e-Michigan Web Development
Department of Information Technology
State of Michigan

Look and Feel Standards for e-Government Applications

Michigan.gov brand elements, policies and information architecture

SPECIAL ATTACHMENT: Usability Guidelines

MICHIGAN DEPARTMENT OF
INFORMATION TECHNOLOGY

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Look and Feel Standards for e Government

Michigan.gov brand elements, policies, information architecture

About This Document

Note To All Project Managers And Web Development Teams:

No standards document can take into account every possible combination of web technology. Therefore, it is the responsibility of the IT Project Manager or responsible agent to contact EWD to inquire and receive the latest updates and specifications regarding information contained within this document.

This document is intended to communicate important information architecture design and development standards to IT Project Managers and web design teams. It details the appearance system and requirements for e-government web sites operating within the State of Michigan. The standards in this document apply to all web sites produced and maintained by and for the State of Michigan for the purpose of conducting official state business over the World Wide Web or Internet. This includes internal or external facing sites, intended for consumer, business or other government on-line service audiences.

The intention is to better serve users, whether general citizens or targeted constituents. More importantly, web Development Teams need to read and understand the information contained within this manual. It includes important information about key, required presentation style elements for all State of Michigan on-line services. These include a consistent and common look and feel across all sites, improved ease of use and overall usability, and reduced time-to-launch through the application of uniform design attributes.

Based on project management methodologies and the System Development Life Cycle (SDLC), it is imperative that contact with e-Michigan Web Development (EWD) and the Office of Enterprise Security (OES) be made as soon as possible, preferably at the Initiation Phase of a web based on-line service solution. Subsequent phases such as Design Requirements will also benefit from this document and review meetings. Review meetings cover a variety of issues ranging from enterprise deliverables, look and feel, policies, security, load testing, usability and pre-launch checklists.

To schedule a review meeting, contact the EWD at (517) 241-5782 or thompsonj@michigan.gov.

State IT Development Teams, as well as third party development groups contracted or bidding on state IT initiatives, should use these standards as a reference in preparing overall project plans and constructing specific web based applications.

Copyright Information

All aspects of the Michigan.gov Brand as visualized in the banner header graphic in this document, either printed or electronic, are under the express control of the Department of Information Technology/e-Michigan Web Development Division. Attempts to modify or recreate the Michigan.gov brand image or graphic elements represented within this document are prohibited.

Requests for any Michigan.gov brand element should be made to the e-Michigan Web Development Division:

e-Michigan Web Development Division

Department of Information Technology

111 S. Capitol Avenue
Romney Building 9th Floor
Lansing, MI 48913

This document may be revised as needed to accommodate new standards or revise and edit existing standards.

Version 3.0

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Because many of the pages in this document include embedded screen captures, page breaks have intentionally been added so that images and related textual information are kept contiguous. As a result, some pages may appear to be half filled with text.

This document includes images and text best viewed in color. Because of the state's current color printing restrictions, this document is best viewed on screen as a PDF or printed in color from your location.

Information Architecture of the Michigan.gov Look and Feel standard

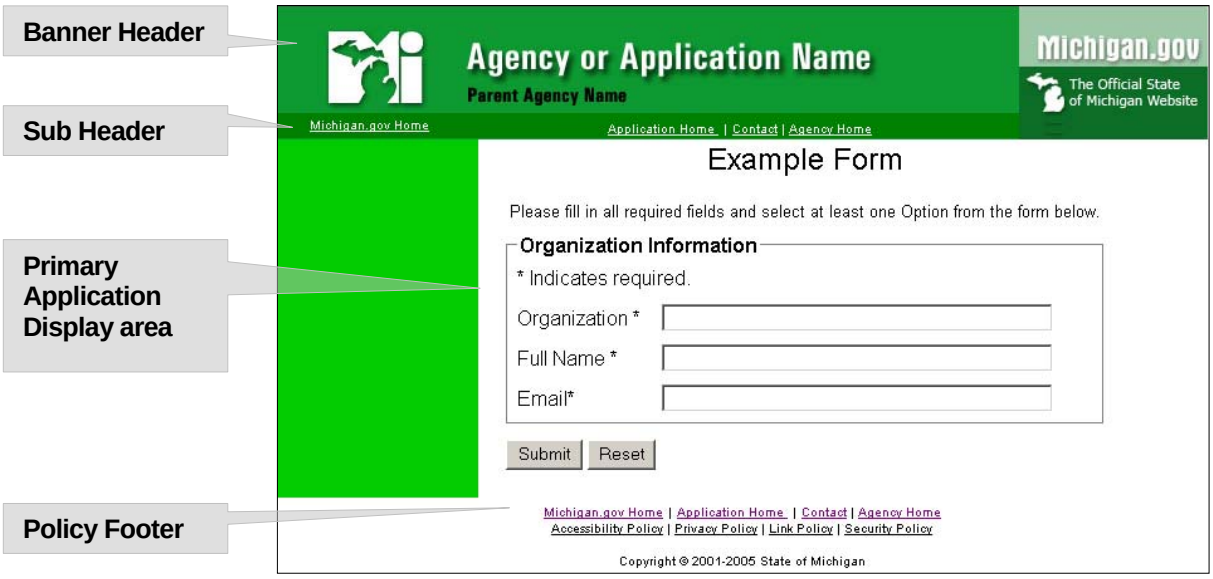
All site designs must incorporate these core elements for a common, consistent presentation layer

Banner Header
Artwork supplied by e-Michigan Web Development

Sub Header
Directly under banner header and includes all utility links and required links

Primary Application Display area
Includes primary user interface and functionality. May utilize Body Only, Left Navigation Only or Left and Right navigation

Policy Footer
Includes all required policy links, support sub header links and copyright information



Michigan.gov Branding

Banner Header Types

The following pages are designed to define the banner header area for the Michigan.gov brand, a key element to all on-line service sites representing the State of Michigan.

The goal of the banner header area is to present the user an official State of Michigan unified, brand image that carries across to all agency home sites. In addition, the same brand image is duplicated at the agency application level, even when URL's change, so that the user experience is as seamless as possible.

Designed into the banner header area is the ability to accommodate the unique logo or symbol of the parent agency as well as the agency name. For applications that serve several agency user groups at the same time, a more "generic" logo has been developed to accommodate the service as a Michigan.gov product rather than a specific offering from a single agency or department.

This applies to all applications built with eCommerce software tools and technology established by DIT. These include e-stores and other applications that utilize e-commerce systems to process payments and fees.

In all of these scenarios, the look and feel is treated as much as possible as a unified presentation of on-line services, offered by many different sources but with one goal in mind – fast and efficient on-line customer service.

The e-Michigan Web Development Division is responsible for the design and construction of all banner headers.

Please contact the e-Michigan Web Development Division to obtain the correct banner art and any other follow on requirements that involve the Michigan.gov Brand Image.

e-Michigan Web Development Division

Romney Building – 9th Floor
111 S. Capitol Avenue
Lansing, Michigan 48913

Standard Banner Header - 740x100 pixels

The banner header area contains the static image of the agency or cross agency logo, the agency, division or commission name, and the Michigan.gov brand elements featuring the blue-sky background, state coat-of-arms and Michigan lighthouse lakeshore image.

This image solution comprises the bulk of the Michigan.gov brand elements and has been implemented across all agencies and applications. This standard applies to all web display pages for the Internet or any other web delivery or on-line service in place or planned for the State of Michigan.

Banner Header Hyper-linking

This area is specifically designated with the following dimensions: **475x100 pixels**. For all versions of the banner header, the region identified to the far left containing the agency or cross agency logo and agency name **will hyper-link** to one of the following:

Sites hosted within the Vignette Content Management Application (CMA) will link to the home page of the parent site (Example: www.michigan.gov/agencyname).

Sites or applications hosted outside the Vignette system will link to the specific application home page. These sites are typically hosted on agency internal servers, or the state's clustered server system, and in some cases, by third party contracts outside the states network.

Sites such as these must contain a link in the sub-header back to the Vignette hosted parent agency. See also section on Sub-Header linking for complete details.

Sites that serve several agencies, or Cross-agency sites, will link only to home page of the cross-agency application.

Far Right Banner Header Hyper-linking

This area is specifically designated with the following dimensions: **265x100 pixels**. This remaining area to the far right **will always hyper-link** to the Michigan.gov portal home page (www.michigan.gov). This standard applies to all applications or sites hosted within the Vignette system, on agency internal servers, state clustered server systems or third-party external hosting arrangements.

Banner Header sizes

In all cases, the full agency banner header (100 pixels) is to be used on sites or application home pages, welcome and login screens, and must appear on all subsequent pages of the site, regardless of navigational choices made by the users or display screens built within the application.

For Vignette hosted sites, the banner header appears automatically on all pages and remains consistent in size and display.

For applications hosted on agency servers outside the Vignette system the banner header must be a duplicate of the parent agency banner header. If a banner header other than the parent agency banner header needs to be used it must be created and approved by eMichigan.

For cross agency applications, the banner header must be consistent with the layout standards detailed in this document, which includes the generic “Michigan” logo and application title, and must appear on all pages within the application.

Banner Sizes

In some cases, especially for sites hosted outside the Vignette system where the application display area needs to be maximized, two smaller versions of the banner header may be used.

