Aloha Software Development Life Cycle

Aloha Technology follows a software development methodology that is derived from Microsoft Solutions Framework and Rational Unified Process (RUP). Our process methodology is continually reviewed for improvement to further ensure quality development and product delivery consistent with customer expectations.

The following process methodology is a representation used in one of our business applications. Every project has unique requirements, hence at the start of a project, a custom optimal process methodology is defined prior to the launch of the project.
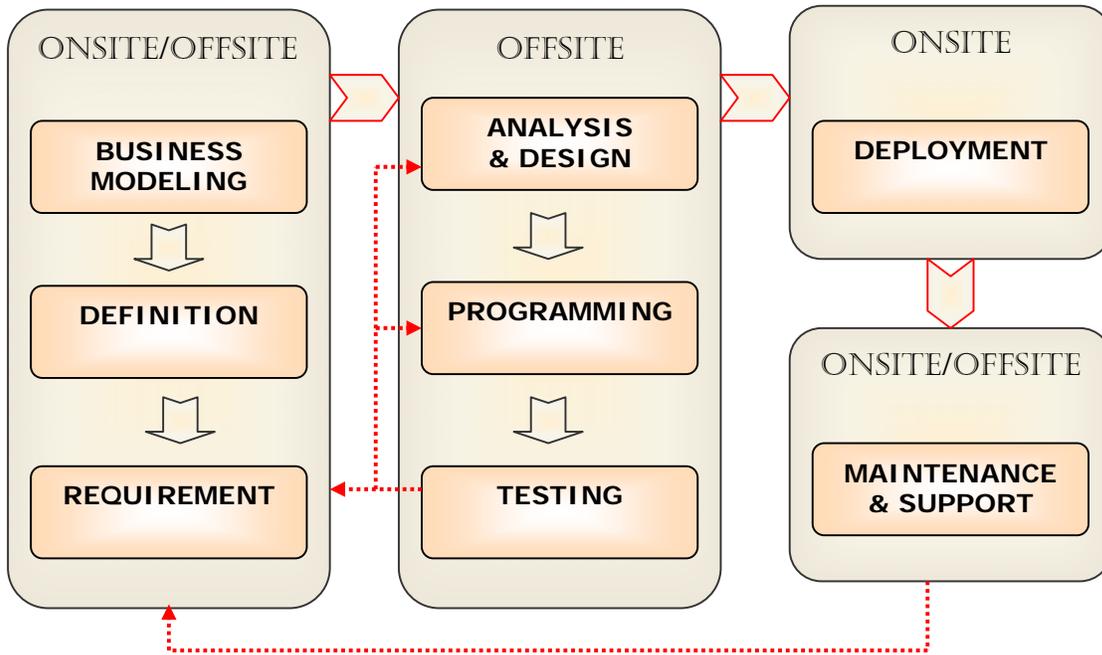
Aloha's methodology represents an optimization of standard process management techniques and best practices established through many years of project development experience. The important features of Aloha methodology include:

- **Iterative Process**: ensures inputs from 'successor' process at each stage of the development cycle.

- **In-depth User Involvement**: ensures minimal risk of misalignment between application capabilities and end user requirements.

- **Object Orientation**: ensure identification and development of common, re-usable elements leading to more reliable, robust applications, requiring less development time.

In the Aloha Offshore Software Development Process, there are eight distinct stages. Each of the stages consists of one or more tasks. The tasks describe what is to be performed in the pursuit of the stage's objectives. The tasks are frequently composed of steps.

1. Business Modeling
2. Definition
3. Requirement
4. Analysis & Design
5. Programming
6. Testing
7. Deployment
8. Maintenance & Support

Aloha Offshore SDLC Process

ALOHA TECHNOLOGY
Where the client is in control

ALOHA OFFSHORE SOFTWARE DEVELOPMENT PROCESS

Aloha Offshore SDLC Process

ONSITE/OFFSITE	OFFSITE	ONSITE
BUSINESS MODELING	ANALYSIS & DESIGN	DEPLOYMENT
DEFINITION	PROGRAMMING	
REQUIREMENT	TESTING	

		ONSITE/OFFSITE
		MAINTENANCE & SUPPORT

1. Business Modeling

In this stage, we typically work closely with the client's business experts to ensure we clearly understand the business problems and what the client is trying to achieve, and to recognize their business priorities. The main purpose of this stage is to define the project, and to establish buy in for the project.

Aloha Tasks:

- Plan the Project
    - o Identify the deliverables, tasks and resources
    - o Define the time line to accomplish these tasks
    - o Establish a steering committee to oversee the modeling project.
- Create Business Requirement Plan based on
    - o Business functions
    - o Subject areas of data
    - o Organizational structure
    - o Business locations
    - o Goals, objectives & concerns.
- Inventory existing information systems.
- Develop information systems architecture.
- Characterize current technology environment.
- Characterize target technology environment.
- Define technology migration plan.

- Manage the introduction of new technology.

Aloha Deliverables:

- Inventory Information Systems Architecture.
- Technology Migration Plan.
- Inventory of Emerging Technologies.
- Project proposal

2. Definition

In this stage, we assemble all the information needed to develop the client's software including the complete scope of the project, and the project objectives and benefits. The end users and the project team are also identified. We create documents that outline how we propose to develop and deliver the project, including required functionality, environment, interfaces, and a project plan.

