Acquiring Web Based Systems Guidelines

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# Acquiring Data Warehousing Systems Guidelines

The following table contains guidelines to acquire and implement a web-based (ECommerce) system. The list of considerations that follows the table can be used to ensure that unique web characteristics are taken into account during each phase.

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| **Phase** | **Interpretation Guidelines** |
| Plan & Define | The Plan and Define phases are key to successful web-based projects. With rapid changes to web technology and market requirements, establishing effective plans and requirements are even more critical for managing the project and its supplier(s) than in traditional development projects. Marketing strategies and business goals must be clearly understood to ensure that the web application fills the appropriate need. Identification and selection of web-based application development suppliers during the Define Phase should be based on the ability to deliver the services required to meet the project’s objectives.  Because web-based applications typically involve short delivery cycles (with incremental functionality additions), dedicated project managers should be available to resolve issues quickly. Small, co-located supplier teams require frequent user interaction to optimize proposed web solutions. To achieve short delivery timeframes, firm release dates (i.e., time boxes) are established at the beginning of each cycle. These release constraints force priority requirements to be identified and communicated to the user and supplier teams. In general, projects cannot meet all requirements with the initial release. Communication to users needs to explain the project’s incremental approach (delivering key functionality first, then adding incremental improvements).  *See* [*Plan & Define Phase Items to Consider*](#_PROCESS_CHECKLIST_–) |
| Design | In this phase the supplier development team focuses on translating project requirements into web-based designs. Typically, the team pursues two tracks simultaneously- the front-end “content” design and the engineering solution (i.e., the application) that supports the site. The front-end team typically prototypes the solution, interacts with users, and negotiates interface specifications updates with application development. Prototypes will not be production level, but will likely seek to optimize the user “experience” and maximize the performance of the application infrastructure. The production design, particularly as it relates to the interface between the front-end content and application teams, should be captured before the Design Phase is complete.  *See* [*Design Phase Considerations*](#_PROCESS_CHECKLIST_–_1) |
| Build | During the Build Phase of a web-based application, the supplier front-end and application development teams have completed prototype activities and are focused on implementing the production design. Both front-end development and application construction need to be monitored to ensure delivery and functionality expectations are met.  *See* [*Build Phase Considerations*](#_PROCESS_CHECKLIST_–_3) |
| Deploy | Web-based application deployment brings an added emphasis on operations and maintenance of the system. With incremental deliveries, deployments must be well planned to ensure that interruptions to current services are minimized and that all functions involved with newly deployed functionality are prepared to support it. Internal web-based applications may also require site implementation and user training to facilitate integration. Deployment may also involve marketing launch and submission to search engines.  *See* [*Deploy Phase Considerations*](#_PROCESS_CHECKLIST_–_4) |

# PROCESS CHECKLIST – PLAN & DEFINE PHASES

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| **Intended use of this checklist** | To assist teams for acquiring web-based systems. Use this checklist in conjunction with other process assets during the Plan and Define Phases. |

| **PLAN & DEFINE PHASES** | | |
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| **ID** | **✓** | **Items to Consider** |
| 1 |  | Have the goals for the web project been defined and clearly documented? |
| 2 |  | Are marketing, business and technical messages conveyed by the system well understood? |
| 3 |  | Are relevant functions represented on the team (marketing, legal, purchasing, etc.)? |
| 4 |  | Do plans include consistent user involvement in the project? |
| 5 |  | Does the project plan and business case include the development of the web application as well as the front-end web interface? |
| 6 |  | Do plans include content development such as text, graphics, video, audio, photography, etc.? |
| 7 |  | Do support plans consider the frequency and magnitude of site content updates? Have the resources required to maintain content been factored into the business case? |
| 8 |  | Have user requirements and workflow been captured? (via use cases, storyboards, etc.). |
| 9 |  | Does the planned system take full advantage of the Internet’s interactive capabilities? |
| 10 |  | Have the “look and feel” of other corporate and organization sites been compared to the web interface proposed for this project? |
| 11 |  | Have concepts related to internet “branding” been addressed? Do brand issues related to this project blend with other similar web-based projects within the company? |
| 12 |  | Have the supported internet services been defined for this project?   * On-line ordering? Order confirmation? * Quotations? * Order delivery status monitoring? * Product information requests? * Surveys or questionnaires? * Others? |
| 13 |  | Will internal processes and support functions be able accommodate these services when the system is available? |
| 14 |  | Do the requirements identify downloadable content that will be provided to the users? |
| 15 |  | Have download formats been defined? |
| 16 |  | Have security and performance requirements been defined and analyzed? |
| 17 |  | Have system integration requirements been defined? |
| 18 |  | Have interfaces to other internal and external systems been defined? |
| 19 |  | Have the infrastructure needs (communication bandwidth, server size, etc.) of the system been projected? |
| 20 |  | Do requirements address current web standards? (For example, what screen size are most web sites designed for? User bandwidth? Browser versions? Operating systems? Plugins? Note: there are web sites that capture these types of user statistics) |
| 21 |  | Do the requirements comprehend different capability levels of global users? |
| 22 |  | Can global users be supported effectively? |
| 23 |  | Have supported languages been specified? Currencies? Are there tax considerations (e.g., VAT)? |
| 24 |  | Have the types of user forms been defined? Does this definition include the information that will be captured and stored? |
| 25 |  | Have requirements been prioritized such that key functionality is available first? |
| 26 |  | Have suppliers been identified that have the capability to meet the requirements of this project? Do they have the right set of skills for web development (e.g., graphic artists, navigational designers, cognitive specialists, etc.)? |

