ALL Relevant Documents and References
13	Final Project Demo and Seminar and Report (Internal)	11/5/22	Guide, Co-ordinator , all Staff and All BE Students	Final Demo of Runnig Project with Seminar Presentation and Hard Copies of ALL relevant Documents and References
13	Final Project Demo and Seminar and Report (Internal)	11/5/22		
14	External Project Examination	30/5/22	External	Final Runnable Project, Project Report, Project CD, Project File.

Mrs. Nalini Jagtap
Dr. Amol Dhakne
Project Co-ordinators

Prof. P. P. Shevatekar
Head of the Department

5. Copy of Proposal / Synopsis as per format (Annexure I)

Title Page

Project Group ID/ group Details Title of the project

Domain such as databases, image processing, network based, web technology based etc.

Team Members (List with Signatures)

Sponsorship details if any (Name, External Guide name and Designation with Signature, e- Mail ID)

Internal Guide (with signature of approval)

Inner Pages:

Keywords (ACM Keywords) Problem Definition

List of modules/ functionalities

Current market survey: This should include list of similar products available, if any and also their pros and cons.

Scope of the project

Literature survey (List of references only): This should include the list of books, magazines, research papers, web links etc. referred by the students.

Software and hardware requirements of the project Probable date of completion

Outcomes

PROJECT TITLE REVIEW

Gr. No	Paper Title	Project is IEEE Based? (5)	Domain Know-ledge (5)	Project Idea (10)	Project Scope (10)	Project Need (10)	Project Feasi-bility (5)	Team Appearance Body Lang. Comm. Skill (5)	Total (50)
	Deep Neural Networks based Message Concealment Scheme.								
10	A Neural Network based for Cryptographic Function Detection								
	Neural Cryptography based on Complex valued Neural Networks								

Name & Signature of Panel Members

1) Dr. Amol Dhakne

2) Mrs. Raji Panicker

3) Mrs. Tejaswani Patil

6. 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.

6.1 Project Review-I: Problem Statement, Motivation, objectives and Literature Review

Student is expected to deliver presentation covering Problem Statement, Motivation, objectives and Literature Review.

Sr. No.	Questions	Date	Remark/ Grade	Sign of Guide
1	Does the statement give clear Identification about what your project will accomplish?	16/08/21	**YES**	
2	Is the statement short and concise?	16/08/21	**YES**	
3	Can a person who is not familiar with the project understand scope of the project by reading the project problem statement?	16/08/21	**YES**	
4	The project's objectives of study (What product, process, resource etc.) are being addressed?	16/08/21	**YES**	
5	Is similar type of methodology/model Used for existing work?	16/08/21	**YES**	
6	Is the studied literature sufficient? to decide scope of the project?	16/08/21	**YES**	
7	Are the objectives set will help to achieve goal of the project?	16/08/21	**YES**	
8	Does Research gap identify will lead to find motivation of project?	16/08/21	**YES**	
9	Does your project contribute to us society by any means and will lead to find motivation?	16/08/21	**YES**	
10	Are the objectives clearly and unambiguously listed?	16/08/21	**YES**	
Remark and Suggestions:				
Name of Reviewer **Sign**				
1 **Mrs. Raji Panicker**				
			Mrs. Nalini Jagtap	
2 **Mrs. Tejaswani Patil**			**Dr. Amol Dhakne**	
			Project coordinators	

6.2 **Project Review-II: Feasibility and Scope**

Student is expected to deliver presentation covering Feasibility and Scope

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Is the project's viewpoint Understood?	06/09/21	**YES**	
2	Is the project goal statement being in alignment with the sponsoring organization's business goal and Mission?	06/09/21	**YES**	
3	Who is the project's end user?	06/09/21	**YES**	
4	What is the projected cost of producing a product?	06/09/21	**YES**	
5	Is project achievable in specified (Time, Cost Budget)?	06/09/21	**YES**	
6	Are the requirements within the scope of the project?	06/09/21	**YES**	
7	Is the scope properly defined?	06/09/21	**YES**	
8	Does the problem Statement clearly Define scope of the project?	06/09/21	**YES**	
9	Do the project requirements fit Into available hardware?	06/09/21	**YES**	
10	Whether the milestones are stated completely and project timeline is given?	06/09/21	**YES**	
11	Whether risks like technical risks, Operational risks, schedule risks, business risks are Identified correctly or not?	06/09/21	**YES**	
12	Whether Risk prioritization is done properly or not and any back up plan is there or not?	06/09/21	**YES**	

