E-Michigan Customer Research

Executive Summary Readers' Guide

The Michigan Department of Management and Budget engaged Public Policy Associates, Inc. to examine how the State could organize the information and services it offers over the Internet in a manner that is more responsive to customer needs and preferences, and that capitalizes on efficiencies provided by technology. The study included the design of a prototype that demonstrates the organization and functionality suggested by the research findings.

This document summarizes the key findings of the study and consists of the following materials:

Final Report

This report synthesizes all of the streams of research that were conducted in an effort to understand the needs and preferences of potential users of the e-Michigan Web portal. It includes screen shots of the prototype along with responses of focus group members who had a brief opportunity to review the prototype in a computer laboratory setting.

Research Reports

Executive Summaries for Focus Groups and Telephone Survey
These summaries highlight the major findings and implications gathered from the first and second round of focus groups and the telephone survey of the general public within Michigan.

The first round of focus groups gathered recommendations for the design, functionality, and content of the prototype.

The second round of focus groups provided feedback on the prototype.

The telephone survey assessed the degree of interest in using the Web to access government information and services.

Full text reports of all of the various streams of research are available for review.

E-Michigan Customer Research

Final Report

Prepared for the Michigan Department of Management and Budget

Prepared by:

Public Policy Associates, Incorporated

119 Pere Marquette Drive

Lansing MI 48912-1231

(517) 485-4477

Fax: 485-4488

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Table of Contents

Acknowledgments i

Executive Summary 1
- Key Findings 1
- Next Steps 3

Section One: Introduction 7
- Background 7
- Problem Statement 7
- Information Sources 8

Section Two: e-Michigan Customer Research 11
- Overview of Research Activities 11
- Design and Content Recommendations from e-Michigan Customer Research 13
- Design and Functionality 13
- Customization 15
- Content and Organization 17
- Customer Service 19

Section Three: The e-Michigan Prototype 21
- Overview 21
- Design and Functionality of the e-Michigan Prototype 22
- Advertising/Other Revenue Streams 36
- Cutting Across Levels of Government and Public/Private Options 39
- Summary 47

Section Four: Next Steps for the E-Michigan Initiative 49

Appendix 55

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Jeffrey D. Padden, President
Public Policy Associates, Inc.

Nancy C. Hewat, Project Manager
Public Policy Associates, Inc.

August 2000

Executive Summary

The Michigan Department of Management and Budget engaged Public Policy Associates, Inc. to examine how the State could organize the information and services it offers to the general public over the Internet in a manner that is more responsive to customer needs and preferences including the design of a second generation prototype that demonstrates the organization and functionality suggested by the research findings.

The e-Michigan Customer Research study incorporates information from a variety of sources, including:

- Analysis of e-mail inquiries submitted to the State of Michigan Network Operating Center.
- Analysis of selected State agency contact logs.
- Two rounds of focus groups.
- Interviews with key stakeholders in selected business and professional associations.
- Telephone survey research.

Key Findings

- Customers visit the State's Web site looking for information on a broad array of topics and services. The portal should be designed with these needs in mind.

- Young Michigan students who visit the State's Web page have a particularly difficult time finding what they need to complete homework assignments.

- Customers need a clearly organized Web portal that is easy to navigate.

- Customers would value a user-friendly search engine for the e-Michigan site that allows users to refine their searches.

- A "book mark" or "favorite place" feature would be appreciated by many customers of the e-Michigan portal.

- Security is an important issue for users of the e-Michigan portal, suggesting the need to incorporate features that safeguard transactions.

- Web-based transactions will be popular with many users but will not replace traditional service delivery methods.

- Customers conducting transactions via the Internet would like to receive e-mail notifications that their inquiries have been received and are being processed.

- Camping reservations and professional licensing services are popular features that should be priorities for development.

- The ability to customize the e-Michigan Web portal will be attractive to a substantial portion of customers.

- Most customers feel comfortable conducting personal business with the government via the Internet.

- Customers want a clearly written and prominently posted security and privacy policy.

- Customers would like to receive personal reminders regarding time-sensitive transactions.

- Customers want the option to select from a variety of informational newsletters provided by the State.

- Customers are willing to provide personal contact information in order to receive e-mail notifications and other information.

- Customers have information needs that cut across State agencies, as well as branches and levels of government.

- Web site users come to the State government Web page seeking information that may or may not be a function of State government agencies.

- Michigan citizens and customers look to the State as their primary access to government services regardless of what level of government is responsible for the desired service.

- Focus group participants liked the idea of grouping related information and services together.

- Some customers may be accustomed to and, hence, prefer to continue selecting from a list of specific state government offices to locate the information they need.

- Most customers are strongly opposed to the idea of banner advertising.

- Other types of more subtle advertising are somewhat more acceptable to customers.

- Some customers may need more individualized assistance to find the information they need on the e-Michigan portal.

- Customers want a timely response to their requests for assistance but they do not expect 24-hour-per-day service.

- The State should aim to exceed the public's expectations for customer service.

In general, the design features and functionality of the prototype are very consistent with customer needs and interests.

Next Steps

The e-Michigan customer research has shown that a relatively large fraction of the public is eager and able to engage with the State government using the World Wide Web. A robust response by the State will provide far better service than government has traditionally delivered at a fraction of the cost.

Even as the State moves forward with this initiative, it must continue to recognize, as a matter of public policy, that not all residents are wired. Some Michiganians lack the technology, capability, or interest to connect with the State electronically, and, although they represent a declining segment of the population, their ability to receive information and services from government must be maintained.

For those increasing numbers of customers who connect via the Internet, the research and development done for this project suggests some important next steps:

- ***Fulfill orders zealously.*** Perhaps the most critical aspect of the e-Michigan portal is the absolute imperative that it deliver all that it promises. Fulfillment of customer orders for information or transactions will determine the ultimate success or failure of the system. The fulfillment process must be monitored *systematically* to determine whether the automated and human-powered systems are performing properly.

- ***Pursue New Revenue Streams.*** The State must move aggressively to strike deals with commercial enterprises for a presence on the e-Michigan Web portal. Such relationships must be negotiated wisely by the State to assure that a fair price is realized.

- ***Craft a credible promise of confidentiality.*** The State must develop a clear, simple promise that personal information provided for the purpose of accessing the full functionality of the e-Michigan portal will never be used for another purpose. Doing so will preempt any worries which might arise about uses of the information by those inside or outside State government. Customers must have confidence that, if they give a credit card number to reserve a campsite, it will not be used to collect delinquent taxes or child support. They must also be assured that their e-mail addresses or other profile information will not be released to marketers or political organizations. In order to protect information provided with the promise of confidentiality, the e-Michigan office should seek legal counsel on whether confidentiality can be maintained under current law.

- ***Market the portal aggressively and consistently.*** The State communicates with the public millions of times per year. All such communications must carry the top

level Web address for the portal. As the State attracts more traffic to the site, it will drive up the value of the new revenue streams mentioned previously. It will, of course, also be providing service to more customers and, ultimately, will drive down the volume and cost of traditional services.

- ***Track customer satisfaction.*** Related to, but distinct from, monitoring fulfillment is the need to constantly assess the degree to which customers are satisfied with the portal. For the e-Michigan web portal, these might include value, speed, timeliness, friendliness, ease of use, accuracy, and overall experience.

- ***Commit to continuous improvement.*** Michigan must invest in a significant commitment to continuous improvement of its Web offerings, both in terms of their breadth and their quality. When the portal becomes operational, the work of the e-Michigan Office will have just begun. This investment must take the form of an ongoing engagement with a technical partner who has the capacity, competence, and mandate to make improvements as necessary. Such comment will increase the pace at which change can be made and, therefore, the State's ability to maintain the highest levels of customer satisfaction.

- ***Monitor and push system usage.*** The level of usage of the system must be monitored continuously and compared with the usage of traditional services. Accurate baseline estimates of the use of each delivery system must be established and targets set for migrating users from the traditional channels to the Web.

- ***Continue to push the envelope.*** The prototype for the e-Michigan portal encompasses a combination of capabilities not currently found on any state Web site in the nation. Other areas not explored in this project which merit attention by the e-Michigan Office that go beyond service transactions to governance itself. Examples include voting and electronic town hall meetings.

As Michigan moves forward aggressively to create the most advanced state Web presence in the nation, it is setting the stage for a profound shift in the relationship between the public and the government. If the Web lets the public see the government as competent and helpful, rather than bumbling and heavy-handed, it will lead to a different feeling about all public officials and employees.

The e-Michigan portal can reshape public opinion about State government. This shift can result in the public giving the government the benefit of the doubt, rather than assuming the worst at every turn. Eventually, this new relationship will affect the expectations that the public has of candidates for public office. If government is seen as working well, then "running against the government" will go out of fashion as a campaign strategy.

The e-Michigan initiative is far more than a technical shift from one delivery system to another, from a less efficient to a more efficient strategy. It is an opportunity to forge a relationship between the government and the public that may dramatically change the

public's perception of the capacity, responsiveness, and, ultimately, the value of State government.

Section One: Introduction

Background

The e-Michigan customer research summarized in this study began in the Spring of 2000 amidst a flurry of activity around e-commerce within Michigan. In the early fall of 1999, several events focused attention on the use of Web-based technology to deliver government services:

Michigan's Department of Management and Budget developed an initial prototype that captured the imagination and interest of State government leaders who saw it as a way to increase both government efficiency and customer satisfaction;

A select group of public-sector technology partners attended a briefing at which the State's plan to improve and expand the State of Michigan home page portal was announced and described;

The Michigan Economic Development Corporation sponsored an e-commerce conference that highlighted the State's increased emphasis on the use of the Internet by individuals conducting business with selected units of State government including the Secretary of State, the Department of Consumer & Industry Services, the Department of Treasury, and others; and

The State's Information Technology team recognized that in order to design a home page portal to provide the services and information customers want and need, it was essential to do a systematic analysis of the needs and opinions of the customers of e-Michigan.

The excitement and enthusiasm around the application of advanced information technologies to the development of the e-Michigan home page portal led to the customer research summarized in this report.

Problem Statement

The State of Michigan serves three distinct groups with unique information and service needs which can be addressed through creative use of Web-based technologies. These include:

State government employees,
Vendors who contract with the State to provide goods and services, and
Members of the general public who contact the State to obtain information and conduct personal business.

This study focused specifically on the needs of the general public.

The Michigan Department of Management and Budget engaged Public Policy Associates, Inc. to examine how the State could organize the information and services it offers over the Internet in a manner that is more responsive to customer needs and preferences including the design of a second generation prototype that would demonstrate the organization and functionality suggested by the research findings.

Research Questions

The e-Michigan customer research study sought answers to the following questions:

Who are the current and potential customers of the e-Michigan Web portal?
What are their current and future demographics?
What is their current and expected level of access to the Web?
What are customer perceptions of current delivery systems?
What are their beliefs and expectations for the quality and timeliness of services?
How, when, and where do customers want services delivered?
What do key customer groups think of as the scope of e-Michigan possibilities?
How do customers respond to various potential e-Michigan services?
What worries do customers have about e-commerce specific to the governmental context?
How do customer needs vary by the intensity of their relationship with the State?

Information Sources

The e-Michigan Customer Research study incorporates information from a variety of sources, including:

Analysis of e-mail inquiries submitted to the State of Michigan Network Operating Center.
Analysis of selected State agency contact logs.
Two rounds of focus groups.
Interviews with key stakeholders in selected business and professional associations.
Telephone survey research.

Together these research activities provide a knowledge base to inform the design of an e-Michigan prototype and, subsequently, the further development of the e-Michigan home page portal.

This document provides an overview and synthesis of the customer research.

Detailed analytical reports were prepared for several of the research tasks and were submitted under separate cover.

Organization of the Report

This report consists of four sections and an Appendix.

Section One, this section, introduces the study.

Section Two summarizes the key customer research findings.

Section Three describes the key features of the prototype using screen shots as a guide.

Section Four discusses next steps in the development of the e-Michigan home page portal.

Appendix: This contains a list of prototype design and development assumptions.

Section Two: e-Michigan Customer Research

Overview of Research Activities

The prototype created as one of the primary deliverables for this project was informed by findings from several research tasks including:

E-mail Log Analysis

E-mail inquiries submitted to the State of Michigan Network Operating Center (NOC) through the State's main portal Web site at www.state.mi.us between September 11, 1999 and January 18, 2000 were analyzed. (Further information regarding the analysis can be found in a separate report entitled *e-Michigan: Analysis of e-mails,* February 2000.)

State Agency Contact Log Analysis

Customer contact logs submitted by seven units of Michigan State government, including the Departments of Consumer and Industry Services (CIS), Civil Service (CS), Environmental Quality (DEQ), Career Development (MDCD), and Treasury, plus the Lottery Bureau and the Michigan Economic Development Corporation (MEDC) were analyzed. (Further information regarding this analysis can be found in a separate report entitled *e-Michigan: Analysis of State Agency Contact Logs*, May 2000.)

