City of Austin
Website Redesign
End User Needs Analysis
August 30, 2010

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Executive Summary

Introduction

To fully prepare recommendations for the City of Austin's (COA) website redesign we must understand the needs, wants, and preferences for all end users of the website. The purpose of the End User Analysis is to document and review the needs of all end users of the COA's website. End users are defined as:

- Internal End Users:
    - COA staff members who access and use the information displayed on the website.
    - Developers – COA staff members responsible for maintenance and security of the systems underlying the website.
- External End Users – all other consumers of the information and services available on the website. Generally speaking, the majority of these users are Austin citizens.

Methodology

A combination of interviewing, focus group sessions, and online surveys were employed to gather input from the end users of the site.

Internal End Users

To gather information from internal end users, SteelSMBology held facilitated focus group sessions with each group. For the staff members, six sessions were conducted with a cross section of employees from different departments to gain a wide perspective of feedback. The Developers group had one facilitated session. These sessions were all conducted in March 2010, at the beginning of the website redesign planning project so the input received could be incorporated into analysis, and in some cases tested, throughout the planning process.

External End Users

To understand the needs of the external end users, two research studies were performed. The first was a qualitative exercise, conducting in-depth interviews with individuals representing the various user groups identified at the beginning of the project as key audiences for current and potential website audience groups. In-depth interviews, with representatives of each of those audience groups were conducted in May 2010. The main objective of the first phase of research was to uncover what Austinites expect from the COA's website. The second phase of primary research was a product gap analysis. The primary objective of this phase of research was to assess the gaps between what the current website delivers and what customers need and want from the City's website. This research was conducted in July-August, 2010.

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Key Findings

In all of the findings from internal end users there are commonalities associated with the usability of the system and usability of the content. It is a common conclusion that the content on the City's website would be more "usable" to end users if it was:

- Organized from the reader's point of view
- Current and without conflict or duplication
- Supported by common/popular features for users to find the information they are looking for such as search and filtering search results

It was found that the quality and "timeliness" of content created for the website is greatly affected by the ease-of-use of the publishing system and the tools available in that publishing system for delivery or display of multiple types of content.

It is also a common finding among internal end users that the City's website should be at par or out-perform the current technology trends in government websites. Key items that represent those trends include:

- Access to City data and the ability for the user to "customize" results and reports of that data for a specific use
- Integrate delivery of the work the GIS group has created with geo-spatial maps
- Integration of social media
- Multi-channel publishing
- Two-way communication with citizens via the web (e.g. feedback and comments on posts, reporting maintenance needs, submitting information via forms, online payments in all areas, etc.)

For the design (look and feel), as well as navigation structure, there were similarities in preference found between the internal and the external end user research. Findings from both groups state that the new City of Austin website should represent the culture and personality of Austin and its citizens. The website look and feel should include photos and graphical elements that show the city and convey a unique, eclectic, and modern personality. Specifically on the home page, as the "front door" to the website, end users expect to see photos from around Austin. Also similar between the internal and external users was the feedback on navigational structure. Both identified needs of a user-friendly navigation structure that focuses on the website user, organized by user role. Both groups also identified a need for a prominent and functional search feature on the site. There was no indication of preference between browse-based or search-based interaction, as both are used often in tandem. It was suggested by both groups that full site search, as well as a "search within a section or topic" features be offered.

A quantitative product gap research study was conducted to survey external end users to identify critical gaps in the information and services that are important to access on the City's website. The following two charts show the Top Ten items ranked as "Very Important" by external end users in the Resident and Business user segments.

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Resident User Segment Top Ten "Very Important"

Website Element	% Very Important
Austin Public Library information (locations, hours, and events)	69.0
Library book search	68.5
Parks and Recreation (area locations, hours, pictures, events)	61.8
Manage library account (e.g., pay fines, change address)	60.9
Utilities information (water, electric, garbage and recycling)	59.6
Online library databases (articles, eJournals, eBooks, periodicals)	59.0
Public safety information (police, fire department, EMS, contact info)	57.0
Information on arts, museums, cemeteries, trails, and preserves	56.3
Online payments (citations, tickets, court fees)	52.6
Utilities online account management (payment, set-up, cancel)	50.6

Business User Segment Top Ten "Very Important"

Website Element	% Very Important
Interactive Maps with City development and redevelopment information (neighborhood plans, zoning)	52.3
Permit information (rates, how to apply)	51.7
Permit management (apply, pay, track progress of permits online)	49.8
Austin demographics information	49.5
City news (breaking news, announcements)	47.0
City development regulations technical manuals to assist users in researching/understanding regulations	45.2
Travis County and City fees (building fees and permit fee schedule)	44.3
City Development Site Plans for upcoming years	44.0
Zoning information on districts	43.3
Residential site development regulations	42.7

A Heat Map Analysis Technique was used to determine the gaps between what the end user states as important information or features and what is currently available. A heat map provides a visual representation of the "degree of gap" through the combination of three key metrics: importance of the website element, current usage, and current quality rating. This analysis showed the following "critical" gaps for one or more user groups in the Resident and Business segments. Critical gaps are shown in red, Moderate gaps are shown in yellow, and No Gap is represented by green. The numbers in each box represent that element's ranking within the corresponding user segment; ranked by percentage of that user segment identifying the element as "Very Important."

From these charts it is easy to see which elements, if addressed, would impact the most end user segments:

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Residents User Gap Analysis – Critical Elements

Website Element	Urban Tech Savvy	Suburban Family	Older Urban	Sociallly Conscious /Civic	Hispanic Mothers
311 City services (online chat or submit questions to operators)	27	19	16	24	27
Manage library account (e.g., pay fines, change address)	6	4	5	5	10
City services related to an address or neighborhood	8	9	7	9	35
311 City services FAQ	18	12	10	17	33
Interactive maps with tour information	13	17	14	13	7
Crime statistics with look-up/map features	29	21	18	26	1
Emergency alerts (sign up to receive email/text alerts)	30	26	19	39	4
Maps of power outages and road closures	16	22	20	22	28
Feedback (citizen online forum)	55	39	17	31	26
Interactive events calendar filterable by topic	25	27	52	23	25
Volunteering (information and online registration)	37	11	56	44	32
Online reservations for classes, events, and other City activities	17	18	58	20	13
City park online reservations to book City park resources	45	33	62	52	2
City Code search (input section# or keyword)	47	55	36	47	56
City Codes and Ordinances for building and/or renovation	42	48	25	40	53
Neighborhood Code Ordinances, boundaries, community groups	33	52	31	29	42
Town Lake Animal Shelter online services and submissions	43	53	54	43	64
Information on arts, museums, cemeteries, trails, and preserves	7	6	15	8	24
Municipal Court information where to go to…	23	15	24	21	19
Information on Neighborhood Planning	28	40	26	35	41
Local tax information	19	31	27	25	63
Online payments (citations, tickets, court fees)	5	10	33	18	6
Public records/conduct legal research	52	44	34	49	30
City public parking information	20	32	39	33	50
Austin Police incidents report database (ability to search)	50	35	40	37	17
Text size options (adjust the size of text on the website)	61	62	45	62	44
Performance measures by dept or program (search database)	60	57	51	54	48
Buy tickets online for City bus and rail	32	41	55	30	62
City calendar integrated with iCal or Outlook	63	51	66	64	43
Social Media alerts and news	66	63	67	67	49
City of Austin Hazard Mitigation Plan	26	42	23	45	18
Public Records on Businesses (online access/search)	36	47	34	34	47
Homeless assistance, day labor, and employment programs	38	58	57	59	51

Business User Gap Analysis – Critical Elements

Website Element	Dev/Const /Real Estate	Self Emp /Sm Bus
Permit management (apply, pay, track progress of permits online)	4	14
City Code search (input section# or keyword)	6	7
Grant information (types available, how to apply)	1	3
Travis County and City fees (building fees and permit fee schedule)	18	23
City Codes and Ordinances for building and/or renovation	1	10
City of Austin vendors (new vendor online registration, maintain account, respond to solicitations)	24	13
Commercial water and wastewater utility (file a claim, standard products, road works)	14	15
Downtown building permits (information for commercial builders)	19	34
Feedback (citizens can provide feedback or ask questions in an online forum)	27	38
Fees for Land Use (site plan review fees, site plan revision fees, zoning fees, subdivision fees)	28	27
Grant management (apply, track progress of grants online)	30	4
Information on Neighborhood Planning (planning neighborhoods, development of neighborhoods)	12	5
Neighborhood Code Ordinances, boundaries, and list of community groups	3	6
Permit information (rates, how to apply)	9	13
Public Records on Businesses (online access/search)	18	16
Water quality and conservation information	25	19

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Conclusions and Recommendations

New ideas for information content, features, and functionality gathered from internal end users were incorporated into a study of several website elements covering all departments and topics currently available on the website today. The study highlighted gaps, and the level of gap, between what the external end users stated as important to them and what was currently available. It is recommended that all items identified as having a critical gap for one or more of the user segments be addressed. A majority of these items are new items identified by the internal end users or contributed by external end users from the in-depth interviews. These items will need to be developed or incorporated into the technical solution. It is also recommended that all items with a moderate gap be reviewed for quality. The majority of these items received a moderate gap rating due to the medium to high usage rate, but lower quality ratings.

