



SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Masters of Computer Applications



MCA Semester II

Subject Name: Software Project-2

Subject Code: MTCA16206

Type of course: Project

Prerequisite (if any):

- Programming Language
- Basic Concepts of Software Engineering
- RDBMS
- Any Web Technology (PHP OR Java Servlets OR .NET) for Web OR C++ for DirectX

List of Courses where this course will be prerequisite: NA

Rationale: The frameworks listed make developing a web application a lot quicker with a strong design in place.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
0	0	4	2	0	0	0	60	40	100

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course



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- Suggested Frameworks:**
- Java/J2EE, Spring, Spring Boot and Hibernate
 - .NET MVC or .NET Core and Entity framework

 - DirectX

Guidelines:

- It is recommended that the team should be of 2-3 students.
- The project should be free from plagiarism of any kind.
- Project must have proper documentation.
- This may not be a live 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 reusability of classes and code, etc.
- Student may be asked to write the code related to the project during examination.

Guidelines for Documentation:

- The project has to be well-documented in the form of a Project Report comprising of the relevant description of the project including design, data dictionary, source code, screenshots, etc.
- **Format:** The student has to submit hard copy of the Project report in below specified format:
 - Print out should be taken on both the side of page with single line spacing.
 - Use Times New Roman of size 10 for normal text.
 - A typical Table of content will be as follows.

TABLE OF CONTENTS

1. Introduction
 - 1.1. Proposed system and its Objectives
 - 1.2. Core Components
 - 1.3. Minimum and Maximum Software/Hardware requirements
 - 1.4. 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



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- 3.2. Class Diagram
- 3.3. Activity Diagram
- 3.4. Data Dictionary
- 4. Agile Documentation
 - 4.1. Agile Project Charter
 - 4.2. Agile Roadmap / Schedule
 - 4.3. Agile Project Plan
 - 4.4. Agile User Story (Minimum 3 Tasks)
 - 4.5. Agile Release Plan
 - 4.6. Agile Sprint Backlog
 - 4.7. Agile Test Plan
 - 4.8. Earned-value and burn charts
- 5. Proposed Enhancements
- 6. Conclusion
- 7. Bibliography

Suggested Specification table with Marks (Theory):

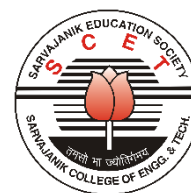
Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
NA	NA	NA	NA	NA	NA

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom’s Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.



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Reference Books:

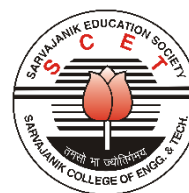
Sr. no.	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Spring and Hibernate	Santosh Kumar	Tata McGraw Hill Publishing Co.Ltd. ISBN: 978-0-07-007765-2	2010	
2	Professional C # 7 and .NET Core 2.0	Christian Nagel	Wiley Eastern Ltd. ISBN: 9788126576067	2018	
3	Spring Boot Up and Running	Mark Heckler	O Reilly ISBN: 978-1-098-10339-2	2021	1 st Edition

Course Outcomes:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Demonstrate a sound technical knowledge of their selected project topic	20%
CO-2	Undertake problem identification, formulation and solution.	20%
CO-3	Conduct a survey of several available literature in the preferred open source technology.	20%
CO-4	Compare and contrast the several existing solutions.	20%



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CO-5	Demonstrate an ability to work in teams.	10%
CO-6	To report and present the findings of the study conducted in the preferred domain.	10%

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO-1	1	3	3	3	3	0	1	2	1	2	3	3			
CO-2	1	3	3	3	3	1	1	2	1	2	3	3			
CO-3	0	3	3	3	3	1	1	2	2	2	3	3			
CO-4	2	3	3	3	3	0	1	2	2	2	3	3			
CO-5	0	1	3	3	3	1	1	2	3	2	3	3			
CO-6	1	3	3	3	3	0	1	2	2	2	3	3			
Rationale*															

Rationale*: Explaining why it is matching this particular program outcome

List of Open learning website:

- <https://meanjs.org/>
- <https://mern.js.org/>
- <https://www.mongodb.com/>
- <https://expressjs.com/>
- <https://angularjs.org/>
- <https://reactjs.org/>
- <https://nodejs.org/en/>
- <https://spring.io/projects/spring-boot>
- <https://dotnet.microsoft.com/learn/aspnet/what-is-aspnet-core>
- <https://learn.microsoft.com/en-us/windows/win32/directx>
- <https://github.com/Microsoft/DirectXSDK/wiki/Getting-Started>



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List of Open Source Software:

- Spring Boot
- .NET Core
- Windows 7 and later versions have included DirectX. Required separately for versions earlier than Windows 7

FOR LAB SESSIONS:

List of Experiments: NA

Major Equipment Needed: NA