AEN1 — AEN1 TASK 1: SOFTWARE DESIGN PLAN

SOFTWARE DESIGN AND QUALITY ASSURANCE — D480

PRFA — AEN1

COMPETENCIES

4023.2.1 : Determines Impact on Business Requirements

The learner determines the impact of business requirements on software design patterns and software systems.

4023.2.2 : Identifies Goals and Roadblocks

The learner identifies goals and potential roadblocks as part of software development plans.

4023.2.3 : Defines Plans for Development Tasks and Environments

The learner defines plans for development tasks and environments based on desired quality outcomes.

4023.2.4 : Recommends Tools and Services

The learner recommends tools and services to address functional and non-functional testing outcomes.

INTRODUCTION

Throughout your career in software design, you will be asked to plan the design approach to meet business requirements. You will need to identify business needs, design an aligned solution, define both functional and non-functional requirements, describe expected software behavior and structure, and determine the expected development approach.

In this task, you will be given a software design and quality assurance scenario and a ticket artifact. You will be asked to create a software design plan to address the information in the ticket artifact regarding the functionality of a web app. You will need to use the attached "Software Design Plan" template to create your submission.

SCENARIO

Refer to the scenario in the attached "Background Information" document.

REQUIREMENTS

Your submission must represent your original work and understanding of the course material. Most performance assessment submissions are automatically scanned through the WGU similarity checker.

Students are strongly encouraged to wait for the similarity report to generate after uploading their work and then review it to ensure Academic Authenticity guidelines are met before submitting the file for evaluation. See Understanding Similarity Reports for more information.

Grammarly Note:
Professional Communication will be automatically assessed through Grammarly for Education in most performance assessments before a student submits work for evaluation. Students are strongly encouraged to review the Grammarly for Education feedback prior to submitting work for evaluation, as the overall submission will not pass without this aspect passing. See Use Grammarly for Education Effectively for more information.

Microsoft Files Note:
Write your paper in Microsoft Word (.doc or .docx) unless another Microsoft product, or pdf, is specified in the task directions. Tasks may not be submitted as cloud links, such as links to Google Docs, Google Slides, OneDrive, etc. All supporting documentation, such as screenshots and proof of experience, should be collected in a pdf file and submitted separately from the main file. For more information, please see Computer System and Technology Requirements.

You must use the rubric to direct the creation of your submission because it provides detailed criteria that will be used to evaluate your work. Each requirement below may be evaluated by more than one rubric aspect. The rubric aspect titles may contain hyperlinks to relevant portions of the course.

A. Using the "Software Design Plan" supporting document, identify the business case by doing the following:
   1. Summarize the problem statement from the "Background Information" supporting document (i.e., scenario, ticket) to be addressed, including identification of the current state of the web app functionality.
   2. Identify **two or more** business requirements based on the provided ticket. Discuss how the existing web app fails to meet those collective requirements.
   3. Identify **2–4** in-scope action items that are to be addressed. For *each* identified in-scope action item, explain how that action item aligns with a corresponding business requirement identified in part A2.
   4. Identify **two** out-of-scope action items that are not to be addressed. For *each* identified out-of-scope action item, explain the following points:
      - how the action item aligns with the provided ticket
      - why the action item should be labeled as "out of scope"

B. Using the "Software Design Plan" supporting document, define the requirements by doing the following:
   1. Define **2–4** functional requirements to be addressed.

      Note: Functional requirements should summarize core aspects needed for the web app to be updated to function as discussed in the ticket.

   2. Define **two** non-functional requirements to be addressed.

      Note: Non-functional requirements should summarize supporting aspects needed for the web app to be updated to function as discussed in the ticket.

C. Using the "Software Design Plan" supporting document, outline the software design by doing the following:

1. Define **2–4** categories of inputs or events regarding the proposed software behavior of the web app. For *each* defined category, identify the following points:
   - the intended web app response
   - the associated constraints
2. Outline how the intended design approach will segment the development and functionality of the web app elements (e.g., functions, classes) regarding the proposed software structure of the web app.

D. Using the "Software Design Plan" supporting document, define the development approach by doing the following:
1. Define **2–4** planned deliverables (e.g., functions, modules, documentation) to be produced. For *each* defined deliverable, summarize the steps to be taken in creating that deliverable.
2. Define a logical sequence of implementation for the deliverables defined in part D1, including the justification of the planned sequence of deliverables.
3. Define the development environment elements (e.g., coding languages, integrated development environments [IDEs], external dependencies and integrations, supporting tools) planned for use in addressing the provided ticket. For *each* defined development environment element, state the purpose of that element in addressing the provided ticket.
4. Identify the expected software development approach to be used (e.g., agile, waterfall, continuous, incremental, rapid). Additionally, explain the following points:
   - how the chosen methodology informed the development planning process, including the sequence of deliverables outlined in part D2
   - why the chosen methodology was selected over an alternative methodology

E. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.

F. Demonstrate professional communication in the content and presentation of your submission.

File Restrictions

File name may contain only letters, numbers, spaces, and these symbols: ! - _ . * ' ( )
File size limit: 200 MB
File types allowed: doc, docx, rtf, xls, xlsx, ppt, pptx, odt, pdf, csv, txt, qt, mov, mpg, avi, mp3, wav, mp4, wma, flv, asf, mpeg, wmv, m4v, svg, tif, tiff, jpeg, jpg, gif, png, zip, rar, tar, 7z

RUBRIC

A1:PROBLEM STATEMENT

NOT EVIDENT	APPROACHING COMPETENCE	COMPETENT
The submission does not summarize the problem to be addressed by the software design plan or identify the current state of the web app functionality. Or	The submission uses the "Software Design Plan" to summarize the problem to be addressed or identify the current	The submission uses the "Software Design Plan" to summarize the problem to be addressed and identify the current state of the web app functionality.