These smaller sized versions allow Development Teams to maximize the amount of usable display window presented to users. The larger area allows inclusion of more objects, controls and display features and presents more information at the top most of the screen, while still maintaining the branding elements and links necessary to the application.

A recommended best practice for the use of smaller banner headers is to deploy them only after the user has moved beyond the introductory home page, welcome or login screen (which features a full-sized version) and is engaged in accessing critical portions of the application.

These banner headers available consist of equally sized and proportioned designs that are all equal in length but differ in (X) height dimensions. They are:

- 740x 100 pixels
- 740x70 pixels
- 740x50 pixels

Critical to these banners is the exact orientation of the design elements as they relate to agency or generic logo, application or agency name, placement and alignment of all Michigan.gov branding elements.

Banner Header Sizing

The banner header has several display sizes (height only) depending on the available space in the application display area

Banner headers on home pages and introductory screens should utilize the full-size version (100 pixel height) whenever possible. Subsequent pages within the same application may utilize smaller versions of the same header design, available in 70 and 50 pixel high arrangements

All banner headers, regardless of height, are a standard 740 pixels wide.

All banner header art is produced exclusively by the e-Michigan Web Development Team. Contact the e-Michigan Web Development Team to receive final art. Banner header art must never be cropped or altered in any way.

100

70

50

Banners headers must include an image map link area for application home page and Michigan.gov portal.

Note the alignment and placement of the key elements of the banner components, and how they are clear and consistent even as the banner reduces in size.

These design details are maintained by the e-Michigan Web Development Team. Alteration of the banner header by other Development Teams or third-party groups is prohibited.

740x100 high

740x70 high

740x50 high

Obtaining final artwork from e-Michigan Web Development

Preserving the highest image quality, integrity and brand display and alignment is critical to the public's perception that they are using an official State of Michigan web site to conduct official state business. That includes viewing static content to applying for grants or obtaining criminal history searches.

Therefore, only authorized banner header art must be used on any application or web site produced by or for the State of Michigan. Artwork must never be "snagged" from other sites and reconfigured using photo editing software or any other electronic alteration, including cropping, re-optimization or sizing.

Contact the e-Michigan Web Development Division at (517) 241-5782.

Enterprise-Wide Cross Agency Banner Header type

As more and more collaboration and content sharing occurs within state government, agencies are teaming technologies and development costs to increase the effectiveness of e-government initiatives that better serve specific groups of customers. State government is continually streamlining its services by allowing more services to be obtained through a single “sub portal” site, regardless of the number or type of agencies that may be involved.

To accommodate brand identities that are composed of two or more agencies, boards or commissions, the Michigan.gov branding system has created a Cross Agency Banner Header type.

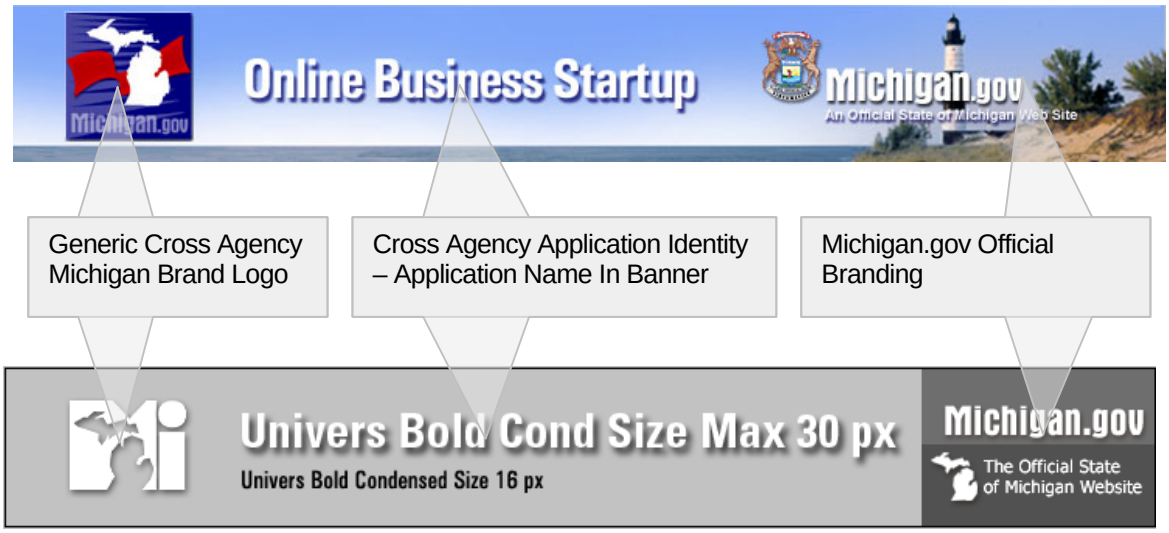
This design incorporates and is built upon many of the same features as the agency banner header, and expands on those themes to maintain consistency across the enterprise. Significant changes are as follows:

The banner header receives a “generic” Michigan logo in place of any single parent agency brand

The application name, program name or acronym is included in the banner header

These two important distinctions control how the banner header is designed and where it is applied. All other requirements for sub header, body area and footer remain in effect.

The following illustration is an example of the Cross Agency Banner Header style:



Application Names, Logos or Symbols

During the design and build of applications, the need arises to formally apply the application name, existing brand identity or logo to the application home page. Development Teams often assume that the application name will appear in the banner header area. However, the standards in place for the Michigan.gov brand do not allow specific application names to appear in the banner header. This is done for several reasons:

It establishes confidence to the user who is to receive or conduct official state business It clearly communicates to the user who owns and is responsible for the application and its contents, regardless of internal acronyms or program names

It promotes the agency's legal authority to provide the service or transaction

As a legal entity within the State of Michigan the Banner Header displays the text "An Official State of Michigan Web Site" or "The Official State of Michigan Web Site".

It displays the agency name and an associated identity that is familiar to the public

Users are already familiar with the parent agency and can identify with a well-established symbol and name

The Michigan.gov banner header area is reserved for the parent agency of the application, regardless of the internal application business group, division or program name. This area is reserved for that brand identity only. The application name, logo or symbol is detailed in the body area.

Exceptions for Agencies, Boards and Commissions are accommodated by use of a hierarchal display grid that allows for large divisions within an agency to receive branding that identifies a separate site that serves a specific audience, but is still administered by the parent agency.

Examples include DMB and Consumer and Industry Services.

The application or program name, logo or symbol can be accommodated within the body area. Development Teams should use this area to display special acronyms, logos or symbols associated with a particular agency or program.

The following illustrations detail many of the correct treatments for branding a specific application that contains a logo, internal acronym or program name.

Branding Exceptions and Special cases

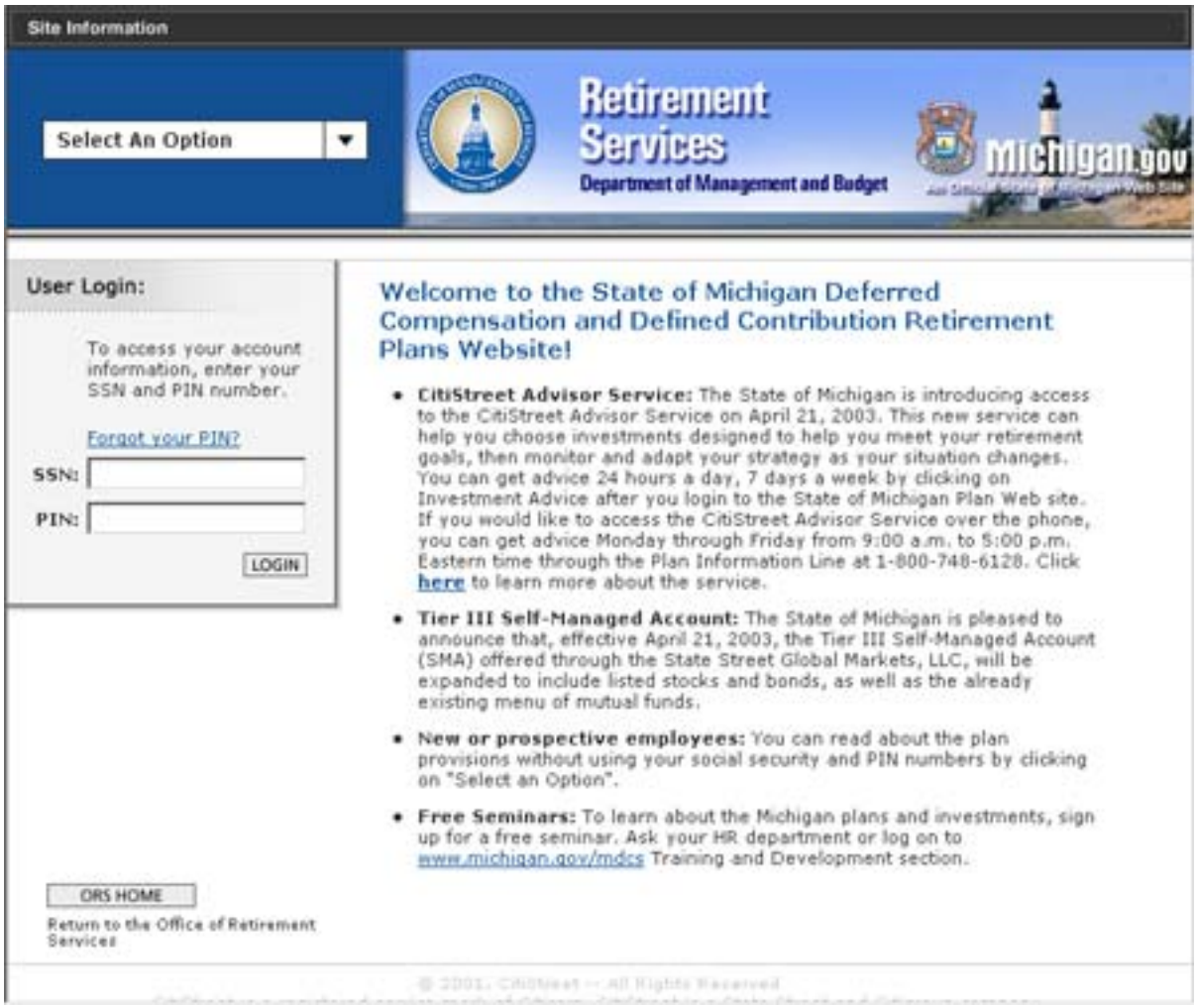
Occasionally, design formats or requirements demand branding solutions that accommodate critical dimensional needs of the application, and for third party commercial off the shelf software.