Stakeholder Interviews

Stakeholder interviews were conducted with leaders of several organizations within the State of Michigan including the Small Business Association of Michigan, the Michigan Chamber of Commerce, the Michigan Association of Secondary School Principals, the Michigan Automobile Association, the National Federation of Independent Business Owners, the Michigan Retailers Association, and the Michigan Grocers Association. (Comments and suggestions from these interviews are embedded in the Content Theme suggestions included in the Appendix of this report.)

Focus Groups (Round One)

Focus group discussions provided insight into how the e-Michigan Web portal should be designed to best satisfy the information needs of various types of users that come to the portal seeking information and services from State government. Five frequent or high volume user groups were included: travelers/tourists, small business owners, educators, licensed professionals, and human services professionals. (Further information regarding the findings of this aspect of the study can

be found in a separate report entitled *e-Michigan Focus Group Report: Suggestions for the e-Michigan Home Page Portal*, June 2000.)

e-Michigan Customer Survey

A randomized phone survey of 1200 Michigan residents was conducted, including 600 Internet users and 600 non-users. The survey research examined the degree of current use of the Internet, assessed the degree of interest in using the Web to access government information and services, and identified the types of information and services of greatest interest to individuals most likely to use the Web to access State government information in the near future. (Selected findings from this aspect of the customer research study are embedded in this report. A more comprehensive analysis and report is available as *e-Michigan Survey Report: Understanding Capacities, Interests, and Desires of e-Michigan Customers,* July 2000.)

Focus Groups (Round Two)

A second round of focus groups was held to gather feedback and reactions to the e-Michigan prototype, focusing primarily on its design and functionality. The participants had an opportunity to explore the prototype briefly in a computer laboratory setting, and then were invited to share thoughts regarding the features they liked and disliked, and what suggestions they might offer to improve the prototype. Four Internet user-groups were recruited, including travelers/tourists, licensed professionals (real estate), students, and members of the general public. (Further information regarding the findings of this aspect of the study can be found in a separate report entitled *e-Michigan Focus Group Report: Focus Group Report: Reactions to the e-Michigan Home Page Portal Prototype,* July 2000.)

The research activities described above provided a wealth of data that was used as a basis to design the e-Michigan prototype and gather reactions and feedback from users. The findings of the research are summarized below.

Design and Content Recommendations from e-Michigan Customer Research

The following pages summarize the wants, needs and preferences of Michigan's citizens for Web-based information and services. The summary synthesizes information collected through the various research methods described above and includes actual quotes from first round focus group participants.

Design and Functionality

Navigation and General Use
Focus group participants were asked what features they find attractive in the Web sites they have visited. Their preferences included:

Minimal, yet visually appealing, graphics.
"Thumbnails" graphics that can be expanded when customers desire more information.
Minimal scrolling required to view pages (although the need to scroll is sometimes affected by a user's computer system rather than the host site).
A navigation bar that is always readily accessible in the banner at the top of the Web site.

Search Capability
The e-mail log analysis indicated that the type of information requested through e-mails is extremely varied. 45 percent requested specific information spanning a broad range of categories from where to find Michigan's judicial case history to information about the State bird and motto. Another 40 percent of the e-mails sought guidance on how to accomplish a specific task, ranging from starting a new business to renewing an elderly parent's driver's license.

These findings indicate that customers visit the State's Web site hoping to find information on a broad array of topics and services. The portal should be designed with these needs in mind.

The e-mail log analysis also indicated that many of the State government resources which are currently available on the Web are difficult for some users to find. The majority of those who sought assistance from State of Michigan's Network Operations Center (NOC) were referred to an existing State Web site (although whether or not those referrals were appropriate could not be determined from the available data). The log analysis also revealed that young Michigan students who visit the State's Web page have a particularly difficult time finding what they need to complete homework assignments.

This analysis suggests that customers need a clearly organized Web portal that is easy to navigate.

Focus group members reported that they typically use a search engine to find information on the Web. However some users complained about search engines which return so many links that it is overwhelming rather than helpful.

> *"There are teachers that are frustrated as can be just like the students. You do a search for American history and here's 365,000 links. Like where do you go from there? I've had teachers almost burst out into tears because they were just beside themselves. They had no idea where to go with it."*
>
> *Educator respondent*

The second most common method for locating information was the use of electronic "bookmarks" or "favorite places" which were characterized as valuable time savers.

The survey research confirmed the popularity of search engines, finding that an overwhelming majority of users (90.2 percent) have used search engines, and almost 60 percent of users identified search engines as their most frequently used means of searching for information on the Internet.

The findings indicate that customers would value a user-friendly search engine for the e-Michigan site that allows users to refine their searches.

The research also suggests that a "book mark" or "favorite place" feature would be appreciated by many customers of the e-Michigan portal.

Online Transactions

Even though most focus group participants were aware that automobile tab renewals and tax filing could be done on line, many expressed a preference for more traditional ways of renewing and filing (i.e., standing in line; mail). Focus group participants suggested that the fear their credit card information might be stolen could keep them from using the Internet to do transactions. The telephone survey research confirmed that this was a concern for 61 percent of the users who were surveyed. However, these fears are apparently not so intense as to stop the 55 percent of users who have made multiple Web purchases.

The findings indicate that security is an important issue for users of the e-Michigan portal, suggesting the need to incorporate features that safeguard transactions.

Some focus group members felt that their failure to use the Web-based service was simply a matter of not being aware that the services were available; however, others said they were more comfortable with a personal touch, and felt more reassured that the transaction was actually completed when they did it in person.

The findings suggest that Web-based transactions will be popular with many users but will not replace traditional service delivery methods.

Focus group participants also were hesitant to conduct transactions over the Web because of a perception that it would be difficult to track the transaction if something went wrong. They indicated that they would be more comfortable if they received an immediate response that the transaction had been received and was being processed.

Customers conducting transactions via the Internet should receive email notifications that their inquiries have been received and are being processed.

The survey research revealed a relatively strong interest in renewing license tabs, filing taxes, reserving campgrounds, and renewing professional licenses, particularly among current Internet users. However, the survey findings suggest that interest in the Internet option is more widespread among campers and licensed professionals than among tax filers and those registering vehicles.

Camping reservations and professional licensing services are popular features that should be priorities for development.

Customization

Perceptions of usefulness

It is possible to customize a Web site—such as MyYahoo! or Excite.com—so that it provides information of particular interest to a user. The survey research revealed that 40 percent of Michigan Internet users report using the customize features of "MyYahoo" or Excite.com, the majority of those who have used this feature find it useful.

Focus group members shared this assessment, as approximately one-third of participants reported having "personalized" a Web page. Others in the groups were interested in learning how to customize Web pages. For those who had previous experience personalizing Web pages, many found it useful and a valuable time saver.

> *"The functionality to me is really important. I want to be able say, 'This is what I want to look at.' I don't want to have to go to twelve different sites and find this information. It's nice if I could just have it come up when I log on."* *Small Business respondent*

The ability to customize the e-Michigan Web portal will be attractive to a substantial portion of customers.

Privacy and Security

Overall, there was some degree of contention in the focus groups regarding divulging personal information to the State. Some participants were un-phased by the thought of providing personal information to a government Web site, while others were wary of giving out information over the Internet, feeling that too much of their information is already posted on the Internet. Still others felt strongly that the State's Web site should not require any personal information at all.

Even though several expressed a sense of realism regarding the personal information that the State already possesses, there was still a concern about the purposes for which information would be requested and the extent to which it might be used for other purposes**.**

> *"A privacy policy that guarantees that this information is not going to be sold to advertisers and will be kept in strict confidence. The Better Business Bureau has an online privacy program which has certain rules that in order to be a part of the program, you have to abide by these certain rules. I think programs like that . . . will help people feel more secure about doing business."*
>
> *Travel/Recreation respondent*

To address the latter concern, participants recommended that the State have a policy/privacy statement that assures that their personal information will not be sold or shared with other agencies, departments or the private sector.

The survey research findings confirmed the viewpoints expressed by members of the focus groups but placed their concerns in a larger public context. Fully 80 percent of the users surveyed felt no difference between using a company or government Web site and 13 percent felt more comfortable using a government site. The most frequent reasons cited for this position included a belief that the government is more trustworthy, has a greater respect for privacy and confidentiality, and would emphasize security more than a private company. Only a small number of individuals in this category were of the opinion that, since the government already had access to confidential information, it was less of an issue.

Just 6 percent of the users surveyed reported being more comfortable with a company Web site, the most frequent reasons cited included a distrust of government generally, a belief that companies are more likely to keep information to themselves, and a concern that the government already knows too much about individual citizens.

Most customers feel comfortable conducting personal business with the government via the Internet.

Customers want a clearly written and prominently posted security and privacy policy.

E-mail Notifications and Subscriptions

Overall, focus group participants were receptive to the idea of the State sending e-mail on a variety of subjects including auto license tab renewals, professional licenses, conference announcements, and even deals for cheap airline tickets. Participants were quite enthusiastic about receiving personal reminders about renewing their driver's license via the Web, even though many admitted that they were aware of, but had not used, the Web-based renewal system.

Customers would like to receive personal reminders regarding time-sensitive transactions.

Participants were also interested in selecting from a broad array of informational newsletters on specific topics of interest including summaries of important State government committee meetings, conferences targeted for members of professional associations, and other topics of more general interest to hunters, travelers, and parents.

Customers are interested in having the option to select from a variety of informational newsletters provided by the State.

Just as focus group members valued the opportunity to opt for these notification and subscription services, they also expressed a desire to have an easy method to unsubscribe.

The survey research confirmed that customers who visited the e-Michigan portal would be likely to use this type of notification and subscription service, as nearly 85 percent of the users surveyed have visited a site which asked for personal information. Of those, over three-quarters (76.5 percent) have provided personal information to such sites.

Most customers are willing to provide personal contact information in order to receive email notifications and other information.

Content and Organization

The content of many e-mail inquiries submitted to the NOC can be categorized by the State agency with jurisdiction over the subject of the inquiry. E-mails to NOC were categorized as falling within the jurisdiction of the following agencies or offices:

Department of Consumer and Industry Services (CIS)
Secretary of State (SOS)
Community Health (DCH)
Treasury
Family Independence Agency (FIA)

Several other categories were created to accommodate inquiries that spanned agency boundaries or involved areas and issues not administered by any specific Michigan Department. These categories are as follows:

E-mails related to the jurisdiction of the Departments of Natural Resources (DNR) and Environmental Quality (DEQ) or involving tourism;
Inquiries seeking very general information about Michigan—frequently referred to the Michigan Information Center by NOC employees;
Inquiries about the State Legislature, its members and/or pending business, or the Governor's office were placed in the category of Michigan Political Process;
Matters administered by other levels of government such as counties, cities, or the federal government were placed into the category of Local/Federal.

The e-mail logs provide evidence that many incoming requests for information may be addressed by a single department of State government, yet many other information needs may cut across agencies, branches, and levels of government. Making information more easily accessible to the customers of e-Michigan could have a dramatic effect on many aspects of life within the State.

> *"I'm interested to adopt a child. That ought to be enough to cut across State and perhaps even federal links. You shouldn't have to get bogged down with which department handles adoptions. I mean that is really bureaucratic already."*
> *–Human Services professional*

Customers have information needs that cut across State agencies, as well as branches and levels of government.

Content Themes

The e-mail log analysis indicates that many Web site users come to the State government Web page seeking information that may or may not be a function of State government agencies. The e-mail logs revealed that many customers cannot effectively distinguish between the roles and responsibilities of different levels of government. Further, many Web site users may not clearly distinguish between public responsibilities and functions and, private organizations with a public service mission. The e-mails indicate that many Michigan citizens and customers look to the State as their primary access to government services regardless of what level of government is responsible for the desired service.

Focus group participants found the idea of grouping related information and services appealing:

Members of the "Travelers and Tourist" group wanted direct access to all information needed to plan a trip, including local weather, county road conditions, public and private lodging options, community events, and information about boating, hunting, and fishing licenses.

When asked what sorts of information would be useful for instructional purposes, members of the "Educators" group stressed Michigan Curriculum Framework-based, text resources and access to "virtual tours" for students unable to visit sites of educational interest, information about interesting family field trips, and career planning information.

The realtors, property assessors, and builders who participated in the "Licensed Professionals" group were interested in online licensing, continuing education credit information, updates on regulations governing land use, direct access to county and local government offices, road construction updates, driving directions, and weather reports.