Remark and Suggestions:

	Name of Reviewer	Sign	
1	**Mrs. Raji Panicker**		
			Mrs. Nalini Jagtap
2	**Mrs. Tejaswani Patil**		**Dr. Amol Dhakne**
			Project coordinators

6.3 Project Review-III: Requirement Analysis

Student is expected to deliver presentation covering Requirement Analysis

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Is information domain Analysis complete, consisten and accurate?	27/09/21	**YES**	
2	Is problem statement categorized in identified area and targeted towards specific area there in?	27/09/21	**YES**	
3	Is external and internal interfacing properly defined?	27/09/21	**YES**	
4	Are requirement consistent With schedule, resources and budget?	27/09/21	**YES**	
5	Are all requirements traceable to system level?	27/09/21	**YES**	
6	What is needed to make the product?	27/09/21	**YES**	
7	Is there a demand for the produce?	27/09/21	**YES**	
8	Is identification of stakeholders is done properly?	27/09/21	**YES**	
9	Whether all requirements Are captured and documented in line with scope?	27/09/21	**YES**	
10	Whether all type of analysis classes are identified or not?	27/09/21	**YES**	
11	Whether all type of analysis classes are identified or not?	27/09/21	**YES**	
12	Whether the Acceptance criteria is decided are not?	27/09/21	**YES**	

Remark and Suggestions:

	Name of Reviewer	**Sign**	
1	**Mrs. Raji Panicker**		
			Mrs. Nalini Jagtap
2	**Mrs. Tejaswani Patil**		**Dr. Amol Dhakne**
			Project coordinators

6.4 **Project Review-IV: Design**

Student is expected to deliver presentation covering Design

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Is requirement reflected in the system architecture?	04/10/21	**YES**	
2	Does the design support both project (product) and project goals?	04/10/21	**YES**	
3	Does the design address all the issues form the requirement?	04/10/21	**YES**	
4	Is effective modularity achieved and modules are functionally independent?	04/10/21	**YES**	
5	Are structural diagrams (class, Object, etc.) are well defined?	04/10/21	**YES**	
6	Are all class associations clearly defined and understood? (Is it cleat which classes provide which services)?	04/10/21	**YES**	
7	Are the classes in the class diagram clear? (What they represent in the architecture design document?)	04/10/21	**YES**	
8	Is inheritance appropriately used?	04/10/21	**YES**	
9	Are the multiplicities in the use case diagram depicted in the class diagram?	04/10/21	**YES**	
10	Are all objects used in sequence diagram?	04/10/21	**YES**	
11	Are the symbols used in all diagrams corresponding to UML standards?	04/10/21	**YES**	
12	Are behavioral diagrams (use case, sequence, activity, etc.) well defined and understood?	04/10/21	**YES**	
13	Does each case have clearly defined actors and input/ output?	04/10/21	**YES**	

14	Does the sequence diagram match with class diagram?	04/10/21	**YES**	
15	Is aggregation/ containment (used) clearly defined and understood?	04/10/21	**YES**	
16	Whether State charts are capturing system's dynamic behavior correctly or not?	04/10/21	**YES**	
17	Related to procedural thinking whether DFDs and CFDs along with transaction and transformation flow are done correctly or not?	04/10/21	**YES**	

Remark and Suggestions:

Name of Reviewer   **Sign**

1   Mrs. Raji Panicker

                                                     Mrs. Nalini Jagtap

2   Mrs. Tejaswani Patil   **Dr. Amol Dhakne**

                                                Project coordinators

7. Internal Evaluation Sheet (Semester I)

Sr. No.	Name(s) of the student in the project group	Prasann S.	Sanket H.	Shivam D.	Shashank S.
1	Problem Statement/ Motivation/Objectives/ Scope/Feasibility Requirement (05)				
2	LiteratureSurvey (05)				
3	RequirementAnalysis (05)				
4	Modeling&Designing (10)				
5	Planning &Prototyping (05)				
6	Presentation &Question - Answer (10)				
7	PartialProjectReport (10)				
	Total (50)				