The Michigan.gov design standards are designed to accommodate Commercial Off-the-Shelf (COTS) web applications purchased from vendors (such as Seibel, Lawson, etc.) for use on State of Michigan sites.

Typically, COTS products allow minimal or even “no branding” elements other than the vendor’s to be displayed inserted. Some are proprietary to a particular vendor’s software product and carry the vendor logo or application name, making the effort to add Michigan.gov branding elements or navigation styles costly and unnecessary.

e-Michigan Web Development can accommodate some elements of the Michigan.gov brand and links even within proprietary applications. These are designed on a case-by-case basis. Please contact the e-Michigan Web Development Team for a more detailed analysis and potential solution.

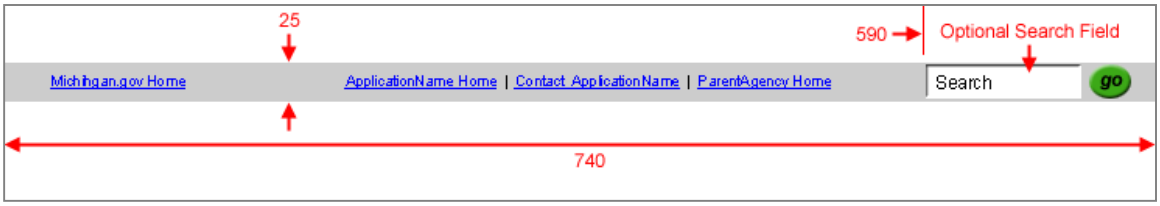
The following illustration is an example of a pre-existing, packaged vendor site (CitiStreet) designed to accommodate specific branding from the State of Michigan.



Sub Header

Required and Optional Sub Header Elements

In ALL cases, sub header top navigation area appears directly below the banner header. This area follows the same width dimensions as the banner header and is always 25 pixels high. The sub header also includes embedded links; several are required. It must appear on all pages along with the banner header and footer links.



Sub Header top navigation with embedded links and optional search features. The sub-header serves as the primary space for three (3) required utility links:

- A link back to the Michigan.gov portal site
- A home page link to the application introductory screen or home page
- A contact link to give users a access to contact information regarding the application or specific site information such as contact email, mail or fax information.

A portion of the sub header may include links that are specific to the application or depending on the application navigational needs. These also include other utility links as needed to support the application.

Including the Search field on applications

The Search Field in the Sub Header is optional on applications hosted outside the Michigan.gov Technology Platform.

Applications may provide search functionality to their site using the Ultraseek search engine directly. Alternatively, they may provide search capabilities of their own that relate specifically to content contained within the application.

Selecting the Appropriate Layout Standard

Information Architecture for Applications

Applications built outside the Vignette content management system must employ a consistent Information architecture that mimics the style already in place and used throughout the entire executive branch agency web sites. This architecture was designed around a customer-focused approach and represents the current model for all site construction.

Development Teams should follow these dimensional layouts to achieve the level of consistency, user experience and service expected from official State of Michigan sites and applications.

Distinctions must be made on several levels when selecting the proper layout for the application. Much of this requires a detailed design document that identifies the process the user will go through to complete the transaction or submit the information required by the application. In addition, there may be supporting transaction material or links that will be provided for the user to complete the service.

These factors will help determine which of the three dimensional layouts should be used:

1. Will the site have a single, dedicated process flow where the user will be guided through a set of screens, from beginning to end, resulting in a final submission page?

    a. If YES, then the Body Area Only layout will best accommodate the design

2. Will the site contain distinct, multiple sections with different results or inputs for each section?

    a. If YES, then the Left Navigation Only layout will best accommodate the design

3. Will the site include distinct separate sections, supporting or related content, link to outside sites or include help files?

    a. If YES, then the Left and Right Navigation layout will best accommodate the design

Above the fold priority for primary display - 450 pixels

Overall, screen size affects the amount of visible area available to the user without scrolling. Efforts must be taken to design page layouts to include as much information above the 450-pixel limit as possible, especially on introductory and welcoming screens.

Scrolling is a necessity with most applications, but keeping critical information and navigation elements as high on the page as possible adds to the overall usability of the site.

Default installations of Microsoft Office usually result in an MS Office taskbar appearing on the desktop. The MS Office taskbar exists either along the bottom or vertically along the right side. This factor must be assumed when designing application screens and is the reason the banner header is sized at 740 pixels.

Most developers override the default browser offset values, either with CSS (such as body {margin: 0px}) or with HTML (marginwidth="0" marginheight="0" topmargin="0" leftmargin="0").

Information Architecture for Main Body Area

The body area is considered the workhorse of the application. Beyond left or right hand navigation, banner headers, sub-headers and footers, this is where the application does all the heavy lifting.

Much of this area is dedicated to the display of all information and content directly affecting the user interface with the application itself. This area is designed to accommodate nearly any required content or functionality that is important to the application's ability to complete State of Michigan business requirements or transactions.

There are few standards regarding design functionality other than usability issues also covered in this document. However there are issues regarding look and feel, use and display that will affect overall application layout and appearance. Addressing these information architecture issues allows users to achieve the best possible results from the application.

Consistency with Parent Site

In the case of applications being built for specific agencies, look and feel arrangements for left and right navigation table cell colors should match those already in place through the agency's parent site hosted on Michigan.gov.

For example: an application being built for the Department of Treasury should follow the look and feel already in use at the agency site www.michigan.gov/treasury.

Developers must recognize that users are often directed to the agency's home page or site section to access many of the applications built outside of the Content Management system. Designing these external sites to "look and feel" as a connected part of the agency whole is critical to maintaining consistency. This is an excellent way to maintain official state business integrity and brand elements.

Additionally, after the launch of a third party application, even if the site is hosted on separate servers, the site is listed as content or links within the parent agency site. Additional navigation may be added for users to access the new site. It's important to maintain that cross-promotion between the sites so that users are presented with a consistent and usable format no matter which site they access.

For the remaining body areas, color selections and text colors can be manipulated for a unique look and feel consistent for that particular site.

Detailed dimensional layouts can be seen in the Figures and Examples in the next section.

