Introduction: Solution Development Life Cycle

SDLC methodology made up of phases that is used to ensure the effective and efficient delivery of work or product. It is useful for the smallest of tasks to the largest most complex projects. It is important to follow all the phases, but the level of effort and documentation will vary in each phase as necessitated by the complexity of work, sometimes requiring the review and approval of multiple people and organizations.

Activity 1: Initiation

Objective To ensure that there is a somewhat reasonable expectation that a reliable, effective solution can be built on time and within cost to meet the customer request.

Initiation activities are meant to ensure that the customer request:

(1) aligns with the Mission & Vision of the company

(2) presents no legal or ethical infringements or liabilities

(3) is not a replication of an existing system or one that is currently in development for the company.

(4) provides a high-level statement of work (SOW) that is refined enough to allow advancement into the Planning phase

Entry Criteria

The Initiation activity begins when a Project Request Form or service request is received from a customer and the intake authority (Director) considers the request to be reasonable and worthy of investigation.

Activity 2 – Planning

Objective: Develop a project charter (for above threshold projects), project management plan, and a project budget plan, where appropriate, that will lead to a successful project.

Entry Criteria The planning activity is initiated by receiving an approved Project Evaluation Form (artifact of Initiation activity).

Activity 3: Requirements Analysis

Objective Define in more detail the system inputs, processes, outputs and interfaces. At the end of this phase the system's processes will be defined at the functional level, meaning the functions to be performed will be known, but not necessarily how they will be performed. Unless specifically constrained by the Project Charter, Requirements Analysis should not consider the computer programs, files and data streams. Requirements Analysis will identify and consider the risks related to how the technology will be integrated into the standard operating procedures. Requirements Analysis will collect the functional and system requirements of the business process, the user requirements and the operational requirements (e.g., when operational what is necessary to keep the system up and running).
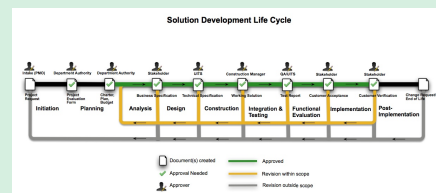
Entry Criteria In order for Requirements Analysis to begin, there must be an approved Project Charter. The scope of the project will be understood and stated in the Project Charter. The roles and responsibilities for the various activities in the Development Life cycle will be known.

Activity 4: Design

Objective: Transform business requirements identified during previous phases, into a detailed system architecture which is feasible, robust and brings value to the organization.

Entry Criteria: The Design step of the SDLC process can begin when the Customer has approved (signed-off) the Functional Requirements Document.

Workflow

Activity 5: Construction

Objective: Transform approved architecture and design into a working system that is consistent with functional and technical requirements identified during earlier phases of the solutions life cycle.

Entry Criteria We are ready to commence the solutions construction work if:

◼ Technical specifications (SDD) are available.

◼ Architecture is proven and signed off by the stakeholders.

◼ Unit testing components (test requirements, scripts, results, time-lines, cases, reports) are completed in the Master Test Plan Document.

Activity 6: Integration and Testing

Objective: Perform system integration testing of the developed system. The systems integration test function is to ensure that the developed systems meet all the technical requirements with the components and subsystems integrated. The system test may require any number of additional tests depending on the scope and complexity of the requirements; examples include: security, conformance, accessibility, performance, stress, compatibility, and regression tests.

Entry Criteria: The entire system must be ready for assembly and subsequent integration testing:

◼ All software and hardware configuration item components have been constructed and successfully tested (Developed system has passed a Test Readiness Review).

◼ All integration plans are prepared

◼ The Transition Plan for existing data and processes that will be reused is complete.

Activity 7: Functional Evaluation

Objective: To assess the solution's conformance to functional requirements identified in the Functional Requirements Document from the Requirements Analysis phase and approve the User Acceptance section of the Test Analysis Report.

Entry Criteria Phase may begin once the solution delivery team produces an approved Test Report in the Integration and Testing phase.

Activity 8: Implementation

Objectives:

1. Install the system in the production environment and to bring it into operation; and

2. Ensure that the system, as developed:

◼ Satisfies the functional requirements

◼ Satisfies the business needs;

◼ Adheres to all mandates, physical constraints and service level agreements; and

◼ Operates as described in the User and Operator Manuals

Entry Criteria The system has successfully complete system, integration and user acceptance and have been judged acceptable by the business, technical, and management stakeholders. Maintenance Manual has been delivered to Solution Delivery Team.

Activity 9: Post Implementation

Objective: To successfully transfer maintenance responsibility of the solution. The solution delivery team provides detailed documentation and training to the solution maintenance team. This information will facilitate configuration, administration, and troubleshooting of common issues.

Entry Criteria The solution delivery team presents an approved Implementation Report and a working solution in the production environment.