



## **BTech Capstone Project**

### **Log-book**

**( 2021-2022)**

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# **PREFACE**

This document is prepared for B.Tech. (CSE), Students of School of Computer Engg. & Technology who are in final year of the course and undertaking project as a partial requirements for fulfillment of Bachelor of Technology degree under the University Dr. VishwanathKarad MIT World Peace University. Students are required to carry out final year project which includes functional implementation of their innovative ideas in the form of software programs which may include hardware also. This document is designed to the students for organization of their work with proper scheduling and containing authentication of the work. The project work includes: conduction of various experiments, demonstration or exhibition of the functions, several documents preparations including project report and technical paper writings etc.

During the assessment of the students' project work various criteria are addressed which includes, finalization of problem statements or project topics, feasibility & scope of the project work, literature survey and results & analysis.

It is expected that all students and Guides show follow the guidelines and manual of the University rules before conducting any student project activities. All students are expected to have exposure of the new software and hardware environments for the requirements of their expected tasks. It is advised to all students to show positive attitude and follow the ethics laid down by the University throughout the this course.

## **B.Tech. CapStone Project Course Outline: Stage-I ( Tri-XI )**

Teaching Scheme

Examination Scheme

Lab: 8Hrs/Week (Trimester-11)Term Work: 200 Marks

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<b>Course Code</b>	CS423
<b>Name of the Course</b>	Capstone Project: Stage I
<b>Trimester</b>	Trimester – XI
<b>Course Objectives :</b>  <ol style="list-style-type: none"><li>1. To survey for the formulation of the problem statement relevant to the concern domain</li><li>2. To study and finalize the system and software requirements</li><li>3. To focus upon the required parameters for working of the model to be designed</li><li>4. To document the descriptions of the designed model</li><li>5. To demonstrate effective interpersonal skills</li><li>6. To survey for the formulation of the problem statement relevant to the concern domain</li></ol>	
<b>Course Outcomes :</b>  <ol style="list-style-type: none"><li>1. CO1:Survey the literature to identify the research gap and need of the system</li><li>2. CO2: Devise and formulate the problem statement</li><li>3. CO3: Gather and analyse the system requirements</li><li>4. CO4: Design, model and validate the system architecture</li><li>5. CO5:Demonstrate ethical work standards and maintain documentation in an organized manner</li></ol>	

**Course outline and policy :**

The Students will involve in groups and each group undertakes one project over the academic year. The project belongs to the area of Computer Science and Engineering comprises of steps such as the analysis, design of a system or sub system.

The students are included to form group of 4 students and all members of the group jointly work towards the implementation of the project. The selection of the project is based on the approval of review committee which may include guide also (Staff-member assigned).

The student project activity has some specific goals to fulfill the ability developments of the students to understand the feasibility of the project, planning project, studying existing systems, tools available to implement the project and state of art software testing procedures and technology with use of case tools.

Every group is required to submit interim project report at the end of the first term. The report should have the following details in it.

**Introduction**

- Aims and objectives
- Literature survey
- Problem statement
- Project requirements
- Proposed architecture/ high level design of the project
- Project plan

Each group is assessed by the panel of examiners to evaluate the viability of project and allot the marks. The group will submit at the end of trimester 11:

- A. The complete Design of the project.
- B. Project report in the form of bound journal complete in all respect – 2 copy for the Institute and 1 copy of each student in the group for certification.

The term work evaluation will be done by the examiners in consultation with the guide. Oral examination will be based on the project work completed by the candidates. The project report must also be presented during the oral examination.

The project report contains the details.

- Problem definition and requirement specification.
- System definition – requirement Analysis.
- System design (dataflow diagrams/ algorithm, UML diagrams).
- Design of Test cases and procedure
- Choice of the Platform to be used
- Conclusions
- Appendix tools used, References.

Documentation will use UML approach with presentation, Category, Use Case, Class Diagrams etc.