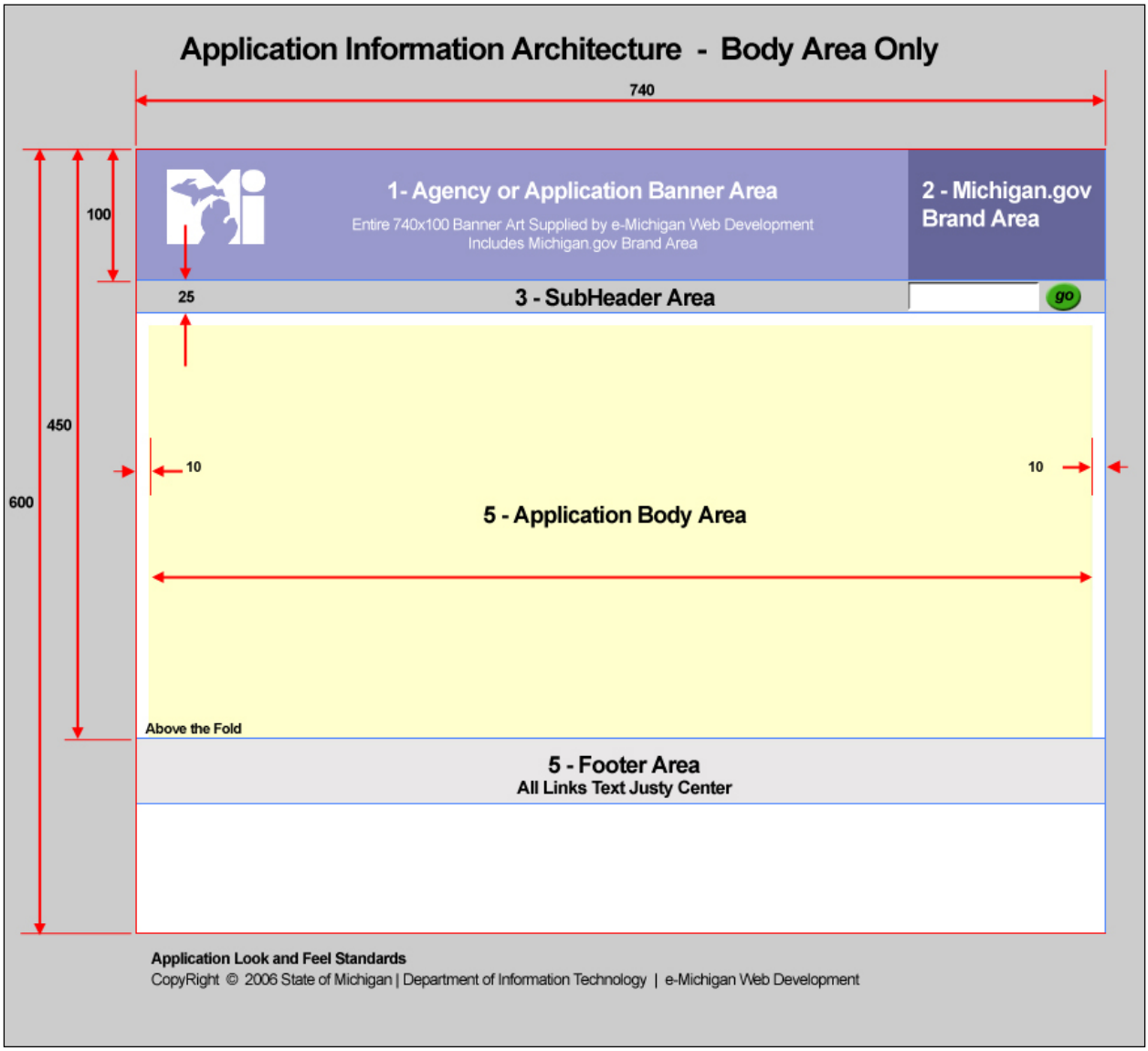
Body Area Gutter

The Body Area should also contain built-in margin accommodations where text and images are not displayed, typically at the far left and right of the display area. A gutter of ten (10) pixels for all margins as they approach either side of the width (not to exceed 720 pixels) is recommended leading up to the sub-header. Regardless of whether left or right navigation is used, these gutter restrictions remain in effect.

Body Area Only

In cases where the application will utilize the entire body area for functionality and user introduction information, and requires no navigation to separate, distinct sections, the Body Area Only can best accommodate this design.

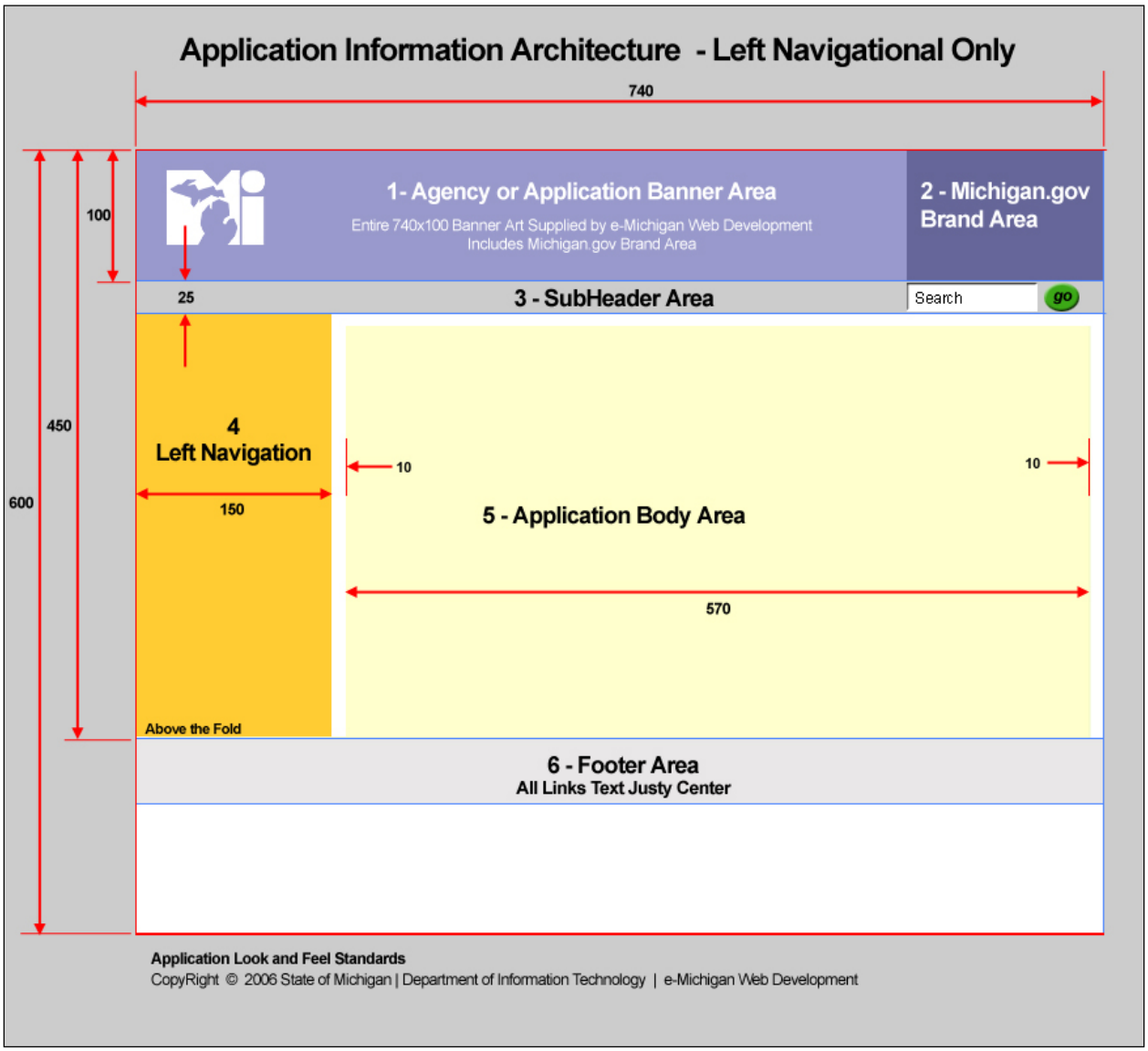
The following illustration demonstrates the dimensional layout requirements:



Left Navigation Only

Left Navigation Only should be utilized when the application will require the user to select from different sections yielding different results, or if the application requires navigation to separate, distinct sections.

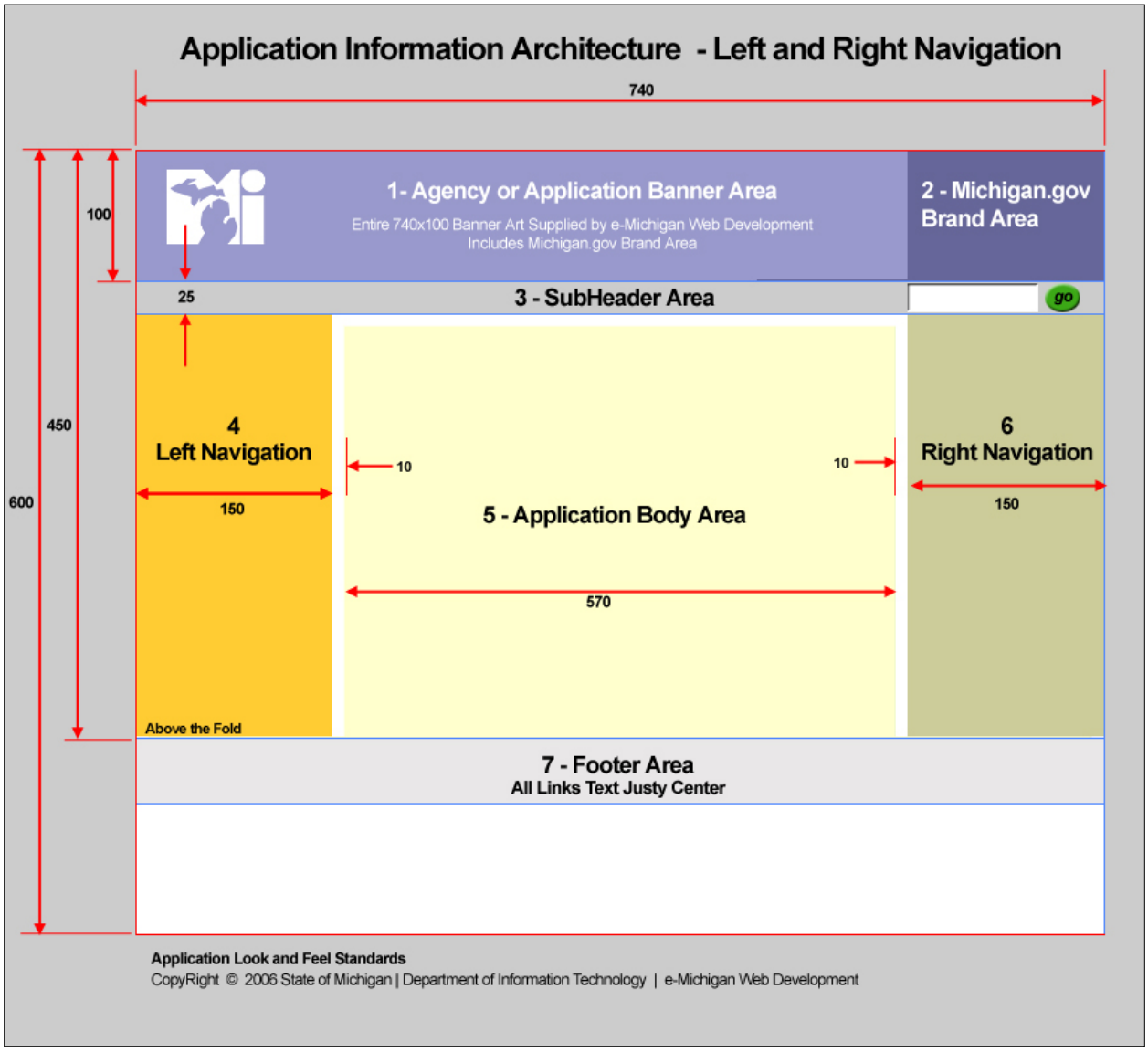
The following illustration demonstrates the dimensional layout requirements:



Left and Right Navigation

In cases where the application will require the user to select from different sections yielding different results, or requires navigation to separate, distinct sections, and the user will be provided additional links, related content or support information, the Left and Right Navigation can best accommodate this design.