It is also recommended that some of the newer items that did not score high in importance for external end users be developed for the website redesign. These elements include City News as RSS feeds, option to view website in alternate languages, and social media integration. While these elements received low importance scores, it is believed that end users do not yet see the value because they have never been offered before. These are best practice features used by peer websites in the government space and widely used by aspirational websites in the private sector.

It was commonly agreed that a content management system (CMS) would provide a technical solution to solve the current issues in publishing. It is recommended that this approach be analyzed further and discussed with the content publishers.

Search and navigation were identified as key areas for improvement. These needs and preferences will be incorporated into the development of the information architecture recommendations for navigation, search, and taxonomy approach. The discussions of a user, role-based navigation fall in line with the trends seen in government web and private sector best practices. This approach would be recommended for the City of Austin.

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Internal End Users

Developers

Summary

An initial facilitated focus group session was conducted to gather input from COA website developers to understand the wants, needs, and preferences as they relate to the City's website redesign. This group included 12 participants with representatives from GIS, Security, CTM Programmer/Analysts, System Admin, infrastructure, and the web team. The primary goals for bringing this group together for input were to understand the issues they encounter when supporting the creation and delivery of content on the website and what considerations need to be included when constructing the requirements for the website redesign.

Attendees were asked to provide key issues they have with the current system and identify wants or needs they have for the new system. The following provides a summary of the key points from this group discussion. The new system should provide:

- Quality control through access control and established standards for display, spell check, etc.
- Versioning control
- Archive and delete ability
- Scheduling content with expiration dates
- Optimized content for better search capability
- Publishing ability for non-technical users
- Integrated tools for calendars, booking rooms online, data retrieval, maps, sorting/filtering topics and events, surveys, and blogging
- Multi-channel publishing (e.g. mobile, listserv, RSS)
- Social Media Technology integration
- Support for citizen-generated content
- Streaming video that is ADA compliant
- Data accessibility and "mash-up" capabilities
- Support for classifying users into groups and auditing for security purposes
- Common authentication
- Ability to display on mobile devices

Key Findings

Many of the key issues relate to usability and overall management of the website as it relates to quality control, security, and integration of tools. The key points from this discussion mirror those found among the other internal end user groups. For example, system needs for publishing and managing content (versioning, scheduling content, "easier" system to publish from, integration of tools such as calendaring, etc.) was very much in line with what was discussed with the other internal end users.

Also similar was the list of new types of content or features such as Social Media integration, data accessibility, and display on mobile devices. Both internal end user groups want the City of Austin website to represent the current technology trends in government websites.

Next Steps

Findings from this group related to technical functions or features were incorporated into a list of characteristics for comparison in a competitive gap analysis. In that analysis, the current City website is compared against five peer websites considered to be benchmarks for government industry best

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practices. The details and results of the competitive gap will be reported in the *Summary Gap Analysis Report*. In addition, website elements related to new content (or a new type of content) on the City website were incorporated into external end user research to determine their importance to the key audience groups. Key findings from the external end user research can be found summarized later in this report and details of that research can be found in the *In-depth Interview Qualitative Research Study* and the *Product Gap Analysis Research Report*.

COA Staff Interviews
Summary

Six facilitated sessions, focus group style, were conducted to gather input from City of Austin staff members to understand the wants, needs, and preferences as it relates to the City's website redesign. Each session was structured to allow for the individuals to express needs and ideas as well as discussion and collective feedback from each group. The same basic outline was used in each session. Below are the key topics discussed and a summary of comments and ideas received from each. In some cases the "key concern" for a participant was related to their particular department's visibility on the home page or on the website in general. While the input was received, it has been filtered out of this summary to provide input that is unbiased to the specific make-up of the groups. It is generally assumed that information from all departments and City-provided services is equally important and should be included within the architecture of the website.

1) Key concerns
   - More publisher-friendly system because current system is hard to use for non-technical people. Requests are bottlenecked through CTM, or it takes a long time for members of PIO to update because publishing is difficult.
   - User-friendly navigation.
   - Easier to find information by topic or keywords. Currently it is organized primarily by department, so if people don't know what department something is in they can't find it.
   - Better search function. Users don't receive search results as expected and outdated documents and pages often come up in search results. Users should also be able to search within departments or sections.
   - Online form submission instead of forms that user has to download, fill out, and then fax or mail.
   - Payments online.
   - Integration with Social Media.
   - Alerts/real-time information where applicable like road closures, emergency, flooding, weather, etc.
   - Single sign-on.
   - Online communities where people can communicate with government and each other.
   - URL is not user friendly.
   - Intuitive tagging, categorizing, and taxonomy would help users search for information and allow for filtering results.
   - Information transparency with more information available and easy to find, such as how money is spent, current news items, and what was passed by City Council.
   - Find information in one to three clicks.
   - Information by address or property.
   - Make sure all parts of the site are accessible to citizens and employees with disabilities.
   - Mobile device display for the site.

- Interactive maps, with a map builder feature based on the information the user chooses.
- Users can report City maintenance issues via the website like potholes and tree trimming needs.
- Spanish language version of the website.

2) <u>Who do you believe to be all the audiences for the website, and their usage priorities?</u>
- Citizens (in general)– For the most part, citizens look for parks, volunteer opportunities, healthcare information, emergency, facilities, utilities, information on transportation, and activities and events (calendar) on the City's website. It is believed that these citizens would use the site more if more online payment opportunities were made available.
- Citizens (active). There is also a segment of the citizenry that are actively involved in City projects, programs, boards, councils, etc. These citizens are *participating with* the City, rather than just looking for basic information.
- Construction developers/Contractors.
- Job seekers.
- Tourists.
- People relocating to Austin.
- Musicians/Artists/Film makers/Cultural Activity directors.
- Families.
- School districts.
- Researchers/Students/City bench-markers.
- Small business owners.
- Media.
- Event planners.
- GIS Data users/Developers/API.
- Universities.
- Surrounding regional governments.
- Environmentalists.
- Vendors/potential vendors.
- Key accounts (companies Austin is trying to attract to do business).
- New businesses.
- Social Services for people with special needs.
- Retirees/Senior citizens.
- Other age groups relevant in certain departments, such as children.
- Non-profits (foreign and domestic).
- Immigrants.
- Boards & Committee members.
- Police and lawyers (particularly municipal court information and calendars).
- Grant applicants.

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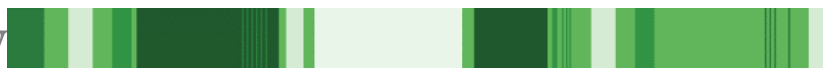
3) <u>What are the key objectives of the website?</u>
   It was agreed that the City website should serve the citizens as the source for information on *all* City services and programs, and where applicable, make it easier for citizens to submit information and pay online.

4) <u>Creative Input</u>
   a) <u>What should be the key messages communicated by the website?</u>
      • We care.
      • We are helpful.
      • We work for you, we listen to you.
      • Austin is a cultural and economic powerhouse.
      • We are transparent and open.
      • We have been here a long time and will continue to be.
      • We are contemporary and net savvy.
      • Austin is a leader in all things.
      • Austin is the most livable city.

   b) <u>What personality should the website convey?</u>
      • Welcoming to all.
      • Reflective of the culture and concerns of Austin: eclectic, environmentally-friendly, smart, artistic, and high tech.
      • Professional and friendly.
      • Fun.
      • Modern and efficient.
      • Competence in public service and seriousness of purpose.

   c) <u>Likes and dislikes of the current website</u>
      Likes:
      • Current site is a good overview of what's going on.
      • Inclusion of "green bar" portals.
      • Video on demand, Channel 6.
      • Sparse, non-cluttered home page.
      • Winter Olympics calendar was very nice and functional.
      Dislikes:
      • Navigation is obscure or disconnected.
      • Navigation is related to departments and not user-friendly for citizens.
      • Too many "hidden" pages.
      • Spanish-language characters do not work in the search engine.
      • URLs are not friendly.
      • The site doesn't look good.
      • Departments are not able to customize their homepages and experience.
      • Unable to keep current with technology and web standards.
      • Publishing and content management is difficult and not standardized.
      • No overall approval process due to distributed editing responsibilities.
      • No ability to provide feedback, tracking, "rollback", or archiving of changes on the system.
      • No breadcrumbs or backtracking ability.

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- 800 x 600 resolution is too small.
- No access to the intranet from website.
- Too many clicks to find information.

