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About These Practices

Overview

The ITS practices governing this service are documented with the intent of clarifying all aspects of the administration of this service. Policy and practices for this service are presented in detail.

Intended Audience

The practices are documented here for the benefit of those who administer a hosted website as well as those that have ultimate responsibility for the website.

Website Lifecycle

A clearly defined and well managed website lifecycle ensures that the UH Hosted Website Service delivers quality services to its participating websites and their audiences. The lifecycle defines the phases that a website project will undergo and thereby details the practices ITS follows in managing those websites. The lifecycle phases are summarized in the table below.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Begins</th>
<th>Ends</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request</td>
<td>Preparation of application</td>
<td>Submission of application</td>
<td>Project team prepares and submits service application</td>
</tr>
<tr>
<td>Assessment</td>
<td>Receipt of application</td>
<td>Approval, request for information, denial</td>
<td>ITS reviews application and assesses impact on service</td>
</tr>
<tr>
<td>Initiation</td>
<td>Approval of application</td>
<td>Access to services enabled</td>
<td>Application accepted and resources are allocated for the new website</td>
</tr>
<tr>
<td>Active</td>
<td>Access to services enabled</td>
<td>Website non-compliance, request for termination</td>
<td>Project team deploys one or more web pages to Production environment</td>
</tr>
<tr>
<td>Observation</td>
<td>Website non-compliance</td>
<td>180 days in Observation or compliance re-established</td>
<td>Website becomes non-compliant with requirements of service – project team has 180 days to re-establish compliance</td>
</tr>
<tr>
<td>Inactive</td>
<td>180 days in Observation</td>
<td>180 days in Inactive phase</td>
<td>Project team access is disabled and website is disabled</td>
</tr>
<tr>
<td>Termination</td>
<td>180 days in Inactive phase</td>
<td>All materials deleted</td>
<td>All backups and related data are deleted</td>
</tr>
</tbody>
</table>

Table 1: Phases of the Website Lifecycle

Details of each phase of the lifecycle and how projects transition from one phase to another are described below.
Request

The first phase in the website’s lifecycle is the preparation of the formal Request.

An official request can be made online at http://www.hawaii.edu/its/webservice/ using the online application form. The application includes the following three sections:

Official Request from an Executive Sponsor

The official request is a list of basic project and contact information accompanied by the Executive Sponsor’s approval, acquired electronically. The Executive Sponsor must be one of the following:

<table>
<thead>
<tr>
<th>Requesting Unit</th>
<th>Appropriate Executive Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>Department Chair</td>
</tr>
<tr>
<td>Staff Office</td>
<td>Senior Office Administrator</td>
</tr>
<tr>
<td>Programs or Project</td>
<td>Principle Investigator</td>
</tr>
</tbody>
</table>

Service Level Agreement

The Service Level Agreement (SLA) documents the level of service to be provided by ITS, the understanding and agreement of the sponsor regarding that level of service, and the commitment of the sponsor to comply with all guidelines associated with this service.

Project Action Plan

The Project Action Plan is a brief questionnaire that covers the scope of the project, the project timeline, and the resources available to the project. The Project Action Plan allows ITS to accurately assess the impact of the website on the hosted service.

Assessment

The Assessment phase begins when an application for a new website is received by ITS.

New website requests are assessed for their impact on shared resources including CPU usage, disk availability, I/O and network bandwidth impact.

Requests are generally queued and serviced on a first-come-first-served basis. ITS may delay or deny requests that have incomplete project plans or are lacking the necessary resources to ensure project success. ITS may also delay or deny requests that require more resources than are or can be made available.

Initiation

The Initiation phase begins when a website application has been approved and ends when the services for the new website have been created and access given to the website’s project team.
A Development and Production environment is created for a newly approved website project. This includes creation of Development and Production databases if required, mapping the production URL into the hawaii.edu webspace, and allocation of space on the webserver for the Development and Production websites.

Once the services have been established, access to the systems is enabled for the project team. A notification email with the access instructions is sent to the Executive Sponsor and Primary Contact. At this point, the website is Active.

**Active**

A website is considered Active once access to the Production and Development environments has been given to the project team.

The UH Hosted Website Service features two environments, Development and Production. Website development, changes, and testing should be performed in the Development environment. Promoting changes to the Production environment causes them to become Active and available to the UH community.

Websites remain Active for as long as they meet the requirements of this service.