Name and Signature of Evaluation Committee:

1. Prof.

2. Prof.

Examiners Feedback and Suggestions:

Dr. Amol Dhakne   **Mrs. Nalini Jagtap**
                 Dr. Amol Dhakne   **Prof. P. P. Shevatekar**
    Guide   Project Coordinators   Signature of Head

Project Meeting Sheet

SEM-I, (Year 2021-22)

Sr. No.	Roll No	Date	Suggestion given by Guide	Student Sign	Suggestion completed by Students(Y/N)	Guide Sign with Date
1	B23	20/09/21	Create a more detailed System architecture	*Prasann Shimpi*	Y	
2	B12	20/09/21	Create a more detailed System architecture	*Sanket Halake*	Y	
3	A25	20/09/21	Create a more detailed System architecture	*Shivam Dharmshetti*	Y	
4	B14	20/09/21	Create a more detailed System architecture	*Shashank Singh*	Y	
5	B23	11/10/21	Suggested to add UML diagrams to reports	*Prasann Shimpi*	Y	
6	B12	11/10/21	Suggested to add UML diagrams to reports	*Sanket Halake*	Y	
7	A25	11/10/21	Suggested to add UML diagrams to reports	*Shivam Dharmshetti*	Y	
8	B14	11/10/21	Suggested to add UML diagrams to reports	*Shashank Singh*	Y	
9	B23	08/11/21	Suggested to compare algorithm to be used	*Prasann Shimpi*	Y	
10	B12	08/11/21	Suggested to compare algorithm to be used	*Sanket Halake*	Y	
11	A25	08/11/21	Suggested to compare algorithm to be used	*Shivam Dharmshetti*	Y	
12	B14	08/11/21	Suggested to compare algorithm to be used	*Shashank Singh*	Y	
13	B23	15/11/21	Guided with Formatting for drafting research paper	*Prasann Shimpi*	Y	
14	B12	15/11/21	Guided with Formatting for drafting research paper	*Sanket Halake*	Y	
15	A25	15/11/21	Guided with Formatting for drafting research paper	*Shivam Dharmshetti*	Y	
16	B14	15/11/21	Guided with Formatting for drafting research paper	*Shashank Singh*	Y	
17						
18						
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21						

22						
23						
24						
25						

                  Mrs. Nalini Jagtap
Dr. Amol Dhakne   **Dr. Amol Dhakne**   **Prof. P. P. Shevatekar**
Project Guide   Project Coordinators   Signature of Head

DEPARTMENT OF COMPUTER ENGINEERING
Dr. D. Y. Patil Institute of Engineering, Management and Research, Akurdi, Pune – 44.

SAVITRIBAI PHULE PUNE UNIVERSITY

PROJECT FILE (SEM-I) CHECKLIST

Sr. No	Document Name	Status (Yes/No)
1	Sponsorship Letter (If Any)	No
2	Base Paper (Min 1)	Yes
3	Reference Paper (Min 3)	Yes
4	Abstract	Yes
5	Synopsis	Yes
6	SEM-I Rough Work	Yes
7	First Published Paper with Certificates.	No
8	Presentation	Yes

Mrs. Nalini Jagtap

Dr. Amol Dhakne   **Dr. Amol Dhakne**   **Prof. P. P. Shevatekar**

Project Guide   Project Coordinators   Signature of Head

8. 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.

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

Student is expected to deliver presentation covering Modeling

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Which software Developmentmodel is used? (Water fall, Incremental,RAD) How? (? at this level?)	14/01/2022	**Yes**	
2	Do youclearly identify data objects,theirattributes and relationships?(Allconstraints fro SRS are captured or not?)	14/01/2022	**Yes**	
3	Have you clearly matched the objects with respective classes and theirresponsibilities?	14/01/2022	**Yes**	
4	Have you analyzed the requirements and represented them into respective models?	14/01/2022	**Yes**	
5	Can you differentiate between different system states and depict them in the form of state transition diagram?	14/01/2022	**Yes**	
6	Does the mathematical model clearly Simply design of the project?	14/01/2022	**Yes**	
7	Does the mathematical model clearly states goal of project?	14/01/2022	**Yes**	
8	Does the interface between the modules properly identified?	14/01/2022	**Yes**	
9	Does any functional dependencies are identified and described?	14/01/2022	**Yes**	
10	Which architectural model does your system supports?	14/01/2022	**Yes**	
11	Whether Deployment diagram is inline with selected architecture?	14/01/2022	**Yes**	
12	Whether all components are designed properly and represented in component	14/01/2022	**Yes**	

		diagram?			
13		Whether NP-completeness of algorithms is checked or not?	14/01/2022	**Yes**	