The survey research confirmed that Internet users valued having a variety of current interest information from which to choose. While the level of interest varied considerably, direct access to weather information and travel/mapping information was favored by approximately 50 percent of users surveyed.

The survey research also confirmed public interest in a wide array of general purpose information. Half of the Internet users were interested in information on historic Michigan places or travel, local schools, and higher education and training opportunities. A second tier, which drew the interest of about 45 percent included information on job postings and upcoming voting opportunities. Business information and tax filing was of interest to about a quarter of users.

When customers come to the State's Web portal, they seek more than information from a particular administrative unit of State government.

Some customers may be accustomed to, and hence, prefer to continue selecting from a list of specific state government offices to locate the information they need.

When information needs cut across administrative units of State government, branches, and levels of government, and include both public and private sources of information, content themes offer an alternative approach that may better meet the needs of a wide range of customer groups.

Advertising

The focus groups were opposed, *in theory,* to having advertising, particularly banner advertising, placed on the State's Web site. This position was widely held, even when it was posed as a means to generate funds to build and maintain the site. A frequent reason cited for not engaging in advertising was the political ramifications of having advertising on the State Web site. Participants felt that the State should not be advocating a certain position or favoring one company over others.

> *"I think you would tend to question the motivations and maybe start looking at the possibility of improprieties. Where is the loyalty of the State, is it to us, the citizens, or is it to their advertisers?"*
>
> – *Travel/Recreation respondent*

While a few were open to advertisements that were directly related to their interest in visiting a particular Web page (e.g., outdoor clothing for individuals registering for a hunting license), many felt it was more appropriate to provide a link to a commercial site than to have a banner advertisement on the State's Web site.

Most customers are opposed to the idea of banner advertising.

Other types of more subtle advertising are somewhat more acceptable to customers.

Customer Service

Even if the e-Michigan home page portal is designed to provide customers with easy access, convenient groupings of related content materials, and advanced search capabilities, there may still be instances where customers need assistance to find the information they need. Focus group

participants provided insight as to what customer service supports would be most attractive to them.

In case of difficulty in accessing information on a State of Michigan Web page, participants stated that, in addition to a search engine, they would like the ability to e-mail a State employee with their question. While this method is appealing, it could prove problematic for those that do not have e-mail addresses.

> *"I'd like to know if I need to know somebody to call to follow up my search or a fax number. . . give me a human being that I can reach or some way to connect to somebody so, if I'm not sophisticated in my search techniques, I can go to somebody to get it done."* - *Human services*

Some customers may need more individualized assistance to find the information they need on the e-Michigan portal.

Participants stated that e-mail questions should be responded to in a timely manner. Most participants do not expect 24-hour, seven day-a-week service, but they do expect a response within 24-48 hours.

> *"When you have questions, they (Department of Treasury) have that one site where if you have questions, you type out your question, and you send, it and they answer back by e-mail and they answer your question. . . they answered me back in 48 hours. . . they actually told me to allow five days."*
> - *Small Business respondent*

It was also noted that getting an automatic response that the e-mail had been received and a message stating when an answer could be expected, would make waiting for a response less taxing.

Customers want a timely response to their requests for assistance but they do not expect 24-hour per day service.

Customers should be notified regarding the expected response time.

The State should aim to exceed the public's expectations.

This section summarized key findings of the e-Michigan Customer Research project. The next section presents and describes the e-Michigan prototype and includes the reactions of focus group members who had an opportunity to explore the prototype prior to discussing its features and functionality.

Section Three: The e-Michigan Prototype

The findings from the first round of focus groups together with the results of the analyses of State agency contact logs, customer e-mail inquiries, stakeholder interviews, and telephone survey research, were used to inform the development of a prototype which demonstrates the design features and capabilities, content clusters, and range of services that customers prefer. This section describes the design and functionality of the prototype using screen shots from the prototype as a visual guide for the reader. Additional information related to the structure and content of selected content clusters can be found in the Appendix of this document.

It is important to note that it is impossible to capture a dynamic, hyperlinked application like the portal prototype on paper. To truly understand the functionality of the portal it must be viewed in a dynamic Web environment. Readers are strongly encouraged to conduct their own personal exploration of the e-Michigan prototype.

Note: The screen shots that follow are best viewed using Adobe Acrobat version 4 or higher.

Overview

This discussion is organized as follows:

Brief description of design or functionality being illustrated.

e-Michigan prototype screen shot.

Bulleted list that explains key aspects of the design or function.

Summary of the reactions and feedback provided by the second round of focus groups.

Recommended changes or refinements of the prototype.

Design and Functionality of the e-Michigan Prototype

Navigation and General Use

The e-Michigan home page portal pictured below has basic design features intended to simplify navigation, including a top and side navigation bar. The top navigation bar includes direct access to a "My Michigan" customizable page, Frequently Asked Questions, a State Web page search engine, a place to create a list of "My Michigan" favorite place links, and a "Contact Us" help desk available through e-mail. The left navigation bar groups information under several general categories, provides a gateway for Registered Users (State employees and State business contractors), and includes some special features of recurring interest to a broad range of users (Michigan Surplus, Lottery, and Treasure Hunt).



The list of services and transactions provided in the main body of the page emphasizes the broad array of transactions and services available through the e-Michigan portal. Virtually all functionality of the portal is accessible from this page.

Pictures and illustrations are kept to a minimum to enhance the functional speed of the site.

The navigation bars provide users with direct access to a complete menu of options, regardless of where they may travel within the State Web site.

Customers have multiple avenues for finding the information they need.

Focus Group Feedback

Several participants characterized the coloring and graphics as "eye-catching" and uncluttered, and feel they facilitated quick access to the topics in which they were interested. However, others complained that there was too much information in the body of the first page.

Participants reported that they were attracted to the "Look Here First" button at the top of the left hand navigation bar, and many like the fact that it contained content organized by interest area rather than the State agency directory structure which is currently used to organize the State of Michigan Web pages. Others complained about how the topics were organized, for example, preferring that taxes be included in the Government section rather than included within content clusters.

A few participants reported that they expected the "Look Here First" button to provide information about the Web site itself rather than a listing of topic areas.

Some focus group members characterized the e-Bay and Michigan Lottery icons as trivial and thought they should be replaced with more important information such as emergency numbers, driving, and travel information.

Participants noted that the pages loaded very quickly and the wait time was minimal when opening up subsequent pages of the portal.

Recommendations

Provide an "About this Site" button on the left menu bar that describes the main features of the portal.

Create a concise "Greetings from the Governor" message for the front page text, however maintain some of the direct click transactions (e.g., plan a vacation, register your car or boat, get driving directions, contact your elected officials).

Maintain the "Look Here First" button title for content clusters.

Move "Online Treasure Hunt" and "Michigan Lottery" to "Of Current Interest."

Customization

There are two ways to access the features and content of the e-Michigan portal. The primary screen was illustrated on the previous page. This page displays the customize "My Michigan" page. It is accessible by clicking on the "Personalize this Site" button which appears both in the left hand navigation bar shown on the previous page. It can also be reached by clicking on the words "My Michigan" that appear in the top navigation bar. The default "My Michigan" page is shown below.



The "My Michigan" page provides access to all the information and features available through the left hand navigation bar, but offers users the option of deciding which information to display.

The information that appears in the center column includes important messages and special announcements of new features available through e-Michigan. It is created, and periodically updated, by the State.

Any user can access the "My Michigan" default page illustrated above without submitting a user name or password; however, the user will not be able to enjoy the full functionality of the site. (Note: The prototype needs to be edited to reflect this design feature.)

To customize a "My Michigan" page, the user must create a user name and password. This information is entered and stored in the "My Michigan Profile" Web page mentioned below.

Personal contact information is NOT required to have a "My Michigan" customized page; however, users will not be able to enjoy the full functionality of the site (e.g., e-mail notifications).

To benefit from many of the features of "My Michigan," only a user-created ID, password, and e-mail address are required.

Focus Group Feedback

Some participants report being confused by the phrase "Personalize this Site" which appears on the button used on the front page of the e-Michigan portal, while others do not find the terminology confusing.

Most participants have no previous experience with customizing a Web site.

Others think it would be useful because it would allow them to go straight to the things they used most often.

Several participants suggested providing a better explanation of the customization feature, citing the explanation used by "Yahoo" as a user-friendly example.

One participant likes the clear organization of the "My Michigan" page so much that he suggested it be used as the start-up page for the e-Michigan portal.

Recommendations

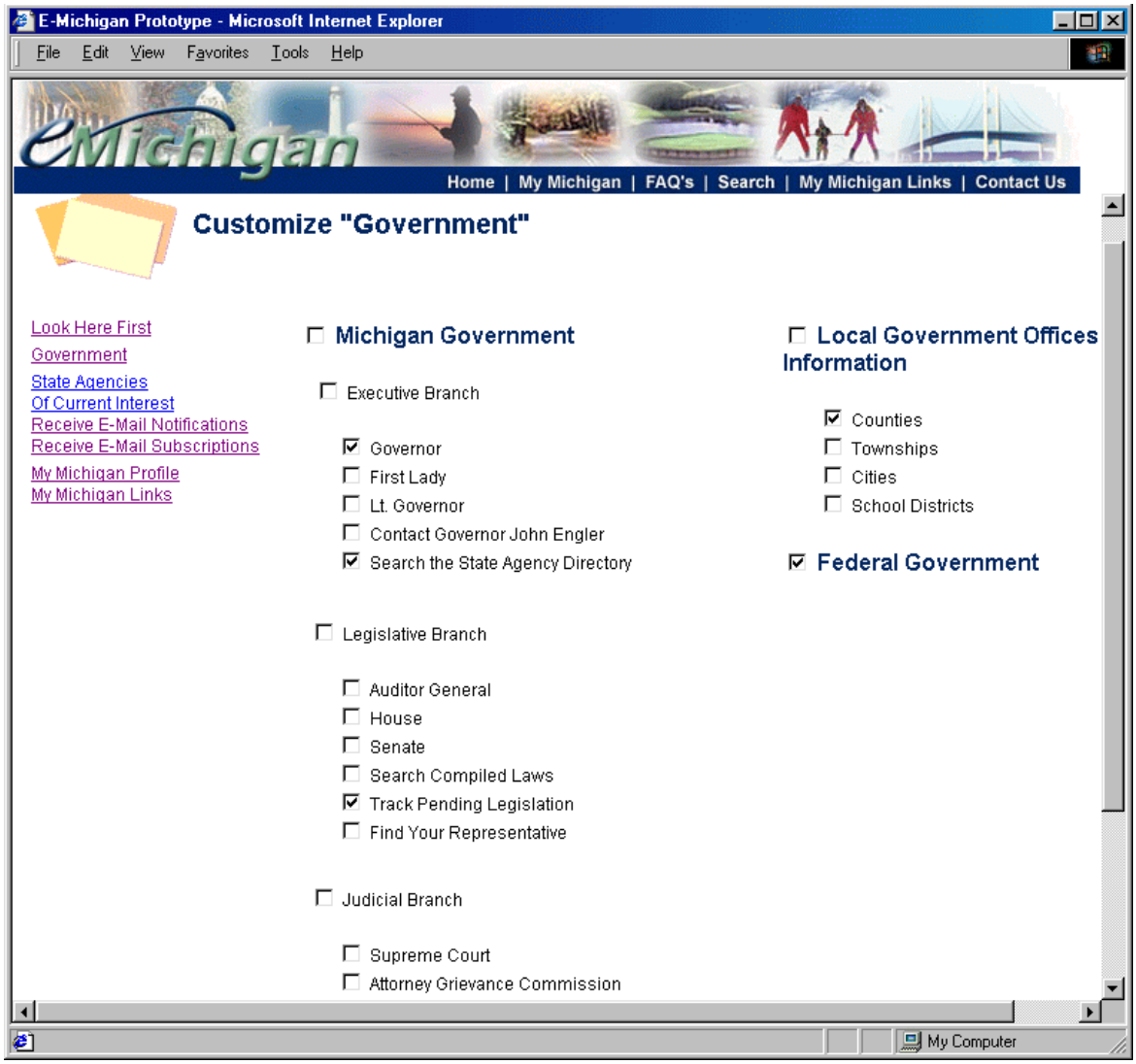
Change "Personalize this Site" to "Create your *My Michigan* page."

Include a description of the "My Michigan" customize features, emphasizing its benefits, in the "About this Site" text.

Offer the "My Michigan" page as an alternative to, rather than a replacement for, the e-Michigan front page.

Editing "My Michigan"

The information which appears under each of the category headings on the "My Michigan" page is just a fraction of the information available for display on a customized "My Michigan" screen. Some of the choices available within the "My Government" category appear below.



The "Edit" function of the "My Michigan" customize page allows the user to opt for whatever mix of information and services desired.