Internal Assessment Marks				Total	Credits
Internal Assessment (LCA)					
Topic Finalization	Guide Assessment	Mid-Term Review	End-Term Review	200	4
20	80	50	50		

## B.Tech. CapStone Project Course Outline: Stage-II ( Tri-XII )

Teaching Scheme  
Lab: 12Hrs/Week (Trimester-12)

Examination Scheme  
Term work: 200 Marks  
Oral: 100 Marks

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<b>Course Code</b>	CS433
<b>Name of the Course</b>	Capstone Project: Stage II
<b>Trimester</b>	Trimester – XII
<b>Course Objectives :</b>  <ol style="list-style-type: none"><li>1. To develop a computer based system using appropriate algorithms to reach an optimum solution</li><li>2. To examine and utilise modern skills, techniques and tools for computing practice leading to lifelong learning</li><li>3. To evaluate, test and analyse developed computer based system</li><li>4. To demonstrate work ethics in teams to effectively manage conflicts</li><li>5. To compose well-supported documentation of the work and inculcate oral defence skills</li></ol>	
<b>Course Outcomes :</b>  <ol style="list-style-type: none"><li>1. CO1. Develop a computer based system using appropriate algorithms to reach an optimum solution</li><li>2. CO2. Examine and utilise modern skills, techniques and tools for computing practice leading to lifelong learning</li><li>3. CO3. Evaluate, test and analyse developed computer based system</li><li>4. CO4. Demonstrate work ethics in teams to effectively manage conflicts</li><li>5. CO5. Compose well-supported documentation of the work and inculcate oral defence skills</li></ol>	

**Course outline and policy :**

The Student will undertake one project over the academic year, which will involve the analysis, design of a system or sub system in the area of Computer Science and Engineering. The group will submit at the end of Trimester 12.

- A. The Workable project.
- B. Project report in the form of bound journal complete in all respect – 1 copy for the Institute and 1 copy of each student in the group for certification.

The term work will be assessed by the examiners in consultation with the guide. Oral examination will be based on the project work completed by the candidates. Project report work completed by candidates. Project report must also be presented during the oral examination. The project report contains the details.

- 1. Problem definition
- 2. Requirement specification
- 3. System design details (UML diagrams)
- 4. System implementation – code documentation – dataflow diagrams/ algorithm, protocols used.
- 5. Test result and procedure – test report.
- 6. Platform choice use.
- 7. Conclusions.
- 8. Appendix tools used, References.

Internal Assessment Marks				Total	Credits
Internal Assessment (LCA)			External Assessment (LCA)		
Internal Guide	Mid Term Review	End-Term Internal Examiner	End-Term by External Examiner	300	6
100	50	50	100		

## **DO's & DON'T's**

**Be punctual:** it is advised to follow time lines because project is mostly lab based activity. Therefore it is essential to perform all experiments in time.

**No plagiarism:** seek help from others instead of using someone's program as it is.

**Learn from mistakes:** make mistakes during the program developments but at the same time identify the reasons due to which errors occurred and rectify them well in time.



## Project Group Information

Sr. No	PRN No	Name of the Student	Contact number	Email- ID
1.	1032180202	Swaroop Nayak	9757088185	<a href="mailto:swaroopnayak1@gmail.com">swaroopnayak1@gmail.com</a>
2.	1032180229	Kartik Bhutada	8793025145	<a href="mailto:kartikbhutada21@gmail.com">kartikbhutada21@gmail.com</a>
3.	1032180301	Amey Bhide	9325488844	<a href="mailto:ameybhide2406@gmail.com">ameybhide2406@gmail.com</a>
4.	1032180739	Divyang Bagla	9461132685	<a href="mailto:bagladyang03@gmail.com">bagladyang03@gmail.com</a>

Name of the Internal Guide :Rashmi Rane  
Contact Details:

Name of the External Guide(If any) :.....  
Contact details :.....

## Undertaking by Students

We, the students of Final Year B. Tech. CSE (**Gr.ID**) ..... hereby assure that we will follow all the rules and regulations related to the B.Tech. project activity assigned by MIT World peace University for the academic year 20 - 20 .

The Project entitled - “Sentiment Analysis and Summarization of Product Reviews using Deep Learning Techniques”

Will be fully designed/developed by us. Any part of the project’s hardware & software will not be purchased from outside parties for direct use and any part of software shall not be plagiarized. If such things are found by the examiner, we are responsible for further consequences.