Remark and Suggestions:

Name of Reviewer	**Sign**
1 Mrs. Raji Panicker	
	Mrs. Nalini Jagtap
2 Mrs. Tejaswani Patil	**Dr. Amol Dhakne**
	Project coordinators

8.2 <u>Project Review-II: Coding / Implementation</u>

Student is expected to deliver presentation covering Coding / Implementation

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Does the code completely and correctly implement the design?	28/01/2022	**Yes**	
2	Does the code comply with the coding standard?	28/01/2022	**Yes**	
3	Is the code well structured, consistent in style, and consistently formatted?	28/01/2022	**Yes**	
4	Are all functions in the design coded?	28/01/2022	**Yes**	
5	Does the code make use of object oriented concepts?	28/01/2022	**Yes**	
6	Does the code support granularity?	28/01/2022	**Yes**	
7	Does the language used for coding is correctly chosen as per the project need?	28/01/2022	**Yes**	
8	If any off the shelf components are used, Have you understood the functionalities of using it?	28/01/2022	**Yes**	
9	Are all comments consistent with the code?	28/01/2022	**Yes**	
10	Whether code optimization is done properly or not?(By using language features)	28/01/2022	**Yes**	

Remark and Suggestions:

Name of Reviewer   Sign

1 Mrs. Raji Panicker	
	Mrs. Nalini Jagtap
2 Mrs. Tejaswani Patil	**Dr. Amol Dhakne**
	Project coordinators

8.3 Project Review-III: Validation and Testing

Student is expected to deliver presentation covering Validation and Testing

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Have you done alpha testing?	11/02/2022	**Yes**	
2	Have you done beta testing?	11/02/2022	**Yes**	
3	Have you validated the requirements, design and code as per standard?	11/02/2022	**Yes**	
4	Have you performed GUI testing of project? How?	11/02/2022	**Yes**	
5	Does your system comply with basic usability norms?	11/02/2022	**Yes**	
6	Have you tested the code using standard datasets available in your area of project?	11/02/2022	**Yes**	
7	Have you tested the code in real time environment?	11/02/2022	**Yes**	
8	After integration of all components whether total performance of system is checked or not?	11/02/2022	**Yes**	
9	Whether repository of all components along with versions is documented or not?	11/02/2022	**Yes**	

Remark and Suggestions:

Name of Reviewer   Sign

1 Mrs. Raji Panicker

Mrs. Nalini Jagtap

2   Mrs. Tejaswani Patil   **Dr. Amol Dhakne**

Project coordinators

8.4 Project Review-III: Report Writing

Student is expected to deliver presentation covering Report Writing

Sr. No	Questions	Date	Remark/ Grade	Sign of Guide
1	Is the report written as per the prescribed format?	11/03/2022	**Yes**	
2	Is the report timely prepared?	11/03/2022	**Yes**	
3	Is the report properly organized, spelled, grammatically correct?	11/03/2022	**Yes**	
4	Is the report plagiarism free?	11/03/2022	**Yes**	
5	Is the report precise and written to the point?	11/03/2022	**Yes**	
6	Is the report contains complete results and comparative graphs?	11/03/2022	**Yes**	
7	Are all figures and tables properly numbered and labeled?	11/03/2022	**Yes**	
8	Are all figures and tables properly cited?	11/03/2022	**Yes**	
9	Weather references are properly cited?	11/03/2022	**Yes**	

Remark and Suggestions:

Name of Reviewer   Sign

1 Mrs. Raji Panicker		
		Mrs. Nalini Jagtap
2 Mrs. Tejaswani Patil		**Dr. Amol Dhakne**
		Project coordinators

9. Internal Evaluation Sheet (Semester II)

Sr. No.	Name(s) of the student in the project group	Prasann S.	Sanket H.	Shivam D.	Shashank S.
1	Modeling (10)				
2	Coding & Implementation (40)				
3	Testing (10)				
4	Understanding, Individual Involvement /Contribution in the project (10)				
5	Team Work (10)				
6	Demonstration cum Presentation (10)				
7	Documents & Report (10)				
	Total (100)				

Name and Signature of Evaluation Committee:

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

Examiners Feedback and Suggestions:

Mrs. Nalini Jagtap

Dr. Amol Dhakne   **Dr. Amol Dhakne**   **Prof. P. P. Shevatekar**

Guide   Project Coordinators   Signature of Head

Project Meeting Sheet
SEM-II, (Year 2021-22)

Sr. No.	Roll No	Name Of Student	Date	Suggestion given by Guide	Student Sign	Suggestion completed by Students(Y/N)	Guide Sign with Date
1	B23	**Prasann Shimpi**	9/01/2022	*First Paper Publication Details*	***Prasann Shimpi***	Y	
2	B12	**Sanket Halake**	9/01/2022	*First Paper Publication Detail*	***Sanket Halake***	Y	
3	A25	**Shashank Singh**	9/01/2022	*First Paper Publication Detail*	***Shivam Dharmshetti***	Y	
4	B14	**Shivam Dharmshetti**	9/01/2022	*First Paper Publication Detail*	***Shashank Singh***	Y	
5	B23	**Prasann Shimpi**	23/01/2022	*Implementation Changes*	***Prasann Shimpi***	Y	
6	B12	**Sanket Halake**	23/01/2022	*Implementation Changes*	***Sanket Halake***	Y	
7	A25	**Shashank Singh**	23/01/2022	*Implementation Changes*	***Shivam Dharmshetti***	Y	
8	B14	**Shivam Dharmshetti**	23/01/2022	*Implementation Changes*	***Shashank Singh***	Y	
9	B23	**Prasann Shimpi**	13/02/2022	*Paper Publication*	***Prasann Shimpi***	Y	
10	B12	**Sanket Halake**	13/02/2022	*Paper Publication*	***Sanket Halake***	Y	
11	A25	**Shashank Singh**	13/02/2022	*Paper Publication*	***Shivam Dharmshetti***	Y	
12	B14	**Shivam Dharmshetti**	13/02/2022	*Paper Publication*	***Shashank Singh***	Y	
13	B23	**Prasann Shimpi**	26/02/2022	*Report Formatting*	***Prasann Shimpi***	Y	
14	B12	**Sanket Halake**	26/02/2022	*Report Formatting*	***Sanket Halake***	Y	
15	A25	**Shashank Singh**	26/02/2022	*Report Formatting*	***Shivam Dharmshetti***	Y	
16	B14	**Shivam Dharmshetti**	26/02/2022	*Report Formatting*	***Shashank Singh***	Y	
17	B23	**Prasann Shimpi**	20/03/2022	*Model Changes*	***Prasann Shimpi***	Y	
18	B12	**Sanket Halake**	20/03/2022	*Model Changes*	***Sanket Halake***	Y	

19	A25	Shashank Singh	20/03/2022	*Model Changes*	*Shivam Dharmshetti*	Y	
20	B14	Shivam Dharmshetti	20/03/2022	*Model Changes*	*Shashank Singh*	Y	
21	B23	Prasann Shimpi	3/04/2022	*PPT Presentation*	*Prasann Shimpi*	Y	
22	B12	Sanket Halake	3/04/2022	*PPT Presentation*	*Sanket Halake*	Y	
23	A25	Shashank Singh	3/04/2022	*PPT Presentation*	*Shivam Dharmshetti*	Y	
24	B14	Shivam Dharmshetti	3/04/2022	*PPT Presentation*	*Shashank Singh*	Y	

Mrs. Nalini Jagtap
Dr. Amol Dhakne   **Dr. Amol Dhakne**   **Prof. P. P. Shevatekar**
Project Guide   Project Coordinators   Signature of Head

DEPARTMENT OF COMPUTER ENGINEERING
Dr. D. Y. Patil Institute of Engineering, Management and Research, Akurdi, Pune – 44

