

webf1 consulting  
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# Project Delivery Model

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## INTRODUCTION

WebF1 provides a “total project” direction to ensure that a quality product is delivered on time and within budget. The technique allows us to:

- Define the business systems parameters
- Establish the application/system design
- Determine the cost/benefit baseline
- Set the project priorities
- Track the results

This approach is supported by the latest technology to provide an early return-on-investment. Although the tasks that make up the Methodology are defined in a logical sequence, using the tasks in an iterative manner gives WebF1 the flexibility to accommodate unexpected situations as they arise.

System Development is composed of three segments:

- System Architecture
- Functional and Technical Models
- Implementation

### **System Architecture**

The System architecture is developed very early in the project. The system model identifies software components at the module and sub-module level and provides a high level description of how software components are to be integrated.

System Architecture focuses on the following:

- Information Flows
- Integration Points
- Software Redundancy
- Data Ownership and Integrity Issues

## **Functional and Technical Models**

During the Functional and technical model phase the project team works together to build business scenarios and prototypes required to gain consensus in order to achieve targeted performance improvements. The Client-WebF1 project team works with key decision makers to gain consensus that they can operate effectively with the new system and achieve the defined system goals.

To facilitate understanding and ownership of the system, the design details business process definitions to demonstrate use of specific system applications and information flows. The design will reflect changes in business processes, operating improvements and the new tools and approaches needed. The design will continuously focus on achieving business objectives.

Functional and Technical Models focus on the following:

- System Prototype
- Performance Improvement Targets

## **Implementation**

The validated functional and technical models are utilized to code and test the business solution. Additionally, a physical data dictionary, user and operator guides, training materials and test plans are generated.

Implementation focus on the following:

- User Guide/Training Materials
- Operator Guide
- Tests and Results

## **METHODOLOGY**

WebF1's Methodology is organized into the following phases:

- Planning (Optional)
- Requirements Validation

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- Iterative Design
- Construction (Per Build)
- Implementation

### **Planning Phase (Optional)**

In this phase, the primary objective is to define the business and system requirements and overall architecture needed for all systems to properly work together. It also integrates the collection, analysis, prioritizing of business process improvement data and the development of benchmarks and measurements. An enterprise model of the process and entities represents the information requirements needed to support the business activities.

The overall objectives of the planning phase are to:

- Establish a set of "business prioritized" systems projects
- Build user management consensus and support
- Develop an enterprise model of functions, data, data relationships and definitions
- Establish the methodology and techniques for on-going planning

The Planning phase is composed of multiple steps:

Organize the project team from a functional and business area perspective. Based on needs, survey forms are distributed to the appropriate functional entity in order to determine the customization required. A preliminary interview schedule is developed to address executives, functional groups and business workflow activities and information requirements.

Understand the business, including critical areas undergoing change or development. Reference documentation that describes key operating plans of the business is collected. Additionally, information systems documentation is analyzed in order to determine purpose, function, and inter-relationships of corporate and local systems and applications.

Conduct executive sessions in order to determine the performance measures and data required to allow the executives to successfully operate and monitor the enterprise.

Conduct Joint Application Development (JAD) interview sessions to determine the information requirements for each functional area and outside shareholders (suppliers and customers). The

project team will also conduct Business Process Improvement (BPI) interviews in order to identify areas for process improvement/simplification

Determine if there are business or systems scenarios that would provide change or alternatives to the existing business strategy. Information collected and analyzed will provide a baseline of data to develop "rough-cut" technology "what-if" scenarios.

The project identified from the previous activities will be defined and prioritized by criteria, including but not limited to -- business objectives, functional group/business team requirements, goals and cost/benefits and overall risk assessment.

The strategic and tactical business and systems integration plan will be developed and formalized.

### **Requirements Validation Phase**

**Requirements Validation Phase** is the first required step in our approach. This is necessary to establish buy-in and support from the client organization. This phase consists of a business track intended to define the business requirements of the solution and a technical track intended to define the architecture of the solution. The potential deliverable from this effort is the High Level Requirements Document.

This phase begins by reviewing existing business requirements or functional specifications, interviewing appropriate subject matter experts to define business functions and process requirements as well as to identify security and control points within the application. The workflow and current business processes are examined and operational and security requirements are defined.

