



ANNA UNIVERSITY

PROGRESS THROUGH KNOWLEDGE

Project Guidelines

(Post Graduate)

Department of Computer Science & Engineering

<http://cs.annauniv.edu>

Preamble

These guidelines are intended to give both students and faculty members at the Department of Computer Science and Engineering a set of procedures and expectations that will make the project evaluation process easier, more predictable, and more successful. These guidelines should also be interpreted as the minimum requirements of the degree awarded by Anna University Chennai. The Project Committee assigned for various programmes offered under Department of Computer Science & Engineering may add requirements or guidelines as they see fit – as long as there are no less demanding than the guidelines set forth in this document.

Eligibility

The Eligibility criteria for PG student are to be followed as per the regulations given by Anna University during admission. The project work for M.E. / M.Tech. consists of Phase – I and Phase – II. Phase – I is to be under taken during III semester and Phase – II, which is a continuation of Phase – I is to be undertaken during IV semester.

MINIMUM CREDIT REQUIREMENTS TO DO THE PROJECT

Minimum credits shall be as follows:

PROGRAMME	MINIMUM NO. OF CREDITS TO BE EARNED
M.E. / M.Tech	24 (for Phase – I)

- If the candidate has not earned the requisite minimum credits, he / she has to complete the arrears (at least to the extent of earning the minimum credits specified) and then enroll for the project (Phase - I) work in the subsequent semester.
- In case of candidates of M.E. / M.Tech. not completing Phase - I of project work successfully, the candidates can undertake Phase - I again in the subsequent semester. In such cases the candidates can enroll for Phase-II, only after successful completion of Phase I.
- Project work shall be carried out under the supervision of a “qualified teacher” in the Department concerned. In this context “qualified teacher” means the faculty member possessing Ph.D degree or PG degree with a minimum of 3 years experience in teaching PG courses.
- A candidate may, however, in certain cases, be permitted to work on projects in an Industrial/Research Organization, on the recommendations of the Head of his/her Department. In such cases, the Project work shall be jointly guided by a guide of the department and an expert-as a

joint guide from the organization and the student shall be instructed to meet the guide periodically and to attend the review committee meetings for evaluating the progress.

- The Project work (Phase II in the case of M.E/M.Tech) shall be pursued for a minimum of 16 weeks during the final semester.
- The deadline for submission of final Project Report is 60 calendar days from the last working day of the semester in which project / thesis / dissertation is done. However, the Phase-I of the Project work in the case M.E. / M.Tech. shall be submitted within a maximum period of 30 calendar days from the last working day of the semester as per the academic calendar published by the University.

Evaluation of the Project

- The evaluation of Project Work for Phase I & Phase II shall be done independently in the respective semesters and marks shall be allotted as per the weight ages.
- There shall be three assessments (each 100 marks), by a review committee, during each of the project semesters for M.E. / M.Tech. programmes. The student shall make presentation on the progress made before the committee.
- The project work shall be evaluated for a maximum of 100 marks of which 20 marks will be through internal assessment. The Project Report prepared according to approved guidelines and duly signed by the guide(s) and the Head of the Department shall be submitted to the Head of the Institution.
- The evaluation of the Project work Phase - I & Phase - II (M.E. / M.Tech.) will be based on the project report submitted in each of the Phase – I & Phase - II semesters and a Viva-Voce Examination by a team consisting of the Guide, a Internal examiner (other than the guide) and a External Examiner for each programme. The internal examiner and the external examiner shall be appointed by the for Phase – I and Phase – II evaluation.
- If the candidate fails to obtain 50% of the internal assessment marks in the Phase–I and Phase–II and the Final Project he/she will not be permitted to submit the report for that particular semester and has to re-enroll for the same in the subsequent semester. If a candidate fails to submit the project report on or before the specified deadline, he/she is deemed to have failed in the Project Work and shall re-enroll for the same in a subsequent semester. This applies to both Phase–I and Phase–II in the case of M.E. / M.Tech.
- If a candidate fails in the viva-voce examinations of Phase–I he/she has to redo the Phase–I in the subsequent semester. If he / she fails in the viva-voce examination of Phase–II of Project work of

M.E. / M.Tech., he/she shall resubmit the Project report within 60 days from the date of viva-voce. The resubmitted project will be evaluated during the subsequent academic session.