All of the categories listed on the "My Michigan" page have similar check lists available for editing.

Users can register for e-mail subscriptions using the edit function on this page. They are also invited to sign up for related subscriptions as they visit specific areas of the Web portal and conduct transactions for which related subscriptions are available.

The "My Michigan" page also allows users to save favorite State of Michigan Web pages using the "My Michigan Links" feature listed on the top navigation bar.

Focus Group Feedback

Several of those who had previous experience with customizing a Web page find the option to be quite useful.

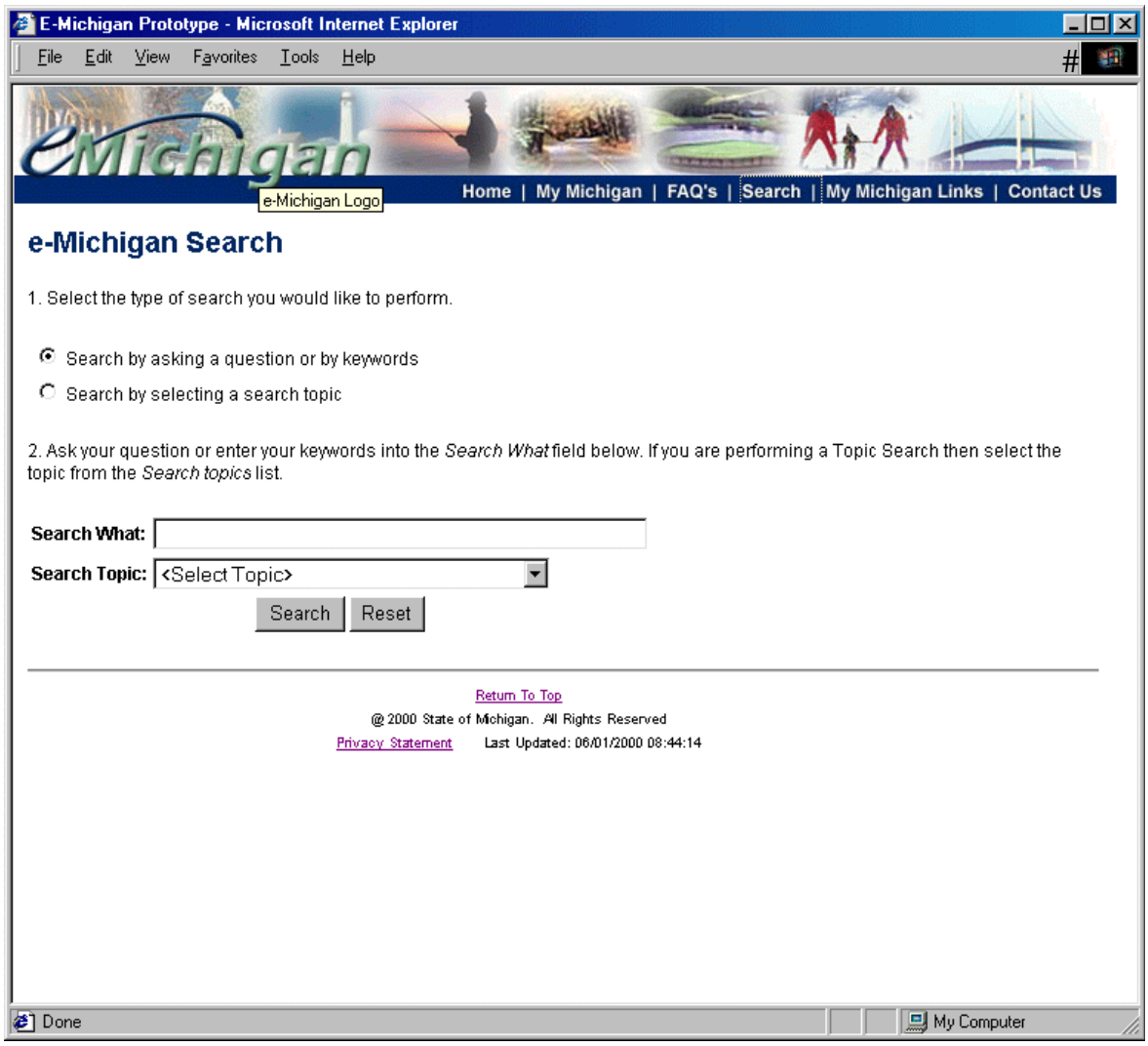
In general, participants like having the ability to exercise complete control over the process of receiving e-mail notifications and subscriptions from the State.

Recommendations

No changes.

Search Feature

The search feature displayed below allows customers to perform a search of e-Michigan Web pages using a variety of different approaches. The search feature is available by clicking the term "Search" which appears in the top navigation bar. Users may choose whether to submit their request in the form of a question, to use keywords, or to select a search topic from a drop-down list.



To ensure that customers can find the information they need, the database that supports this search engine must cut across agencies and branches of State government.

The e-Michigan search engine must accommodate common language terms that a customer may use to conduct their search. So, for example, a key word search for "licensed foot doctors" should link with podiatrists in the searchable database.

For those who are unable to find the information they need using the search engine, a "Contact Us" e-mail option is provided.

Focus Group Feedback

Several focus group members feel the Search engine that is listed in the top navigation bar should have a far more prominent place on the front page.

Most participants prefer to use e-mail if they encounter any difficulties using the e-Michigan Web site. A toll-free "Help Desk" phone number is a popular alternative.

Most focus group members expect help to be available during business hours; however, if it is not immediately available, participants said they would like to receive an e-mail notification that their request for help was received and being processed.

An automated response is acceptable as long as it contains helpful information.

The expected turnaround time for a response is between 24 and 48 hours.

Participants value a quick response, but stated that they were more apt to accept longer turnaround times if they are informed of what to expect.

Recommendations

Move the "Search" feature to the left navigation bar. Display it in a manner that makes its functionality clear to users.

Include a "Help Desk" phone number within the search engine field and list the specific business hours during which calls will be answered.

State Government Information

The Web page displayed below illustrates a traditional method for locating State government information. By clicking on the "State Agencies" button within the left hand navigation bar, a customer can access a detailed listing of administrative units of State government (including all three branches of government), access a State Directory, and get directions to State government offices in the Lansing area.



Some customers of State government may feel more comfortable using a list of State agencies and offices to find the name of a specific office with which they have conducted business in the past.

By creating a State Agency Directory that is searchable not only by the employee name, but also by agency function and content or topic areas, individuals who seek information through this avenue will find it easier to find what they need without seeking assistance through customer service.

Providing maps of State government buildings and offices and explicit driving directions to the Lansing area will enhance accessibility of State government.

Focus Group Feedback

Participants value the opportunity to also have access to information through traditional channels such as State Agency listings.

Recommendations

Create a clearly organized listing of State government "Agencies and Offices."

Change "Contact State Government" to "State Government Directory."

Create a "State Government Directory" that cuts across branches of State government and is searchable by employee name, topic, or administrative unit.

Content Themes

The Travel and Recreation theme displayed below provides direct access to an array of related content of special interest to individuals interested in visiting the State of Michigan. The subheadings denote the various types of information that might be used in planning a vacation within the State, including information about various types of outdoor activities, news of local events, driving information, and weather reports.



The subheadings within the Travel and Recreation theme include information that cuts across State agencies (road conditions, boating registrations, and fishing licenses).

The subheadings also include interesting and useful information available from sources outside of State government (weather, local events, etc.).

Rather than having to search through various State government offices (and beyond) to find necessary information, a customer can access all the information they need from this single screen.

Focus Group Feedback

Focus group members think the content of the Travel and Recreation theme is very informative and clear. They particularly liked the array of useful information suggested by the headings within the cluster, noting that it would make their travel planning quicker and easier.

Group members would like more pictures and icons, such as a tent icon to go along with "Camping." They also suggested that the icons should have explicit titles underneath them so that people are clear what the icons are referencing.

A few participants noted the information seems geared to Michigan residents, and that it might be useful to provide information for out-of-state visitors, such as rules for hunting and fishing.

Additional information about State forests, wildlife, festivals, and biking was requested.

When comparing the organization of the Travel and Recreation theme with other themes listed in the "Look Here First" category, focus group members indicated a preference for a common method of organizing and presenting subheadings within and across all of the cluster groups. They found the organization of the "Business" theme and "Working in Michigan" theme particularly attractive.

Recommendations

Provide additional, small icons that correspond with each of the activities listed in the sub-categories; however, be careful not to extend the length of the screen to avoid scrolling as much as possible. Include a title under each icon so that people are clear what the icons are referencing.

Include hunting and fishing rules information within the appropriate activity listing.

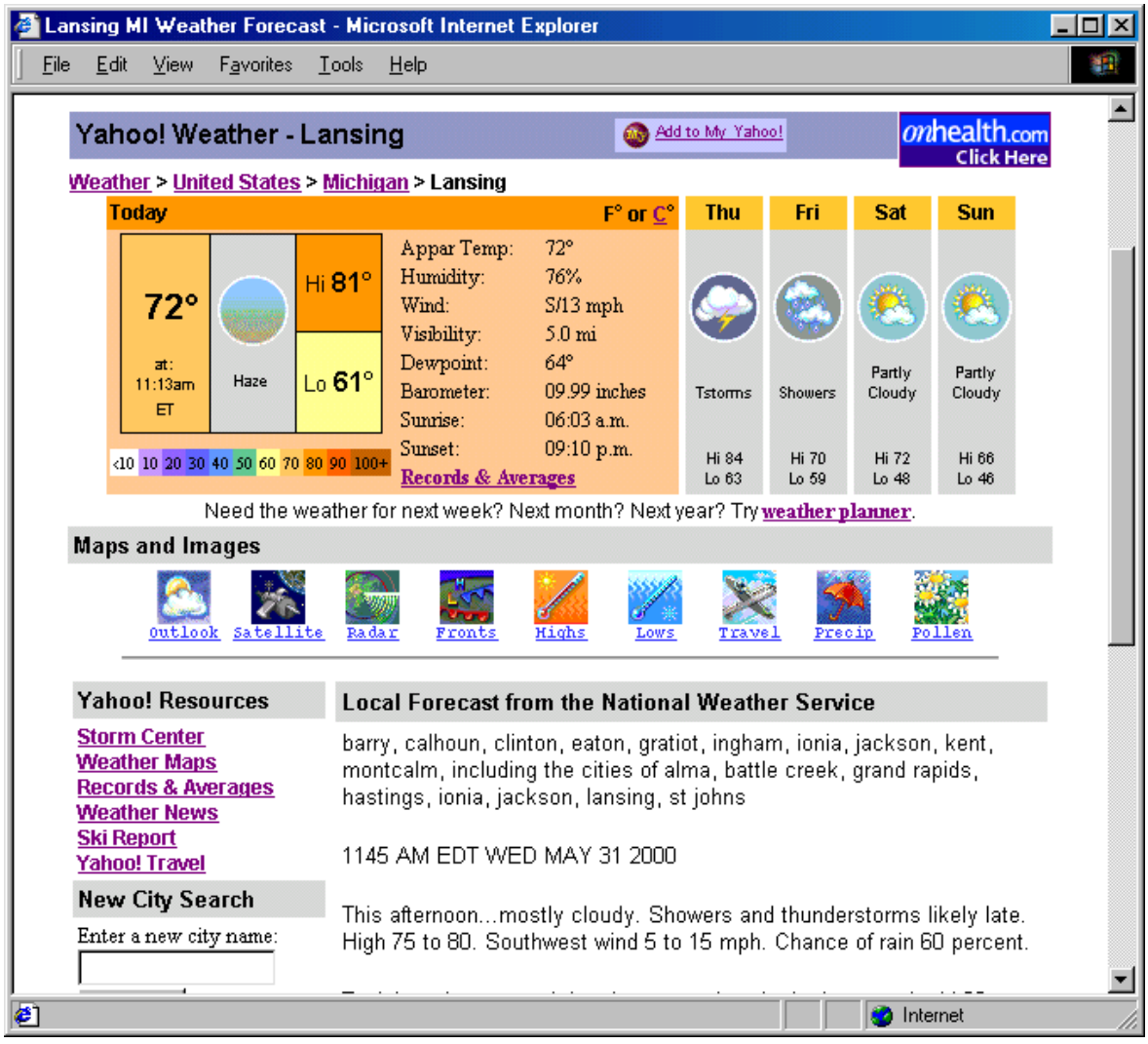
Provide information about State forests, wildlife/naturalist activities, festivals and biking.

Create a consistent navigation look and feel within each content theme.

Accessing information from Outside of State Government

The dialogue box displayed below notifies users that the information they have selected is comes from a source outside of e-Michigan state government. The example below shows weather information provided by Yahoo! Other examples would include driving directions from MapQuest, federal government sources (e.g., federal tax filing), and other private service companies (e.g., private campgrounds listed as choices in the Travel and Recreation cluster).