The following illustration demonstrates the dimensional layout requirements:



Core Policy Components

Policies that affect all State of Michigan web sites

There are a number of policy elements that are included in the Michigan.gov brand. These are standard and required across all page displays. They are displayed within the footer and link to existing pages published on the Michigan.gov portal.

The Department of Information Technology may update the policy language from time to time to insure that the state follows new state or federal laws, or so that changes in the present law are easily and quickly accommodated.

By requiring applications to link to these existing published policies, the state can manage and maintain the language from a central location, relieving specific sites from updating their pages individually. It also presents uniform conditions to be met by all applications, regardless of their final host URL or location within the State of Michigan infrastructure.

Compliance with Policy Language

Applications are required to utilize links in the footer that point to existing URL's hosted by Michigan.gov. By doing so however, the application or on-line service carries with it the implication of conformity to these stated policies.

> By linking to these policies, applications are subject to compliance. Applications that deviate from these standards should either be modified to correct the discrepancies or reasons submitted to e-Michigan Web Development explaining why any deviation should be allowed.

It is critical that agencies, as early in the design process as possible, consider the implications of the policies they are required to link to, specifically:

Privacy:

- Form transactions that require personally identifiable information such as name, address, email or phone number
- Critical identification such as social security number, drivers license number
- Credit card number, banking ID or account numbers, Date of Birth
- Monitoring of web access based on an individual users
- Collection and storage of email addresses for contact at a later time

Accessibility:

- Use of text equivalents, alternate text, drop down menus, java scripts and pop-up windows
- Compliance with the W3C Level A Priority 1 Checklist
- Multimedia equivalents
- Relative text sizing
- Color contrast of text and background cell colors

Continued on next page:

Security:

- Disclosure of personally identifiable information
- Unauthorized access to state data – penalty of law
- Hacking or attempts to maliciously alter data or systems
- Insure integrity of data transmissions between e-government applications
- Note: Please contact the Office of Enterprise Security (OES) to get answers to any of your security policy questions.

Linking:

- Suitability of information linked to from your site
- Opening new windows when leaving state sites
- Policies for advertising and exposure to potentially offensive material

Answers to policy questions can be obtained by contacting the e-Michigan Web Development office at (517) 241-5782.

Required Footer and Policy Links Location

Standard sizing and location

All State of Michigan Policy links and combined Sub Header Utility links must appear at the bottom (footer) of all pages used in an application. This area appears centered directly under the main body content area of the application in three (3) lines of text.

This provides users with easy access to all utility Sub Header links even after scrolling to the bottom of a page. It also provides the state with a typical uniform location for posting policy links of this type.

The Michigan.gov Home, State Web Sites and all Policy links must always point to the originating Michigan.gov URL to maintain absolute version control of official State of Michigan on-line service policies. These policies (source code) should never be copied, altered or placed directly into the originating application.

Additionally, links that support the applications that appear in the Sub Header should be included in this array.

Embedded HTML Links: Arial, font-size –2, Font color # 000000

REQUIRED Footer Links – Line One (1)

Link Name	Link URL points to:
Michigan.gov Home	**REQUIRED**: http://www.michigan.gov/
[ApplicationName] Home	**REQUIRED**: Home page URL – this link allows the user to return to the opening page of the site no matter how far into the site they have navigated. It appears fixed in the sub header for this reason.
Contact [ApplicationName] EXAMPLE: Contact MDA	**REQUIRED**: Points to the contact information page within the application. This page should contain information that would assist users in calling, faxing or emailing with questions or problems with the application process, on-line service or site problems. Contacts may also point to pages on other sites, such as the parent agency Contact page.
State Web Sites EXAMPLE: State Web Sites	**REQUIRED:** http://www.michigan.gov/som/0,1607,7-192----A,00.html This link provides access to all state sites currently supported by the Michigan.gov portal environment, including all Boards and Commissions. This is part of the state's "No Wrong Door" design policy that promotes cross-linking and allows users to gain access directly to agency sites by name.
Other utility links such as FAQ, Site Map etc. NOTE: These are suggested links. If no FAQ or Sitemap exists for the application, then none should be listed. However, any utility link that is valid should go in this area.	**OPTIONAL:** Points to their respective pages within the application. FAQ's may also point to FAQ engines on other sites, such as the parent agency FAQ pages. The same follows for Site Map.

REQUIRED Policy Footer Links – Line Two (2)

Link Name	Link URL
Privacy Policy	http://www.michigan.gov/som/0,1607,7-192-26914-2088--,00.html
Link Policy	http://www.michigan.gov/som/0,1607,7-192-26915-2089--,00.html
Accessibility Policy	http://www.michigan.gov/som/0,1607,7-192-26913-2090--,00.html
Security Policy	http://www.michigan.gov/som/0,1607,7-192-26916-2301--,00.html

REQUIRED Footer Text Only – Line Three (3)

Copyright © 2002-2006 State of Michigan

Complete Footer Example:

Michigan.gov Home | Application Home | Contacts | Agency Home
Accessibility Policy | Privacy Policy | Link Policy | Security Policy

Copyright © 2001-2006 State of Michigan

Accessibility and ADA Compliance

Michigan ADA Compliance rules and Section 508

The State of Michigan has adopted compliance with Federal laws and policies relating to Section 508 of the Rehabilitation Act: Electronic and Information Technology Accessibility Standards.

Section 508 of the Rehabilitation Act requires access to electronic and information technology procured by Federal agencies. The Access Board developed accessibility standards for the various technologies covered by the law. These standards have been folded into the Federal government's procurement regulations.

The Rehabilitation Act Amendments (Section 508)

On August 7, 1998, the President signed into law the Rehabilitation Act Amendments of 1998, which cover access to federally funded programs and services. The law strengthens Section 508 of the Rehabilitation Act and requires access to electronic and information technology provided by the Federal government.

The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and members of the public with disabilities to the extent it does not pose an "undue burden."

Section 508 speaks to various means for disseminating information, including computers, software, and electronic office equipment. It applies to, but is not solely focused on, Federal pages on the Internet or the World Wide Web. It does not apply to web pages of private industry.

In addition, the state conforms to the World Wide Web Consortium (W3C) regarding ADA accessibility and compliance. Consulting this body for the latest in news and updates regarding accessibility is highly recommended.

http://www.w3.org/WAI

Officially, the State of Michigan requires all web site content and applications to meet **Conformance Level "A" Priority 1 checkpoints** (all Priority 1 checkpoints are satisfied)**.**

The State of Michigan uses the **Web Content Accessibility Guidelines 1.0** for all references to accessibilty. In addition, the **Checklist of Checkpoints for Web Content Accessibility Guidelines 1.0** can assist developers in verifying that they have complied with all Prioroty 1 State of Michigan intentions with regard to this law.

http://www.w3.org/TR/WCAG10/full-checklist.html

Although the requirements may seem vague to many developers, many sites assist in meeting these requirements. Issues ranging from the simple to the complex:

- Provide text equivalents for all non-text elements
- Alternative Text (Alt text) for images.
- Use the Name and ID attributes.
- Use of JavaScript in applications
- Creating accessible PDF documents

By following the guidelines and reading the suggested materials, many of these issues can be solved. In addition – many of these sites offer additional guidance and links to solve many of the most difficult issues.

Web Accessibility means remembering everyone

In order to build an accessible website you need to include everyone regardless of their disability. Below is a list of the different types of disabilities that some web users have and some of the tools they use to view the web with:

- Visual
- Blindness
- Assistive technologies that “read” text elements in a page.
- Use Keyboard to navigate.
- Use Tab key to get from link to link.
- Low Vision
- Use software to enlarge the screen.
- Color Blindness
- Approximately 10% of men and 0.5% of women have some color blindness.
- Hearing
- Hard of Hearing/Deaf
- Cannot hear audio content.
- Don’t assume they know sign language
- Mobility
- Motor Impairments
- Use assistive technologies like:
- Raised spaces in between keys
- Puff and Sip switch
- Head switch
- Head wand
- Voice recognition
- Iris recognition
- Mouth stick and
- Trackball
- Cognitive
- Confused by complex visual layouts.
- Difficulty understanding lengthy text.
- Problems that affect ability to process visual information.
- Seizure Disorder
- Stimulated by quick movements such as animations, causing seizures.