# PROCESS CHECKLIST – DESIGN PHASE

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| **Intended use of this checklist** | To assist teams for acquiring web-based systems. Use this checklist in conjunction with other process assets during the Design Phase to assist in planning and reviewing supplier activities. |

| **Design Phases** | | |
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| **ID** | **✓** | **Items to Consider** |
| 1 |  | Have all requirements been addressed by the proposed design? |
| 2 |  | Has the user workflow been described? (e.g., use cases, storyboards) Have the scenarios for using the system been defined? |
| 3 |  | Have prototypes been built and tested with users to ensure that their needs are met? |
| 4 |  | Are changes reviewed with users (or focus groups) to obtain real-time feedback? |
| 5 |  | Has the prototype front-end content been integrated with a supporting application prototype? |
| 6 |  | Is the design modular and flexible enough to ensure that changes made in one part of a system do not cause problems in others? |
| 7 |  | Will the design allow reaction to the frequent changes caused by evolving internet technology? |
| 8 |  | Has static and dynamic content been identified? |
| 9 |  | Have dynamic requirements been accounted for in the sizing of the server(s)? Will dynamic generation meet user performance specs? |
| 10 |  | Has the plan for host support been defined? Contracted, if appropriate? |
| 11 |  | Is the systems/network architecture fully defined? |
| 12 |  | Has a database strategy and design been defined? |
| 13 |  | Have legacy system issues been planned for? |
| 14 |  | Is data conversion required? Has it been included in planning? |
| 15 |  | Has the structure of the front-end content been defined? |
| 16 |  | Have interface specifications been documented between the front-end content and application groups? |
| 17 |  | Are writing and visual style guides defined for the web content? |
| 18 |  | Has an appropriate site file structure been designed? |
| 19 |  | Are site naming conventions in place? |
| 20 |  | Have all system components within the front-end and supporting application been defined? |
| 21 |  | Has the construction of each component been planned? |
| 22 |  | Are mechanisms in place to track the progress of each item to be produced? |
| 23 |  | Has the final prototype been translated into functional specifications/design? |
| 24 |  | Is configuration management in use for the project? |

# PROCESS CHECKLIST – BUILD PHASE

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| **Intended use of this checklist** | To assist teams for acquiring web-based systems. Use this checklist in conjunction with other process assets during the Build Phase to assist in planning and reviewing supplier activities. |

| **Build Phases** | | |
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| **ID** | **✓** | **Items to Consider** |
| 1 |  | Do the supplier’s development plans and schedules include front-end content and application component development necessary to support site implementation? |
| 2 |  | Do plans include frequent user interaction? |
| 3 |  | Are frequent builds scheduled to provide ongoing visibility into progress? |
| 4 |  | Are the front-end content and supporting application work products synchronized frequently to verify their integration? |
| 5 |  | Are the front-end content and application configurations being managed? Are changes controlled in both areas once submitted for integration? |
| 6 |  | Is a simulated production environment available for reviewing progress? |
| 7 |  | Is a development server used for testing prior to uploading to the production server? |
| 8 |  | Are unit (component) tests conducted? |
| 9 |  | Are integration tests planned and conducted? |
| 10 |  | Do system tests comprehend the infrastructure requirements? |
| 11 |  | Are stress/load tests conducted to ensure response time requirements are met? |
| 12 |  | Do environments need to be set up for acceptance testing? |
| 13 |  | Does the acceptance test environment represent the actual environment as much as possible? |
| 14 |  | Have all links been tested? |
| 15 |  | Has dynamic content been tested in all required client configurations? |
| 16 |  | Do system tests verify the system against minimum configuration requirements? Some configuration parameters to consider for verification:   * Client browser types and versions * Client operating systems * Display resolutions * - Communication bandwidth available |
| 17 |  | Have all facts contained in web content been verified? |
| 18 |  | Have spelling and grammar been checked? Are all copyright and trademarks in place? |
| 19 |  | Does user documentation and training represent the final product? |

# PROCESS CHECKLIST – DEPLOY PHASE

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| **Intended use of this checklist** | To assist teams for acquiring web-based systems. Use this checklist in conjunction with other process assets during the Deploy Phase. |

| **Deploy Phases** | | |
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| **ID** | **✓** | **Items to Consider** |
| 1 |  | Are plans and procedures for updating the content, application and infrastructure available? |
| 2 |  | Have the necessary approvals for production site updates been defined? |
| 3 |  | Have all affected groups been prepared for the launch of the web application? (Examples include groups involved in processing orders, answering phone inquiries, responding to email submissions, publicizing launch, filling orders, distributing product, etc.) |
| 4 |  | Is the production site under configuration control (including content, application software and hardware)? |
| 5 |  | Is the technical support staff trained and available? |
| 6 |  | Is a development environment in place to test ongoing changes or bug fixes? |
| 7 |  | Are changes tested in the development environment prior to uploading them to the production server? |
| 8 |  | Are controls in place to ensure that development files are not accidentally uploaded to the production site? |
| 9 |  | Are server backup procedures in place? |
| 10 |  | Have site updates been submitted to Internet search engines with strategies to maximize its positioning if appropriate? |