

University at Buffalo, State University of New York

CSE-542
Software Engineering Concepts
Fall 2012

WNYLC Fair Hearing Online Resource Center

Phase 2- The System Specification

10/22/2012

Team 18

Adil Ansari
Ganesh Sayee Ramakrishnan
Robert Earl Scott Jr
Madhura Suresh
Rajkumar TS

*mansari@buffalo.edu
ganeshsa@buffalo.edu
rescott2@buffalo.edu
madhuras@buffalo.edu
rtirupak@buffalo.edu*

This document defines the functionality of Western New York Law Center's fair hearings database.

Table of Contents

Sr. No.	Title	Page
1	<i>Introductory Problem Statement</i>	2
2	<i>Present Situation</i>	3
3	<i>Objectives/Goals</i>	4
4	<i>Functional Requirements</i>	5
5	<i>User Profile</i>	7
6	<i>Future Plans and Extendibility</i>	9

Introductory Problem Statement

Client Introduction:

The WNY Law Company is a group of advocates that represent people who apply for Public Assistance in New York State. The advocates are non-profit organizations that represent clients without charge. The clients, low income or no income and cannot afford to pay for representation at hearings.

There is a huge database of over 200,000 hearings and these hearings are kept only for 3 years in the OTDA database. Each month, about 40,000 hearings are added. So managing such a database is a gargantuan task, and it requires efficient Information Retrieval techniques. The WNYLC will keep all of the hearings on one of their servers because the older hearings are still useful to advocates. The problem with the current system is that, the user can search for Fair hearing decision based on the Fair Hearing number which most of the users don't know. So the system remains useless.

The following link will list online resources that are currently documented:
<http://onlineresources.wnyc.net/FairHearingResources/default.asp>

The system also allows users to upload their fair hearing decisions. The current system does not validate the users data upload. So there are chances of data redundancy.

Most of the hearings are effectively worthless to users and advocates because they will legal codifications of the law regulating the eligibility along with the conclusion that states the person not eligible. So a general search of the hearings may take hours to yield a useful hearing.

We need to devise techniques to identify useful hearings and note them, and a way to search the large database as well. It would also be preferred for the advocates to comment on hearings that are particularly helpful.

The WNYLC already has the required hardware (Windows and Linux servers, and basic underlying software), so no other hardware or resources will be required.

Present Situation

The OTDA has finally put the fair hearings online, and there are now 203,000 cases, that increase by about 10,000 cases a month. The OTDA will only keep the hearings online for three years, and will start deleting older hearings in October 2013.

The process:

A person applies for one or all benefits the Public Assistance application. The Public Assistance application may be partially approved or denied for all or certain benefits.

- If the person is denied for all or a particular benefit, they have a limited time in which to appeal. Most people never appeal, and there is then no hearing.
- If the person is denied and appeals, a hearing is held before an Administrative Law Judge, and a fair hearing decision is issued. Those are the hearings that are placed in the database. The names are redacted, and a unique fair hearing number identifies the hearing.
- There is no other appeal if the person loses. If the person has the resources, or if they can find free representation, they can go to court to challenge the hearing decision.

Most hearings are effectively worthless to most users and advocates because they often contain a codified legal discussion of the rules regulating eligibility for benefits. So a general search of the hearings may take hours to yield a useful hearing.

Some drawbacks of the currently existing system:

- The search is not a full text search, which lowers the recall attribute of the information retrieval system.
- When a search is done and yields no results, relevant articles do not appear
- There are no well defined levels of access
- The registration process does not have email verification.
- No broadcast emails, and a huge list of non- valid emails.

Objectives/Goals

The advocate community needs a way to highlight the riches of this remarkable database. No one person or organization can possibly do so. We hope the project will provide advocates with a user-friendly way of identifying important decisions on a wide range of topics.

The project could be simple, perhaps using the Fair Hearing number (FH #) of the decision with hyperlinks to the decisions. We would keep all of the decisions.

In addition to a topic index, the system might also provide a section for advocates to discuss particular decisions in more detail. This might be modeled on WNYLC's daily news postings [<http://wnylc.com/>] or be similar to a user forum or Google group. Ease of use and a good search engine would, of course, be essential.

Techniques are needed to identify hearings that are relevant case history and a way to search the database for useful cases. It would also be preferred for the advocates to comment on hearings that are particularly helpful.

Since the WNYLC has an existing interface for fair hearings, the following can be done to improve it further:

- Restricted sections for different areas of the law
- Minimalistic search page like Google
- Search results go with 10/page and customizable
- Advanced search options
- Techniques to perform clustering of data to form groups of related hearings and categorize them as positive/negative.
- Data redundancy and data security is an issue because of its vast size.

Functional Requirements

Levels of Users:

Two kinds of users allowed, *regular users* who visit the site for fair hearing decisions and *Advocates* who can identify the important decisions on a wide range of topics, like food stamps, voluntary retirement.