When accessing this site from the e-Michigan portal, the screen appears within a single pop-up browser window. If an additional site external to State government was selected, the

new site would replace what is displayed in the pop-up browser window.

The use of a pop-up browser window emphasizes the fact that the customer is viewing information outside the domain of State government, ensures that customers do not become confused by having multiple browser windows open simultaneously, and allows customers to return easily to the State's Web page.

Focus Group Feedback

Participants noticed and appreciate the dialogue box informing them that they were leaving the State's Web site.

They also noticed the additional browser window that popped up after the dialogue box, remarking that it made it easy for them to return to their place on the e-Michigan site.

Some participants found the alert sound that accompanied the message box annoying.

Recommendations

Mute the alert sound that accompanies the message box.

Advertising/Other Revenue Streams

The "Camping" topic page selected from the "Interests" sub-category of the Travel and Recreation cluster is shown below. In addition to providing users with the ability to search for a campground that suits their needs and interests, the site includes an offer for a free catalogue from the Gander Mountain company. This screen also illustrates a State business partnership with an online auction service (i.e., the e-Bay Michigan Surplus Store that appears at the bottom of the left navigation bar).



By embedding advertising within selected areas of the e-Michigan Web portal, the State may generate revenues that will help offset the cost of building and maintaining the system.

A competitive procurement process linked to specific topics within e-Michigan would provide the State with control over the type of information posted and would provide potential bidders with a fair and open process for advertising their goods and services.

Even though most of those who participated in the initial round of focus groups were opposed, *in theory,* to the use of advertising on a State Web site, a small number of them were open to the idea of context-related advertising. The Gander Mountain logo featured on this Web page was used to test how customers would respond to a context-related advertisement, *in practice.*

Another possible revenue stream would include providing the content for e-mail subscription newsletters linked to a broad spectrum of user interests (skiing, fishing, nutrition, etc.).

Focus Group Feedback

Some participants are discontent with the presence of the Gander Mountain advertisement, feeling that the State is pushing one company on consumers to the exclusion of other companies, while others are comfortable with the advertisement because it was context-related.

Even if a competitive procurement process is in place, several focus group members wonder how fairness can be assured since larger companies can afford advertising more easily than smaller companies.

Several respondents suggested that the State should insert a disclaimer that they are not endorsing companies and are not responsible for a customer's experience with them.

Other respondents fear that advertisements might dilute the credibility of a State-sponsored site.

A few respondents remarked that, if a portion of the proceeds from the advertisement support good causes (e.g., improvements at State parks), they might feel less negative about the advertisement.

Some participants view the e-Bay Michigan Surplus Store as fundamentally different from the Gander Mountain advertisement, feeling that it is more acceptable for the State to contract for a service such as that offered by e-Bay.

Recommendations

Use a competitive procurement process to solicit bids for companies who wish to advertise on the e-Michigan site. Closely link the specifications for successful bids to the context of the Web page in which the advertisement will appear.

Do not use banner advertisements.

Include a disclaimer statement that the State does not endorse, or assume responsibility for, company products or services.

- Develop a strategic partnership with an online auction service for the purpose of selling State government surplus goods.

- Change the icon on the left navigation bar to make it clear that, by clicking on the icon, the user will enter the store.

Cutting Across Levels of Government and Public/Private Options

The search results shown below illustrates several dimensions of information available to customers. In this instance, customers have received the results of a search for campgrounds within the State of Michigan.



Customers using this search feature received information about State parks, federal parks and private campgrounds. They also have the opportunity to reserve their campsite online and to conduct other related transactions including obtaining fishing and hunting licenses, registering their boat, etc.

Users seeking information about the private campground (KOA) and federal park (Sleeping Bear Dunes) will receive notice that they are leaving the e-Michigan Web site and will view these screens in a pop-up browser window.

Focus Group Feedback

When looking at the various listings included as campsite choices, some participants like having as many options as possible while others do not think it is appropriate to include private campgrounds.

Other respondents feel that it would be acceptable to have private campgrounds listed on the site as long as they paid for the opportunity to have their listings included in the searchable database.

A suggestion was made to structure the listings to more clearly distinguish between State, federal, and private facilities.

Recommendations

Include private campgrounds in the search results.

Do not require private campgrounds to pay for the opportunity to have their listings included in the searchable database.

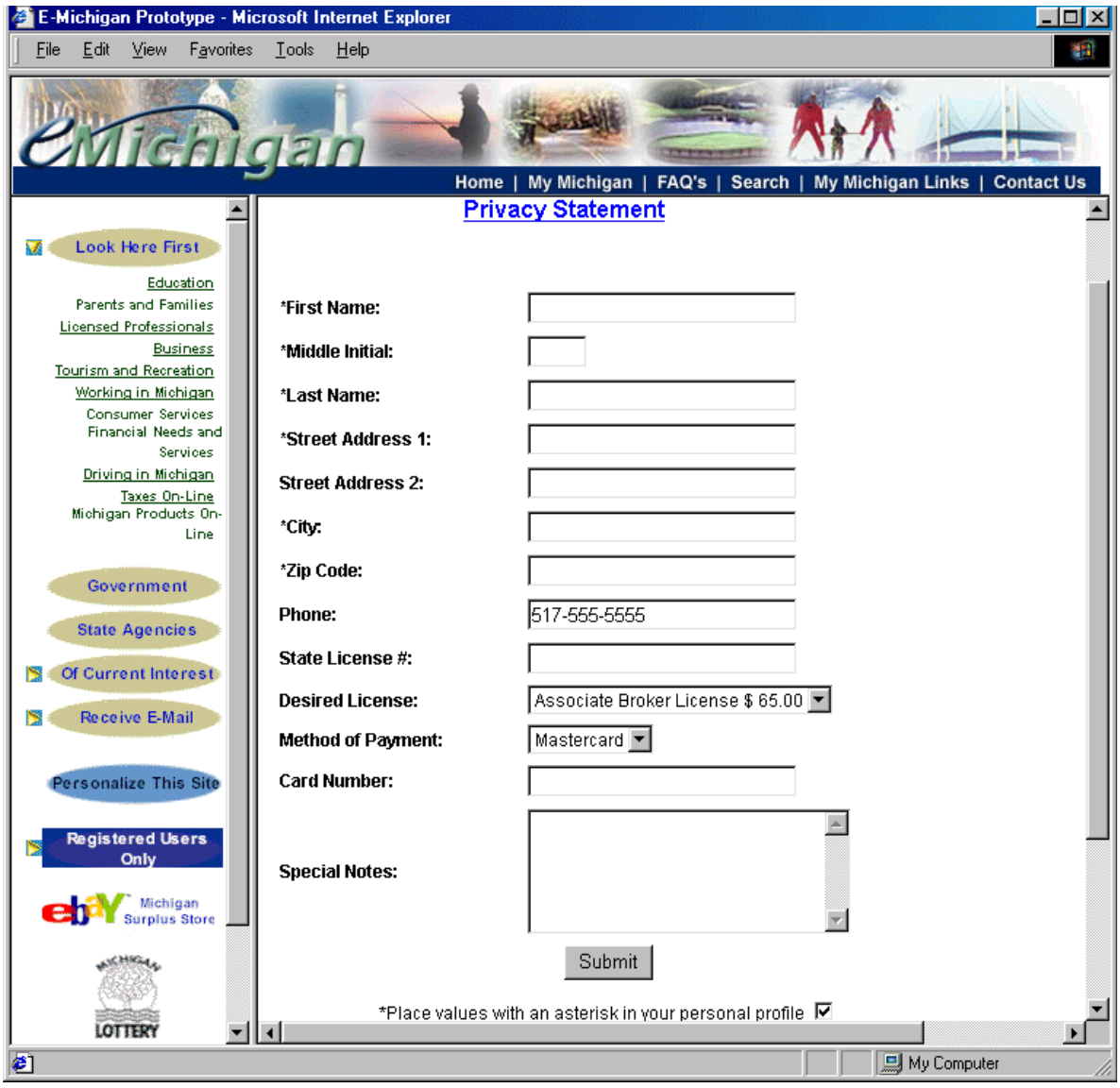
Include a disclaimer statement that the State does not endorse, or assume responsibility for, company products or services.

Display the search results by State, federal, and private campground subheadings.

Create a search tool that allows users to do a keyword search by the type of activity they desire (skiing, swimming, fishing) as well as geographic location.

Online Transactions

Campground registration is just one example of how the Web can be used for online transactions. The Real Estate License Form displayed below illustrates how the e-Michigan portal can meet the needs of a variety of different stakeholder groups. In this instance, a real estate professional may use the portal to apply for a broker's license.



Customers visiting the "Licensed Professionals" content cluster within "Look Here First" may submit their application and receive a prompt notification that their request has been received and processed.

Users may access this feature in a variety of ways. In addition to accessing it through the "Licensed Professionals" content cluster, they may click on the appropriate office within the Department of Consumer and Industry Services within the "State Agencies" button, use the

State Agency Directory, or use "Real Estate License" as a search term for the entire e-Michigan Web site.

To obtain a Real Estate License online, the customer must provide personal contact information and a credit card number with expiration date. The applicant is given the option of having this information stored as part of their personal profile information.

Customers have the opportunity to review a prominently featured online privacy statement to learn how their personal information will be protected.

Focus Group Feedback

Some participants are not worried about security, especially when the information is scrambled or encrypted.

Other participants worry about security and think the State's privacy statement should include assurances that contact lists will not be sold, or otherwise provided, to entities outside State government.

A few respondents suggested that the State use a "Secure Server" symbol similar to the lock symbol used on the Internet Explorer browser to assure users who may not take the time to ready privacy statements.

Recommendations

Scramble or encrypt transaction information.

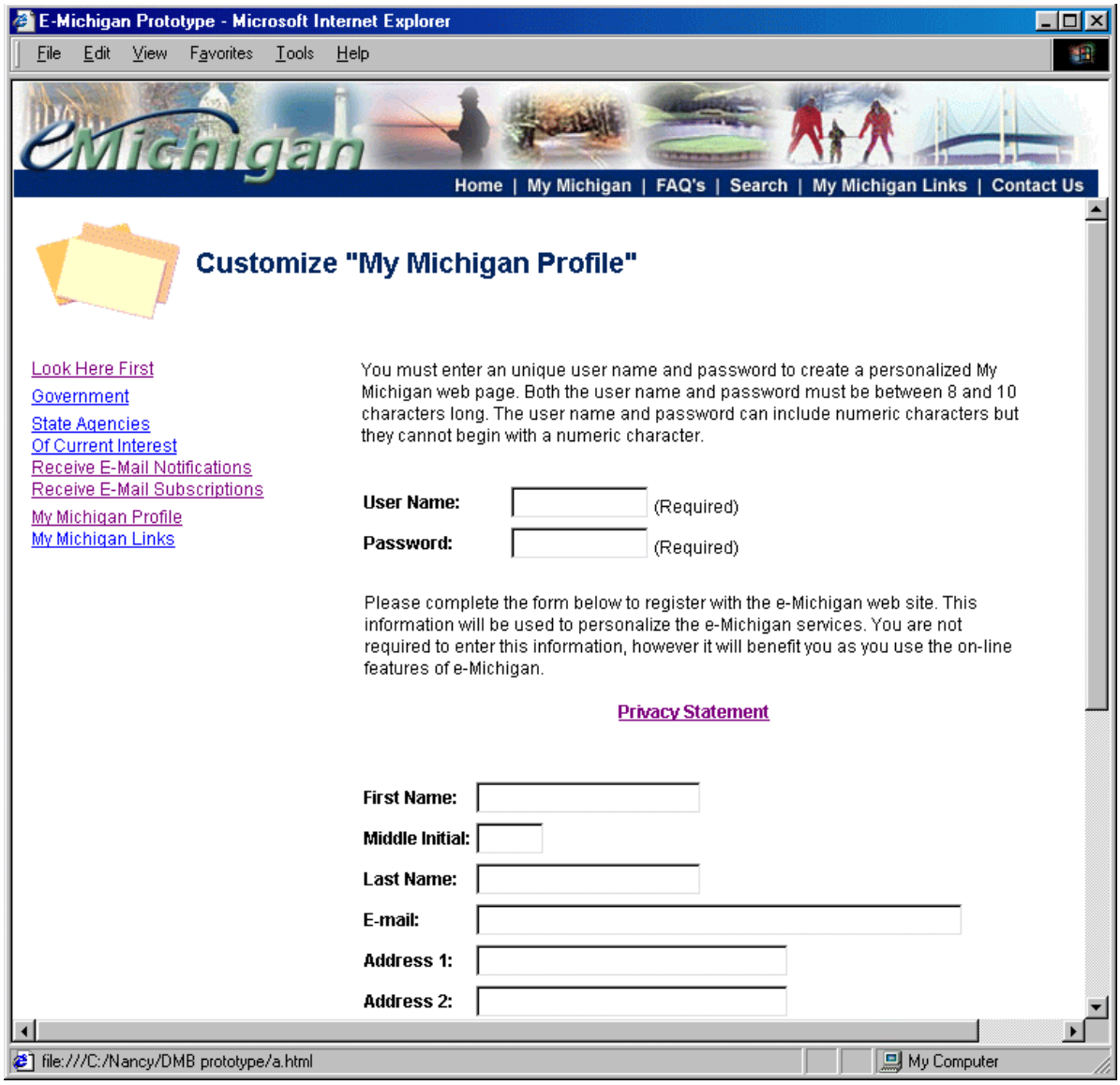
Create a privacy statement that makes it very clear how personal information will be used and protected. Ensure that such a statement can withstand requests for disclosure under the Michigan Freedom of Information Act.