**Observation**

Active websites enter the Observation phase when they become non-compliant with the requirements of this service.

There are many reasons why a website may enter Observation. These include:

- Executive sponsorship is lost or withdrawn
- Appropriate technical support is lost or withdrawn
- The website is relocated to another server
- The Production website seriously malfunctions or is found to be inactive
- The Production website noticeably taxes resources and/or negatively impacts the performance of other hosted websites
- The website evolves to the point where it is no longer appropriately hosted as a UH service.

The Observation phase lasts for 180 days. At the discretion of ITS, a website in Observation may remain available. Alternatively, site traffic may be redirected to a warning page advising the UH community that site service has been discontinued. During Observation the Development environment remains intact and accessible by the project team.

If a website does not achieve compliance within 180 days, the site moves into the Inactive phase.
Inactive

After 180 days of Observation the website enters the Inactive phase.

All data associated with the site is saved to backup media and deleted from the Development and Production environments. The project team’s access to these environments is terminated.

The website is kept on backup media for 180 days. During that time, a formal request may be submitted to retrieve and/or re-instate the site. Such requests must follow the usual application process and require approval from ITS.

A website’s URL is reserved for the entire 180 days of the Inactive phase. The URL may be reclaimed during this time. A redirect for the URL may also be requested for this period allowing the UH community ample time to update their bookmarks.

Termination

After 180 days of Inactivity, a website is Terminated. All backups of the website including all associated data and information are deleted. All URLs become available for use by other groups. Once a website has been Terminated, it is not possible for ITS to restore it.

Roles and Responsibilities

The assignment of roles helps ensure success by clarifying responsibilities and identifying communication channels. Four typical roles are described below. For your project team, identify one or more persons for each role. For smaller project teams, one person may fill multiple roles.

Website Executive Sponsor

The website Executive Sponsor authorizes the creation and continued existence of a website. Sponsors are generally faculty or staff responsible for running departments, staff offices, and/or projects. This role can be rotated or reassigned as project membership changes over time. Executive Sponsors are contacted yearly to reaffirm official support for the website.

Website Manager

The Website Manager works with Developers and Content Providers, the Executive Sponsor, and any other stakeholders to achieve the vision of the website. Functions of the Website Manager include setting the project timeline, managing progress, facilitating communication between team members. The Website Manager usually has the final word on how the site is built and maintained.

The Website Manager is typically the Primary Contact identified in the Service Level Agreement.
### Website Developer

The Website Developer develops and maintains the website. Developers perform the necessary programming and on-going code maintenance required to ensure that the website is up-to-date and functioning properly.

Because this is a hosted service, all websites may be impacted by upgrades to the software and systems upon which they depend. The Website Developer is responsible for making the changes to his or her code required to keep it functioning properly.

One or more people may be assigned to this role. For critical websites, ITS recommends staffing at least two Website Developers.

### Website Content Provider

The Website Content Provider provides written text, images, and or graphic design elements to the Website Developer. The Content Provider is responsible for keeping the website information fresh, accurate and current. The Content Provider develops meaningful information for their particular target audiences.

For small websites, the Developer and the Content Provider are often the same person while larger websites typically employ multiple Developers and Content Providers.

### Operational Practices and Policies

**Executive Policy E2.210**

Executive Policy E2.21 is the basis for university-wide policies and practices for the acceptable use and management of all University of Hawaii information technology resources. The policy is available at [http://www.hawaii.edu/infotech/policies/itpolicy.html](http://www.hawaii.edu/infotech/policies/itpolicy.html).

**Annual Confirmation of Sponsorship and Support**

Annual renewal of official sponsorship and support from the Executive Sponsor is required. An email reminder is sent annually to the Executive Sponsor informing them how to reaffirm their support for the project. This entails logging in to the project’s administrative website and submitting a simple, online renewal form. This action can only be performed by the Executive Sponsor.

**Disk and Database Quotas**

The initial disk quota for the Production and Development environments is 25MB each. The initial quota for the Production and Development databases is 25MB each.

Requests for additional quota are reviewed on a case-by-case basis. Requests should be made via the general contact form at [http://www.hawaii.edu/infotech/webservice/contact.html](http://www.hawaii.edu/infotech/webservice/contact.html).
Since resources are shared by all service participants, abuse of quotas is taken seriously. Every attempt should be made by each project to remove old or redundant files/data and to keep file size to a minimum. Websites may be required to perform a disk and/or database cleanup prior to approval of a quota increase.