SAVITRIBAI PHULE PUNE UNIVERSITY

PROJECT FILE (SEM-II) CHECKLIST

Sr. No	Document Name	Status (Yes/No)
1	Sponsorship Letter	Nil
2	Base Paper (Min 1)	Yes
3	Reference Paper (Min 3)	Yes
4	Abstract	Yes
5	Synopsis	Yes
6	Rough Work	Yes
7	First Published Paper With Certificates.	Nil
8	Second Submitted/Published Paper Details With Acceptance Latter/Certificates.	Paper Published
9	Presentation	Yes

	Mrs. Nalini Jagtap	
Dr. Amol Dhakne	**Dr. Amol Dhakne**	**Prof. P. P. Shevatekar**
Project Guide	Project Coordinators	Signature of Head

10. Software Engineering Code of Ethics and Professional Practices

(Courtesy / Reference- http://www.acm.org/about/code-of-ethics)

Computers have a central and growing role in commerce, industry, government, medicine, education, entertainment and society at large. Software engineers are those who contribute by direct participation or by teaching, to the analysis, specification, design, development, certification, maintenance and testing of software systems. Because of their roles in developing software systems, software engineers have significant opportunities to do good or cause harm, to enable others to do good or cause harm, or to influence others to do good or cause harm. To ensure, as much as possible, that their efforts will be used for good, software engineers must commit themselves to making software engineering a beneficial and respected profession. In accordance with that commitment, software engineers shall adhere to the following Code of Ethics and Professional Practice.

The Code contains eight Principles related to the behavior of and decisions made by professional software engineers, including practitioners, educators, managers, supervisors and policy makers, as well as trainees and students of the profession. The Principles identify the ethically responsible relationships in which individuals, groups, and organizations participate and the primary obligations within these relationships. The Clauses of each Principle are illustrations of some of the obligations included in these relationships. These obligations are founded in the software engineer's humanity, in special care owed to people affected by the work of software engineers, and the unique elements of the practice of software engineering. The Code prescribes these as obligations of anyone claiming to be or aspiring to be a software engineer.

Software engineers shall commit themselves to making the analysis, specification, design, development, testing and maintenance of software a beneficial and respected profession. In accordance with their commitment to the health, safety and welfare of the public, software engineers shall adhere to the following Eight Principles:

1. PUBLIC - Software engineers shall act consistently with the public interest.

2. CLIENT AND EMPLOYER - Software engineers shall act in a manner that is in the best interests of their client and employer consistent with the public interest.

3. PRODUCT - Software engineers shall ensure that their products and related modifications meet the highest professional standards possible.

4. JUDGMENT - Software engineers shall maintain integrity and independence in their professional judgment.

5. MANAGEMENT - Software engineering managers and leaders shall subscribe to and promote an ethical approach to the management of software development and maintenance.

6. PROFESSION - Software engineers shall advance the integrity and reputation of the profession consistent with the public interest.

7. COLLEAGUES - Software engineers shall be fair to and supportive of their colleagues.

8. SELF - Software engineers shall participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

Environment and Computing-

Information and communication technologies (ICTs) have been contributing to environmental problems: computers, electronic devices and ICT infrastructure consume significant amounts of electricity, placing a heavy burden on our electric grids and contributing to greenhouse gas emissions. In 2007, the total footprint of the ICT sector – including personal computers (PCs) and peripherals, telecoms networks and devices and data centers – was 830 Mt CO_2 emission, about 2% of the estimated total emissions from human activity released that year (a figure equivalent to aviation). ICT hardware poses severe environmental problems both during its production and its disposal. Each stage of a computer's life, from its production, throughout its use, and into its disposal, presents environmental

problems. Manufacturing computers and their various electronic and non - electronic components consumes electricity, raw materials, chemicals, and water, and generates hazardous waste. All these directly or indirectly increase carbon dioxide emissions and impact the environment and the trend is to increase in the BAU (Business As Usual) scenario.