- Every candidate doing M.E. / M.Tech., shall send a paper / patent for publication in a journal or a conference. An acknowledgement from the Guide for having communicated to the journal or conference shall be attached to the report of the project work. Such acknowledgements shall be sent to the Additional Controller of Examination along with the evaluation marks by the team of examiners without which the thesis shall not be accepted.
- A copy of the approved project report after the successful completion of viva examinations shall be kept in the library of the department.

General Suggestions and Expectations

The project is by far the most important single piece of work in the degree programme. It provides the opportunity for you to demonstrate independence and originality, to plan and organise a large project over a long period, and to put into practice some of the techniques you have been taught throughout the course. The students are advised to choose a project that involves a combination of sound background research, a solid implementation, or piece of theoretical work, and a thorough evaluation of the project's output in both absolute and relative terms. Interdisciplinary project proposals and innovative projects are encouraged and more appreciable.

A good tip is to try to think of the project as deliverable at reviews rather than an effort to deliver a fully-functioning "product". The very best projects invariably cover some new ground, e.g. by developing a complex application which does not already exist, or by enhancing some existing application or method to improve its functionality, performance etc.

A straightforward implementation project is acceptable, but you must appreciate that it is unlikely to gain high marks, regardless of how well it is done and its usage. Likewise, projects which are predominantly survey reports, unless they are backed up with experimentation, implementation, or theoretical analysis, e.g. for performing an objective comparison of surveyed methods, techniques etc. Pure survey reports, with no supporting implementation or theory, are not acceptable.

- PG Students are to decide on the Phase I & Phase II project with their proposal & project guide during the month of April / November with a brief abstract.
- In case of re-reviews, any number of re-reviews can happen depending on the discretion of the committee and it should happen within the prescribed time.

- If the student fails to attend the review or the guide refuses to endorse the student's work. The committee can invite HOD and HOD is empowered to resolve among further matters.
- If the work of the candidate is found to be insufficient and plagiarism, the committee and HOD will decide the further process.
- HOD can initiate further steps to ensure the smooth implementation as deems appropriate of guidelines.
- Marks split-up

Committee	-	30 Marks (Each 10 marks)
Guide	-	20 Marks
Total	-	50 Marks
- Attendance register will be maintained separately in each lab. Attendance mark (5 marks) will be awarded based on the interaction with guide (3 marks) and attendance (2 marks).

Choosing an Project

The idea for your project may be a proposal from a member of staff or your own, or perhaps a combination of the two.

Staff Proposals

For projects proposed by members of staff you should discuss the project with the proposer as soon as possible so that you have plenty of time to think about the best choices for you. Note that not every project is suitable for every student: some may be specifically tailored to a particular degree and some may only suit students with a very specific set of interests. Each proposal will indicate these constraints in order to help you to make an informed choice.

Own Proposals

If you have your own idea for an individual project it is your responsibility to find a member of staff who both approves of the proposed programme of work and is willing to guide it. You should first get the permission of Project Committee, and may proceed with the same with the consistent consent of the guide.

Choosing the right project

The projects offered by staff may vary substantially in breadth, depth and degree of difficulty. The most important thing is to shortlist a set of projects that are right for *you*. Some students are better suited to well-defined and relatively safe projects that provide scope for demonstrating proficiency with a low risk of failure. Other students are better advised to tackle harder, riskier projects that require a high degree of original input and/or technical problem solving.

If you are in are hope to win one of the illustrious project prizes, or achieve "Distinguished Project" status, you should choose your shortlist with particular care. The potential guides will be happy to offer advice on the suitability of a project, given your individual background, strengths and ambitions. Remember that it is important to balance ambition and realism when making a choice. For better help of projects you can search from websites like (IEEE, ACM, Elsevier, Springer, etc...)

Meeting Your Guide

You must make sure that you arrange regular meetings with your guide. The meetings may be brief once your project is under way but your guide needs to know that your work is progressing. If you need to talk to your guide between meetings and cannot locate them in their office, contact him/her and asking him/her to suggest a time when they will be available. When you go to see your guide (or second marker) you should have prepared a written list of points you wish to discuss. Take notes during the meeting so that you do not forget the advice you were given or the conclusions that were reached.

Guides

The Guides are advised to give projects and suggest project titles focussing more on the current field of research and ensure the level of innovation. Also guides are advised to check for the formatting of the presentation and project report. Staff member cannot guide more than three candidates on the academic schedule.

The Project Presentation and Demonstration

One of the most important skills which the project aims to assess is your ability to communicate your ideas and work. As part of the assessment you will be required to give a presentation and demonstration of your project to your Project Committee.