5) <u>How should the website be organized overall? Discuss how the organization is evident on the home page ("spoking" strategy), and navigation options or preferences.</u>
   This question was expanded in most sessions to include not only the approach, but how that approach would actually look as navigation and how it would be possible to carry it through by incorporating all of the content available on the website (items 8-12).
   1. By type of content.
   2. By topic.
   3. By department – particularly for internal end users.
   4. By audience.
   5. By service.
   6. Like Craig's List – everything listed on the home page under category headings.
   7. Like Google, search only – type a question.
   8. Citizen centric/location centric. What's happening in your neighborhood? – show up on a map where in relationship they are to your location:
      - Streets
      - Construction/development
      - Special events
      - Utilities (tree trimming/garbage & recycling)
      - Emergency services (crime)
      - Transportation
      - Rebates
      - Parks
      - Libraries
      - Schools
   9. Services/topic Portals
      - Environmental
      - Utilities
      - Arts and Entertainment (library, entertainment, arts, culture)
      - Parks
      - Emergency (fire, flood, police homeland security, pollution, water)
      - HR/Employment
      - Transportation and Airport
      - Economic development/business
      - Health & Social Services
      - Legal/Court
      - City Government
      - Animals
   10. Roles – spoking off the home page
      - Resident
      - Neighborhood group
      - Visitor
      - Family
      - Commuter
      - Developer (construction)

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- Programmer
- Business owner
11. Another way of doing roles
    - Living here
    - Visiting here
    - Building here
    - Working here
    - Having fun here
12. Another way of doing roles
    - I live here
    - I work here
    - I play here
    - I visit here
    - I study here
    - I'm moving here
    - I volunteer here
    - I participate here

6) <u>What types of page templates are needed for this website? What are the key types of content that will need to be displayed?</u>
The main feedback was that it is important that the page templates be easy to use and build pages from. Users also felt that individual departments should be able to incorporate their own graphics, images and personality into the pages.

Common content types:
- Text heavy
- Video/audio feature
- Forms (submit online)
- Wide content – maps full screen, interactive, Google maps
- Image/photo heavy
- Layout for mobile devices
- RSS/social media – and other feeds
- Images slideshow
- PDF
- Data table
- List
- Directory
- Chat/discussion
- Calendar – interactive/filter
- Codes/Legal
- Blog
- Mash-up wrapper

7) <u>Wish list. Cards were distributed to the participants to write their ideas. These cards were collected at the end of the session.</u>

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Key Findings
It was found that, overall, the current City website was not satisfying needs as identified by the COA internal staff members. There were many more "dislikes" than "likes" uncovered through the discussions. The largest areas of improvement centered around website usability and providing more interaction with users. Top areas for improvement of usability on the website were navigation and search. All groups agreed that primary organization of the site and navigation should be created with the end user in mind: creating labels and naming content topics or sections with commonly used terms versus requiring knowledge about what department a piece of content would be provided by. It was stated, however, that alternate navigation by department still be available for internal end users.

The search function was also discussed as an area of priority to improve usability. A combined effort to employ tagging by category and topic with filtering to narrow down search results was considered to be the benchmark for improvement.

Usability was highly connected to the number of clicks a user would need to take to get to the desired information. Navigation usability and search functionality improvements would make content easier to find with fewer clicks.

All groups agreed that the primary objective of the City website was to serve citizens as the source for information on City services and programs, and where applicable, provide a higher level of service allowing for communication and transactions online (e.g. online payments, online form submissions, two-way communication).

It was found that the quality of content delivered is tied to the publishing system's ease-of-use. The current publishing system is difficult to use for non-technical users, often causing content development and updates to be delayed due to a bottleneck through CTM. A more publisher-friendly system, or CMS, was identified as a priority need for the improvement of content to ensure timeliness and up-to-date information.

Many of the needs and wants discussed in these groups included new types of content or features that would most likely improve the external end users experience, such as:
- Integration of Social Media.
- Payments online.
- Form/application online submission.
- Multi-channel publishing allowing for news and alerts to be delivered in real time.
- Interactive maps that are built from data the user chooses.
- Information delivered based on location (e.g. City services located near an address or neighborhood).
- Channels for online communication by citizens to City or each other (e.g. report maintenance issues or outages, get information from 311).

Internal end users feel these ideas not only improve the value of content, but are also indications that the COA is utilizing "current" technologies that are up to date and on par with other City websites.

For website design and personality, internal end user preferences were in line with the information gathered from external end users in the *In-Depth Interview Qualitative Research Study* (a summary of those findings are discussed later in this report and in more detail in the full research study report). Internal end users feel the City's website should reflect the culture and personality of the citizens of Austin, which is eclectic, fun, artistic, modern, and professional. The look and feel of the site, overall

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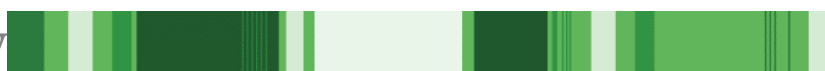
messaging, and content should convey, "We care," "We work for you, we listen to you," "COA is contemporary and net savvy," and "Austin is a leader in all things".

Next Steps
The needs, wants, and preferences identified in these group sessions are incorporated into further analysis and other activities as follows:

- Information, functions, and features (specifically new elements) are included in the Product Gap research study to measure importance for the external end user. A summary of those findings can be found later in this report or in more detail in the *Product Gap Analysis Research Report.* In addition, these ideas were incorporated into a list of characteristics for comparison in a competitive gap analysis. In that analysis, the current City website is compared against five peer websites considered to be benchmarks for government industry best practices. The details and results of the competitive gap are reported in the *Summary Gap Analysis Report*.

- Creative input from this group was considered during the development of creative concepts, and incorporated as relevant, with the new Brand strategy. For more detail see the *COA Branding and Creative Report*.

- Navigation approaches and page template input was incorporated into the analysis and development of recommendations for Information Architecture – navigation, taxonomy, search, and template wireframing. More detail on those recommendations can be found in the *Information Architecture Report*.

- Ideas gathered on the cards were sorted and cataloged for use in further research as well as development of the requirements for the technical solution. This list can be found in the Appendix of this document.

External End Users

In-depth Interview Qualitative Research
Research Objective
The research objective was to find out from defined target user groups what they expect from, and what their needs are for, the City of Austin's website.

The main research objective was accomplished by:
- Asking respondents about their expectations of the website and what information and services they currently use or would like to see on the City's website.
- Exploring respondents' unmet needs on the current website.
- Determining whether respondents' current behavior on the website is browse-based or search-based.
- Reviewing key aspects of the existing website and discussing its strengths and weaknesses, as identified by respondents.
- Reviewing the homepage design and features of three peer City websites to discuss the strengths and weaknesses, as identified by respondents.
- Conducting a Card Sort exercise, which encouraged the respondents to consider the prioritization of potential website information or features based on these categories: Must Have, Nice to Have, Unnecessary, or Negative features or elements that would have a negative impact on the perception of the website.

Methodology:
On May 18th, 19th, and 20th, a total of 26 In-Depth Interviews were conducted with residents of the City of Austin to review their existing behaviors on and perceptions about the City of Austin's website. The interviews, which lasted one hour each, were conducted in a conference room at the Austin City Hall building.

Respondents were recruited based on their similarities to identifiable characteristics for one of the six user segments as defined by the research conducted and the target audience personas created in the Customer Profiling stage of this project:

Resident Segments:
Urban Tech Savvy
Older Urban
Suburban Family
Hispanic (Bilingual) Families

Business Segments:
Small Business Owners
Construction/Real Estate/Development Professionals

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Key Findings

One of the most significant findings coming out of these interviews was that respondent needs and interests were very similar and showed little difference despite the residential or business segment they represented. This finding is significant because it strongly indicates that the core needs for the website have universal support and interest. Additional quantitative testing may indicate differences in specific content, feature needs, and prioritization by user segment. This research found that interest in specialized content and features is underscored by a strong overall preference for how that information is presented and displayed.

The strongest and most consistent feedback heard from respondents, regardless of segment, was a need for a website with well thought out, clear, and understandable organization, site architecture, consistent structure, and navigation options. Respondents felt these aspects are lacking from the website today and, in their absence, think it is difficult to uncover the actual breadth of content and features available on the website. As a result, the new website needs to be approached with a focus on well constructed, consistent, and intuitive website architecture, well thought out and intuitive navigation options, and content that is well organized on the page for readability. Creating a website that is easy to use is paramount to having users return to it over time.

Another common sentiment heard from respondents throughout all segments was a strong desire to have a website that expressed the personality and character of Austin. Respondents felt the look and feel of the current website was stale or outdated. Specifically they felt the colors, design elements, and images used throughout the website did not portray the life and unique atmosphere felt throughout Austin. Respondents were passionate about the identity and originality of the city, indicating it as the primary reason they live here. They felt the new website should represent Austin's identity, and as a result, the identity of the residents. If the new website does not look or feel authentically like Austin, residents will not develop a connection to it or become passionate about it. Establishing that connection is important to creating an environment for repeat visits to the website.

Many respondents did not distinguish this website as being the official resource for City Government versus a website like the Convention and Visitors' Bureau site that concentrates on promoting the city. Based on the answers and discussions during the interviews, many felt a "City of Austin" website should address both. For that reason the new website should distinguish itself as City Government and Services focused in some way, but also link or provide reference to the sites that promote Austin to visitors.

