Module: Develop Enterprise Applications

Project Overview

Learning Outcomes

By the end of this module, the learner should be able to apply the following skills:

- Describe AS-IS and TO-BE process to improve the organizational processes.
- Document the specifications and design of an e-commerce system based on business requirements.
- Conduct research to choose appropriate tools, technologies, and frameworks to implement the solution
- Conduct feasibility study with alternate solutions
- Implement distributed web application as per the organizational needs
- Resolve any connectivity and interoperability issues by identifying them.
- Adopt project management principles to manage the project successfully.
- Choose appropriate testing methods to ensure the quality of the software
- Recommend changes according to the test results
- Develop skills such as communication literacy, critical thinking, analysis, reasoning and interpretation
- Contribute effectively as a team member to carrying out individual responsibilities and coordinating with other members to achieve project goals.

Project Scenario

MerryMeal is a charitable organization that prepares and delivers a hot noon meal to qualified adults living at home who are unable to cook for themselves or maintain their nutritional status due to age, disease, or disability. The service will be available Monday through Friday. Frozen meals will be provided to members who are not within a 10-kilometer radius of their outsourced kitchens and support over the weekend. MerryMeal has partnered with several food service providers across the country to provide the quickest delivery possible.

The Application should allow

1. Members and Care givers registration with their requirements
2. Partners and Volunteers registration with their details
3. Fund raising through Donors / Supporters
4. Menu Planning and Preparation
5. Meal Delivery Management of partners and riders
6. Food Safety Management
7. Reassessment of need evaluation

And

8. Management Information System for effective management

Project Requirements

Proposal

- Contains Software Design documents to support MerryMeal's operations.

- Analysis of MerryMeals business requirements and appropriate solution to meet the basic requirements and also extended enhancements that the business may require for future development.

Evidence to Exhibit

- Software Design Document – With problem statement, project objective, overview, design considerations, dependencies, assumptions, stakeholders, functional descriptions, user interfaces (design, navigation, error handling and validation), business operations, UML, flowcharts, pseudocode, storyboards, configuration, milestones, schedules, Gantt charts, etc

- Feasibility Study

- Risk Analysis and Evaluation

- Create test plan with the suitable testing methods to evaluate the design requirements (Unit Testing), functional requirements (User Acceptance Testing), Performance Testing

Project Requirements

Proposal Evidence

- Software Design Document – With problem statement, project objective, overview, design considerations, dependencies, assumptions, stakeholders, functional descriptions - - Group – At Project Level
  user interfaces (design, navigation, error handling and validation) – Individual – at the features level
  business process – Individual – at the features level
  UML – Individual – Detailed at the features level
  flowcharts – Individual – Detailed at the features level
  pseudocode – Individual – Detailed at the features level
  storyboards – Individual – Detailed at the features level
  configuration, milestones, schedules, Gantt charts, - Group – At Project Level
  Detailed Plan – Individual – at the features level

- Feasibility Study - Group – At Project Level

- Risk Analysis and Evaluation – Group – At Project Level

- Create test plan with the suitable testing methods to evaluate the design requirements (Unit Testing), functional requirements (User Acceptance Testing), Performance Testing – Individual – Planning according to the feature you have chosen

Project Requirements

Development and Deployment Environment Review

- The suitable environment in which to design and develop your application.
- Comparison of different software tools, techniques, and methodologies preferred to build with justifications.

Evidence to Exhibit

- Compare SDLC, Tools, Frameworks, etc. - Group – At Project Level
- Discuss the strength and weakness, security implications - Group – At Project Level
- Choose the suitable tools and technologies with proper justifications – Individual – at the features level
- Revise the system design document – Individual – at the features level

Project Requirements

Peer Review and Development

- Presentation of a formal pitch to your peers for review to highlight and explain your application.
- Interpretation and justification any appropriate feedback that can help you refine or improve your work.
- Development of functional application.

Evidence to Exhibit

- Present your proposal - Group – At Project Level
- Collect the feedback - Group – At Project Level
- Refine the design document – Individual – at the features level
- Develop application – Individual – at the features level

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Project Requirements

Evaluation Report

- Evaluation report with the functional solution and installation guidelines.
- Review on how your application meets the needs the requirements and problem definition.
- Analysis of the factors that influence the performance of the application and reflectively review the identified risks.
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- Critical analysis of the strengths and weaknesses of the application and discuss how it could be further developed and improved.

Evidence to Exhibit

- Test the application according to the test plan – Individual – at the features level
- Analyze the test results and improve the application – Individual – at the features level
- Discuss the areas for improvement – Individual – at the features level

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Types of Software Risk

1. Security issues include faults that expose personal information, data, and privileges.
   Ref: https://cwe.mitre.org/data/index.html

2. Reliability issues include System downtime, data corruption, and the ability of operators to restore the system after an outage.

3. Performance efficiency flaws put a strain on computing resources, resulting in poor response times and program scalability; these issues can hurt worker productivity and satisfaction.

4. Maintainability risk arises when software is poorly developed, resulting in slow problem resolution, inability to respond to changing market conditions, and expensive IT expenditures when fixes or updates are required.

Important Dates

Date	Task
Week 1	Finalize the team members
Week 1	Project Plan – WBS – With Resource Allocation
Week 2	Project Proposal - Draft
Week 3	Presentation

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Thank you