At the very bottom of the Web page, change the wording that prompts the user to: "Add this information to my personal profile."

Provide a Secure Server and include a "Secure Server" symbol in a prominent place on the transaction screen.

Personal Profile Information

The personal contact information fields included in the "My Michigan Profile" are presented in the screen below. A real estate licensee who opted to have their personal contact information stored as part of their personal profile information, would find it populating the information fields at the bottom of this Web page.



A personal profile is not required to use the e-Michigan Web portal, however those who opt to have personal contact information stored in the "My Michigan Profile" will be able to utilize more fully the online features of e-Michigan.

Contact information from the profile is used to enhance customer service by pre-populating online forms used for various transactions, including applications, reservations, and location-dependent information queries (e.g., state representatives).

A licensed real estate broker who chooses to store personal contact information in this system has the option of receiving e-mail updates from the State regarding the status of continuing education credits, impending deadlines for license renewal, and other relevant notices.

Focus Group Feedback

Focus group members stated that they would be interested in this feature, particularly if it was clear how storing the information in the "My Michigan Profile" would benefit them.

One participant stated that, if he trusted the site and went back to it over and over, he would be more inclined to divulge the information.

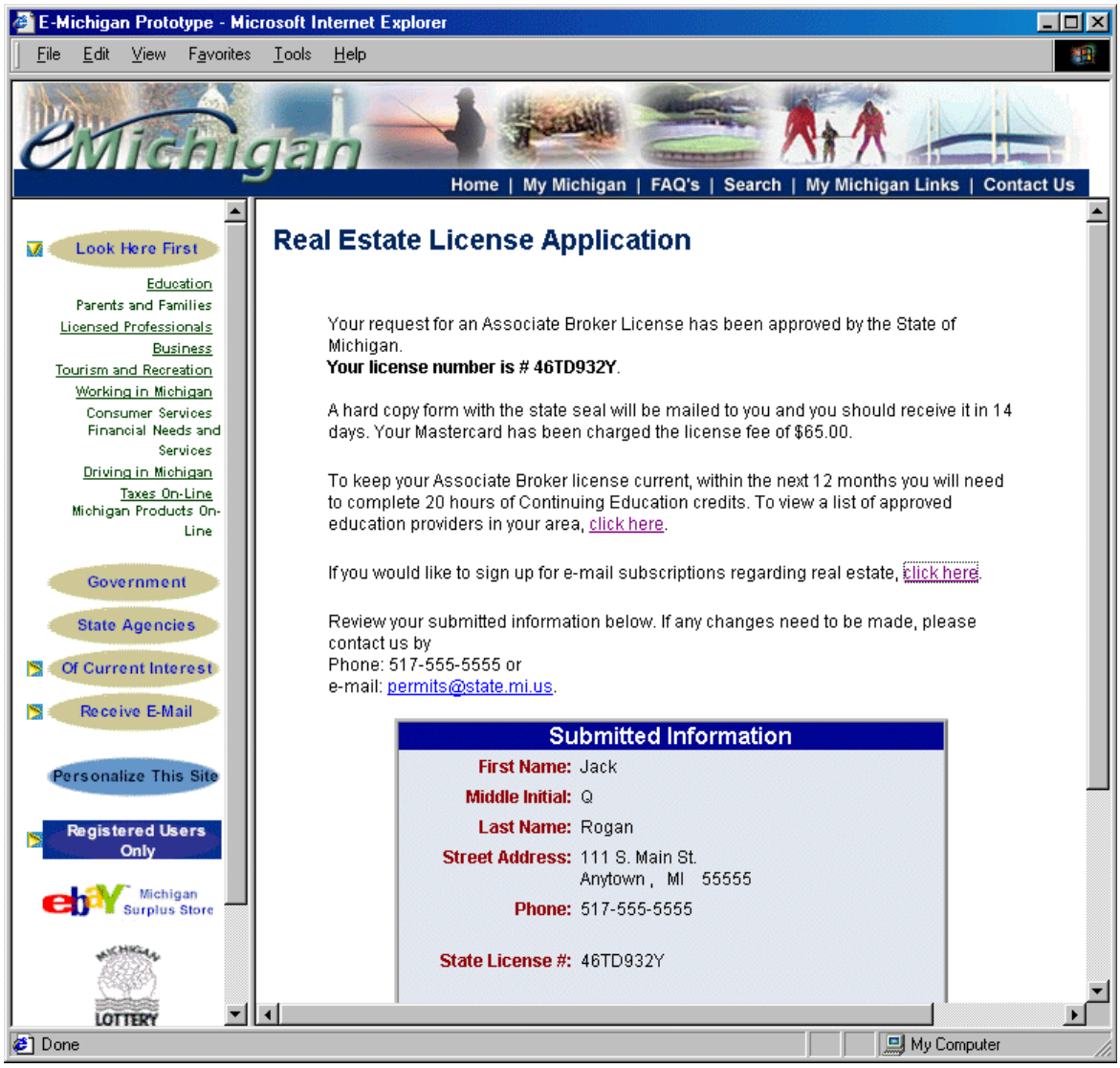
Many participants expressed concerns about the selling of personal information and are uncomfortable with the idea of divulging personal information over the Internet.

Recommendations

Create a privacy statement that makes it very clear how personal information will be used and protected.

E-Mail Notifications and Subscriptions

The screen below illustrates a two-step process for obtaining a real estate license online. Once the online application is submitted, the system generates an automatic response notifying the user that their application has been received. After the application is reviewed and approved, the user will receive an approval notice via e-mail. Both of these steps are shown in the screen below.



#

If the broker has saved personal contact information in a "My Michigan Personal Profile," they have the option of receiving e-mail notifications regarding the status of their license, including the number of continuing education credits needed for renewal.

The broker can opt to receive an e-mail notification when the expiration date of their license is near.

A hard copy of the approved license is sent to the user via conventional mail.

If the broker has chosen not to save personal contact information in a "My Michigan Profile," s/he may still opt to receive e-mail subscriptions to a broad range of topic newsletters, so long as they have supplied an e-mail address.

Focus Group Feedback

E-mail confirmations of online transactions and reservations are highly valued by focus group participants.

Some of the respondents are concerned that e-mail messages might be trashed inadvertently. They recommended that the State make it very clear in the title of the e-mail message that the contents regarded State information or updates.

There was a suggestion that users should be able to unsubscribe using a link embedded in the e-mail message itself.

Recommendations

Clearly label the e-mail message "Subject" title to make it clear that the notifications pertain to State government business or information.

Provide more prominent icon to emphasize the availability of e-mail subscriptions.

Provide more prominent icon to emphasize the availability of information regarding continuing education credits.

Include written label to explain the meaning of the icons.

Summary

This section describes and discusses the key design features and functionality of the e-Michigan home page portal prototype. By providing citizens with the most easily accessible and useful methods of finding the information they seek from the State of Michigan, the State can ensure that its citizens enjoy the full benefits of the many resources the State has to offer. The reactions of focus group participants to the prototype suggest that, in general, the design features and functionality are very consistent with their needs and interests, however as with any "work in progress," there is much more that can be done to provide the customers of e-Michigan with an e-government Web experience that communicates clearly the State's commitment to quality and responsiveness.

The final section of this report discusses next steps for the e-Michigan initiative, focusing on the lessons learned from the e-Michigan customer research project that need to be considered as part of the strategic planning process. Additional suggestions regarding next steps in planning and implementing selected aspects of the e-Michigan home page portal are included in the Appendix.

Section Four: Next Steps for the E-Michigan Initiative

The e-Michigan customer research has shown that a relatively large fraction of the public is eager and able to engage with the State government using the World Wide Web. A robust response by the State will provide far better service than government has traditionally delivered at a fraction of the cost. The prototype design presented in the previous section showed the outlines of such a response.

Even as the State moves forward with this initiative, it must continue to recognize, as a matter of public policy, that not all residents are wired. Some Michiganians lack the technology, capability, or interest to connect with the State electronically, and, although they represent a declining segment of the population, their ability to receive information and services from government must be maintained. But for those increasing numbers of customers who connect via the Internet, the research and development done for this project suggests some important next steps. In this section, we present a summary of the next steps implied by the move to e-government by the State. These include:

Fulfill orders zealously
Pursue new revenue streams
Craft a credible promise of confidentiality
Market the portal aggressively and consistently
Track customer satisfaction
Commit to continuous improvement
Monitor and push system usage
Continue to push the envelope

Each of these important next steps is discussed in the section below. All must be considered by any vendor retained by the State to assist with the development of the portal. If embraced by the State of Michigan, these actions will assure that its Web portal will move to the forefront of electronic government in the United States.

Fulfill orders zealously. Perhaps the most critical aspect of the e-Michigan portal is the absolute imperative that it deliver all that it promises. Fulfillment of customer orders for information or transactions will determine the ultimate success or failure of the system. Commercial firms like Amazon.com invest untolled millions in the hardware that processes transactions and the systems that deliver the goods. If Michigan is to enter the world of e-Government in a serious way, the State must decide whether it will make commensurate investments in fulfillment. Given the types of services contemplated in the prototype, this will take the following three forms:

    Acknowledgment. When a customer places an order or makes a request and it cannot be filled instantly, the system must be designed to acknowledge that it has been received.

Further, it must tell the customer when the order will be filled. As shown in the focus group research, the absolute timeline for delivery is not nearly as important as honoring whatever commitment is made to customers.

Accuracy. From a customer's point of view, an order is not truly fulfilled unless it is done so accurately. An inaccurate order requires the customer to follow up and attempt to resolve the problem. This process results in dissatisfied customers and the waste of time of both customers and staff. In general, electronic delivery must carry with it an order confirmation number to simplify tracking in case of a problem. Typically, e-Commerce systems generate an e-mail confirmation, in addition to the information displayed, as the transaction is completed. This provides the customer an electronic record that is more persistent than a Web page.

Delivery. Some transactions can be completed instantly and confirmed electronically. Others, however, require a physical completion, such as the mailing of a license or deer tag. Again, the customer must be told when to expect delivery and the State must live up to the commitment. When unusual circumstances prevent timely delivery, the system must be capable of detecting orders that will be late and notifying customers of the nature of the problem and the new delivery date.

The fulfillment process must be monitored *systematically* to determine whether the automated and human-powered systems are performing properly. Reviewing complaints on an *ad hoc* basis is not adequate, since complainers are not representative of all customers.

Pursue New Revenue Streams. The State must move aggressively to strike deals with commercial enterprises for a presence on the e-Michigan Web portal. One approach amounts to "page sponsorships," as illustrated by the link to Gander Mountain in the camping section of the prototype. Another might be to contract with private entities to provide content for at least some of the e-mail subscription services. A third illustration is an auction arrangement with a commercial provider for surplus state goods. Such relationships must be negotiated wisely by the State to assure that a fair price is realized.

For a page sponsorship with a link to a commercial Web site, compensation is typically arranged on a *per click* basis, that is, the State would be paid a fixed amount for each person who used the link. The value of such an arrangement is much higher for "qualified prospects" which suggests that such sponsorships would have less value per hit at the top level pages and more value in content area pages that suggest a specific interest by the user.

For content providers, the compensation would be similar. An agreed upon price would be paid for each individual who requested the particular information update for a set period of time. For instance, Merrill Lynch might agree to provide a periodic bulletin on financial planning. The State Web portal would offer the financial planning bulletin, making clear that Merrill Lynch would be the provider, and customers could choose to receive it by checking a box. If 10,000 individuals check the box, the State's revenue would be 10,000 times the rate for each month of the contract.