When asked to describe their existing experiences with the website, most respondents recalled searching or clicking through multiple levels to locate information. This would indicate that the current website is not structured in an intuitive way, or that information is buried too deep. In turn, this supports the need for a new website with well thought out organization and navigation options that allow the audience to get to most used information quickly.

The most commonly mentioned features expected of the City website, as it exists today, included:
- Civic related needs - connections to City Council and updates to new regulations.
- Access to information on utilities and City services.
- Connection to information about Austin's Parks and Recreation
- A calendar highlighting current events

These comments represent the most basic level of information expected by residents. Therefore these should be considered key areas of focus and attention when structuring content for the new website.

When asked about unmet needs and wishes for features not available on the current website, respondents most commonly mentioned:
- Ability to complete activities online, such as paying taxes, locating birth certificates, or registering to vote.
- More information about City events and activities.
- More statistics and information about the city in general.

Respondents' assessment and feelings towards the current website were very similar across all segments. When asked to describe the current website in a few words, respondents tended to repeat similar words and phrases (in rank order):
- Informative
- Easy-to-Use
- Boring
- Unorganized
- Generic

While the website is recognized as containing a large amount of information, these phrases speak to a need to consider the organization, visual appeal, and available features for the new website so that it remains informative and easy-to-use but at the same time becomes more interesting, organized, and unique.

As their perceptions of the current website were similar, so were their expectations for a future version of the website for the City of Austin. The most common words and phrases heard from respondents describing their hopes for a future website were (in rank order):
- User-Friendly
- Intuitive
- Inviting
- Authentic

Not surprisingly, the words used to describe expectations and hopes for a future version of the website call out the opportunities identified above from respondents' descriptions and assessments of the website as it exists today.

Response to visual examples of the current website varied depending on what page of the website was being viewed. Solid Waste Services stood out as the closest example (of the five section home page examples used in this exercise) of the direction in which respondents felt the website should go, while Health and Human Services stood out as an example of the need to incorporate better organization, navigation, and visual design.

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The home page of the website was perceived to be rich with information. However, respondents felt that it did not communicate the life and vitality that is inherent across the city. The home page is the front door to the website and is the first, and often the only, opportunity to communicate the identity and focus for the rest of the website. The home page for the new website needs to authentically express the personality of the city, as well as offer content and features that match the needs and priorities for the City and its residents.

Respondents felt that a future version of the website could draw on some examples of features seen during a review of peer websites for Boston, Kansas City, and San Francisco. Organized and consistent navigation options, clean and colorful visuals of the city, access to "Most Requested" activities and needs, and an easy way to review city highlights, features, and events were all popular features recognized by respondents as ideas for a future version of the website.

The Card Sort exercise illustrated strong interest in the following features deemed as "Must Have" or "Nice to Have" for a future version of the website:
- Online payment for utilities, tickets, court fees, library fines, etc.
- Ability to submit applications and forms online (such as permits).
- Interactive Events Calendar for all City events with ability to filter by date, topic, department etc.
- Mobile version of the website.
- Social Media Integration with alerts and City news on platforms such as Twitter and Facebook.

While the Card Sort identified popular ideas for inclusion in a future version of the website, it also identified the following features that respondents felt were "Unnecessary" or those that could have a negative impact on the image of the website:
- All City data feeds available for GIS data aggregation (this feature was not recognized or understood by any of the respondents in this study).
- Customizable City of Austin home page, iGoogle-type page.
- "My Favorites" area as a place for users to save links to favorite pages.
- Allowing citizens to submit events to a City calendar.
- Allowing citizens to comment on Council agenda items online.

Product Gap Research
Research Objective
The primary goal of this phase of research was to assess the gaps between what the current website delivers and what customers need and want from the City's official website.

More specifically, the objectives of the Product Gap Analysis were to:
- Evaluate the relative level of importance of several existing and new website elements (informational content, features, and functionality) that may be added to the website as part of the redesign.
- Identify the level of use each website element experiences today on the current website, if available.
- Identify the perceived level of quality each website element currently delivers, if available.

An important aspect of identifying the gaps was to analyze the data by individual user groups, as identified as key audiences for the newly designed website. Those individual user groups are as follows:

Residential User Groups
- Urban Tech Savvy
- Suburban Families
- Older Urban
- Socially Conscious/Civically Minded
- Hispanic Bilingual Mothers
Business User Groups
- Development: Construction and Real Estate Professionals
- Self-Employed, Professionals, and Small Business Owners

Methodology
An online survey was utilized to acquire the data required to meet the above objectives. The survey, which took approximately seven minutes to complete, was fielded from July 9, 2010, through August 3, 2010.

The sample for this survey came from four sources: a website intercept, two email lists, and a research panel. The majority of the sample was intercepted on the current City of Austin website with the use of a layered, pop-up survey. Responders to the invite were directed to the survey in a separate web window, allowing them to simply close the survey window and continue with their website visit after completion. The email lists contained responders to previous City of Austin research who had opted-in for future studies. No incentive was offered to either of these groups. The last resource used was a research panel with access to a significant number of Austin residents. These respondents were either emailed the invite or intercepted on targeted websites. The panel company's standard incentive for a 10-minute survey was employed.

The result of these combined efforts was a total of 3,478 completed surveys.

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Completes by sample source:

	Sample Source			
Total	**March SI Re-contact**	**2008 Opt-Ins**	**Current SI**	**Panel**
3478	**63**	**137**	**3182**	**96**

SI = Site Intercept

Completes by user group:

Total	**3478**
Males	1320
Females	2158
User Groups	
Residential	2240
Urban Tech Savvy	326
Suburban Families	317
Older Urban	305
Socially Conscious/Civically Minded	951
Hispanic Bilingual Mothers	98
Did not fit into a residential group	726
Business Segments	232
Dev: Construction & Real Estate	108
Self-Employ, Prof, & Small Busi Owners	124
Did not fit into a business group	11
Gov't/City Employee	421
Tourist	143
Other	442

User groups were identified by self-reported data within the screener and body of the survey.

There were over 90 individual pieces of informational content, features, and functionality tested in this study. For the sake of this report, the items tested will be referred to as "website elements" or "needs." The options tested were a combination of existing elements and new ideas. Given the depth and breadth of the City's website, not every single aspect of the website was tested. Although all City of Austin website services and information were included, only those elements of key interest or importance in the redesign efforts were covered in specific detail.

To optimize the survey experience, the website elements tested were placed into like groupings, called grids, containing up to 10-12 elements each. The study contained a total of 10 grids (the full survey with all items tested in the grids can be found in the Appendix). Respondents were randomly assigned to two or three grids for which they qualified. Respondents were qualified for grids based on their self-selected user category: resident, business user, City or other government employee, or tourist.

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This design technique resulted in a representative sample of respondents evaluating each and every website element in the study, while optimizing the sample and minimizing respondent fatigue.

Key Metrics

Three key metrics were used to identify the "gaps" between important user needs and currently available features of the City of Austin website. Each website element is tracked and evaluated to identify which ones are excelling on all metrics, failing on all metrics, or falling somewhere in between. The net result of this analysis is called a Heat Map.

Heat Map Analysis Technique

A Heat Map provides a quick, visual way to see how each website element performs from a user perspective. In this case, we were looking for the degree of "gap" between what the user said was necessary or important, and what was currently available to serve that need on the website. Three key metrics were used in this exercise to define the gap:

- Importance of the website element
- Current use of the website element, if available
- Current quality rating of the website element, if available

The key metrics were graded based on the following definitions:

Residential			
Grade	% Very Important	Current Percent Using it on Website	Avg Quality Rating Among Users
High	50%+	4% or higher	4.0 or higher
Medium	30%-49.9%	2%-3.99%	3.0-3.9
Low	< 30%	< 2%	< 3.0

Business			
Grade	% Very Important	Current Percent Using it on Website	Avg Quality Rating Among Users
High	50%+	10% or higher	4.0 or higher
Medium	30%-49.9%	4% - 9.99%	3.0-3.9
Low	< 30%	< 4%	< 3.0

It is noteworthy that new website elements were rated on importance, but could not be rated on use or quality because no data exists for those metrics. These website elements were given a low rating on those metrics for the sake of inclusion into the Heat Map. It is the combined performance across these three metrics that defines the gap by website element. The combinations are as follows:

Critical - Take Immediate Action			Moderate - Second Tier Attention			No Gap - Requires No/Minimal Attention		
Importance	Use	Quality	Importance	Use	Quality	Importance	Use	Quality
high	high	low	high	med	high	high	high	high
high	med	low	high	low	high	med	high	high
high	low	low	med	low	high	med	med	high
high	low	med	high	high	med	low	high	high
med	high	low	high	med	med	low	med	high
med	med	low	med	high	med	low	low	high
med	low	low	med	med	med	low	high	med
low	high	low	med	low	med			
			low	med	med			
			low	low	med			
			low	med	low			
			low	low	low			

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The end result is a color-coded Heat Map that provides a visual representation of the degree of gap perceived by users for each website element:

Code	Gap Definition
	Critical - Needs Immediate Attention
	Moderate - Second Tier Attention
	No Gap – Requires No/Minimal Attention

Key Findings

Among the website elements tested, regardless of user group, most suggest that a moderate to critical gap exists between the end users' needs and what the website is delivering today.