Aloha Tasks:

- Set initial project objectives and scope.
  - o Review project initiation request.
  - o Identify project initiator.
  - o Define the project's objectives.
- Refine project scope.
  - o Identify business units involved.
  - o Identify existing information systems.
  - o Identify existing files and databases
  - o Determine adequacy of existing information systems, files and databases
- Refine preliminary project timeline.
  - o Utilize standard estimating techniques for time estimation.
  - o Estimate resource assumptions for the design, construction and implementation stages
  - o Identify the dependencies among tasks.
- Establish business user participation.
  - o Identify potential information users of the product
  - o Identify the stakeholders in the project.
  - o Identify the maintainers of the data entities
  - o Identify end users of the projected system
- Create formal project plan document.

Aloha Deliverables:

- Project Scope Document.
- Preliminary Project Plan
- Next Stage Project Plans

Aloha Offshore SDLC Process

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3. Requirements

Our Business Consultants meet with the client to conduct Joint Application Development sessions with the client to describe what the system should do and allow the developers and the client to agree on that description. These are brainstorming sessions in which a document is created with the stakeholder's vision. The identified use cases function as a unifying thread throughout the system's development cycle.

Aloha Tasks:

- Produce entity relationship diagram
- Analyze business rules
  - Define domains
  - Define attribute type properties
  - Define permitted ranges
  - Define integrity conditions
  - Define security requirements
- Produce process model
- Gather Software Features
- Analyze involvement matrices
- Define design areas
- Analyze process logic
- Reaffirm design area evaluation
- Create Requirement specification draft.
- Freeze Requirements.

Aloha Deliverables:

- Requirement specifications draft
- Project Control Sheet
- Data Requirements
- Processes dependency diagram.
- Process/Data Interaction
- Business Model
- Design Implementation strategy
- Current System Information

4. Analysis and Design

We create a detailed functional specification and advise the client on options available to him with respect to architectural approaches and technology solutions for project implementation. Then we create a design specification that describes the internal architecture of the system. We follow the iterative model of development. In this methodology, once the preliminary requirements are clarified, the next step is to quickly build the prototype of the application. The prototype can go through continuous evolutions until it becomes the final product, exact to specifications.

Aloha Tasks:

- Design system structure.
- Design for implementation
- Design preliminary data structures
- Define data and procedure interactions
- Design procedures
- Check design completeness & correctness
- Define technical context and requirements
- Design & Choose the database
- Design software.
    - Software design session
    - Common code design session
- Choose Language
- Develop program specifications
- Prepare for testing
- Prepare for implementation
- Design for system testing

Aloha Deliverables:

- Design Specification
- Database Specifications.
- Development Language
- Functional Specifications
- Program Specifications
- Test Plans
- Updated Project Plan

Aloha Offshore SDLC Process

5. Programming

The primary goal of this phase is to take the logical design in the design specification and implement it in a physical software application. This is the stage where the project is actually off the ground. The developers working on the project abide by Aloha's strict internal coding standards to develop your application quickly and properly. They use state of the art tools and technologies, and work from the functional and design specifications to ensure your project is created precisely to your requirements.

Aloha Tasks:

- Construct computing environment
- Prepare development procedures and conventions
- Establish database environment
  - Develop Database
  - Create Entities & Attributes
  - Code Triggers
  - Code Stored Procedures
  - Database Freeze
- Generate implemental module
  - Develop Software
  - Common Code Programming
  - Prototyping Sessions
  - Prototype sign-off
  - Module coding
  - Feature & UI Freeze
- Develop Help File and User Manual
- Finalize Test plan

Aloha Deliverables:

- Technology Environment
- Development Environment
- Production Mode
- Training Deliverables
- User Deliverables
- Implementation Deliverables

Aloha Offshore SDLC Process

6. Testing

At Aloha, we utilize a rigorous test plan created at the beginning of your project. Testing for us is also an iterative process. We believe quality assurance throughout a project ensures that the functional and design specifications are written to produce software that is reliable, and usable. Quality Assurance specialists continuously and methodically test independent modules, as well as the complete system, throughout and after the programming process.

Aloha Tasks:

- Testing
    - Generate test data and system documents
    - Programmer Integration Testing
    - Resolve Anomalies
    - Fix any bugs found.
    - Development Testing
    - Quality Assurance Iterations/Discrepancy Resolution
    - System testing
    - Benchmark testing
    - User Acceptance testing
    - Unit/Module Testing
    - Integration Testing
    - Regression Testing
    - Stress Testing
    - Beta Testing
- Finalize implementation plan
- Update project plan

Aloha Deliverables:

- Technology Environment
- Development Environment
- Production Mode
- Training Deliverables
- User Deliverables
- Implementation Deliverables

7. Deployment

Once we get your approval on the project, we install the solution in the business environment. This includes the information system software, files and databases which are utilized by the information system, operational documentation, system and program documentation, trained staff and integration of the foregoing into the operational environment. We do not consider a project complete unless the software is working in the desired location and integrates with existing systems and business processes.

Aloha Tasks:

- Train users
- Perform data conversion
- Install production system
- Accept system installation
- Support the implemental module
- Respond to emergency situations
- Final update to project plan
- Sign Off

Aloha Deliverables:

- Training
- Data Conversion
- Production Environment
- User Acceptance Agreement (Sign Off)

8. Maintenance and Support

The primary goal of the maintenance and support phase is to service new requirements and to fix anomalies that occur in the real world implementation of the software.
We also make sure that the software receives functional updates on an as-needed basis as your business needs evolve.

Aloha Tasks:

- Evaluate System
- Assess Changes or Enhancement Requests
- Analyze the Nature of the Change
- Analyze the Impact of the Change
- Execute the Change

Aloha Deliverables:

- Enhanced or maintained operational information system.

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