Online auctions generate higher prices than private auctions because more potential bidders have access to the goods and because the auctions typically last for a period of days rather than minutes. The State could generate revenue by negotiating an arrangement with a commercial auction provider such as eBay to be the sole auctioneer for State goods. For the provider, this would represent a huge influx of auction items, which brings with it substantial value, and for the State, it would mean higher prices for the goods. The State would negotiate a substantially reduced fee for listing its items for auction. The work of the State employees at the surplus goods warehouse would shift to posting the information and arranging for the shipping of sold items. The warehouse would no longer have to physically house hundreds of people for an auction. Since the auctions would be ongoing instead of taking place only several times a year, a much smaller volume of merchandise would accumulate freeing much of the warehouse space to be used for other purposes.

Selecting providers for these arrangements should be done through a request for proposals (RFP) process. The RFP would specify the type of content the State would be seeking and the experience and credibility of the provider. For qualified providers, the State would retain the right to negotiate final terms and conditions, including price. This approach would obviate the problem of having to accept advertising from all comers—an issue that would be very difficult to manage if the State were to allow banner advertising.

Craft a credible promise of confidentiality. The State must develop a clear, simple promise that personal information provided for the purpose of accessing the full functionality of the e-Michigan portal will never be used for another purpose. Doing so will preempt any worries which might arise about uses of the information by those inside or outside State government. Customers must have confidence that, if they give a credit card number to reserve a campsite, it will not be used to collect delinquent taxes or child support. They must also be assured that their e-mail addresses or other profile information will not be released to marketers or political organizations. A link to this statement must be prominently displayed on each page on which personal information is requested.

Even if such a statement can be devised, the State may face legal obstacles to abiding by it. The Michigan Freedom of Information Act (MCLA 15.243) indicates that information held by a public body cannot be exempted from disclosure simply because it is personal in nature. The Act requires that, in order to be exempt, the public body must be able to show that ". . . disclosure of the information would constitute a clearly unwarranted invasion of an individual's privacy.[1]" If individuals decide to provide personal information over a non-secure Internet connection, it could be reasonably argued that disclosure would not meet this narrow test.

[1] Excerpt from the Michigan Freedom of Information Act, MCLA Section 15.243, "Exemptions from disclosure; withholding of information required by law or in possession of executive office:

Sec. 13. (1) A public body may exempt from disclosure as a public record under this act: (a) Information of a personal nature where the public disclosure of the information would constitute a clearly unwarranted invasion of an individual's privacy."

In order to protect information provided with the promise of confidentiality, the e-Michigan office should:

Seek legal counsel on whether confidentiality can be maintained under current law. If necessary, seek a specific exemption from the Michigan Freedom of Information Act.

Market the portal aggressively and consistently. The State communicates with the public millions of times per year. Tax forms, license and registration renewals, and hunting and fishing licenses and guidebooks account for well over 10 million contacts—and these are only a small fraction of the total. All such communications must carry the top level Web address for the portal. While various agencies are likely to argue that a more specific Web address must be included to help customers find a particular service quickly, the top level address should always be included. As the State attracts more traffic to the site, it will drive up the value of the new revenue streams mentioned previously. It will, of course, also be providing service to more customers and, ultimately, will drive down the volume and cost of traditional services.

Track customer satisfaction. Related to, but distinct from, monitoring fulfillment is the need to constantly assess the degree to which customers are satisfied with the portal. Customer satisfaction is comprised of several components which together determine just how satisfied a customer will be. For the e-Michigan Web portal, these might include:

Value. Does the system provide customers good results relative to their investment of time?

Speed. Does the system meet customer's expectation for rapid loading of pages and transaction processing?

Timeliness. Does the system promise a specific timeline for delivery? Does it deliver when it promises?

Friendliness. Is the system as friendly to customers as the best human service provider would be? Does it speak a non-technical language that customers understand or is it sprinkled with insider jargon?

Ease of use. Can customers find what they need quickly and do the necessary business in a straightforward manner?

Accuracy. Does the transaction generate the right result? If mailed, does it go to the right place?

Overall experience. On balance, was the experience in using the system a positive one?

Often, satisfaction is measured by asking customers to rate their level of satisfaction with each component on a numeric scale. These ratings can then be combined into a satisfaction index, taking into account which components influence overall satisfaction most heavily. The

individual ratings can help the State identify the aspects of the system that contribute to and contradict customer satisfaction.

Commit to continuous improvement. The expectations of Web users are high, but the State is perfectly capable of building an e-Michigan portal that meets or exceeds those expectations. The real challenge comes from the rate of increase in what customers want, need, and expect from an electronic connection with government. As customers begin to do *some* transactions on the Web, they will quickly wonder why they cannot do *all* transactions electronically. When they are first offered a subscription to an update of *one* subject of interest to them, they will immediately think of *other* subjects that could be treated the same way. The State will face a steep curve of rising expectations driven by its own success, but also by the offerings of commercial Web sites. It is, by contrast, to those that the State's portal will be judged, not solely in terms of the improvement over the old way of doing business with the State.

Customer satisfaction research can provide one input into the improvement process, but there must be others. The State must *anticipate* customers expectations and service opportunities by scanning the emerging Web technologies and imagining how they might be adapted to the public sector.

This implies that Michigan must invest in a significant commitment to continuous improvement of its Web offerings, both in terms of their breadth and their quality. When the portal becomes operational, the work of the e-Michigan Office will have just begun. This investment must take the form of an ongoing engagement with a technical partner who has the capacity, competence, and mandate to make improvements as necessary. Such comment will increase the pace at which change can be made and, therefore, the State's ability to maintain the highest levels of customer satisfaction.

Monitor and push system usage. The e-Michigan portal has the potential to dramatically shift the ways in which the public interacts with government. To determine whether and how this is happening, the level of usage of the system must be monitored continuously and compared with the usage of traditional services. Accurate baseline estimates of the use of each delivery system must be established and targets set for migrating users from the traditional channels to the Web. Budget targets for agencies should reflect an expectation that such a shift will occur, with increasing budgets for electronic service and decreasing budgets for traditional methods. Without such a financial impetus, it is likely that the old systems would be maintained at their current costs and the Web delivery would be a costly add-on. Instead, the State must push for a net savings over time from this shift. Savings would accrue from reduced printing runs of many publications, shifting of staff resources from labor intensive service delivery to more efficient Web delivery, and ultimately lower facility costs.

Continue to push the envelope. The prototype for the e-Michigan portal encompasses a combination of capabilities not currently found on any state Web site in the nation. This will soon change. It is almost certain that other states are engaged in development processes much like this one and may yield similar results. There are, however, other areas not explored in this project which merit attention by the e-Michigan Office that go beyond service transactions to governance itself. Examples include:

Voting. As security issues are resolved, Internet voting is becoming technologically feasible. Along with many other efforts by the Secretary of State, Internet voting could increase voter turnout. If coupled with increased use of absentee ballots, it could eventually eliminate the need for most physical voting places. The cost savings of such a shift would be substantial.

Electronic town hall meetings. The popular chat room technologies could easily be adapted to focused discussion of important public issues. Chats with public officials could be coupled with Web-based issue content that would bring the public and decision makers into direct contact, without the intermediation of journalists.

As Michigan moves forward aggressively to create the most advanced state Web presence in the nation, it is setting the stage for a profound shift in the relationship between the public and the government. If the Web lets the public see the government as competent and helpful, rather than bumbling and heavy-handed, it will lead to a different feeling about all public officials and employees. Just as the Web-savvy of Amazon.com makes us feel positive about the company and its leadership, so the e-Michigan portal can reshape public opinion about State government. This shift can result in the public giving the government the benefit of the doubt, rather than assuming the worst at every turn. Eventually, this new relationship will affect the expectations that the public has of candidates for public office. If government is seen as working well, then "running against the government" will go out of fashion as a campaign strategy.

The e-Michigan initiative is far more than a technical shift from one delivery system to another, from a less efficient to a more efficient strategy. It is an opportunity to forge a relationship between the government and the public that may dramatically change the public's perception of the capacity, responsiveness, and, ultimately, the value of State government.

Appendix: Prototype Design and Development Assumptions

Organization

Creation of the e-Michigan portal will be a priority within and across State agencies and branches of Michigan State Government.

A priority list/work plan for e-Michigan build out will be developed, adopted, and funded.

Interagency teams working to develop content will have the authority to make decisions regarding same.

Interagency teams working to develop content will reach consensus within established deadlines.

General Features and Functionality

The e-Michigan portal will be compatible with version 4.0 of Microsoft Internet Explorer and version 4.0 of Netscape.

The content of the e-Michigan portal will be cross-cutting on several different dimensions: across State agencies, administrative units and branches of State Government, across levels of government (federal, state, local), and across public/private entities.

Users will receive notification each time they click on a hyperlink that takes them out of the Michigan State Government Web pages.

State agency pages linked directly to the portal will show the content of the Web page but not the banner of the state agency from which the page has been drawn.

State agency Web sites will provide the "date last updated" on all Web pages.

State agencies will take full responsibility for assuring that the information on all Web pages is timely and accurate.

State agency Web pages will include a telephone number and e-mail address that users can contact if they do not find the information they need.

Emphasis will be placed on quick page-loading speed (5 seconds or less).

Large graphics (pictures) will be minimized and thumbnails will be provided to increase loading speed.

The portal will have streaming video capability.

State Web-page links will be periodically checked to assure that the correct Web address is being used and that no error messages occur.

Hyperlink pages outside the State's domain will be checked regularly for functionality, correct Web address, error messages, etc.

Front Page

A comprehensive Michigan State Government Web-page search engine that searches by employee name, agency, unit, and keyword/topic will be developed.

Sets of questions and answers for various e-Michigan user interests will be identified and developed.

A privacy statement will be developed that explains clearly and definitively how the State intends to use any personal information captured through use of the various features of the e-Michigan portal, including provision of identifying information to sources both internal and external to the State.

The privacy statement will draw a distinction between use of personal information provided within the State's Web pages and personal information requested as part of transactions outside the State's domain (i.e., through hyperlinks).

The State of Michigan will honor the promises made in the privacy statement.

An on-line customer/user satisfaction survey will be created and the responses will be continuously monitored to identify customer needs and implications for the Web portal.

Feedback coming to the State through the "Contact Us" feature will be monitored closely and responded to quickly and appropriately.

If users send questions via the "Contact Us" e-mail feature, they will receive an immediate response notifying them that their e-mail has been received and how long they should expect to wait before receiving a response.

The accuracy and currency of e-mail subscription and notification distribution e-mail addresses will be periodically checked and edited.

A policy will be developed stating the standard for response times for customer e-mail inquiries and the State will consistently meet or exceed the standard.

Two additional areas, available for registered users only, will be developed for State employees (Intranet) and those doing business with the State of Michigan (Extranet).

Interest Clusters

There may be some duplication of content within each of the interest clusters (i.e., they are not mutually exclusive).

Users opting for e-mail notifications will receive them in a timely manner.

Content for e-mail subscriptions may be internal to State Government or may be provided by an external entity, providing an additional revenue stream for State Government.

Developmentally appropriate, non-grade specific content will be identified or developed for each learner category in the education cluster.

Content categories within ALL interest clusters will cross-cut state agencies, levels of government, and public and private entities wherever possible.

External (to Michigan State Government pages) search engines that are age appropriate (e.g., Ask Jeeves for Kids, Study-Web) will be identified and provided to learners at each level (beginners, intermediate, advanced).

E-Commerce

The e-Michigan logo and other e-Michigan Web pages will be copyrighted.

All on-line transactions will be secured.

The State will be rigorous in utilizing security features that protect customer information databases.

The State will solicit and select advertising proposals from vendors in specific content categories that relate to the theme or thread within which the ad may be placed.

The State of Michigan will develop a partnership with an existing, well-established, Web-based vendor (such as e-Bay) to conduct Web-based auctions of surplus materials on behalf of the State of Michigan.

Underlying Databases

The underlying database that maintains users' names, passwords, optional personal information, and requests for e-mail notifications and subscriptions must be able to communicate with various State agency databases that maintain records of specific customer transactions (e.g., drivers' licenses, license renewal dates, etc.).

E-Michigan Customer Research

Executive Summary: Customer Focus Group #1

The e-Michigan Customer Research project included two rounds of focus groups. This report presents the findings from the first round.

The purpose of the first round was to gain insight into how the e-Michigan Web portal should be designed to best satisfy the information needs of various types of users who come to the portal seeking information and services from State government.

Five specific customer groups were targeted. In addition to serving as members of a primary user group (e.g., educators), each group was assigned a secondary, generic interest area (e.g., educators as well as consumers). The primary and secondary pairings included Educators/Consumers, Travel Tourism/Drivers, Human Services/Taxpayers, Small Business/Career Development and Job Training, and Licensed Professionals/Parents.

The focus groups were held in Lansing on May 8-10, 2000.

A summary of key findings is presented below.