Residential Users:

Residential users tested 67 website elements, of which 16%-31% (depending on user group) were identified as having a critical gap between user needs and the current offering. The majority (75%) of these gaps were critical because the website element was of high importance, but currently unavailable on the City's website. The remaining 25% of the critical gaps are due to a medium to high importance, combined with a medium to high use of the element, and a low to medium quality rating.

Looking only at the new elements tested, the table below (Figure A) shows how each element scored in importance (% Very Important) across the five Residential user groups. The red numbers indicate the element was seen as a critical gap in the user groups' top ten list. Two of the new elements rise to the top for all Residential user groups; "Manage Library account" and "City Services related to an address or neighborhood." There were also elements that were particularly important to specific user groups. The Older Urban segment cared most about "311 City Services FAQs," while the Hispanic Bilingual Mothers segment cared most about "Crime Statistics," "Emergency Alerts," and "City Park Online Reservations."

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<u>**Figure A: New Website Elements: % Very Important – by Residential User Group**</u>

New Website Elements	% Very Important				
	Urban Tech	Suburban	Older Urban	Civic-minded	Hispanic Mothers
Manage library account (e.g., pay fines, change address)	65.2	69.8	61.2	68.8	62.5
City services related to an address or neighborhood (view zoning, elected officials, schools, road closures, utilities info)	61.8	54.2	57.4	61.3	41.7
Interactive maps with tour information of public interest areas, cultural locations	57.4	46.0	46.9	56.1	64.7
Maps of power outages and road closures	53.6	44.0	41.9	48.8	50.0
Online reservations for classes, events, and other City activities	50.8	46.0	24.5	49.7	58.8
311 City services frequently asked questions (FAQ) (answers common City services questions so you don't need to contact 311 help directly)	50.0	51.4	52.5	51.5	45.8
Interactive events calendar filterable by topic for City meetings/events	45.9	39.7	26.5	48.4	52.9
311 City services (online chat or submit questions to operators)	44.1	44.4	42.6	48.0	50.0
Crime statistics with look-up/map features	42.0	44.0	41.9	46.4	75.0
Emergency alerts (sign up to receive email/text alerts)	42.0	41.3	41.9	40.6	70.0
Volunteering (information and online registration)	35.5	29.6	25.9	38.2	46.2
Town Lake Animal Shelter online services (ability to submit online adoption applications and lost/found pet submissions)	32.4	23.6	27.9	34.3	12.5
City park online reservations to book City park resources such as pavilions and courts	31.1	36.5	16.3	32.9	70.6
City Code search (input section# or keyword)	30.1	21.8	32.0	35.5	24.0
Feedback (citizens can provide feedback or ask questions in an online forum)	26.5	32.4	42.1	44.7	52.6
Text size options (adjust the size of text on the website)	21.6	16.2	29.5	23.3	34.2
Option to view website in alternate languages	20.6	11.7	12.6	17.6	28.9
City News in RSS subscription feeds by topic/category	16.7	16.2	12.5	19.8	27.3
Social Media (alerts and news on platforms such as Twitter and Facebook)	16.7	15.3	5.3	13.5	31.6

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Business Users:

Business users tested 44 website elements, of which 20% (Development: Construction and Real Estate) and 25% (Self-Employed, Professional, Small Business Owner) were identified with critical gaps in their current offerings. Unlike Residential user groups, approximately two-thirds of those elements with a critical gap are seen as critical because of the quality of the current deliverable. Approximately one-third of the critical gaps are caused by website elements of high importance that are not currently available on the City's website.

Among the new elements tested by the Business users (Figure B), only two are seen as critical gaps for both: Permit Management and City Code search. With the exception of the importance of Grants (information and management) for the Self-Employed, Professionals, and Small Business Owners, the remaining list of new website elements are not of high importance to these users. The red numbers indicate the element was seen as a critical gap in the user groups' top ten list.

Figure B: Business User – Importance of New Ideas

Website Element	Importance			
	Dev:Const & Real		Self-Emp, Prof, Sm	
	Ranking	% Very	Ranking	% Very
Permit management (apply, pay, track progress of permits online)	4	80.0	5	49.1
City Code search (input section# or keyword)	6	77.4	3	53.3
Feedback (citizens can provide feedback or ask questions in an online forum)	28	30.9	38	18.9
Grant management (apply, track progress of grants online)	30	24.5	14	43.3
City News in RSS subscription feeds by topic/category	37	16.4	39	17.0
Text size options (adjust the size of text on the website)	40	12.7	42	13.2
Social Media (alerts and news on platforms such as Twitter and Facebook)	43	7.3	43	11.3
Option to view website in alternate languages	44	3.6	44	3.8

Of all the new elements tested, City News as RSS feeds, Option to view website in alternate languages, and Social Media options achieved low importance scores across all user groups. Despite these low importance ratings, these features may be important for the website in order to establish itself as cutting-edge and eager to serve the needs of a broader base of Austinites.

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Summary of Recommendations

The majority of the information gathered from the internal end user groups was further tested with external end users. The recommendations summarized here are based on the findings from the two end user group studies.

In-depth Interview Qualitative Research Recommendations
The structure of the site should allow for different types of users. Although the overriding segment is Residents, there is specific content for which Business users in construction or development look.

Navigation should be consistent throughout the site regardless of the City Department. In all areas, the content on the website should focus on the "mission" of the department as it relates to the reader versus promoting the department and its staff.

Although the information about colleges and content most relevant to Tourists is not maintained by the City, it is expected that a website provided by the City of Austin would include these topics. It is not necessary to begin maintaining this content, however. From a user perspective, providing links that take the user to a resource is the same as providing it.

The website graphics should include photography of sites from around the city and a graphical look and feel that represents the residents of Austin. Respondents from all segments commented that the website should represent the uniqueness of Austin. Color was also discussed across most user groups since Austin is seen as a "colorful" city. In the review of peer sites the two sites that are "monochromatic" were seen to be clinical, cold, or stale. The peer site of Kansas City was well-received due to the use of a wider color palette and color for accents and content organization.

Interactive features that allow the user to "manage" content such as payments, submission forms, search results, customizable data to their area of focus, mobile applications, and Social Media information is highly regarded by all user groups and should be considered for the website redesign.

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Product Gap Research Study Recommendations

It is recommended that all critical items (defined as being a critical gap for one or more user groups) should be addressed in the website redesign. The majority of these items is not currently offered on the site and will have to be developed. Any critical item that is of low quality should be prioritized to be significantly upgraded. It is also recommended that all elements with a moderate gap be reviewed in the redesign. The majority of these items (with the exception of a few new ones) have a gap due to a lower quality rating.

When prioritizing the changes to make, it is recommended that the City of Austin utilize the following criteria to best address the end users' needs:

- Address common gaps that will make positive changes that affect multiple groups at one time.
- Look for opportunities to fill specific gaps by user group, thus making the website feel more customized and in-tune with their unique needs.
- Identify website elements that score low to medium on quality. If the need is high and the awareness/use is high but the quality is low, this may be an area where a quick win can be achieved by upgrading the existing element.
- Evaluate the level of "critical" on a case-by-case basis for new elements that need to be developed. A critical need may not necessarily be a critical priority if improving the quality of a highly used existing element on the website requires fewer resources than the development of a new element.

Elements that were considered to be "very important" by 50% of the segment or more should be highly visible within the role-based tab that corresponds to that element.

Residents

The majority of critical gaps for the Residents group as a whole (75%) exist because of highly important elements being unavailable on the City of Austin website. The remaining 25% of the critical gaps are due to a medium to highly important element that is used at a medium to high level being rated low on quality. A few of the new elements rise to the top for all Residential user groups, such as "Manage Library Account" and "City Services Related to an Address or Neighborhood." There are also elements that are uniquely important to specific user groups: Older Urban – "311 City Services FAQs," Hispanic Bilingual Mothers – "Crime Statistics," "Emergency Alerts," and "City Park Online Reservations." The following chart (Figure 13) shows all critical gap elements for one or more of the Residential user groups. The colors indicate the gap as critical (red), moderate (yellow), or no gap (green), and the numbers are the ranking within the individual user groups based on a "very important" rating for that element.