Each presentation will be for 10 and 20 minutes (to be decided by the project committee at the initial stages and 30 to 40 minutes for the final stages including a demonstration. Guides will help you to structure your talk and will be willing to go through it with you beforehand. The presentation is also a compulsory component of the project. The project committee will not allocate a mark for a project unless there had been a formal presentation. The objective of the presentation is to find out exactly what you/ your team have done and to ensure that you get an accurate mark that is consistent with other projects.

Schedule for Project Reviews

ODD SEMESTER (July– November) - M.E – (Phase I)

<i>Review</i>	<i>Tentative Date</i>
Zeroth Review	Within 2 Weeks
First Review	Within 6 Weeks but within schedule of 1 st Assessment
Second Review	Within 12 Weeks but within schedule of 2 nd Assessment
Third Review	Within 18 Weeks but within schedule of 3 rd Assessment
Viva voce	Mid of November

EVEN SEMESTER (December – April) – M.E - (Phase II)

<i>Review</i>	<i>Tentative Date</i>
Zeroth Review	Within 2 Weeks
First Review	Within 6 Weeks but within schedule of 1 st Assessment
Second Review	Within 12 Weeks but within schedule of 2 nd Assessment
Third Review	Within 18 Weeks but within schedule of 3 rd Assessment
Viva voce	End of April

The project committee is advised to conduct the project reviews for the students of various programmes within the stipulated period and the review marks to be sent to the head of the department at the month end. The project committee is also advised to make necessary arrangements required (Seminar hall availability and Projector, etc...) for the smooth conduct of reviews.

Project Requirements: M.E (CSE / KECL / SW) – Phase 1

Expectations from Students (in the Presentation)

<i>Zeroth Review</i>	<i>First Review</i>	<i>Second Review</i>	<i>Third Review</i>
Title	Title	Title	Title
Abstract	Abstract	Abstract	Abstract
Introduction	Architectural Design for Proposed System (Phase 1)	Detailed Design (if any deviation)	Overall Design (Phase 1)
Literature Survey	ER Diagram, DFD, Use case diagram (if necessary)	Contribution of the candidate	Experimental Results
Proposed System	Algorithms / Techniques used	Results obtained (intermediate)	Performance Evaluation
Modules Split-up and Gantt Chart	Expected outcomes	References	Comparison with Existing system
References	References	80% of code Implementation	References, Draft of paper
	30% of code implementation		100% of code implementation – Demo

Note:

- The presentation should have maximum of 12 – 15 slides
- Presentation will be for 15 minutes
- A draft copy of the conference paper to be prepared at the end of the phase 1 based on the project work.
- System to be tested using testing software's.

For the Project Committee

- The committee is advised to find the enough complexity in the project.
- All the three panel members must be presented during the review.
- The reviews to be conducted in the seminar hall and the available class rooms(in the department).

Guides to check

- Advised to check for the formatting of the presentation and the documentation.
- Check for the attendance of the students (Regular meeting for the discussion).
- Advise the students to contribute some new techniques and advise them to publish a paper at the end of the project

Project Requirements: M.E (CSE / KECL / SW) – Phase 2

Expectations from Students (in the Presentation)

<i>First Review</i>	<i>Second Review</i>	<i>Third Review</i>
Title	Title	Title
Abstract	Abstract	Abstract
Work completed for Phase 1	Detailed Design (if any deviation)	Overall Design (Phase 1 & 2)
Architectural Design for Proposed System (Phase 2)	Contribution of the candidate	Integration & Experimental Results
ER Diagram, DFD, Use case diagram (if necessary)	Results obtained (intermediate)	Performance Evaluation
Algorithms / Techniques used	References	Comparison with Existing system
Expected outcomes	80% code of Implementation	References, 100% code of implementation – Demo
References & 40% of code of implementation	Draft copy of a paper	Copy of Published paper

Approval Guidelines of Zeroth Review

- Comparison with the existing systems and Complexity Metric (FP, Etc...)
- Deliverables to be mentioned clearly for each review.
- Work distribution among team members. Evaluation based on the complexity of the work.

Note:

- The presentation should have maximum of 12 – 15 slides and Presentation will be for 15 minutes
- Acceptance of conference paper at the end of the project work. * **Mandatory**

For the Project Committee

- The committee is advised to find the enough complexity in the project.
- The reviews to be conducted in the seminar hall and the available class rooms (in the department).

Guides to check

- Advised to check for the formatting of the presentation and the documentation.
- Check for the attendance of the students (Regular meeting for the discussion).