Features and Functionality

Offer minimal, yet visually appealing, graphics.

Provide graphic "thumbnails" that can be expanded when customers desire more information (e.g., a map of campgrounds that users might want to view so as to choose a campsite).

Minimize the amount of scrolling required to view pages (although the need to scroll is sometimes affected by a user's computer system rather than the host site).

Provide a navigation bar that is always accessible in the banner at the top of the Web site.

Provide a search engine that is comprehensive so that it searches all State of Michigan Web sites at one time.

Include a search engine that allows customers to search in a variety of ways including key word, name, and department from one search engine.

Design the Web site search engine to account for the synonymous words, titles, and spellings that customers might use to refer to the same topic.

Include a "last updated" notice on Web pages in the portal.

Offer a State agency directory to allow customers to search for phone numbers by department and topic, as well as employee name.

Provide a "customizable" feature to allow users to place, on one page, all of the State of Michigan information they want easy access to or use most often.

Provide a clear and simple method for building a customized site including easy access to State government departments, branches, and various levels of government.

Notify customers of new features available via the e-Michigan portal through periodic e-mails.

Provide a "favorite places" feature to allow customers to book mark sites they want to use again in the future.

Organize the portal in a way that makes it easy to find the same information from a variety of perspectives.

Offer customers access to on-line help if they are unable to find what they are seeking.

Facilitate customer use of Web-based services by offering group-related information and transactions.

Organize informational content that is topically related and cuts across departments, agencies, and various levels of government.

Develop a consistent approach for layout and navigation of all State departments Web pages.

Provide an explicit policy/privacy statement to quell fears that are associated with divulging personal information via the Internet.

Specify the purpose for which the information is needed and the conditions under which the information will be available for other purposes when asking for personal identifying information.

Allow for varying degrees of personalization and automated processes depending on the amount of information customers are willing to share.

Provide the opportunity to store personal identifying information to expedite future transactions. Clearly explain the benefits and limits on the use of that information.

Offer customers the option to receive e-mail reminders from the State.

Include e-mail reminders of specific deadlines for transactions (e.g., auto tag renewal, professional license expiration, hunting licenses, etc.).

Offer the option of e-mail subscriptions about specific topics of interest (e.g., conferences, fairs, posted summaries of important committee meetings, etc.).

Provide subscribers with an easy method for unsubscribing in the body of the e-mail message, and also through the customizable portal screen.

Avoid the use of banner advertising.

Explore options for partnerships with private sector companies to generate revenue streams linked to Web-based transactions and e-commerce.

Package education-related information in a manner that is user-friendly to all ages and grade levels.

Go beyond what is traditionally considered education materials to include related information about career planning and non-traditional learning opportunities.

Provide information about field trips and access to "virtual tours" for individuals unable to actually visit sites of educational interest.

Package travel-related information in a manner that is user-friendly to all ages.

Provide direct access to all of the information needed to plan a trip, from weather and road conditions to lodging (public and private) and events taking place in the area.

Provide opportunity to receive e-mail updates about travel and recreation in Michigan including reminders about renewing boating, hunting, and fishing licenses.

Cluster services around topics instead of departments so that content organization is more coherent to users.

Allow for information access through departments for those users who are more comfortable getting their information in this manner.

Provide comprehensive start-up kits to support small business development.

Allow licensed professionals to renew their licenses via the Web.

Organize all information about a specific license or license holder in an easily comprehensible manner for consumers.

Provide updates about continuing education credits as an option for individuals.

Offer a means to contact State employees with questions and problems using the Web portal through phone or email.

Actively solicit customer feedback regarding design and functionality of the Web portal.

Provide a clear set of expectations regarding a time frame for expected response to e-mail inquiries.

Develop renewal and tax forms in a way that is user-friendly.

Consider dialog boxes that pop up to remind the person to do a certain task or highlight mistakes.

Assign customers a tracking mechanism for on-line transactions that are not immediately processed.

Key Lessons

Web design should provide quick, easy access to information and transactions. A common theme emerging from all of the focus groups is that if the services and information available on the Web do not save time, customers are not likely to use them.

User groups' needs often overlap. While many of the focus group participant's needs were specific to their occupation or a specific task their group would perform, many other user needs span occupational boundaries and lifestyles. An effectively designed Web site will allow users to access the same information from multiple "points-of-entry."

Security concerns can be overcome. Focus group participants have varying levels of concern about security and privacy issues. For most of the participants, providing a few careful measures to provide secure transactions and offering assurances from the State about who will have access to their personal information will satisfy their concerns about providing information or engaging in transactions over the Web.

State initiated transactions are attractive. Participants reacted positively to the idea of the State sending e-mail reminders about things like renewing license tabs or professional license/certification. Similarly, participants indicated that they would like the option to sign up for an e-mail newsletter on specific topics that interest them. Receipt of these e-mails should be voluntary and should be easy to cancel.

Avoid paid banner advertising. Focus group participants consistently stated that the State should not have banner advertising on its site.

- **Awareness of Web-based services needs to be elevated.** Most of the participants were not aware of Web-based services and transactions that are already available to them over the Web (e.g., license tab renewals, electronic tax filing).

- **Services offered through the State should be user friendly.** Services, transactions, and information should be easy to understand, be grouped intelligently, and should provide instructions and customer supports (FAQs, e-mail help addresses, on-line instructions) whenever possible.

- **Response to customization varies.** In general, only the most sophisticated Web users (approximately one-third) have had experience with customizing Web pages. Those who are familiar with the process were positive about the idea of customizing their own State of Michigan page. Less sophisticated Web users were less positive. As more customers become savvy Web users, a customizable feature might have broader appeal.

- **Continuous improvements of the State of Michigan Web site are imperative.** As technology, laws, and policies change, so will the needs of Michigan's customers. The development of a superior Web presence will necessitate that customer needs and satisfaction with the State's Web sites be measured continuously. The results of these measurements should then be used for further refinement and improvement of the State's Web presence.

The findings from the first round of focus groups, along with the results of analyses of state agency contact logs, customer e-mail inquiries, stakeholder interviews, and telephone survey research, will be used to create and refine a prototype that demonstrates the design features and capabilities, content clustering, and the range of services which customers prefer.

E-Michigan Customer Research

Executive Summary: Customer Focus Group #2

The e-Michigan Customer Research project included two rounds of focus groups. The purpose of the first round of focus groups was to gain insight into how the e-Michigan Web portal should be designed to best satisfy the information needs of various types of users that come to the portal seeking information and services from State government. The second round provided an opportunity for customers to test the prototype for themselves and offer feedback. This document summarizes the findings from the second round.

The focus groups included a variety of different user and customer groups: Real Estate Professionals (realtors licensed by the State of Michigan), General Public (people of different occupations, ages and incomes), College Students (students who were in the first or second year of their program of study), Travel/Recreation (people who travel for recreational purposes at least once a year in the State of Michigan).

These groups were selected because they represented a cross-section of the many different customer groups who contact state government agencies for the purpose of gathering information and conducting high volume transactions.

The focus groups were held in Lansing on June 27-28, 2000.

A summary of key findings is presented below:

Design Features

In the body of the main page, the categories should be broader in order to include the types of information participants deemed more important to have in the page (i.e., employment, housing, driving information, emergency numbers).

There should be a section on the site that gives instructions or information about the site itself.

Information should be located in appropriate and logical places on the site so that people can find it quickly and easily.

The design elements themselves need to be consistent to avoid confusion.

The search feature should be placed in a more prominent position.

More graphics and pictures should be included to break up the text but not so much that the site is slow to load.

Customization

The customization page should be made easy to use and the term customize could be used instead of personalize to avoid confusion.

E-Mail Notifications/Subscriptions

The titles in e-mail notifications/subscriptions should tell the person exactly what is contained in the e-mail.

The State should send confirmations to people that their e-mail messages have been received.

Security

There should be a secure server icon to let people know that the information they divulge is going to be secure and not sold to other entities.

When asking users to provide personal information, the State needs to explain why it is needed.

Content Areas

Titles of clusters within the Education thread should reflect common, everyday language.

Some of the contents in the Education section should be moved elsewhere and more information about postsecondary education and training should be included.

Camping facility features and boat access information should be included in the campground information.

Renewal fees should be included in the Licensed Professional thread.

Advertising

The State needs to make it fair for all private partners to have the opportunity to post on the site.

If the State uses advertising, users should be informed that the private entity is paying for the space and that the State is not responsible for the services provided by these entities.

To make advertising more palatable, the State may consider having some of the funds from the advertising go to a related state agency (i.e., a portion of Gander Mountain proceeds going toward DNR activities).

Advertising should not clutter the site, and the ads should be relevant to the context in which they are placed.

Customer Service

A phone number and/or e-mail address should be available so that users can request help in navigating the site. Help screens and FAQ's would also be useful. The preferred turnaround for a response is 24 to 48 hours.

The State should specify what the expected turnaround time should be and then attempt to exceed that expectation.

E-Michigan Customer Research

Executive Summary: Internet User/Non-User Survey

A survey was conducted of potential users of the e-Michigan portal.

The broad goal of the survey was to examine how the State should organize the information and services it offers over the Internet in a manner that is more responsive to customer needs and preferences.

The survey was administered by telephone to a random sample of 600 Internet users and 600 non users within the State of Michigan.

The survey was conducted in June of 2000.

A summary of key findings is presented below:

Marketing

Assure that the portal is "findable" by search engines. The very strong reliance on search engines to find information on the Web means that, if Michigan's portal is to generate much traffic, it must be built to make it easy for search engines to find it. It is also possible to register sites with search engines, a step that should be taken systematically by the State.

Market through family and friends. The relatively frequent reliance on family and friends suggests that the State of Michigan may want to employ some type of "friend-to-friend" marketing strategy as its portal is rolled out. This could be as simple as suggesting that users of the portal mention it to their friends. It could, however, be much more sophisticated. It could provide a "tell a friend" e-mail link that satisfied customers can use to spread the word about the portal. This device could even be linked to a modest incentive.

Market in customer service centers and through written material. Awareness of the availability of licence plate renewals is extremely low relative to the potential market. If one considers the Secretary of State's Internet renewal opportunity as a test case, the need for efforts to raise awareness is clear. However, the survey results suggest that mass marketing efforts may not be very effective. Posting information about the availability of Web-transaction opportunities in the places where these transactions most typically take place may be an effective way to raise awareness among the target populations for each service.

Design

Create a comprehensive e-Michigan search engine that will be highly valued by users of the Web-site. The majority of Internet users reported that they rely heavily on search engines to help them find the information they need. Even though the e-Michigan portal will be highly user-friendly, and well structured to permit users to find the content matter they seek, a powerful search engine will help address the need to accommodate the idiosyncratic patterns of use that were identified through the survey research.

Gather personal information necessary to provide top-quality service. Nearly 85% of users have visited a site that asked for personal information. Of those, over three-quarters (76.5%) have provided personal information to such sites. While a large percentage—over 55%—worry about giving out their credit card numbers, it is clear that users of the Internet are willing to trade some personal information, including a credit card number, in order to enhance their Web experience and get the service and information they seek. Users seem to have no greater or lesser worry about sharing such information with government than with a private sector Web site.

Customization is used and valued by only a fraction of Michigan Internet users, so the benefits must be clear and the methods easy. Even though a relatively small percentage of Michigan Internet users report using the customizable features of "MyYahoo" or Excite.com, the majority of those who have used this feature find it useful. A clear and easy method for customizing the e-Michigan site will help increase user comfort and satisfaction with this feature. It will also be helpful to provide a clear description of the benefits that the customization feature provides in terms of more efficient service to individuals conducting repeated transactions with the State.

Customization should not be the focus of marketing efforts, as the experience and terminology may be distant to most Internet users. Even though customizability may streamline transactions and increase customer satisfaction with the responsiveness of Web-based State government services, it should not be the focus of marketing efforts since verbal descriptions of its functionality may not be easily understood by the average user.

Content

Provide Michigan residents with continued information about opportunities and advantages of conducting state government transactions via the Web. The percentage of Michigan residents who currently use the Internet to conduct personal business with the State is relatively small compared to the total number of individuals who have access to the Web, but have not yet used it for State government transactions.

Understand and seek to address barriers to increased use of Web-based transactions. The gap between those aware that the State offers electronic filing of Income Tax returns

and those actually using this service suggests that citizens perceive significant barriers to this type of government transaction.

Accelerate the development and offering of Web-based transactions in areas where there is a high degree of public interest. The relatively high level of interest in reserving a campground via the Internet suggests that the demand for this service may be powerful enough to draw even non users to the Internet.

Provide a variety of information and services that appeal to the broad areas of interest found in the general public. A majority of users were interested in a range of information, from historic Michigan travel destinations to higher education, job training opportunities, and job postings.