Figure 13: Residents Gap Analysis

Website Element	Urban Tech Savvy	Suburban Family	Older Urban	Sociallly Conscious /Civic	Hispanic Mothers
311 City services (online chat or submit questions to operators)	27	19	16	24	27
Manage library account (e.g., pay fines, change address)	6	4	5	5	10
City services related to an address or neighborhood	8	9	7	9	35
311 City services FAQ	18	12	10	17	33
Interactive maps with tour information	13	17	14	13	7
Crime statistics with look-up/map features	29	21	18	26	1
Emergency alerts (sign up to receive email/text alerts)	30	26	19	39	4
Maps of power outages and road closures	16	22	20	22	28
Feedback (citizen online forum)	55	39	17	31	26
Interactive events calendar filterable by topic	25	27	52	23	25
Volunteering (information and online registration)	37	11	56	44	32
Online reservations for classes, events, and other City activities	17	18	58	20	13
City park online reservations to book City park resources	45	33	62	52	2
City Code search (input section# or keyword)	47	55	36	47	56
City Codes and Ordinances for building and/or renovation	42	48	25	40	53
Neighborhood Code Ordinances, boundaries, community groups	33	52	31	29	42
Town Lake Animal Shelter online services and submissions	43	53	54	43	64
Information on arts, museums, cemeteries, trails, and preserves	7	6	15	8	24
Municipal Court information where to go to…	23	15	24	21	19
Information on Neighborhood Planning	28	40	26	35	41
Local tax information	19	31	27	25	63
Online payments (citations, tickets, court fees)	5	10	33	18	6
Public records/conduct legal research	52	44	34	49	30
City public parking information	20	32	39	33	50
Austin Police incidents report database (ability to search)	50	35	40	37	17
Text size options (adjust the size of text on the website)	61	62	45	62	44
Performance measures by dept or program (search database)	60	57	51	54	48
Buy tickets online for City bus and rail	32	41	55	30	62
City calendar integrated with iCal or Outlook	63	51	66	64	43
Social Media alerts and news	66	63	67	67	49
City of Austin Hazard Mitigation Plan	26	42	23	45	18
Public Records on Businesses (online access/search)	36	47	34	34	47
Homeless assistance, day labor, and employment programs	38	58	57	59	51

The following charts show the website elements that were considered to be "very important" by the user segments in the Residents group.

Website Element	Urban Tech
Parks and Recreation (area locations, hours, pictures, events)	80.3
Austin Public Library information (locations, hours, and events)	76.8
Library book search	76.8
Utilities information (water, electric, garbage and recycling)	73.5
Online payments (citations, tickets, court fees)	68.1
Manage library account (e.g., pay fines, change address)	65.2
Information on arts, museums, cemeteries, trails, and preserves (locations and special events)	63.9
City services related to an address or neighborhood (view zoning, elected officials, schools, road closures, utilities info)	61.8
City public transportation (information and schedules)	61.3
Utilities online account management (payment, set-up, cancel)	58.8
Utilities usage (look-up/download electricity or water usage online)	58.8
Job/Career Opportunities (search & apply for jobs with the City of Austin)	58.1
Interactive maps with tour information of public interest areas, cultural locations, etc.	57.4
Online library databases (articles, eJournals, eBooks, periodicals)	56.5
Voter information (charters, bonds, and voter initiatives)	56.5
Maps of power outages and road closures	53.6
Online reservations for classes, events, and other City activities	50.8
311 City services frequently asked questions (FAQ) (answers common City services questions so you don't need to contact 311 help directly)	50.0
Local tax information	50.0

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Website Element	Suburban
Library book search	75.5
Austin Public Library information (locations, hours, and events)	73.6
Parks and Recreation (area locations, hours, pictures, events)	71.4
Manage library account (e.g., pay fines, change address)	69.8
Online library databases (articles, eJournals, eBooks, periodicals)	64.2
Information on arts, museums, cemeteries, trails, and preserves (locations and special events)	61.9
Utilities information (water, electric, garbage and recycling)	56.9
Utilities online account management (payment, set-up, cancel)	56.9
City services related to an address or neighborhood (view zoning, elected officials, schools, road closures, utilities info)	54.2
Online payments (citations, tickets, court fees)	53.3
Voter information (charters, bonds, and voter initiatives)	51.9
311 City services frequently asked questions (FAQ) (answers common City services questions so you don't need to contact 311 help directly)	51.4
Public safety information (police, fire department, EMS, contact info)	50.7

Website Element	Older Urban
Austin Public Library information (locations, hours, and events)	76.1
Library book search	67.2
Utilities information (water, electric, garbage and recycling)	65.6
Online library databases (articles, eJournals, eBooks, periodicals)	64.2
Manage library account (e.g., pay fines, change address)	61.2
Voter information (charters, bonds, and voter initiatives)	59.3
City services related to an address or neighborhood (view zoning, elected officials, schools, road closures, utilities info)	57.4
Public safety information (police, fire department, EMS, contact info)	55.4
Utilities usage (look-up/download electricity or water usage online)	54.1
311 City services frequently asked questions (FAQ) (answers common City services questions so you don't need to contact 311 help directly)	52.5
City public transportation (information and schedules)	51.9
Utilities online account management (payment, set-up, cancel)	50.8

Website Element	Social Con/ Civic- minded
Library book search	78.3
Austin Public Library information (locations, hours, and events)	77.8
Online library databases (articles, eJournals, eBooks, periodicals)	70.1
Parks and Recreation (area locations, hours, pictures, events)	69.0
Manage library account (e.g., pay fines, change address)	68.8
Utilities information (water, electric, garbage and recycling)	67.6
Voter information (charters, bonds, and voter initiatives)	67.1
Information on arts, museums, cemeteries, trails, and preserves (locations and special events)	63.9
City services related to an address or neighborhood (view zoning, elected officials, schools, road closures, utilities info)	61.3
Public safety information (police, fire department, EMS, contact info)	59.9
Utilities online account management (payment, set-up, cancel)	58.3
City public transportation (information and schedules)	58.2
Interactive maps with tour information of public interest areas, cultural locations, etc.	56.1
Job/Career Opportunities (search & apply for jobs with the City of Austin)	54.7
City news (breaking news, announcements)	53.3
Water quality and conservation information	52.3
311 City services frequently asked questions (FAQ) (answers common City services questions so you don't need to contact 311 help directly)	51.5
Online payments (citations, tickets, court fees)	51.2
Utilities usage (look-up/download electricity or water usage online)	50.0

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Website Element	Hispanic Moms
Crime statistics with look-up/map features	75.0
Parks and Recreation (area locations, hours, pictures, events)	70.6
City park online reservations to book City park resources such as pavilions and courts	70.6
Emergency alerts (sign up to receive email/text alerts)	70.0
City news (breaking news, announcements)	66.7
Online payments (citations, tickets, court fees)	65.0
Interactive maps with tour information of public interest areas, cultural locations, etc.	64.7
Library book search	62.5
Manage library account (e.g., pay fines, change address)	62.5
Childcare resources and children's health issues	62.5
Job/Career Opportunities (search & apply for jobs with the City of Austin)	61.5
Public safety information (police, fire department, EMS, contact info)	60.0
Online reservations for classes, events, and other City activities	58.8
Online library databases (articles, eJournals, eBooks, periodicals)	58.3
Utilities information (water, electric, garbage and recycling)	58.3
Municipal Court (how/where to pay your fines, resolve tickets, report for jury duty)	55.0
Austin Police incidents report database (ability to search)	55.0
City of Austin Hazard Mitigation Plan with public emergency news, alerts, and information	55.0
Arrest warrant and accident report information	55.0
Austin Public Library information (locations, hours, and events)	54.2
Utilities online account management (payment, set-up, cancel)	54.2
Public health information for regional health issues	54.2
Library youth reading programs (information and sign-up)	54.2
Information on arts, museums, cemeteries, trails, and preserves (locations and special events)	52.9
Interactive events calendar filterable by topic for City meetings/events	52.9
Feedback (citizens can provide feedback or ask questions in an online forum)	52.6
Maps of power outages and road closures	50.0
311 City services (online chat or submit questions to operators)	50.0
Online library card application	50.0
Public records/conduct legal research (birth and death records)	50.0

Business

Unlike Residential user groups, approximately two-thirds of the critical gaps for the Business user group are due to the quality of the current implementation. Approximately one-third of the critical gaps are due to highly important elements that are currently unavailable on the City of Austin website.

It is recommended that all items with a critical gap be addressed in the redesign to significantly upgrade the quality of the content on the website and develop new items. The following chart (Figure 14) shows all critical gap elements for one or both of the Business user groups. The colors indicate the gap as critical (red), or moderate (yellow), and the numbers are the ranking within the individual user groups based on a "very important" rating for that element.

