Discussion-1 essential elements of a well-written design document

Discussion Topic:

Please choose one of the following questions to discuss in your initial post:
- What are the key challenges of planning and scheduling enterprise software development projects?
- How can software development methodologies help to reduce risk and improve the success of enterprise software development projects?
- What are the essential elements of a well-written design document for an enterprise software system?

My Post:

Hello Class,

For this discussion, I chose the following topic: What are the essential elements of a well-written design document for an enterprise software system?

Documenting an enterprise software system is essential for the success of a project, as it serves as the project blueprint describing the system's design and functionality. This blueprint ensures that the system design aligns with the defined system requirements, helps the stakeholders understand the methods and operations of the developed system, guides development, and serves as a reference for training, maintenance, and future system enhancements. The design documentation should include project requirements and the design itself, with enough detail to describe the project and what determines its completion (CSU Global, 2025). It should not, however, be a massive document that expands on minute details, such as details on what has been produced in some classes or jobs. The document can be divided into the following major elements:
- Overview, Hypothesis, and Background: This element describes the project's purpose, the problem it solves, and the context or background information of the project. The introduction and overview section, in particular, sets the stage for the entire software design document and should include a high-level project summary that describes the goals, scope, and primary features of the project (Atlassian, n.d.).
- The requirements: This element includes a detailed description of what the system must do. It should include the functional and non-functional requirements of the system, as well as user stories and mock-ups/wireframes used to design the project.
- Design plan: This element describes the strategy used to create the system. That is development methodology, design decisions, trade-offs, and design timelines.
- System Architecture: This element describes the high-level structure of the system; it illustrates how the system will be/is constructed. It should detail the system's structure, which includes the architectural style (such as microservices or layered) (Richards & Ford, 2020).

Note that the design document should illustrate the system architecture by describing the system structure -architectural style used in the system, e.g., microservices-; the architecture characteristics - availability, reliability, testability, scalability, and security-; architecture decisions -rules for constructing the system-; and design principles -design guidelines- (Richards & Ford, 2020).

-Alex

References:

Atlassian (n.d.). *How to create a software design document*. Atlassian. https://www.atlassian.com/work-management/knowledge-sharing/documentation/software-design-document

CSU Global. (2025). Module 1: Introduction to the Capstone Project [Interactive Lecture]. Canvas. https://csuglobal.instructure.com/courses/110425/pages/module-1-overview?module_item_id=5733132

Richards, M., & Ford, N. (2020). Chapter 1: Introduction. *Fundamentals of software architecture: An engineering approach* (Softcover). O'Reilly Media. ISBN-13: 978-1-492-04345-4