Vignette Sites and ADA

It is important to note that the Vignette Content Management Application (CMA) and the corresponding Content Display Application (CDA) have built-in ADA compliance features that reduce the number of ADA compliance errors. By default, the display system was designed to comply with Level A Priority 1 Checkpoints. This allows content authors, editors and publishers to create content without the need for constant checking and compliance verification. Vignette Site Administrators should, however, be well versed in the ADA standards and understand how to spot potential content that conflicts with the standard. Some of the area where a need for ADA compliance verification is needed is when there is need to FORMS or complex tables in the content. To help reduce the number of ADA compliance errors please use some of the suggestions the follow.

ADA Design Elements

- Skip Navigation: Place a Skip Navigation link (bookmark to the main body of the page) at the top of every page that will allow users to skip repetitive navigational links.

Skip Navigation Code:

```
<a href="#bodyBegin" style="color: White; font-size: 1pt; position: absolute; top: -100px;
text-decoration: none;">Skip Navigation</a>
```

Note: This is sample code that will place the Skip Navigation link at the top of the page so that a screen reader can read it but it will not display in most browser windows.

- TITLE attribute: The TITLE attribute should be used on both links and form elements. When using this attribute on a link a tool tip will appear when the user mouses over the link and a screen reader will speak the TITTLE information.

Example TITLE code:

Link Example:

```
<a href="http://www.michigan.gov/" class="topnavlinks" title="Link to Michigan.gov
home">Michigan.gov Home</a>
```

Form Field Example:

```
<input name="f01_Org" id="org" title="Please enter your Organization's name" tabindex="1">
```

- TABLE elements will help with formatting table and assistive technology navigate through a complex table.
  - TH tag
  - Scope
    - Col
    - Row
  - THEAD for repeated table headers.
  - TFOOT for repeated table footers
  - TBODY for other groups of rows

Example of a simple Table:

```
<table border="1" summary="Kids Birthday Chart">
        <caption>
        Kid's Birthdays</caption>
        <tbody><tr>
            <th scope="col">Name</th>
            <th scope="col">Age</th>
            <th scope="col">Birthday</th>
        </tr>
        <tr>
            <th scope="row">Billy</th>
            <td>5</td>
            <td>May 8</td>
        </tr>
        <tr>
            <th scope="row">Mary</th>

            <td>7</td>
            <td>April 12</td>
        </tr>
    </tbody></table>
```

Kid's Birthdays

Name	Age	Birthday
Billy	5	May 8
Mary	7	April 12

- FORM elements
    - FIELDSET and LEGEND elements to group information. These elements can be used to group form fields on a form.

FIELDSET and LEGEND:

```
<form>
    <fieldset >
        <legend><b>Organization Information</b></legend>
        …Tables and form fields….
    </fieldset>
</form>
```

    - LABEL attributes are required attribute that are be used on form elements.

LABEL:

```
<label for="org">Organization *</label>
<input name="f01_Org" maxlength="50" size="48" id="org" title="Enter your
Organization's name" tabindex="1">
```

LABEL in a table to format the form:

```
<table>
  <tr>
    <td>
        <label for="org">Organization *</label>
    </td>
    <td><input name="f01_Org" maxlength="50" size="48" id="org title="Enter your
Organization's name" tabindex="1">
    </td>
  </tr>
</table>
```

    - OPTGROUP is an opttional attribute for grouping item in a Drop-Down box.

TABINDEX attribute are used to place controls in a tabbing order, which will define how a users tabs through the form elements.

TABINDEX:

```
<input name="f01_Org" maxlength="50" size="48" id="org" title="Please enter your Organization's name" tabindex="1">

<input name="f04_FullName" maxlength="50" size="48" value id="contact" title="Please enter your full name" tabindex="2">
```

Form Validation

For validating a form the method would be to either use alert dialog boxes in combination with server side script.

Alert dialog boxes are read by screen readers, alerting the user that something has not been completed correctly and then takes the users back to the form when the close the dialog box. If just the error message is displayed the on the form the screen reader may not reach error message and the user will never be aware of why the form will not submit.

Server side script can be used as well as a precaution for those users that have disabled JavaScript. After the server side script validates the information from the form it then displays the feedback on another page.

Relative Font Sizing in HTML

For the purposes of ADA compliance, all font tags must follow relative rather than absolute font sizing when coding displays or Cascading Style Sheets (CSS). Depending on the font color associated with either an existing color style based on the parent agency site or a new style for a cross agency site, font tags should be constructed as follows to allow for ADA compliance and browser settings.

The display of all server side text should use the default font face tag:

<font face='arial, helvetica, sans-serif'>

Font styles should default to Arial Regular, Bold or Italic, Helvetica Bold, Regular and Italic, sans serif in sizes ranging from the smallest (-2) to the largest (+2).

Resulting display font tags are demonstrated below. Depending on the font color associated with either an existing color style based on the parent agency site or a new style for a cross agency site, font tags should be constructed as follows to allow for compliance and browser settings:

Michigan:"Greatness through Challenge"

<font face='arial, helvetica, sans-serif' color='003366' size='-1'>

Michigan:"Greatness through Challenge"

<font face='arial, helvetica, sans-serif' color='003366' size='-1'>”Fast Lane to Future is Now Open"

Michigan:"Greatness through Challenge"

<font style=”font-weight: bold” face='arial, helvetica, sans-serif' color='# 003366' size='+1' style='font-weight:bold'>

When using CSS it is recommend that font size keywords be used (**xx-small, x-small, small, medium, large, x-large, and xx-large**.) It is also possible to use percentages, but you must make sure that the text is displayed properly in all browser versions.

Font styles

Font styles such as but not limited to: comic sans, *calligraphy*, *scripts*, *brushes*, **block,** or `over-styled` typefaces must be avoided and are not business appropriate for State of Michigan on-line services.

Font tags, style and color

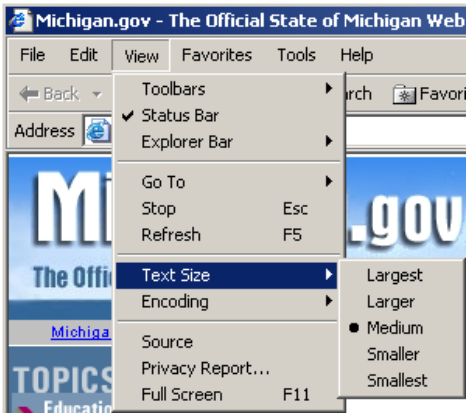
Font tags embedded within the code or other programming languages may treat font tags differently, but at the HTML display level the text should follow the general specifications listed here.

Font colors should adopt the look and feel of a particular parent agency site, but attention should be given to provide optimum contrast on a background cell color. Body text default colors, unless otherwise specified within the application style or server side includes, should be black (#000000) text on a white background.

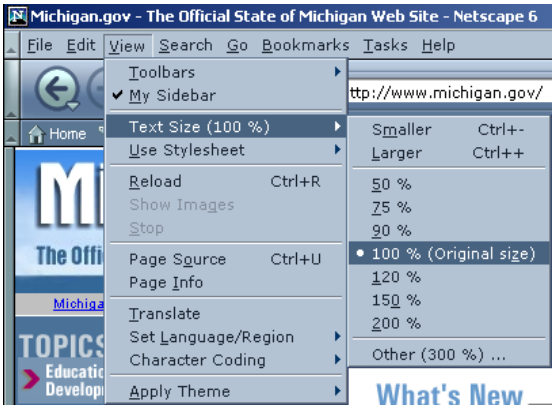
Relative font sizing allows users to manually adjust the size of the text display, larger or smaller, using their personal browser settings. As the user population ages and to accommodate those with vision disabilities, the sizing feature allows users to "customize" the appearance of the text within their own screen. Absolute sizes limit the ability of users to take advantage of this feature.

Below are examples of font size selections capabilities as seen in Microsoft's Internet Explorer Netscape's Navigator and FireFox browser platforms – use of relative font sizes embedded within the HTML satisfies one of the state's ADA requirements.

Microsoft's Internet Explorer v 6.0



Netscape's Navigator V 6.0



FireFox v1.0

This ADA feature is designed to assist users who need to enlarge their text to make it easier to read by using their browser's font sizing function. This site is set to <largest>.

Color contrast - Color Blindness

For the purposes of ADA compliance, contrast for all text in the main body areas should default to black text on a white background. Black text on a white background yields the highest contrast and makes for easy transition from screen to screen. Colored text for body content can be used to emphasize important instructions or information that readers should pay attention to, however careful attention should be paid to how these colors interact with each other.

"Color blind" users can have difficulty distinguishing between certain colors. Merely changing the color of text within a sentence may make text invisible to users. A better solution is to add important text cues.

For example: look at the following screen captures. Using testing software, the site was run through a system that simulates a common form of color blindness (Deuteranope - a form of red/green color deficit). Notice how removal of most of the red impacts the color contrast of not only the images, but the supporting text as well.

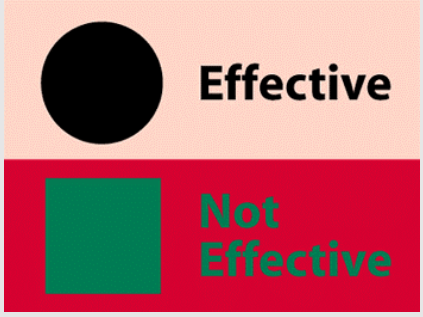
All applications that use their own text colors should strive to utilize colors that offer the highest contrast with text. Avoid the use of color combinations that make it difficult to distinguish text from the cell color at-a-glance. Watch for colored text on backgrounds that have near to or the same value as the cell color.