Email Validation:

The system has to validate the e-mail ids of users before allowing them to access the database. This validation has to be done regularly to ensure that the user still logs in regularly. Advocates have their own registration number, which they obtain from the Bar Association, and they can use this number while registering. This can be used to differentiate between the Regular user and Advocates.

Views:

The system has to provide different views for the users. The user can only search for the Fair hearing decisions. They can search by either “Full text search” or by “Fair Hearing Number”. The results of this search should display maximum on 10 results per page. The home page should contain the Fair hearing decisions that are uploaded in that week; it should also contain the users past search tags.

Result Specifics:

The results should have the Fair Hearing Number, snippet and a hyperlink from the document, which will take the user to the decision page(s).

The users should also be provided with the top Fair hearing decisions that are accessed by certain number of users in that week.

Suggestions and Subscriptions:

Users can subscribe to certain search topics so that they will be notified by an email when a new decision has been uploaded to the database. The users should also be provided with some suggestions on the Fair Hearing decisions based on their previous search queries.

Advocate Forum:

The system has to behave differently for advocates. Once the advocate logs in to the system, they should be provided with a discussion forum. This forum should

provide a platform for the advocates where they can discuss matters related to Fair Hearing decisions. The discussion forum should contain different sections like, Top Fair Hearing Decisions, Advocate's Name who has posted the maximum number of comments on a decision. The system has to provide different categories based on the Fair hearing decisions.

Advocates should be given virtual points based on their number of posts. These virtual points can also be used for rewards. This should motivate them to keep the forum alive by actively discussing on the forums. Based upon the advocate's virtual points they should be categorized as Administrator, Moderator and so on.

The users have access to this forum. But the users cannot post any comment. They can just view the discussion on a Fair hearing decision. Which will help them in understanding more about particular decision.

Advocate Subscriptions:

Advocates should be able to subscribe to particular discussion threads. Whenever an advocate reply to a particular decision, an email has to be sent to advocates who are subscribed to that discussion.

User Profile

Western New York Law Centre maintains a repository of past hearings on their own server that is primarily accessed and used by advocates and clients.

Advocates:

They represent people who apply for benefits, are the main users of this system. They primarily work for non-profit organizations and represent clients without any fee. Advocates may use this online database for their own learning and may also use it as a research tool to study similar hearings as the case they are taking care of.

They are the regular visitors who may return each time to access this database with a new query, to serve their purpose.

The tasks that advocate perform on the web application system are:

- Use search form to search cases related to their field of study.
- Use the 'Fair hearing' module to browse through cases and identify the ones that need assistance.
- Browse through entire corpus of hearings to research about history of cases and decisions

Design challenges in making the system friendly for 'Advocate' user profile includes the following:

- The search needs efficient information retrieval model in aspects of speed and scalability.
- The precision-to-recall ratio should be optimum to give best matching results.
- Highly customizable search parameters in the search form to increase flexibility in search.
- Advocates are recurring users of the system. The web pages touched by advocates should be customizable for them so that the user can accomplish daily activities even faster and easier.

Clients:

They apply for benefits through the system. Majority of them belong to the class of people who cannot afford to pay for an advocate to represent them at hearings. They are not as technically sound as advocates and hence the system has to be

highly user friendly for the novice users. The assumption made while designing the system is that the users with user-profile, as 'clients' are not recurring users of the system. The probability of a client using the application repeatedly is very low compared to the advocates.

The tasks that clients will perform on the web application are:

- Apply for a new fair hearing by filling out the new fair hearings form and submitting it.
- Browse through existing fair-hearings to find a match with his case scenario. Ultimately, view decisions of previous fair-hearings matching his case to get an idea about his case's outcome.

Design challenges in making the system friendly for 'Client' user profile include the following:

- Whether it is related to computers or legal domain, use of jargons should be strongly avoided.
- Application to post a new fair hearing should be highly easy to use with minimal fields and messages.
- The search form should be easy to use. Recommended search keywords be shown when search gives 0 results.

Deployment Environment:

The portal is a web-based application deployed in a third-party web server. The domain can be accessed by any system connected to the Internet. The web application will speak with the database in data centers placed across United States. The system will use a third-party content management system to make use of the advantages of distributed system, specifically, speed and reliability.

Customer Constraints:

- Inform user of time factors for populating new cases.
- Make User aware of budget limitations that may affect project.
- Insure that User maintains confidentiality of clients.

Future Plans and Expandability

Estimating Applicant Eligibility:

Future work can be done to estimate applicant eligibility for benefits. This eligibility can be determined is determined by monthly income. The Public Assistance benefits available are Food Stamps, Medicaid, Cash Assistance, Rent support, HEAP and Family Planning. Based on income an applicant's monthly income they may be eligible for all or just particular benefits. The least benefit may be provided is Family Planning.

Contacting an Advocate:

An extension to this system can be to include a platform for a client to directly approach an advocate for a one-time consultation or a representation. This can be implemented as a portal that displays currently available lawyers and what particular field (if any) they are specialized in; for instance one may be the right person to approach for advice on Medical assistance.