

DEVELOPING AND VALIDATING QUALITY SOFTWARE



Product Vision and Scope

Vision and Scope Document



- ▶ This document describes both the vision of future versions and the scope of the version under development. The vision portion of the document ensures during the design process that long-term goals for future versions can be met without major architectural changes. The scope portion is used during requirements development to confirm that the version under development will meet the needs of all stakeholders.
- ▶ Generated in product planning stage. Focus remains on the purpose and objectives of the product. This high-level document provides the foundation of the software's future design.

Software Development Life Cycle

- Though implemented in varying forms, the function of the software development life cycle never changes: it defines the need for a software product and outlines the methods to create it. The basic components of the development life cycle often include:
- ▶ **Acknowledging the customer's needs.** The scope of the project depends upon the needs of specific customers or the target market.
 - ▶ **Writing clear, consistent requirements.** The requirements must provide the exact information necessary to build the product.
 - ▶ **Designing the product to meet all criteria.** Design documents specify how the software will fulfill the requirements. Critical decisions include the choice of technologies used in production and design elements that will improve the software's usability.
 - ▶ **Developing an interface for the end user.** The graphical user interface (GUI) defines how end users interact with the product. Its design should effectively complement the needs of the users.
 - ▶ **Building and developing a strong product.** The coding implements the requirements and design at the most technical levels.
 - ▶ **Testing the product to ensure quality.** Testing activities ranging from unit testing to integration testing and system testing identify any problems in the code or missing features.
 - ▶ **Validating the product so it may enter a competitive market.** Following proper validation procedures enables the software to succeed in highly competitive markets and improves the product's quality.
 - ▶ **Submitting the product for regulatory agency approval.** The product may be subject to intense scrutiny by regulatory agencies such as the FDA. This process involves extensive documentation detailing the development life cycle, validation and verification, and compliance with industry or government standards.
 - ▶ **Product release.** After the software has been developed and validated, the product can be released to the customer.



Product Release and Launch