

Web Development Project Flow

(an overview)

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Like the traditional software development, the process of web site development can also be divided into different life cycle steps. This can help to format the team effectively, and the standards and procedures can be adopted to achieve maximum quality. The following explains the steps of development which can be arranged as a process of web engineering. The steps may vary from application to application.

Analysis:

As web applications continue to evolve, each development cycle needs a complete analysis as to how the web application is going to compliment and satisfy the vision, company objectives, and executive direction. Hardware (if required for storage/hosting **or** development), software and data models should be considered during the time of analysis. The analysis should be done in a way that is not too time consuming or overly informative. The analysis team should be able to come up with a complete overview of the project as the report will be an output of analysis; it should be realistic. To achieve this, the analyst should consult the designers, developers, engineers and QA to come up with a realistic plan.

Input: General Design Document (GDD), Designer(s), Developers, Engineers, QA-Testers, Existing Web Based Applications, Existing data models, potential platforms, etc.. This is an investigative step.

Output: General Design Document, Team requirements, Hardware-software requirements, Supporting documents.

Project Launch Meeting:

The first official step in the development of a site is the Launch Meeting. This is a true brainstorming session. No decisions will be made, but you'll talk about things like colors, fonts, logos, hierarchy, navigation structure, user retention strategies, and who the site will target. Essentially you want everyone in the meeting to walk away seeing the same "team vision" for the site.

Input: GDD and supporting documents, Team requirements, Hardware-software requirements.

Output: Preliminary requirement/design specifications.

Specification Building:

Each of the application's modules, including general layout, UI/UX, network effect use cases, site navigation, and static/dynamic parts of the site should be included in the specification. Design requirements should be defined including items like colors, fonts, logos, hierarchy, navigation structure, feature specific enhancements, object movement and screen transitions. Technical requirements should be defined including items like data communications between the site and the databases, analytics collection, login requirements, legal requirements, etc..

A website wireframe is a great way to ensure clarity and consistency during website development. A web wireframe is like creating an outline before detailing the specifics. The website wireframe uses basic boxes and lines to define the spaces on the page, to clarify branding and navigation, and to indicate where text will reside-before the actual images and content have been created.

A flowchart sets out the information flow, how systems talk to one another, the points at which authentication occurs, security, and more. A well-made flowchart will not only define how the site will work, but it often allows you to write high-end code and distribute tasks in ways that would be impossible without the flowchart. Your flowchart should illustrate not just the paths users can follow, but also the various systems and interactions they -- and the site's administrators -- would be able to access and experience.

The website wireframe and the flowchart are a base for all groups in the development process:

During development, the team uses the website wireframe to sketch ideas, verify plausibility, and estimate time and costs for development.

Developers view website mockups to ensure they are developing a framework that will accommodate the vision. They also use website wireframes to verify they are including the right branding and navigation on each page.

Writers use the website wireframe to judge space available and to determine what content is needed for each page.

Graphic designers create consistent branding to work across the pages defined in the web wireframe.

Testers use the website wireframe to verify content, branding, and navigation are accurate to plan. After reviewing and approving the preliminary document, a written proposal is prepared, outlining the scope of the project including responsibilities, and timelines.

Input: Reports from the Project Preliminary requirement specifications.

Output: Complete requirement specifications.

Prototyping:

After building the specification, work on the web application is scheduled and layouts, mocks and navigation are designed as a prototype.

Some prototypes may be a fully functional prototype. In this case we need to show the interactivity of the application including data transfer and usability. Presentation usually is not a requirement for this prototype. However, in other cases, presenting two or three designs with all images and navigation will suffice as a prototype.

There may be a lot of suggestions and changes from design and art, and all the changes should be frozen before moving into the next phase. Revisions should be displayed via the web and tracked on a wiki page for the team and management to review.

Throughout the design phase the team should develop test plans and procedures for quality assurance. It is necessary to obtain approval on design and project plans.

In parallel the Database team will understand the requirements and develop the database with all the data structures, and required RPC calls. Sample data should be prepared and included.

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Input: Requirement specification.

Output: Application design with templates, Images and prototype.

Content Writing:

This phase is necessary mainly for the web sites. There are professional content developers who can write industry specific and relevant content for the site. Content writers to add their text can utilize the design templates. The grammatical and spelling check should be over in this phase.

Input: Designed template.

Output: Site with formatted content.

Design and development:

Now it is the developers/programmers turn to add code without disturbing the design. Unlike traditional design the developer must know the interface and the code should not disturb the look and feel of the site or application. So the developer should understand the design and navigation. If the site is dynamic then the code should utilize a template. The developer may need to interact with a designer in order to understand any portions of the design. Art/UI may need to develop some graphic buttons or other supporting graphics whenever the developer is in need.

A strong version control system should be used to control all versions and sources of development of the application.

Web Development team should generate necessary testing plans as well as technical documentation. For example Java users can use JavaDoc to develop their documents to understand their code flow.

Input: The site - application requirement specification.

Output: Database driven functions with the site, Coding documents.

Testing:

Unlike software, web-based applications need intensive testing, as the applications will always function as a multi-user system with bandwidth limitations. Some of the testing which should be done are, Integration testing, Stress testing, Scalability testing, load testing, resolution testing, web-mobile browser testing, and cross-browser compatibility testing. Both automated testing and manual testing should be done without fail. For example, it is necessary to test fast loading graphics and to calculate their loading time, as they are very important for any web site. There are certain testing tools as well as some online testing tools which can help the testers to test their applications. For example, ASP developers can use Microsoft's Web Application Test Tool to test the ASP applications, which is a free tool available from the Microsoft site to download.

After completing development and stage testing a live testing is necessary for web sites and web-based applications. After uploading the site there should be a complete testing (E.g.. Links test, functionality, etc..)

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Input: The site, Requirement specifications, supporting documents, technical specifications and technical documents.

Output: Completed application/site, testing reports, error logs, frequent interaction with the developers and designers.

Innovation:

The process of making sure that the other development processes continue and improve. This includes monitoring technologies as well as employing new technology for new innovations that might be appropriate for the web, as well as finding creative or unique ways to improve the elements of the web or engage the web's audience in its success.

Innovation also involves seeking to continuously improve the usability and quality of the web and exceed user expectations.