Green Computing-

Hence you all our students are requested to follow green computing practices. Green computing is the study and practice of designing, manufacturing, using, and disposing of computers, servers, and associated subsystems — such as monitors, printers, storage devices, and networking and communications systems —efficiently and effectively with minimal or no impact on the environment. Green computing includes the dimensions of environmental sustainability, the economics of energy efficiency, and the total cost of ownership, which includes the cost of disposal and recycling. Green computing benefits the environment by improving energy efficiency, lowering greenhouse gas emissions, using less harmful materials, and encouraging reuse and recycling. Green design, Green manufacturing, Green use, Green disposal are complementary paths of green ICT. Only focusing on these four fronts we can achieve total environmental sustainability from the IT side and make IT greener throughout its entire lifecycle.

Social Life and Computing-

Each IT professional must keep in mind the three key components of a corporate Green IT best practices policy -Environment, Economy and Social aspect. The invention of the computer has completely changed the way we live our lives. Nearly everything is controlled by a computer; cars, satellites, phones, etc. Computers have made our lives easier. Computers can also have positive effects on a person's social life when their power to connect over great distances is harnessed fully. Computers have both positive and negative impact in our society. While technology is a wonderful thing it is almost likely that it can be used in an immoral or wrong way. There is a price to pay for everything even if it appears it's making life easier on people.

While proper lifecycle management can greatly boost a IT company's ecological and environmental sustainability position, it can also contribute to achieving goals on the social front. Hardware retirement practices are the primary concern in this regard. In addition to seeking carbon neutrality, a proper asset retirement strategy should seek sustainability in the communities where companies operate.

The following social objectives should be considered:

1. To optimize sustainability in their IT infrastructure, companies should focus on each state of the IT lifecycle
2. Setting the Appropriate Corporate Sustainability Policy
3. Avoiding unethical labor practices and Controlling unethical exports
4. Accountability in the Recycling e-waste and Sustainability Metrics and Reporting
5. Greater Transparency Regarding Material Analysis and Extraction
6. Compliance with stringent, evolving security regulations

11. Contest Participation Details.

A. Participation in project Competition / Contest

Sr. No	Name and Place of Project Competition and Exhibition	Date	Certificates prizes Won if any

Attach attested copy of certificate(s)

B. Paper Publication/ Presentation/IPR

Sr. No	Name of organizer	Date	Certificates prizes Won if any
1.	IJRASET	13/05/2022	Certificate

Attach attested copy of certificate(s)

Certificate

It is here by certified that the paper ID : IJRASET42522, entitled
Neural Network based Message Concealment Scheme
by
Prasann Shimpi
after review is found suitable and has been published in
Volume 10, Issue V, May 2022
in
International Journal for Research in Applied Science &
Engineering Technology
Good luck for your future endeavors

Editor in Chief, **iJRASET**

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12. Rubrics

A. Idea Inception

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

B. Implementation

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

C. Documents

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

Installation Guide				
Work Book				

D. 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 capacity & involvement in the project				
Team Work (Distribution of work, intra-team communication and togetherness)				
Outcomes / Usability				

E. 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				

Bibliography

1. Roger S. Pressman, "Software Engineering: A Practitioner's Approach", 6th EditionMcGraw- Hill, ISBN978–0–07–337597–7.

2. Joseph Phillips, "IT Project Management", Tata McGraw-Hill 2003 Edition, ISBN 13:978-0071700436

3. www.csc.villanova.edu/~tway/courses/csc4181/s2010/srs_template-1.doc
4.http://unipune.ac.in/Syllabi_PDF/revised-2015/engineering/BE-Computer-2012-course-27-8-15.pdf

<h1 style="text-align:center"><u>Annexure I</u></h1>

Final Synopsis (after approval of the project work) Title Page

Project Group ID = 3

Title = Neural Network based Message Concealment Scheme

Domain = Cyber Security, Artificial Intelligence

Team Members (List with Signatures)

1. Prasann Shimpi
2. Sanket Halake
3. Shivam Dharmshetti
4. Shashank Singh

Internal Guide (with signature of approval)
Dr. Amol Dhakne

Inner Pages:

Keywords (ACM
Keywords) Problem
Definition

List of modules/functionalities

Current market survey: This should include list of similar products available, if any and also their pros and cons.

Scope of the project

Literature survey (List of references only): This should include the list of books, magazines, research papers, web links etc. referred by the students.

Software and hardware requirements of the

project Probable date of completion

Outcomes

***********************************ALL THE BEST*********************************