
System Requirements Analysis and Solutions

for

Public Distribution of Correspondence from the Town Manager to Council

Version 1.1

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Revision History

Name	Date	Reason For Changes	Version
Bill Rehm	12/15/05	Initial Draft	1.0
Bill Rehm	12/30/05	Edited for clarity	1.1

1. Introduction

1.1 Purpose

The Council currently receives timely, summarized information on the status of our Town via email. This document examines possible means of providing that information to the Town's citizens.

1.2 Project Scope

Currently, the Town Council receives information via email from the Town Manager's office. Candidates for election to Mayor and Council also receive this email, until the elections are over. Recently, a former candidate has asked that he continue to receive these emails and that they be made available to the general public. (See [referenced Email petition](#).)

In an email dated 11/11/2005, Carol Abernethy quotes Town Attorney Ralph Karpinos:

I believe the proposal we discussed will satisfy the requirements of the public records law. Specifically, communications distributed to the Mayor and Council will be scanned (if not received electronically) and electronically posted to in a file folder for public review through the Town Website. Paper copies will continue to be provided to the Town Clerk for public review.

This will all take place in the normal course of business as time permits, similar to how the paper copies are now being provided to the Clerk, following the mail being sent to the Council.

This document explores available means of providing the online component of this service.

1.3 References

- [Email petition RE Request to open up Council list-serv to citizens](#)
- Email from Carol Abernethy to Will Raymond on 11/11/2005 titled "Response to your inquiry"

2. Existing Process

Currently, the Town does not operate a listserv, as Will Raymond assumes in his petition. The Town Manager's office sends email to Mayor and Council (and candidates during election season). There is no listserv. The reason that this is important is that Mr. Raymond's assertion that

Finally, there's no technical or legal impediment to adding a citizen to this list. The list-serv is available now; no additional development is required, no additional resources needed.

is inaccurate. The Town is not currently operating a listserv or any other form of mailing list software. The Town Manager's office uses features of Microsoft Outlook to handle email distribution. Adding a handful of candidate names to the process is manageable. Allowing open enrollment by Town citizens would not be manageable.

3. Exploring the Problem Space

3.1 General Features

The system should provide online access to publicly available correspondence from the Town Manager to the Town Council.

The system should not add to the workload of the Town Manager's office.

Following implementation, the system should require as little additional work for IT staff as possible.

The system must provide for hard copy materials to be received and published.

The system must provide for materials to be provided to citizens who do not have computers.

Additional Features to Meet the "Published Folder" Solution

The system should provide web access to all relevant correspondence from the Town Manager to the Mayor and Council.

This correspondence should be organized in a manner that makes it easy for citizens to find information.

4. User Classes and Characteristics

Citizens: Citizens will need to be able to view this correspondence.

Citizens with internet access: We can assume that anybody with internet access has at least web access and likely email access as well. Any solution that provides both email and web access will serve this population.

Citizens without internet access: All Town citizens do not have access to the web. These citizens still need to have access to this correspondence.

Town Manager staff: The Town Manager's staff would be responsible for publishing this correspondence, continuing its current responsibility.

IT staff: The IT staff would be responsible for installing, configuring, and maintaining the system, including scheduled backups.

5. Potential Solutions

5.1 Continuing the Existing System

Under the existing system, the Town Manager's office maintains a client-side distribution list for this correspondence. This list only needs to be updated when changes occur in the Mayor's office or the Council. The existing system is manageable only because of the limited number of email addresses that must be managed. It would not scale beyond more than a handful of citizens.

As an alternative, we could shift this to a server-side Exchange group. This would remove the overhead from the Town Manager's office, but would merely shift the effort from the Manager's office to the IT Department, as well as adding meta-communications overhead in the form of subscribe/unsubscribe requests.

Citizens without internet access can review this correspondence in the Town Clerk's office.

5.2 Web Folders Only

The Town IT staff has implemented the "file folder for public review" described by the Town Attorney. It can be reviewed at <http://townhall.townofchapelhill.org/correspondence/>. As currently implemented, it requires approximately 15-20 minutes to convert any single email for publication on the web.

The steps involved consist of:

1. Converting the email to HTML and saving it to the subdirectory.
2. Converting all MS-Office attachments to PDF so that they may be read by citizens who access this information from computers without MS-Office and updating the attachment links in the email to point to the converted files. (This step may be deemed optional, but it would prevent anybody without Microsoft Office installed from accessing the attachments.)
3. Creating a subdirectory within the public review folder and publishing the email and its attachments.