Sr. No	Name of the Student (Panel & PRN )	Signature
1.	Amey Bhide	
2.	Kartik Bhutada	
3.	Amey Bhide	
4.	Divyang Bagla	

# Finalization of Project Title

Proposed Project Title- Sentiment Analysis and Summarization of Product Reviews using Deep Learning Techniques

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Sr. No.	Parameters	Remark 1	Remark 2
1.	Significance/ Applicability		
2.	Originality of Idea		
3.	Innovativeness		
4.	Scope		
5.	Feasibility		

Finalized ProjectTitle

Name and Signature of Reviewer1

Name and Signature of Reviewer 2

Name and Signature of Reviewer 3

\* Project coordination team members will act as reviewers

## B.Tech.CapStoneProject Schedule

Sr. No	Name of the Activity	Duration
1.	Project Group Formation:	1 week
2.	Project Topic Registration	1 week
3.	Project Topic Finalization	
4.	Guide Allocation	
5.	Mid Term Review	
6.	End Term Review	
7.	Requirements Gathering and Analysis	
8.	Project Design (The software Engineering Diagrams)	
9.	Interim Project Report submission	
10.	Survey paper publication in consultation with Guide	
11.	<b>Evaluation for Trimester-XI</b>	
12.	Implementation of Project	
13.	Mid Term Review	
14.	End Term Review	
15.	Project Testing	
16.	Project Deployment	
17.	Final Project Report submission	
18.	Paper publication in consultation with Guide	
19.	<b>Evaluation for Trimester-XII</b>	

## Weekly Activity Chart

Month: November

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
2	Group formation	Completed		
3	Brainstorming on various topics	Completed		
4	Guide Allocation, Topic Review Meeting with Guide	Completed		

## Weekly Activity Chart

Month: December

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
----------	----------	--------------------	---------------	------------------------

1	Initial Literature Survey of the two topics after Finalization with Guide	Completed		
2	Prepared for the presentation for the Feasibility Review	Completed		
3	Topic Finalized after the Feasibility Review	Completed on 13th December 2021.		
4	Discussed on the further plan of action after topic finalization	Completed		

## Weekly Activity Chart

Month: January

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
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1	Continued with the Literature Work for the project	Ongoing		
2	Continued with the Literature Work for the project	Completed		
3	Prepared a thorough Comparative Analysis, Based on the comparative analysis, deep learning models to be implemented were decided	Completed		
4	Prepared for Mid-Term Review PPT, PPT Approval meeting with Guide	Completed on 29th January 2022.		

## Weekly Activity Chart

Month: February

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
----------	----------	--------------------	---------------	------------------------

1	Low Level, High Level Architecture Diagrams for the proposed project, Started preparing the end term interim report	Completed		
2	Prepared a End Term Review PPT and completed the interim report, PPT Approval meeting with Guide	Completed on 12th February 2022.		
3	Started researching and learning about BERT and LSTM models for Sentiment Analysis	Ongoing		
4	Finding the datasets, Finalized the amazon dataset	Completed.		

## Weekly Activity Chart

Month: March

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
----------	----------	--------------------	---------------	------------------------



1	Learning the finalized pre-processing techniques ,Project Environment setup	Completed.		
24	Started working on preprocessing of Amazon Dataset	Ongoing		
4	Preprocessing of Dataset for Sentiment Analysis, Preprocessing complete for text classification	Completed		

## Weekly Activity Chart

Month: April

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
----------	----------	--------------------	---------------	------------------------

1	Started working on the model for Review Classification for Sentiment Analysis	Ongoing		
2	Preparation of the mid review PPT, PPT Approval meeting with the Guide, Formatted the preprocessing code	Completed		
3	LSTM Model parameters modified in order to achieve the accuracy in the Sentiment Analysis part.	Completed		
4	Mid term Review Presentation, Started preprocessing and model building for Review Classification	Completed on 29th April 2022		