**General Requests**
All requests are assessed for their appropriateness and viability. This is determined by considering many factors including available resources, impact to other participants, and appropriateness of the request. Most requests receive a response within 5 business days.

**Application Approval**
In order to ensure that participants receive fast, reliable service, each request for a new hosted website results in an assessment of its potential impact on existing websites and resources. In some cases there may be significant delays in approving a new website while upgrades necessary to support additional sites are acquired, installed, tested, and deployed.

**Service Level Agreement**
The Service Level Agreement (SLA) documents a common understanding between ITS and the Sponsor of the available services and the conditions under which they are offered.

**Roles and Responsibilities**

**Executive Sponsor**
The Executive Sponsor authorizes the creation and continued existence of a website. If Executive Sponsorship is withdrawn, the site enters the Observation phase (see Website Lifecycle). The Executive Sponsor is ultimately responsible for the appropriateness of the site’s content and its applicability to the mission of UH.

**Primary Contact**
The Primary Contact ensures that the website functions properly. Problems reported to ITS regarding the website will be forwarded to the Primary Contact. In the event that the website unreasonably taxes the resources of the UH Hosted Website Service, the Primary Contact will be notified. Depending on the severity of the problem, the site may enter the Observation phase until the problem is resolved.

**Secondary Contact**
In the event that the Primary Contact is unreachable, the Secondary Contact will be notified of any problem. If ITS cannot reach either the Primary or Secondary contacts, the Executive Sponsor will be notified, and, at the discretion of ITS, the website may enter the Observation phase.
ITS Data Center Infrastructure

ITS provides a Data Center designed to support the availability requirements of UH for its servers and applications, including this service. By design the ITS Data Center is a 24x7 facility and includes tools and practices that provide for rapid detection and escalation of problems as they arise. While ITS has taken precautions to ensure high availability of servers and services, continuous availability cannot be guaranteed due to the need for periodic maintenance, infrastructure improvements, construction, and unforeseen events.

ITS Data Center features include:

- Uninterrupted power supply
- Redundantly powered equipment racks
- Redundant air conditioning units
- Air temperature monitors
- Network monitoring
- Server and services monitoring
- Video surveillance
- Fire suppression system
- Fire detection sensors and alarms
- Automated tape backups
- Robotic tape librarian

Network Security

ITS protects all production servers with network firewalls. By design the network firewall rules restrict all access to each server except that which is necessary for the service(s) on the server. Backups and ITS management functions are done over a private network rather than over the public network.

ITOC Monitoring

Servers and Services are monitored by the ITS Information Technology Operations Center (ITOC) 24x7, except for State holidays. In the event of a problem, the escalation process provides for documented procedures designed to ensure expeditious problem resolution and restoration of the service.

System Backup and Recovery

Full system backups are done weekly with incremental backups done daily after normal working hours. Full system backups are retained for three weeks. Daily incremental backups are retained until the next full system backup.

While ITS has well established practices and procedures to ensure the reliability of backups, ITS can assume no liability for any problems with restoring from backups. All ITS backups are done over a private network.
In the event of catastrophic failure of multiple production services, ITS prioritizes transactional services such as the Student and Financial services before web services, including the UH Hosted Website Service.

**Database Disaster Recovery**

Full MySQL backups for disaster recovery are done weekly and retained for three cycles. There are no daily incremental backups. Backups require that the MySQL database be offline. Backups are automated to occur at 3:00 a.m. Monday morning.

Recovery will be done only for a disaster using the latest full backup. ITS will not recover database for any user error. The Website Manager is responsible for ensuring database backups are performed appropriately.

**Scheduled Down Times**

The UH Hosted Website Service must be unavailable periodically for backups and maintenance. The scheduled down time for this service is every Monday from 3:00 a.m. to 6:00 a.m. There may be occasions where more than 3 hours are required to perform scheduled maintenance. These will be announced at least 5 working days in advance in the appropriate mail distribution list as well as on the ITS Technews page (http://www.hawaii.edu/technews/).

**Unscheduled Down Times**

ITS endeavors to minimize unscheduled down times. However, these may occur for a variety of reasons including hardware or software failure, human error, or emergency security upgrades.

Interruptions in service and their resolutions are posted to the ITS Technews page (http://www.hawaii.edu/).