

Gyanmanjari College of Computer Application
Semester-4(MCA)

Subject: Major Project - MCAXX14521

Type of course: Research Project (RP)

Prerequisite: Software Development process knowledge with involves Designing, Developing, and

testing technologies to Solve Real-world problems.

### Rationale:

The purpose of this course is to let the learners gain wholistic insight and practicum experience by building required technological solutions in the domain of Computer Science & Applications at industry/research organization. The learners will be expected to demonstrate and sharpen various skills in the domain of - existing & contemporary computer science & applications, communication; time bound requirement analysis, solution design & development and report writing – individually and in team. Upon successful course completion, the learner will be required to submit a project report/dissertation about the work performed.

# Teaching and Examination Scheme:

Teachin	ng Schei	ne	Credits		Examina	tion Mark	S		
		D		SEE .		CCE			Total Marks
	1	I		Theory	Practical	MSE	LWA	ALA	IVIAIINS
0	0	30	15	00	80	00	20	00	100

Legends: CI-Class Room Instructions; T – Tutorial; P - Practical; C – Credit; SEE - Semester End Evaluation; MSE- Mid Semester Examination; LWA - Lab Work Assessment; V – Viva voce; CCE-Continuous and Comprehensive Evaluation; ALA- Active Learning Activities.

## Guideline

- The project definition should be finalized during the Winter break after 3<sup>rd</sup> semester Examinations. Any good definition having a high application potential will also be acceptable.
- It is recommended that the team should be about 2-3 students, but not more than 3 students.
- Project plan along with the division of work amongst teammates would have been prepared and got approved within a maximum of 15 days of the start of the project.
- Coding standards should be followed meticulously. At the minimum, the code should be self-documented, modular, and should use the meaningful naming convention.
- It is advisable that object-oriented methodology is used with the reusability of classes and code, etc.

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- The documentation should include a chapter on "Learning during Project Work", i.e. "Experience of Journey during Project Duration".
- Data structure (database design) is mandatory. At least portions of code (preferably full code) are mandatory. The student may be asked to write the code related to the project during the examination.
- If a student is compelled to follow certain instructions (by the external, i.e. organization's Guide) which he/she does not agree to, such a student must prepare a supplementary report to document his/her version and present it to the examiners if such a need arises.
- Internal guides (i.e. the faculty members) must devote the time allocated as per the timetable to guide the students for the project. The time allocation will be in accordance with the scheme for the 4th semester project as given.
- Internal guides (i.e. the faculty members) should preferably visit external guide to track the project.

# Accomplishments of the student after completing the course:

- Doing the project will enable the student to go through rich experience in developing large projects. Such an experience will include encountering various technical issues, finding sources to resolve the issues and finally finding the solution of all these issues satisfactorily.
- Thinking analytically, analyzing, and synthesizing requirements and complicated information for getting a good comprehension of the solution methodology to be adopted.
- Ability to document and write well.
- Organizing the time effectively.
- Working with teammates and generating substantial output of the efforts.
- It will prepare the students for analyzing and programming for industrial problem and large projects work in future.

#### Documentation:

- The project has to be well-documented in the form of a Project Report (at least 50 pages Comprising of the design, data dictionary, source code, screenshots, etc.).
- Format: Print out on both the side of page with single line spacing. Use Times New Roman of size 10 for normal text.

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- 1. Introduction
  - 1.1. Existing System
  - 1.2. Need for the New System
  - 1.3. Objective of the New System
  - 1.4. Problem Definition
  - 1.5. Core Components
  - 1.6. Project Profile
  - 1.7. Assumptions and Constraints
  - 1.8. Advantages and Limitations of the Proposed System



- 2. Requirement Determination & Analysis
  - 2.1. Requirement Determination
  - 2.2. Targeted Users
- 3. System Design
  - 3.1. Use Case Diagram
  - 3.2. Class Diagram
  - 3.3. Interaction Diagram
  - 3.4. Activity Diagram
  - 3.5. Data Dictionary
- 4. Development
  - 4.1. Coding Standards
  - 4.2. Screen Shots
- 5. Agile Documentation
  - 5.1 Agile Project Charter
  - 5.2 Agile Roadmap / Schedule
  - 5.3 Agile Project Plan
  - 5.4 Agile User Story (Minimum 3 Tasks)
  - 5.5 Agile Release Plan
  - 5.6 Agile Sprint Backlog
  - 5.7 Agile Test Plan
  - 5.8 Earned-value and burn charts
- 6. Proposed Enhancements
- 7. Conclusion
- 8. Bibliography

# Evaluation Parameter

- The main parameter of assessment would be the ability of the students to code.
- Though the project and domain specific knowledge would be assessed for, the evaluation would predominantly depend on the students" ability to explain, modify or revise of code.
- Coding standards should have been implemented.
- Though the project would be evaluated for the entire team, the examiner should emphasize on the contribution of each team member in the project development
- Total Marks (100 = 80 External + 20 Internal)

Parameters	Maks	
Explanation of Code	20	
Documentation - Agile	15	
Explanation of Analysis and Design	15	
Presentation	15	
Innovation (Social Community)	15	