## Weekly Activity Chart

Month: May

Week No.	Activity	Activity Completed	Students Sign	Internal/External sign
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1	Clustering, Weak reference Extraction done for Text summarization, Started working on the Research Paper	Completed.		
2	BERT Pre trained model was used to test on the preprocessed data.	Completed		
3	Fixed some minor issues in the code	Completed		
4	Working on the documentation of the whole project i.e reports and research paper.	Completed		

### **B.Tech. CapStonePROJECT (Stage- I) – Mid Term Review**

Class: B.Tech. (CSE)

Academic Year: 20 - 20

Trimester- XI

**Project Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

<b>Group No.</b>	<b>Project work status</b>	<b>Remark</b>	<b>Signature</b>
	Literature Survey		
	Feasibility		
	Scope		
	Block Diagram/System arch.		
	Hardware		
	Software		
	Any Other comments		

Name of Internal Guide: \_\_\_\_\_ Signature of Internal Guide: \_\_\_\_\_

Name of Review Committee member \_\_\_\_\_ Signature of Committee Member \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**B.Tech. PROJECT (Stage-I) –End Term Review**

Class: B.Tech. (CSE)

Academic Year: 20 - 20

Trimester- XI

**Project Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Group No.	Project work status	Remark	Signature
	Literature Survey		
	Block Diagram		
	Hardware		
	Software		
	Documentation		
	Status of survey paper		
	Steps towards Implementation		
	Any other comments		

Name of Internal Guide: \_\_\_\_\_ Signature of Internal Guide: \_\_\_\_\_

Name of Review Committee member \_\_\_\_\_ Signature of Committee Member \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

**CHECK LIST FOR B.Tech. PROJECT Stage-I SUBMISSION**

1. All project groups should complete the project report in all respect as per the prescribed format.
2. All groups should prepare the soft copy of the project seminar report and get the report checked from the internal guide and then print the hardcopy.
3. All groups should prepare the hard copy of the project interim report in the hardbound form. Each group should prepare 3 hardcopies for submission in the department + each individual group member copy.
4. Each group should submit the hard copy of synopsis.
5. Each group should submit one CD which should include
  - I. Synopsis
  - II. Interim Project report
  - III. Powerpoint presentation based on the Interim Project Report
  - IV. System Architecture/Block diagrams
  - V. Coding if any
  - VI. Reference material
  - VII. Certificates of Project competition/paper presentation competition

## B.Tech. CapStoneProject (Stage-II) – Mid Term

Class: B.Tech. (CSE)

Academic Year: 20 - 20

Trimester- T12

Project Title: \_\_\_\_\_

Date: \_\_\_\_\_

Group No.	Project work status	Remark	Signature
	Hardware		
	Software		
	Documentation		
	Implementation		
	Testing		
	Result		
	Scope for Improvement (if any)		

Name of Internal Guide: \_\_\_\_\_ Signature of Internal Guide: \_\_\_\_\_

Name of Review Committee member \_\_\_\_\_ Signature of Committee Member \_\_\_\_\_

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

## B.Tech. CapStoneProject (Stage-II) – End Term

Class: B.Tech. (CSE)

Academic Year: 20 - 20

Trimester- T12

Project Title: \_\_\_\_\_

Date: \_\_\_\_\_

Group No.	Project work status	Remark	Signature
	Literature Survey		
	Block Diagram		
	Hardware		
	Software		
	Documentation		
	Coding		
	Paper publication status		

Name of Internal Guide: \_\_\_\_\_ Signature of Internal Guide: \_\_\_\_\_

Name of External \_\_\_\_\_ Signature \_\_\_\_\_

\_\_\_\_\_



## CHECK LIST FOR B.Tech. PROJECT Stage-II SUBMISSION

1. All project groups should complete the project in all respect i.e. hardware and software in time.
2. All groups should prepare the soft copy of the project report and get the report checked from the internal guide and then print the hardcopy.
3. All groups should prepare the hard copy of the project report in the hardbound form. Each group should prepare 3 hardcopies for submission in the department + each individual group member copy.
4. Each group should submit the hard copy of synopsis.
5. Each group should submit one CD which should include
  - I. Complete demo of the project
  - II. Final Project report
  - III. Readme for execution of the project
  - IV. PPTs of the final presentation
  - V. Complete code of the Software created
  - VI. Paper presented
  - VII. Scan copy of Certificates
  - VIII. Scan copy of sponsorship letter and completion letter (if applicable)