Some of the items to be addressed during the Requirements Validation Phase are:

- Objectives and Constraints
- Current System and Environment
- Technical Architecture
- System Function Requirements
- System Data Requirements

The deliverables of Requirements Validation Phase are:

- Requirements Documentation (for each component of the solution)

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- Information Flow Diagrams
- Operational Environment Requirements
- Security Requirements
- Architecture Definition
- Development Environment Specification
- GUI Standards and Guidelines
- Visual Prototype

### **Iterative Design Phase**

The **Iterative Design Phase** is structured to provide interim feedback and concurrence. The technical design is normally divided into a high level design, a detail level design and a refinement design.

High Level Design: The project team begins developing a more thorough understanding of the system validation rules and information requirements. Reusable business objects are identified with an associated description. We also begin the design and development of architectural common modules and routines required for future proof-of-concept prototype development.

Detail Level Design: The project team begins to rework the requirements after receiving feedback from users or focus groups. This feedback is the primary input to update the user interface design. Additional detail regarding the methods and properties of the objects (business, user or data) are developed. Proof-of-concept prototypes are refined as the design progresses.

Refinement Design: The project team completes the documentation of the software product services. The business services design specifies the reusable business objects required for construction. The user services design specifies the user interface, complete with revisions from the users or customer focus groups. The data services design specifies database access methods.

The key deliverables of the iterative design phase are:

- Class Definitions
- Object Method Decomposition

- Functional Requirements (Updated)
- Logical Data Model
- Key Unit Test Conditions
- Functional Prototypes (if needed)

## Construction Phase

The **Construction Phase** is organized into multiple builds. Organizing the construction phase into multiple builds structures the development effort into specific areas of functionality. Splitting the functionality into builds expedites the testing process and reduces cycle time. To structure the builds properly, knowledge of the requirements determines the content of the builds. Once a build has been released to the QA/test team, the requirements are updated and revised to reflect any modifications required to make the build defect-free.

Some of the tasks associated with the Construction Phase are:

- Set up development hardware
- Install software
- Develop infrastructure components (core components of the system, e.g., system sign on, communications, security, architectural/data access functions, help system)
- Develop common routines and modules
- Create data types and naming conventions
- Identify and fix errors
- Conduct code reviews
- Integrate software components built separately
- Optimize code
- Develop user procedures

As the development team transitions into the construction phase, the QA/test team is established and integrated into the development process. Testing can account for 30-50% of the total project. This is especially true if the testing begins during the iterative design.

Testing consists of two aspects: validation and verification. Validation ensures the product provides the functionality required to satisfy the client's business requirements. Verification tests the code for correctness and compliance with the design specifications. During the construction phase, testing consists of unit testing, code walkthroughs, integration testing and system testing.

Unit testing is performed as code is developed. This is primarily performed in an isolated manner by the developer assigned to the module. Integration testing is considered the last step in unit testing. The module is integrated into the system to act as a bridge to system testing. System testing tests how the system operates as a whole. This occurs once all the modules are complete.

The deliverables of the Construction Phase are:

- Fully Coded and Tested "Builds"
- Updated Requirements
- User Procedures

### **Implementation Phase**

The **Implementation Phase** consists of installation of the new system and the removal of the current system. It involves all hardware, software, procedures, forms and personnel required for the solution. This is the point in the life cycle where the application programs are run, the different data files are integrated, the telecommunications network is utilized and the interface with the users (human - machine ergonomics) is analyzed.

Some of the tasks associated with the Implementation Phase are:

- Complete training for users and technical staff.
- Create or convert all data necessary for the application system.
- Install a high-quality system that achieves user and technical service levels.
- Provide for the acceptance and transfer of the completed application system to the user organization and technical support group.
- Analyze the procedure manuals/documentation and the organizational structure developed to ensure they reflect all changes from the change control process.

Once the implementation begins, changes to the new system are frozen except for essential modifications. A formal change control process with one central control point and a structured

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approach are established to handle these modifications. A permanent record of the change, notification to all affected personnel and revised written procedures are documented as an audit trail of the project.

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