

Department of Information Technology

**INSTRUCTION MANUAL
FOR
INDUSTRY ORIENTED MINI PROJECT
(Code- 07A81292)**

**SREENIVASA INSTITUTE OF TECHNOLOGY AND
MANAGEMENT STUDIES, CHITTOOR**
Affiliated to JNTUA-Anantapur-515002

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MESSAGE FROM THE PROJECT CO-ORDINATOR AND HOD

The Main objective of the Mini project work is to develop quality software solution. The aim of the project work is to understand and gain the knowledge of the principles of software engineering practices, so as to participate and manage a large software engineering projects in future. During the project development you should involve in all the stages of the software development life cycle like requirements engineering, systems analysis, systems design, software development, testing strategies and documentation with an overall emphasis on the development of reliable software systems.

The theoretical knowledge gained from various subject provides you the necessary foundation, principles, and practices to develop effective solutions to various computing problems. The practical experience gained from various subject provides you the knowledge to work with various software tools, Designing tools, programming languages, operating systems, etc.

Approval of the project proposal is mandatory to continue and submit the Mini-project work.

Students should take this mini project work very seriously, as these efforts will be considered as training experience in most of the software industry. Topics selected should be large enough to justify as a Mini project. The project should be genuine and original in nature and should not be copied from anywhere else. Students should strictly follow and adhere to the project guidelines.

Wish You All The Best.

T.VIVEKANANDAN
Project Coordinator

Y.SREERAMAN
HOD -IT

1. CALENDAR FOR THE INDUSTRY ORIENTED MINI PROJECT

S.No	Topic	Date
1.	Submission of Project Proposal Document to Project Coordinator	5th July 2010- 15th July 2010
2.	Approval of Project	5 days after the project proposal is received.
3.	Internal Review <ul style="list-style-type: none">• Review -1 • Review -2	Last week of July 2010 (Tentative Schedule) Last week of August 2010 (Tentative Schedule)
4.	Submission of the Project Report –Rough Copy (one copy) in Spiral form to: The Project Coordinator.	6th September 2010 – 13th September 2010 (For Project Proposal Document that have been approved)
5.	Viva-Voce	April 2010 (Tentative)

2. INTRODUCTION

The Students should undergo a Industry oriented Mini-project, in collaboration with an industry of their specialization, to be taken up during the vacation after III year II semester examination. The Industry oriented mini-project shall be evaluated with the Main project in IV year II semester. The industry oriented mini project shall be submitted in report form should be presented before the committee, which shall evaluate for 50 Marks. The committee consists of an External Examiner, HOD, the supervisor, and a senior faculty member of the department.

The project work is not only a partial fulfilment of the B.Tech requirements, but also provides a mechanism to demonstrate your skills, abilities and specialisation. The project work should compulsorily include the software development. Physical installations or configuring the LAN/WAN or theoretical projects or study of the systems, which doesn't involve s/w development, are strictly not allowed.

The Project work constitutes a major component in most professional programmes. It needs to be carried out with due care, and should be executed with seriousness by the students.

3. OBJECTIVES

The objectives of the project is to help the student develop the ability to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories. After the completion of this project work, the student should be able to:

- Describe the Systems Development Life Cycle (SDLC).
- Evaluate systems requirements.
- Complete a problem definition.
- Evaluate a problem definition.
- Determine how to collect information to determine requirements.

- Literature Study.
- Perform and evaluate feasibility studies like cost-benefit analysis, technical feasibility, time feasibility and Operational feasibility for the project.
- Work on data collection methods for fact finding.
- Construct and evaluate UML design.
- Construct and evaluate data dictionaries.
- Evaluate methods of process description to include structured English, decision tables and decision trees.
- Evaluate alternative tools for the analysis process.
- Create and evaluate such alternative graphical tools as systems flow charts and state transition diagrams.
- Decide the S/W requirement specifications and H/W requirement specifications.
- Plan the systems design phase of the SDLC.
- Distinguish between logical and physical design requirements.
- Design and evaluate system outputs.
- Design and evaluate systems inputs.
- Design and evaluate validity checks for input data.
- Design and evaluate user interfaces for input.
- Design and evaluate file structures to include the use of indexes.
- Estimate storage requirements.
- Explain the various file update processes based on the standard file organizations.
- Decide various data structures.
- Construct and evaluate entity-relationship (ER) diagrams for RDBMS related projects.
- Perform normalization for the un-normalized tables for RDBMS related projects
- Decide the various processing systems to include distributed, client/server, online and others.
- Perform project cost estimates using various techniques.
- Schedule projects using both GANTT and PERT charts.
- Perform coding for the project.

- Documentation requirements and prepare and evaluate systems documentation.
- Perform various systems testing techniques/strategies to include the phases of testing.
- Systems implementation and its key problems.
- Generate various reports.
- Be able to prepare and evaluate a final report.
- Brief the maintenance procedures and the role of configuration management in operations.
- To decide the future scope and further enhancement of the system.
- Plan for several appendices to be placed in support with the project report documentation.
- Work effectively as an individual or as a team member to produce correct, efficient, well-organized and documented programs in a reasonable time .
- Recognize problems that are amenable to computer solutions, and knowledge of the tools necessary for solving such problems.
- Develop of the ability to assess the implications of work performed.
- Get good exposure and command in one or more application areas and on the Software.
- Develop quality software using the software engineering principles.
- Deployment and maintenance of the software
- Develop the ability to communicate effectively.