**Final submission should contain:** hardcopy of the project report and above mentioned CD

## CONTRIBUTION/ACHIEVEMENTS/ RESEARCH OUTPUT

<b>Group No.</b>	<b>Project Title</b>	<b>Area of Specialization</b>	<b>Contribution/ Achievements/ Research Output</b>	<b>Publication</b>

Name of Internal Guide: \_\_\_\_\_ Signature of Internal Guide:

**For sponsored project Details of meeting between Internal guide and External guide**

**Trimester – T11**

<b>S.No.</b>	<b>Date</b>	<b>Details about discussions</b>	<b>Signature</b>

**Trimester – T12**

<b>S.No.</b>	<b>Date</b>	<b>Details about discussions</b>	<b>Signature</b>

### Participation in Project competition

<b>Sr.No.</b>	<b>Name &amp; Place of project competition / Exhibition</b>	<b>Date</b>	<b>Certificate/Prizes won (if any)</b>

(Attach photocopy of certificate/s)

### Paper publication / Presentation

<b>Sr.No.</b>	<b>Name of the organizing society/Journal</b>	<b>Date</b>	<b>Certificate/Prizes won (if any)</b>

(Attach photocopy of certificate/s)

## Annexure – A

### **Evaluation Metrics for T11**

#### **Project Lab Assessment Procedure (100Marks)**

Topic finalization presentation (20 Mks)	Team Related evaluation criteria (30Mks)				Project Related evaluation criteria (50 Mks)					
	Regular Reporting, meeting with the guide	Team coordination	Accountability/ Individual contribution	Communication skills	Domain knowledge	Innovative/ Research gap identification / Need	Scope and objectives	System Architecture	Project Planning	Documentation
<b>20</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>5</b>

#### **Internal- Mid Term Review Evaluation(50Marks) + Expert Evaluation (50Marks)**

Internal- Mid Term Review Evaluation(50Mks)						Expert Evaluation(End Term Review) (50Mks)					
Literature survey	Problem statement	Research Gap identification/ Need	Quality and Analysis	Presentation skills	Concept clarity	Validation of design	Presentation skills	Innovative	Applicability	Concept clarity	Interim project report
<b>10</b>	<b>5</b>	<b>15</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>15</b>

## Evaluation Metrics for T12

## Project Lab Assessment Procedure (100Marks)

Team Related evaluation criteria (40Mks)				Project Related evaluation criteria (60 Mks)						
Regular Reporting, meeting with the guide	Team coordination & Ethics	Accountability/ Individual contribution	Communication skills	Project Report (35 Mks)					State of the Art Technique	Programming and implementation
20	10	5	5	Formatting/ Report Compilation 10	Report Contents 10	Timely submission 5	References 5	Plagiaris m check done or not done 5	10	15

### Internal- Mid Term Review Evaluation(50 Marks)

Project Evaluation (50Mks)					
Literature survey	System Architecture & Design	Methodology/Algorithms used	Basic details implementation	Presentation Skills	Question and Answers
5	5	10	10	10	10

### Expert Evaluation By Internal Examiner (50Marks)

Project Evaluation by Internal (50Mks)					
Applicability	Implementation Details	Testing & Validation	Result Analysis & Performance Evaluation	Presentation Skills	Publication/Project Exhibitions/Poster Presentation
5	5	10	10	10	10

### Expert Evaluation by External Examiner (100Marks)

<b>Expert Evaluation by External (End Term Examination) (100Mks)</b>												
<b>Problem Statement</b>	<b>Innovation</b>	<b>Applicability</b>	<b>Concept clarity</b>	<b>Literature Survey</b>	<b>System Architecture &amp; Design</b>	<b>Methodology /Algorithms used</b>	<b>Implementation Details</b>	<b>Testing &amp; Validation</b>	<b>Result analysis</b>	<b>Presentation skills</b>	<b>Question and Answers</b>	<b>Black book: project report</b>
<b>10</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>5</b>