Carol Abernethy estimates that there are 10-15 of these emails each week, which means 2.5 to 3 hours per week of IT staff time.

5.2.1 Refining the Prototype

In the prototype solution, this was accomplished by hand. A couple of free software tools will speed the process up, but it will still require staff intervention.

- 1) Converting email to HTML:
<http://software.reinhardt.nu/outlooktohtml/>
- 2) Converting Microsoft Office attachments to PDFs:
<http://doc2pdf.sourceforge.net/overview.html>, although the IT Department staff would need to write software to update the attachment links in the email to point to these PDF files.
- 3) Publishing converted information to the web:
the IT Department will have to write software to accomplish this.

5.2.2 Other Possible Solutions

- 1) We could use [Lurker](#) to archive the mailbox we created for the prototype. This will run on a Windows 32 platform with the addition of [mingw](#). It would not automatically provide for conversion of Microsoft Office attachments to PDFs, although it might be possible to combine it with the [doc2pdf](#) tool.
- 2) We could use [ezmlm-www](#) to archive the mailbox we created for the prototype. This would require a Unix or Linux box running qmail, ezmlm, and ezmlm-www. It would have the same issue with Office documents, with the same possible solution.
- 3) We could use [MHonarc](#) in combination with an email client it supports.

For either of these solutions, it will be necessary to [connect them to the Exchange server](#).

5.3 Email Notification Software

The Town currently uses CivicPlus's "Notify Me" feature to manage a number of email notification lists, including different categories of job postings, notifications for bids, and Town News. Unfortunately, CivicPlus's tool cannot handle attachments, is limited to text-only messages and requires that the sender use an HTML form to publish a new message.

It should be possible to set up multiple notification lists, but this may require multiple installations of the software.

5.3.1 Requirements

The criteria for selecting one should include the following:

- 1) Sending an email to a specified address should result in its publication.¹ (The email address serves as an alias to the entire list of subscribers.)
- 2) Citizens should be able to subscribe and unsubscribe without staff involvement, following setup.
- 3) Attachments must be supported.
- 4) A web archive of the notifications must be generated automatically.
- 5) Rich text/HTML formatting should be supported (although this is not mandatory).

¹It should be noted that the IT Department has not identified any email notification software that will meet requirement #1, so the IT Department will have to write software to accomplish this

5.3.2 Possible Solutions

There are numerous open source and commercial email notification tools available.

We would need to evaluate potential solutions to choose the best one for the Town. Current candidates include:

- 1) [PHP List](#) – Windows or Unix
- 2) [phpLedMailer](#) – Windows or Unix
- 3) [Web Wiz Mailing List](#) – Windows only, ASP

5.4 Mailing List Managers

There are numerous open source mailing list managers available. A mailing list manager can support multiple lists, and each list can be configured differently.

One configuration is equivalent to email notification software, in that it only allows a limited number of people to post email to the list, while allowing many people to subscribe to receive those emails.

Another configuration would be the equivalent of the Web Folders solution, but completely automated.

5.4.1 Additional Benefits

If we set up a mailing list manager, we can create additional mailing lists. For example, we could create a mailing list for each board and commission to allow easy dissemination of agendas, meeting minutes, background articles, reviews and other materials. This would allow the IT Department to archive all correspondence on each list, preventing archive losses similar to the one that occurred when the Technology Committee moved its mailing list.

In addition, the Town Information Officer would be able to send out notifications to the press and the public using HTML formatting and including attachments.

Lists could also be created to keep interested citizens informed of activity for each Neighborhood Conservation District, the Town Operations Center, or any other long-term or middle-term project the Town is engaged in.

5.4.2 Requirements

- 1) At a minimum, any mailing list manager should support the same features that would be required for email notification software.

- 2) If the Town decided to gain any of the possible additional benefits, additional requirements may be identified.

5.4.3 Possible Solutions

There are numerous open source and commercial mailing list managers available.

We would need to evaluate potential solutions to choose the best one for the Town. Current candidates include:

- 1) [Mailgust](#) – Windows or Linux
- 2) [Mailman](#) – Linux only. We would need to replace the pipermail archive utility with [SmartArchiver](#). This is currently the best of breed open source mailing list manager.
- 3) [Dada Mail](#) – Linux, [not recommended for Windows](#)
- 4) [Lyris](#) – commercial, Windows or Unix. Using their [online pricing calculator](#), I came up with a quote of \$650 if we use MS SQL Server or \$500 if we use PostgreSQL.