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Figure 14: Business Gap Analysis

Website Element	Dev/Const /Real Estate	Self Emp /Sm Bus
Permit management (apply, pay, track progress of permits online)	4	14
City Code search (input section# or keyword)	6	7
Grant information (types available, how to apply)	1	3
Travis County and City fees (building fees and permit fee schedule)	18	23
City Codes and Ordinances for building and/or renovation	1	10
City of Austin vendors (new vendor online registration, maintain account, respond to solicitations)	24	13
Commercial water and wastewater utility (file a claim, standard products, road works)	14	15
Downtown building permits (information for commercial builders)	19	34
Feedback (citizens can provide feedback or ask questions in an online forum)	27	38
Fees for Land Use (site plan review fees, site plan revision fees, zoning fees, subdivision fees)	28	27
Grant management (apply, track progress of grants online)	30	4
Information on Neighborhood Planning (planning neighborhoods, development of neighborhoods)	12	5
Neighborhood Code Ordinances, boundaries, and list of community groups	3	6
Permit information (rates, how to apply)	9	13
Public Records on Businesses (online access/search)	18	16
Water quality and conservation information	25	19

The following charts show the website elements that were considered to be "very important" by the two user segments in the Business group.
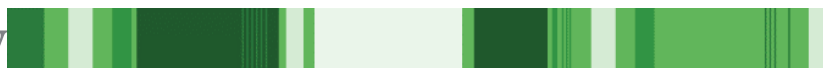
Website Element	Dev/Const /Real Estate
City Codes and Ordinances for building and/or renovation	85.3
Permit management (apply, pay, track progress of permits online)	68.2
City Code search (input section# or keyword)	67.6
Permit information (rates, how to apply)	66.7
Neighborhood Code Ordinances, boundaries, and list of community groups	66.2
Interactive Maps with City development and redevelopment information (neighborhood plans, zoning)	65.2
City Development Site Plans for upcoming years	63.6
Information on Neighborhood Planning (planning neighborhoods, development of neighborhoods)	63.2
Travis County and City fees (building fees and permit fee schedule)	62.1
City development regulations technical manuals to assist users in researching/understanding regulations	60.6
Fees for Land Use (site plan review fees, site plan revision fees, zoning fees, subdivision fees)	60.6
Zoning information on districts	57.6
Bidding opportunities with the City	57.4
Residential site development regulations	54.5
Commercial water and wastewater utility (file a claim, standard products, road works)	52.9

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Website Element	Self Emp /Sm Bus
Interactive Maps with City development and redevelopment information (neighborhood plans, zoning)	70.5
City Codes and Ordinances for building and/or renovation	68.2
Neighborhood Code Ordinances, boundaries, and list of community groups	68.2
Information on Neighborhood Planning (planning neighborhoods, development of neighborhoods)	68.2
Permit management (apply, pay, track progress of permits online)	63.6
City Code search (input section# or keyword)	61.4
Permit information (rates, how to apply)	56.8
City Development Site Plans for upcoming years	56.8
Public Records on Businesses (online access/search)	56.8
Travis County and City fees (building fees and permit fee schedule)	54.5
City development regulations technical manuals to assist users in researching/understanding regulations	54.5
Zoning information on districts	54.5
Austin demographics information	52.3
Small business development (information and programs)	50.0

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Appendix

Catalog of Internal End User ideas gathered during facilitated input sessions. Relevant ideas were combined and de-duplicated to create this final list.

Title	Description
Push Data from BI Tools	The website will feature the publication of data from Business Intelligence tools like Cognos that would allow City departments to push information out to the public (for example: How long is the wait at the ER).
Requests from Citizens (311)	The website will provide the ability for citizens to submit requests to Austin 3-1-1. Austin 3-1-1 offers residents and visitors one easy-to-remember number to contact the City of Austin. Citizen requests can be tracked online via a confirmation number. Requests will be public and searchable to reduce redundant requests for services (i.e. pot hole reports).
Integration With Site Analytics Tools	The site will feature integration with site analytics. The vanity URLs will be integrated into the site analytics and logging so usage can be tracked in order to measure the effectiveness of awareness campaigns
Booking Engine for City Resources	The site will allow the city to identify resources that can be booked/reserved by site visitors. Resources may include City parks, rooms in municipal buildings, or public spaces managed by the city.
City Finances	The site will support transparency by showing where funds are being spent. Austin citizens should be able to easily track all City revenues and spending on a basis that is as close to real-time as we can reasonably get.
Development Activity	The site will highlight development activity by providing interactive maps to show development activity, active zoning cases, and adopted /ongoing neighborhood plans. Including a dictionary of abbreviations and what they mean, especially as related to AMANDA (the City's permitting application).
Library Account Information	The site will allow citizens to view and update their library account information online.
City Code Lookup	The site will feature the ability to input a section # of the City code and then navigate to the current approved version of the city Code for that section.
GIS Data Aggregation	The site will provide an aggregation point for all public data feeds related to the city of Austin. This will include both City hosted and externally hosted content/data.

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Support for Open Standards	The data made available on the site website will be in open accepted standard formats (Text, KML, CSV) to provide citizens the ability to create their own uses for the data. Examples of data provided include crime, development, permits, and events.
Integrated Reporting Tool	The data portal will feature and interactive report builder so that visitors can create their own reports from the available data. (see http://data.cincinnati.com/navigator/)
Online Reservation System	The site will support the ability for departments to take reservations for classes, events, and other activities online through a centralized booking process. The reservation system will support the ability to create customized forms for each event based on stored templates.
Grant Management System	The website will provide a system for supporting the grant process. The system will manage receiving/approving online grant applications.
Manage Library Card	The site will support the ability for visitors to manage their library card online. This includes signing up for a new card, managing your address, checking status of fines, and other services related to the library card.
Online Open Records Request	The site will support submission of official public information requests (PIR/Open Record).
All-in-one Information For Citizen	The site will provide the functionality to view all content on the site that is related to a given address. The site will provide multiple layers or data sets that the visitor can enable to view information (zoning, elected officials, schools, libraries).
Centralized Online Payments	Austin citizens should be able to pay City bills (except utility bills i.e. Austin Energy and Water) online via a single payment center. Payments that are not currently web-enabled - for example, various development-related fees and fines - should be brought online as soon as possible on a prioritized basis, with the ultimate goal of web-enabling all payments. - TODO. Put specific examples - Fees - Permits - Facilities registration - Water (not utility bills) e.g. rain barrels - Solid Waste Services (not utility bills) e.g. drop off of hazardous waste
Centralized Online Payments for Austin Energy and Austin Water utility (not Austin Water), and Solid Waste Services	

Payment Controls	There will be strong controls at the back-end of the payment process to check against mistakes and keep people honest. The site will prevent errors in oversight.
Revenue Accounting	Proper accounting for the revenue according to City's accounting practices. Should be done not only to the department level but all the way down to employee level.
Item Mapping to GL Account Code	The site will have default accounting functionality such that when a customer clicks on a particular item to buy (e.g. registration fee for parks event, particular permit, etc.), the general ledger account code for the payment will be automatically selected for each line item. The payment system will be able to track line items to specific general ledger account codes.
Transaction Traceability	Need ability to collect information and record payments in multiple places.
Robust Reporting by Credit Card Type	Need to track revenue and costs by credit card type.
Operations and Finance Reporting	The site will feature robust reporting for both finance and operations.
Support Established City Finance Standards	The payment center will support the City's established process and financial reporting standards.
Electronic Forms	The system will have electronic forms in addition to electronic payments so all information related to a transaction can be captured electronically.
Payment Scheduling	Need the ability to schedule payments for the future.
Maps for City Data	The site must support City defined mapping and viewer technologies.
City Data Portal	The development of a data portal to provide a broad range of raw data generated by City departments to the public and encourage citizens to make creative use of the data.
Open Source Software	The City of Austin wants to actively pursue software solutions which leverage an open source licensing model when possible.

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Language	The City will strive to select a tool that utilizes languages already known by the in-house team.
Selected solution is a CMS	The selected tool is a content management system and provides robust content management functionality.
Selected solution is a CMS and Framework	The web site will be built on an adaptable framework optimized for continued growth over time. The site will be continually updated with features and content as it becomes available. The site will be built from the ground up for ongoing expanding and improvements.
Selected solution leverages existing technology/software licenses that City of Austin already owns	City currently has an enterprise license with Oracle. City will have an enterprise license with Microsoft by end of 2010. Priority of this requirement boils down to cost savings and time savings.
Contextual Content Presentation	The various audiences and visitors will be served relevant content as much as possible. The site will be dynamic and adapt to the needs of each visitor, rather than a static view of the City's departments and programs.
Consistent Navigation Elements	The site will implement a consistent navigation that includes a global navigation, secondary sub-navigation, optional tertiary inline navigation and breadcrumbs in order to make it easier to navigate and find content.
Static content	The site will support static content.
User Generated Content	The site will support user generated content.
Software and Standards	
Security Requirements	Security architecture supports the ability to employees to logon to the site. The employee logon box would be visible to everyone including the general public, but you would have to logon to view the content behind the scenes.
Single Sign On	A user (internal or external) should only have to sign on once per session to have access to all aspects of the CMS/Framework.
Solution conforms to requirements mandated by Security dept. in CTM	Solution must conform to CTM's security requirements and standards.
Scalability Requirements	The system selected will be enterprise system with enterprise scalability as independently verified through Gartner research qualitative rankings.
Search Multiple Contexts	Support multiple contexts for finding activities (purpose, audience, schedule, department) ability to scope and filter.