"Normal" viewing

With Color Blind Filter **ON**

Note the overall reduced color contrast between colors in the navigation area as well as the red text that describes important information.

Effective Color Contrast - Designing for People with Partial Sight and Color Deficiencies:
http://www.lighthouse.org/color_contrast.htm



Don't assume that the lightness you perceive will be the same as the lightness perceived by people with color deficits. You can generally assume that they will see less contrast between colors than you will. If you lighten the light colors and darken the dark colors in your design, you will increase the visual accessibility.

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Accessible PDF Documents

As of November 2006 there are approximately 74,000 PDF documents that on Michigan.gov and that number is growing daily. Out of the top 25 most downloaded PDF documents only [ ] could be consider accessible. After taking a closer look at these PDF documents, only about [] really needed to be a PDF.

Adobe has come a long way in improving their products ability to create accessible PDF files, most users with disabilities prefer HTML over PDF. Because of this you should try using this one of the two options below for creating accessible PDF documents:

Option 1: Make the PDF document accessible by including the proper tags in the document and structuring the document so that a screen reader can read it properly.

Option 2: Create a HTML version in addition to the PDF version of the document.

Here are a couple of resources to assisting in making accessible PDF documents.
http://deyalexander.com/presentations/accessibility-pdfformat/
http://www.webaim.org/techniques/acrobat/
http://www.adobe.com

To ensure that all of your documents meet the SOM Accessibility requirement it is recommend that you test all documents prior to making them available to the public on the web.

Automated ADA Compliance Tools

Many sites offer automated checking to test sites either already published or currently under development. It is important to remember that automated sites do not result in a blanket solution to compliance. The following text was taken from the W3C site on accessibility:

> Please note: There is yet no tool that can perform a completely automatic assessment on the checkpoints in the guidelines, and fully automatic testing may remain difficult or impossible. For instance, some checkpoints rely on an interpretation of what "important" information is, or whether the text equivalent for a non-text element is accurate.
>
> It is also possible for automated accessibility checkers to register "false negatives" or "false positives" due to the type of mark-up on a page. For these reasons, the logos on this page are used to indicate only a claim of conformance made by the author of a page, not a machine-validated conformance.
>
> Copyright © World Wide Web Consortium – www.w3.org/

Recommended ADA Compliance Testing Tools

The following accessibility sites are highly recommended for ADA testing and analysis. Development Teams should use the resources of these sites to evaluate and analyze their designs. To achieve the best results, run the test through several times.

Bobby Bobby is a validation tool that will check your HTML code and suggests changes in order for your web site to conform to universal accessibility standards. http://www.cast.org/bobby/	How to Create Accessible Adobe PDF Files Booklet A step-by-step guide that covers the basics for creating and optimizing Adobe Portable Document Format (PDF) files so that they can be made accessible to users with disabilities such as blindness or low vision. http://www.adobe.com/products/acrobat/access_booklet.html
HiSoftware HiSoftware has a suite of accessibilities tools that can be used for checking an entire site for ADA compliance. The State of Michigan has purchased AccVerify and AccRepair and it is recommended that all state web development teams use of this software to validate their applications for broken links and accessibility during development. http://www.hisoftware.com/accmonitorsitetest/	IBM IBM Accessibility Center. This site contains a wealth of ADA accessibility information, testing tools and documentation, especially when creating applications, e-commerce and transactional web sites using complex coding and methodologies. http://www-306.ibm.com/able/guidelines/web/accessweb.html
Vischeck Vischeck can show you what your image looks like to people who are color blind, people with glaucoma or macular degeneration, elders and children. Specifically, you can submit a URL and it produces a copy of your site, as it would appear to someone with red/green color blindness.	Effective Color Contrast Designing for People with Partial Sight and Color Deficiencies by Aries Arditi, PhD This web page contains basic guidelines for making effective color choices that work for nearly everyone. To understand them best, you need to understand the three perceptual attributes of color; hue, lightness and saturation, in the

http://www.vischeck.com/	particular way that vision scientists use them. http://www.lighthouse.org/color_contrast.htm
Lift This site allows you to test a page for a variety of usability features, not just things related to disabilities. For example, looks for keywords or use of nonstandard code that could cause problems in various browsers. http://www.usablenet.com/	

Testing your application for ADA compliance

Many sites offer or feature descriptions on how to apply ADA compliance rules to building applications, however fewer exist to help developers actually test sites they have built.

JAWS and Linx Readers

The most common form of ADA compliance is the use of text readers that allow individuals to "listen" to the web sites they visit. Synthesized voice technology, now common with almost all operating systems on personal computers, allow users to access sites through their web browser and have the text read to them through audio speakers on the same system.

The process is tedious for users who are accustomed to viewing their information. Testing your application for these important features means running your application through this process.

Sites that appear well designed and thought out actually become very cumbersome when this technology is applied. There are two recommended methods for testing applications using this technology. The most popular screen reader today is Freedom Scientifics' JAWS® for Windows (www.freedomscientific.com).

A free copy of this software can be downloaded from the site. The full version can also be purchased. Using the free version will allow developers and testers to see how their site performs using this tool. Using the TAB key, users can jump from one link to another, and with the ENTER key, follow a link. Poor tab order and other table structure problems are often revealed through this process.

There is no absolute ADA "PASS/FAIL". Rather, careful analysis must be performed to evaluate the results of each successive test and then make the corrective action to modify the code to reach full compliance.

Another tool often used in conjunction with screen reading technology is Lynx. This software strips out all graphics that normally appear and simplifies the reading technology job. Many wireless devises also access the Internet using this type of technology. If you do not have Lynx (a non-graphical browser) on your server, developers can access the following site to test your pages to produce a document simulating how your page would be viewed in Lynx.

www.delorie.com/web/lynxview.html

Since all sites are unique, it will be incumbent on developers to verify that they have tested their site using this tool. Making a site flow smoothly using these tools will increase the accessibility of all state of Michigan applications and promote access for all citizens.

Security Policy

New DIT Security Requirements and Procedures

Sites that require basic and elevated levels of security should involve the Office of Enterprise Security (OES) in the design process as early as possible, so that network security and privacy issues can be addressed correctly and in a timely manner.

OES Contact Information

Office of Enterprise Security
Rock Rakowski
(517) 373-8059
Rakowskij@michigan.gov

The Michigan.gov web site contains the most recent and approved security policy now in force with the State of Michigan, and a link to this policy is required to appear on all application and web site footers.

The policy reads in part:

These measures are designed and intended to prevent corruption of data, block unknown or unauthorized access to our systems and information, ensure the integrity of information that is transmitted between users of e-government applications and the State, and to provide reasonable protection of private information that is in our possession.

More important is the language contained within the Security policy. It explicitly regulates the type of access citizens are guaranteed to obtain and the expectations they have when transacting or conducting official State of Michigan business on line through the Internet.

Unauthorized access or attempts to alter or hack systems is monitored by OES and Michigan Law contains penalties for internal intrusion or destruction of data. Additionally, citizen information must be protected and safeguarded from both internal and external threats.

Using High Level Security and 128 bit Encryption

For security and 128 bit encryption requirements, some applications can and should be accessed only with certain browser versions. The state allows for these exceptions provided:

Prior to accessing secured or encrypted pages, introductory home page(s) of the application must be viewable in IE 5.X and Netscape 5.X to accommodate the greatest number of users at the state's minimum standard.

In the opening page, clearly identify the browser version requirements to transact secure state business and provide the correct privacy and support information detailing the need for specific browser versions.

Provide and maintain links to specific commercial software sites that allow the download and installation of specific browser versions needed to maintain application security.

Privacy Policy

The state has a privacy policy that remains in place for all web sites and applications. It refers mainly to issues regarding the collection and use of private information gathered from users visiting official State of Michigan sites. Be sure to read, review and understand the stated policy. Development Teams should consider the following general criteria when designing sites:

Information Collected Automatically

Information Voluntarily Submitted

Cookies

Information Sharing and Disclosure

All carry intended expectations and should be thoroughly examined to be sure that a user's information is properly obtained and if voluntarily submitted, properly safeguarded against unlawful use or distribution to third parties. It is critical that the State of Michigan maintain this expected trust between citizen, business and government.

Linking Policy

Linking to non-Michigan sites

All web sites and applications may link to third party sites if information contained in those sites is relevant to support the user in conducting and completing transactions or provides additional content valuable to the user. Many sites are part of official state contracted business providing insurance or licensing services to the state, or have been specifically engaged by the state to provide on-line support services or commodities.

Critical to this policy, however, is that sites not under the explicit control of the State of Michigan are required to open in a new and separate browser window.

Additionally, sites that are linked to from an originating State of Michigan site or application must be periodically reviewed for suitability and content. Advertising and other material posted by a third party site are not under the control of the State of Michigan, but may be perceived as such by end users.

Care and attention should be given whenever third party sites are linked to from official State of Michigan sites. The State of Michigan makes no commercial endorsements nor participates in advertising or promoting commercial sites for the benefit of the third party site owners. The inclusion of vendor logos and links to commercial sites with the intent to promote sales is not supported.