4. TYPE OF THE PROJECT

The majority of the students are expected to work on a real-life project preferably in some industry/ Research and Development Laboratories / Educational Institution / Software Company. Students are encouraged to work in the areas listed at the end (Refer page no-10). However, it is *not mandatory* for a student to work on a real-life project. The student can formulate a project problem with the help of his/her Guide and submit the project proposal of the same. **Approval of the project proposal is mandatory.** If

approved, the student can commence working on it, and complete it. Use the latest versions of the software packages for the development of the project.

5. STEPS INVOLVED IN THE PROJECT WORK

The following are the major steps involved in the project, which may help you to determine the milestones and regulate the scheduling of the project:

- Select a topic and a suitable guide.
- Prepare the project proposal in consultation with the project guide.
- Submit the project proposal along with the necessary documents to project coordinator
- Receipt of the project approval from the Guide, Project Coordinator, HOD.
- Carry out the project-work.
- Prepare the project report.
- Submit the project report.
- Appear for the viva-voce as per the intimation by the **JNTU-Annatapur**.

6. POINTS TO REMEMBER WHILE PREPARING THE PROJECT PROPOSAL DOCUMENT

6.1 Project Proposal Formulation

- **The project proposal should be prepared in consultation with your guide.**

The project proposal should clearly state the project objectives and the environment of the proposed project to be undertaken. **The project work should compulsorily include the software development.** The project proposal should contain complete details in the following form:

- The Project Proposal Document (30-35 pages) covering the following aspects:
 - (i) Title of the Project.
 - (ii) Introduction and Objectives of the Project.

- (iii)** Project Category
(RDBMS/OOPS/Networking/Multimedia/Artificial Intelligence/Expert Systems etc.).
- (iv)** Tools / Platform, Hardware and Software Requirement specifications.
- (v)** Problem Definition, Requirement Specifications (Detailed functional Requirements and Technical Specifications) , Project Planning and Scheduling (Gantt chart/PERT chart).
- (vi)** Scope of the solution.
- (vii)** Analysis
- (viii)** Project Design (UML DIAGRAMS as per the project requirements).
- (ix)** Literature Survey Minimum of 10 pages (precise information collected from various Journals, magazine, WEB reference etc...)
- (x)** A complete structure which includes:
 - Number of modules and their description to provide an estimation of the student's effort on the project.
 - Data Structures as per the project requirements for all the Modules.
 - Process Logic of each module.
 - Implementation methodology
 - List of reports that are likely to be generated.
- (xi)** Overall network architecture (if required for your project)
- (xii)** Implementation of security mechanisms at various levels
- (xiii)** Future scope and further enhancement of the project.
- (xiv)** Bibliography

7. SOFTWARE AND BROAD AREAS OF APPLICATION

FRONT END / GUI Tools	Visual Basic, Power Builder, X-Windows (X/lib, X/motif, X/Intrinsic), Oracle Developer 2000, VC++, Builder
RDBMS/BACK END	Oracle, Ingress, Sybase, Progress, SQL Plus, Versant, MY SQL, SQL Server, DB2, Point base
LANGUAGES	C, C++, Java, VC++, C#
SCRIPTING LANGUAGES	PERL, SHELL Scripts (Unix), Tcl/TK
RDBMS/BACK END	Oracle, Ingress, Sybase, Progress, SQL Plus, Versant, MY SQL, SQL Server, DB2
.NET Platform	VB.Net, C#. Net, Visual C#. Net, ASP.Net
MIDDLE WARE (COMPONENT) TECHNOLOGIES	COM/DCOM, Active-X, EJB, WINCE, MSMQ, BEA, MessageQ, MTS, CICS
UNIX INTERNALS	Device Drivers, RPC, Threads, Socket programming
ARCHITECTURAL CONCEPTS	CORBA, TUXEDO, MQ SERIES
INTERNET TECHNOLOGIES	DHTML, Java script, VB Script, Perl & CGI script, Java, Active X, RMI, CORBA, SWING, JSP, ASP, XML, EJB, Java Beans, Servlets, Visual Age for JAVA, UML, VRML, WML, Vignette, EDA, Broadvision, Ariba, iPlanet, ATG, BigTalk, CSS, XSL, Oracle ASP server, AWT, J2EE, LDAP, ColdFusion, Haskell 98, PHP
WIRELESS TECHNOLOGIES	Blue Tooth, 3G, ISDN, EDGE
REALTIME OPERATING SYSTEM/ EMBEDDED SKILLS	QNX, LINUX, OSEK, DSP, VRTX, RTXC, Nucleus
OPERATING SYSTEMS	WINDOWS 2000/ME, WINDOWS NT, WINDOWS XP, UNIX, LINUX, IRIX, SUN SOLARIS, HP/UX, PSOS, VxWorks, AS400, AIX, DOS
APPLICATION AREAS	Financial / Insurance / Manufacturing / Multimedia / Computer Graphics / Instructional Design/ Database Management System/ Internet / Intranet / Computer Networking-Communication Software development/ E-Commerce/ ERP/ MRP/ TCP-IP programming / Routing protocols programming/ Socket programming.