Project Title :

REVIEW ZERO

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Understanding background and topic	
Specifies Project goals	
Literature Survey	
Summaries algorithms and highlights the project features	
Specifies the testing platforms and benchmark systems	
Project Planning	
Technical Design	
Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Total	

Comments

Member 1

Member 2

Member 3

Guide



Project Title :

REVIEW ONE

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Understanding background and topic	
Specifies Project goals	
Architecture /System Design	
Summaries algorithms and highlights the project features	
Specifies the testing platforms and benchmark systems	
Discusses the reasons of using Benchmark systems	
Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Implementation (30 Percentage)	
Total	

Comments

Member 1

Member 2

Member 3

Guide



Project Title :

REVIEW TWO

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Abstract	
Specifies Project goals	
Architecture /System Design – Committed Modules	
Summaries algorithms and highlights the project features	
Experimental Results (of each module)	
Compares the results with the existing systems	
Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Implementation (80 Percentage)	
Total	

Comments

Member 1

Member 2

Member 3

Guide



Project Title :

REVIEW THREE

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Abstract	
Specifies Project goals	
Architecture /System Design – Phase 1	
Summaries algorithms and highlights the project features	
Experimental Results (of each module)	
Results	
Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Implementation (100 Percentage - Demo)	
Total	

Comments

Member 1

Member 2

Member 3

Guide



Project Title :

REVIEW ONE

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Abstract	
Work Completed in Phase 1	
Architecture /System Design – Phase 1 & 2	
Work to be completed in Phase 2	
Summaries the techniques implemented / to be implemented	
Contribution of the Candidate	
Results obtained & Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Implementation (40 Percentage)	
Total	

Comments

Member 1

Member 2

Member 3

Guide



Project Title :

REVIEW TWO

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Abstract	
Architecture /System Design – Phase 2	
Work to be completed in Phase 2	
Summaries the techniques implemented / to be implemented	
Contribution of the Candidate	
Results obtained	
Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Implementation (80 Percentage) + Draft Copy of Paper	
Total	

Comments

Member 1

Member 2

Member 3

Guide



Project Title :

REVIEW THREE

Candidate Details

S.No	Register No	Candidate Name	Guided By
1			

Candidate Contribution and Performance

Subject Matter	Marks
Abstract	
Architecture /System Design – Phase 2	
Overall Architecture /System Design – Phase 2	
Summaries the techniques implemented	
Contribution of the Candidate	
Results obtained & Performance Evaluation	
Summaries the ultimate findings of the project	
Question and Answer	
Presentation skills	
Implementation (100 Percentage) + Conference Paper (Acceptance)	
Total	

Comments

Member 1

Member 2

Member 3

Guide

THESIS TEMPLATE

IMAGE SEGMENTATION USING REGION GROWING ALGORITHM

by

K.SENTHILKUMAR

*A report for the phase-I of the project
submitted to the Faculty of*

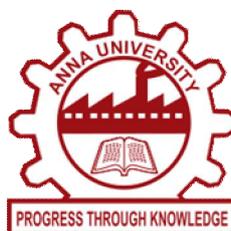
INFORMATION AND COMMUNICATION ENGINEERING

*for the partial fulfillment of the
award of the degree of*

Master of Engineering

in

Computer Science & Engineering



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
ANNA UNIVERSITY, CHENNAI 600 025.

APRIL 2010

CERTIFICATE

Certified that this report titled “*IMAGE SEGMENTATION USING REGION GROWING ALOGRITHM*”, for the phase-I of the project, is a *bona fide* work of **Mr. K.Senthilkumar (201035209)**, who carried out the work under my supervision, for the partial fulfillment of the requirements for the award of the degree of *Master of Engineering in Computer Science & Engineering*. Certified further that to the best of my knowledge and belief, the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or an award was conferred on an earlier occasion.

Place: Chennai.

Date:

Dr. XXXXXXXXXXXXXXX

Designation,

Dept. of Computer Science & Engg.

Anna University,

Chennai - 600 025.

COUNTERSIGNED

HEAD

Dept. of Computer Science & Engineering
Anna University, Chennai 600 025.

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LIST OF ABBREVIATIONS

AVI	Audio Video Interlace
BMP	Bitmap
CPU	Central Processing Unit
GB	Giga Bytes
GUI	Graphical User Interface
LDA	Linear Discriminant Analysis
ML	Machine Learning
PCA	Principal Component Analysis
RAM	Read Only Memory
SPCA	Shift – invariant Principal Component Analysis