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Natural Language Queries	The site will support Question based search in addition to keyword based search
Suggestive Search	The site will leverage suggestive search to identify keywords and formalize their association with pages to improve the speed and relevance of search results.
Contextual Search	The site will support searches within a department and across an entire site.
Auto-complete / smart search	The system will automatically start auto-completing your search terms as you type them.
Federated Search Outside CTM	Search should index content outside of CTM's management/systems (e.g. Austin Energy, Convention Center, Library, etc.)
Authoring is Easy	The site will enable content authoring through an interface that does not require knowledge of HTML.
Separation of Content and Layout	Authors will be able to enter their content without any styling or formatting. A preview mode will allow authors to see the results of their work in the context of a final published page.
Tools to Make Editing in Word a Viable Content Editing Alternative	The CMS / framework will have a tool to copy and cleanup markup from Word into the CMS e.g. a "Tidy HTML" button or a "publish to CMS" button in Word or other such tool.
Integrated Spell Check	An integrated spell check will be provided as part of the WYSIWYG editor.
Power User Support	Power Users will have the option of viewing the HTML source created by the WYSIWYG editor.
Shared Media Asset Repository	The authoring tool will allow you to select an image from a common media asset repository.
Document Lifecycle Management	The site will provide a means of managing the life cycle of a document (Web page or Web asset) from initial creation time, through revisions, publication, archive, and document destruction.
Taxonomy	Documents will be managed in order to support easier search and presentation within the site. A taxonomy will be created for classifying all documents as well as other content on the site. The site will provide the ability for City staff to maintain documents that are well-tagged with key words within a version controlled environment.
Document Types	In addition to the HTML related content, ACC currently hosts thousands of Acrobat (PDF), Word, and Excel documents which are served via the City website. These documents need to be managed alongside the web specific content.
Support for Multimedia Content	Embeddable video/audio content will need to be tracked and served up on pages within the site.

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Comprehensive List of Events	The City needs a program list for events. The calendar is supported by a database that categorizes events by type of information/facility/age group/topic/category. Each entity checks off the type of programs they have within categories so the information can be searched and filtered by type of program, age group, facility.
Support Event Lifecycle	The calendar system will support the complete event lifecycle from tentative date, to formally planned, to confirmed date. Content related to the event is linked to the event and changes over time.
Supports iCalendar	Events can be downloaded/exported from the system in iCal and vCal formats.
Robust Support for Page Templates	Page Templates are a web page generation tool. They help authors and designers collaborate in producing dynamic web pages for web applications. The page templates will help enforce the web standards setup by the website managers to insure a consistent brand experience across the site.
RSS Feeds	The CMS system will support RSS feeds for new content on the site. The RSS Feed functionality will allow for multiple feeds based on filtering criteria. The site will facilitate content distribution by generating RSS and Atom data feeds to other systems.
Email Alerts for Content Changes	The site will generate e-mail to notify users when updates are available as part of the workflow process.
Mobile Device Support	The Open Mobile Alliance (OMA) is a standards body which develops open standards for the mobile phone industry. XHTML Mobile Profile (XHTML MP) is a hyper textual computer language standard designed specifically for mobile phones and other resource-constrained devices. The site will support the viewing of the city website through mobile devices.
Micro blogging Feeds for Status Updates	The site will allow you to specify at the time of content generation that a specific piece of content should be published to Twitter.
Publish in Multiple Languages	The CMS should support localization/internationalization so that if the City desires, they can publish content in at least the following languages: English, Spanish, Chinese, Vietnamese, German, French, Korean, Hindi, and Arabic, at a minimum.
Automatic Translation	The system should automatically translate content into supported languages.

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Form Generator	The form generator would allow for dynamic web based forms to be generated for display on the website. All information filled in web forms can be validated, post processed, stored in a database, CSV or text log file, sent to multiple email accounts as html or plain text email.
Domain and Page Redirects	The site architecture will support the organized use of vanity URL through the use of redirects and virtual folders. The site will be able to supply departments with user friendly URLs that can be used in promotions.
Easy to read URLs	The URLs generated by the system will be relatively easy to read. Example: - gis.cityofaustin.gov or cityofaustin.gov/gis instead of registering a brand new URL www.coagis.org
Integrated Use of Twitter, FB, and other tools On Site	The site will support the ability to display the status updates from a city Twitter, Facebook, and other social media tools on the page. (Live Feed)
Status Update Feed	The site will allow updates on the Web to be published to social media tools such as Twitter, Facebook, RSS, etc…
Support for Open Social	Open Social is a set of common application programming interfaces (APIs) for web-based social network applications, developed by various social networks. It was released November 1, 2007. Applications implementing the Open Social APIs will be interoperable with any social network system that supports them, including features on sites such as Hi5.com, MySpace, orkut, Netlog, Sonico.com, Friendster, Ning and Yahoo!.
Usability	Usability is a term used to denote the ease with which people can employ a particular tool in order to achieve a particular goal. Usability refers to the elegance and clarity with which the interaction with a web site is designed.
American with Disabilities Act (ADA) Compliance	The website will adhere to all U.S. Access Board's Section 508 standards, supplemented by The Web Content Accessibility Guidelines developed by World Wide Web Consortium (W3C) as a benchmark for access to web based information and services.
Compliance Testing	The website will support the ability to test for compliance with accepted standards for accessibility. Note: This requirement refers specifically to having this functionality built into the CMS as opposed to using third party tools.

Pages with Multiple Language Content	The site will have the ability to host multiple language content for selected pages within the site. Visitors to the site will be able to view the different language versions that are available. The site will provide a springboard into the language section on key landing pages (obviously the home page but perhaps others as well) like a flag, or just the name of the language (design recommendation). Once the user clicks on that springboard and goes to the Language (say Spanish) site, what they will see is every page/section for the site in the navigation.
Calendar Segmentation	The calendar will support the ability to view all activities for a given time period. The calendar also allows a user to segment the events by services area or audience.
Integration with Outlook Calendar	The site will support event being authored using Outlook Calendar and published on the City website without re-entering the data.
Categorized Calendar Events	The presentation of the events will be visually identified so that a user can easily identify events by multiple perspectives including department, event type, event audience, and event location.
Add Attributes to Calendar events for Filtering	Calendars will be tagged with attributes that will allow a user to easily find the events they are interested in attending. For instance Home; (i.e. Trash Pickup Schedule), Business (i.e. tax deadlines), Fun (i.e. events and programs), Serious (i.e. City Hall Meetings).
Support for Reoccurring Events	The calendar will support both one time events and reoccurring events.
Updateable by City Employees	The calendar on the website will enable City employees to maintain items on the site.
More Rich Content	The website will support the easy integration of video, music, and graphics.
Electronic Newsletter	The site will have a content type of electronic newsletter. This feature supports the ability to maintain a history of all published newsletters.
Save Page As PDF	The website will support the ability for a user to download any page as a PDF.
Universal Login for visitors	The site will provided for a universal login for citizens.
Survey Tool	The site will provide the ability for any department to create, manage, and report on a survey. The purpose of the survey tool is to allow for an easy way to gather community feedback. At the discretion of each PIO, survey results can be published on the site in either detail or summary form. The Survey tool will be flexible and able to support nomination forms, feedback forms, and other requests for information from site visitors.

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Email List Management	The site will allow visitors to manage subscriptions to email lists. The list management will include subscription, unsubscribe, and update email address. The list management system will support the creation of categories that will be used to target email to interested parties. The site will archive and store all targeted emails created on the site.
Enable Page Sharing	The site will help users spread site content across the web by making it easy for visitors to bookmark and share content to their favorite social destinations. The feature will be fast, powerful and easy to use. This feature will support analytics to help content owners to understand how and where their content is being shared.
Email Link to Page	The site will support the ability of visitors to email a link to the page.
Page Tagging	The site will support the ability for visitors to suggest tags or keywords for a page. Once approved, page tags will be used to improve the relevance of searches and in creating alternative navigation functionality.
User Feedback	The site will support the ability for visitors to rate, tag and review page content. User feedback may be moderated at the PIO discretion. Feedback will be used to increase the quality of the content.
Public Comment on Council Agenda Items	The site will provide a mechanism for citizens to comment on City council agenda items electronically without having to be at a council meeting.
Multiple Access Levels for Content	The site will allow content to be targeted at specific groups instead of being just for anonymous access.
My Favorites Functionality	The site will provide a space for users to save links to their favorite pages.
User Profiles	The site will allow visitors to register and create profiles on the Austin City Connection site. Users will be able to save favorite links and maintain their opt-in preferences to site updates.
Geotagging/Geocoding of Content	The site will support navigation that is tied to geographic locations and geotagged content.

Content Metadata	The site will support the ability to track important information about content that is published. This information will be used during workflow and content lifecycle processing. The attributes for this will include items such as: Time sensitivity Expiration Date Content Authors Content Review/Approvers Review Process / Approval Process (legal, PIO, Department Manager) Posting date Last updated/modified Version Number Content Source/Department Content Metro Data
Application Development Platform	The underlying technology for managing content on the site will be a framework rather than a CMS only.