As a rule, three conditions support the need to link to outside sites:

Links to Other Governmental Units & Educational Institutions

Links to Private Organizations (if these organizations offer services that complement the information or services offered by Michigan)

Links to Non-Profit Organizations

Logos and branding of 3rd party applications

There are circumstances where an agency has purchased Commercial Off-the-Shelf (COTS) software that is configured by the vendor as an out-of-box installation, and therefore carries with it the vendor's proprietary branding and information explicit to that vendor. Under these circumstances, altering or removing the vendor brand would be cost prohibitive, and so those applications may utilize branding other than the State of Michigan's.

Where possible, even under these circumstances, vendors may have areas that are configurable to a specific customer brand or logo, and minor code changes can be made to accommodate the customer brand. If these areas exist, the State of Michigan branding standards would apply, to the extent possible, most importantly being the banner header identifying the agency.

If spaces allow a specific area to be filled, then please contact the e-Michigan Web Development office to obtain specially configured branding elements.

Agencies that contract with outside software companies and vendors to build applications or web sites for the State of Michigan are prohibited from including the vendor's logo or brand image on the site, or from providing links to the vendor's commercial web site.

Sites that wish to link to any official State of Michigan site may do so but must observe the policy restrictions. Please read and observe the policy language for compliance.

Michigan.gov Domain Name URLs (Marketing URLs)

The Department of information Technology has ownership of the Michigan.gov domain and makes it available to agencies that are launching applications, even if not part of the Michigan.gov technology platform.

Many applications hosted on state servers or outside systems will utilize their own domain name to address the application URL such as <www.state.mi.us/agency/appName>. The Michigan.gov standard also puts in place redirected URLs from the Michigan.gov domain.

These URLs are intended to make it easier for applications to be advertised and marketed to constituents, through point of sale, radio, print, and TV advertising or official state government press releases.

At the State of Michigan, users are typically notified of the improved on-line service through a press release through the Governor's Office, the agency Public Information Officer, or through an event publication or direct mailing. In order to make the URL as memorable as possible, the Michigan.gov domain is used as a "marketing redirect" to the final application URL.

For instance, URLs can be phrased to include names or familiar acronyms that direct users to the site more easily. It's also a free service of the e-Michigan Web Development Team and can be put into production within 1-3 days. Contact the e-Michigan Web Development office to receive more information at (517) 241-5782.

EXAMPLES:

Michigan.gov redirect URL	Final destination URL
www.michigan.gov/scm	http://meis.cepi.state.mi.us/scm/
www.michigan.gov/bccpermits	http://www.accela.com/michigan
www.michigan.gov/magic	http://magic.state.mi.us
www.michigan.gov/metrodetroittraffic	http://metrocommute.com/detroitpopup.html

Copyright

Copyrights of 3rd party applications

All content displayed or information transacted through the use of electronic means by way of a web site, application or e-commerce site are the property of and copyright protected by the State of Michigan under the federal laws and U.S. Copyright Law and Related Laws Contained in the United States Code.

Refer to the following web site for detailed information regarding Copyright:

http://www.copyright.gov/

The State of Michigan policy on copyright protection insures that information is not captured and reused by third parties that portray themselves as an official State of Michigan agent. The information contained within any official State of Michigan web site is published for the users own personal use.

Overall Application Screen Resolution

The 800 x 600 pixel monitor resolution (High Color 16bit minimum) is the state's application build standard. All official State of Michigan Web Sites and Applications must conform to this minimum display standard.

As a minimum operating standard, applications must be able to perform all functions, display necessary attributes required to conduct official state business and display all general content within this resolution framework. This includes all input and output data displayed as either tables, rows and columns, functional input fields, security authentication, radio buttons and select boxes, search results etc. In short, the application must be fully functional in this screen mode setting, along with vertical scroll bars.

Vertical and Horizontal Scroll Bars

Typically, scroll bars are utilized to view any part of the screen that falls outside a screen dimension. That is, content or other information that falls vertically "below the fold".

"Below the Fold" refers to that area at the bottom of the browser screen that limits what can be displayed to the user. This is analogous to the print newspaper publishing term that describes how a newspaper is folded in half for point of sale.

Good newspaper editors know that if a story is to grab the attention of readers, it needs to be "above the fold". Everything below the fold is just more information. Combined with large headline type, the story is easily viewed by a customer walking past a newsstand or inside a newspaper vending machine.

The same idiom holds true for the Internet as a communication channel, so the term has been applied to the electronic publishing industry as well.

Web designers should manage to include as much of the site's information "Above the Fold" as possible. This offers the user ease of access to critical information without scrolling.

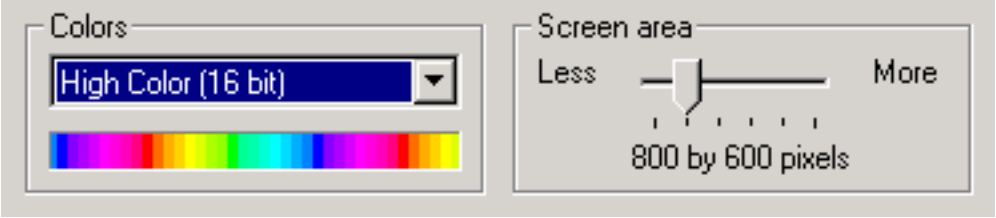
Applications should avoid horizontal scroll bars appearing at this minimum resolution, or any higher resolution. Horizontal scrolling causes many usability conflicts and is considered a poor application of information architecture. Users will often miss details or valuable information if displayed off the screen and will constantly be required to move the screen to see all of the information. The net result is users tend to avoid sites that require too much scrolling.

Fixed vs. liquid design

Applications should not be designed for operation that requires screen resolutions higher than 800 x 600. Fixed table spaces, rather than 100% settings, are recommended to accommodate the majority of users that access web site content or conduct business with official State of Michigan sites and applications.

Recent end user surveys indicate that the trend is for home PCs to match the already higher resolutions of work PCs. More PCs are shipped with higher graphics capabilities and the market is saturated with better display technology. For instance, the Optimal Preset Resolution shipped with the market leader of today's home office PC is 1024x768.

This does not eliminate the fact however that millions of PCs with older monitors are still in use. Therefore, applications should not be designed to operate exclusively at the higher settings.



Some recent data suggests the majority of users are using a screen resolution setting that is greater than 800x600, but the data also shows that there are still a great number of users still using a screen resolution of 800x600. [1]

Screen Shots of heavily used sites

The best way to illustrate sites that accommodate 800x600 and 1024x768 screen resolutions is to view examples of popular web sites visited daily by millions of consumers. Although they are e-commerce sites and are heavily consumer oriented, they represent the most common denominator in terms of usability and browser capabilities.

The corporations that pay to build and maintain these sites have invested large amounts of capital and code development to provide the best user experience possible, and using them as examples makes a very compelling case to build sites that are not liquid. As these examples illustrate, the most popular sites maintain a relatively fixed display environment.

[1] SOURCE:
W3Schools http://www.w3schools.com/browsers/browsers_stats.asp
TheCounter http://www.thecounter.com/stats/

Screen capture – Amanzon.com at 800x600 – Liquid but maintains a center body area

Screen capture – Amanzon.com at 1024x768

Screen capture – Cabelas.com at 800x600 - Fixed

Screen capture – Cabelas.com at 1024x768

Browser Compatibility

Microsoft Internet Explorer (IE), Netscape (NS) and Firefox Browser compatibility

Another key component to the Michigan.gov brand is browser compatibility. Applications must display and function correctly in Microsoft Internet Explorer 5.X, Netscape 4.8 and Firefox 1.0.X minimum – See table below for browser Statistics

The state receives high-volume traffic from a variety of ISP's (Internet Service Providers) as well as a full range of browser versions, the bulk of which use IE.

Development Teams must consider the latest browser versions as well as pre-existing versions when developing sites, including Windows, Macintosh, AOL and WebTV users.

Below is a listing of top browser versions that access the Michigan.gov domain in order of highest to lowest, based on statistics gathered in May 2006. Also included is a snapshot of the top 10 sub-domains that access the Michigan.gov portal taken in May 2006.

Browser Versions (May 2006)	**Top 10 Sub-domains** (May 2006)
Microsoft Internet Explorer 6.0	comcast.net
AOL Web Browser 9.0	ameritech.net
Microsoft Internet Explorer 5.5	michigan_state_government.arin
Firefox 1.5.0.1	chartermi.net
Firefox 1.5.0.2	GNN_Hosting_Svc.registry
Wap Browsers: WebPro	aol.com
Firefox 1.0.7	home.com
Netscape Navigator 4.0	rr.com
Mozilla 1.7.5	wideopenwest.com
Safari 417.9.2	verizon.net
Netscape Navigator 7.2	sbcglobal.net
Firefox 1.0.6	comcastbusiness.net
Microsoft Internet Explorer 5.0	rogers.com
Konqueror 3.2	charter.com
AOL Web Browser 8.0	GENUITY.registry
Mozilla	level3.net
Microsoft Internet Explorer 5.01	tds.net
Safari 312.6	Merit_Network.registry
Firefox 1.0.4	voyager.net
Mozilla 1.4	
AOL Web Browser 7.0	
Microsoft Internet Explorer 7.0	
Safari 417.8	
RSS Readers: Bloglines 3.0-rho	