Technical Consulting in the Community

Executive Summary

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Staff

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Housing Counseling Division

Tina Doose	Program Director
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About the Organization

"Housing is one of our most basic human rights. Unfortunately, it is a right that is sometimes denied because of race, color, religion, national origin, sex, family composition, age, ancestry, place of birth, sexual orientation or disability.

What should you do if you think that you've been discriminated against?
What are your rights? Who can help you?
The Fair Housing Partnership is a private, non-profit organization established in 1984 to create, promote and support equal housing choice and opportunity in our community." - **FHP Home Page**

Mission

I. The Fair Housing Partnership (FHP) handles claims and performs audits on properties and their management entities for the purposes of determining eligibility for litigation on discriminatory claims made by alleged victims.

II. Provide housing counseling services to the community.

Programs

Enforcement and Litigation

A program that investigates and litigates potential discrimination cases using direct investigations of potentially impacted rental environments. Enforcement provides feedback through direct investigation and impacted claims processing.

Housing Counseling

A program that provides essential counseling services for community members seeking First-Time purchasing, mortgage/lending counseling, counseling for low-income and disabled community members. Cases are received and then passed to the appropriate government or private agency by referral.

Facilities

WAN/LAN, IVR, 6 desktops, 2 laptops, one desktop server.

1 office 2nd floor in Strip district containing a conference room, reception area with reception desk that is without a computer (phone only).

Small office phone network, small office WAN/LAN with backup system, Windows Server 2003, secured.

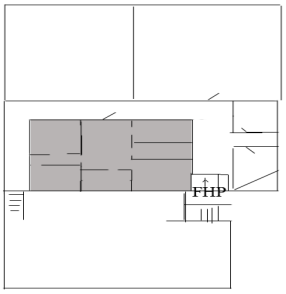


Figure 2: Floorplan of FHP office (marked in grey)

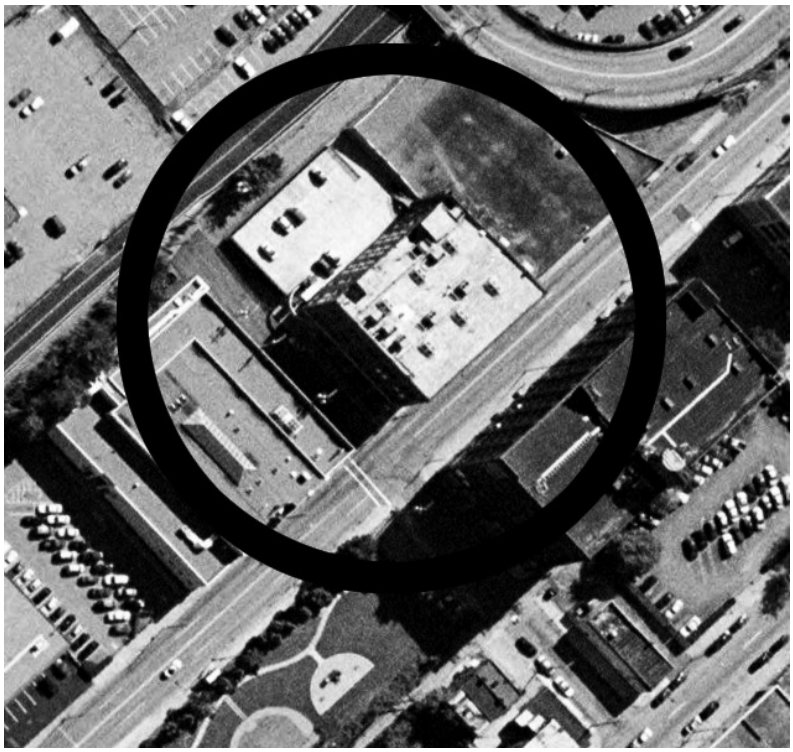


Figure 1: Aeriel view of the Fair Housing Partnership site (photo courtesy of Southwestern Pennsylvania Commission)

Technology Management

Management of information technology (IT) is handled by outsourced consultants Third Generation and another third-party, while some technology management is done in-house in the form of maintenance operations such as routine backups, email management. Website is served off-site and is dependent on third-party technical support.

Scope of Work

For the Fair Housing Partnership, a local non-profit government-related anti-discrimination organization, I am interested in improving workflow at FHP by making an efficient digital document system that serves data over an authenticated webservice which provides efficient data entry features, automation of data acquisition by integrating this web service with an existing voice-recognition platform called IVR.

We took a look at the Fair Housing Partnership's existing information technology and its management, the organization's programs and facilities, to make determinations on how technology can improve or expand the awareness of the organization, and of the region beyond the confines of the FHP office. Assessment included analysis of existing projects and services, testing techniques, and the data that FHP has kept and will need to collect for further analysis of housing-related issues in Pittsburgh and the surrounding region.

Our goal was to determine problem areas in the current information technology management and its deployment as a solution for FHP's client intake and management, with respect to the mission statement and other initiatives taking place in the office.

Outcomes

Information was organized and analyzed from existing records and sources. We took a look at the FHP Case Management system and its lack of deployment. We were successful at the cataloging of data sources for preparation of a new study, and took steps to improve the data acquisition techniques of the organization.

More outcomes and feature suggestions are included in the Recommendations section of this report.

Sustainability

Ongoing technical training and regular use of the tools in the office and MS Office suite will improve through use existing employee skills. Much of the maintenance and support necessities of the organization are already met through outside partnerships. Quality reporting and more visual representations of data will help to build relationships with funding organizations, inform the general public, and provide insight into the issues facing the mission of the Fair Housing Partnership.

Top Recommendations

Our top two recommendations were to integrate and deploy in everyday use the Intake solutions, and to provide a foundation of understanding and the data required to build a mobility project in the coming months.

More outcomes and feature suggestions are included in the Recommendations section of this report.

Technology Planning

Planning is assisted by third-party consultants and developers who wish to improve the current use of technology at Fair Housing Partnership.

Overseen by the Executive Director, the departmental Directors manage separate case files regarding possibly overlapping clients.

Two initiatives are in place to improve existing client case file management; one is with an outside third-party for Enforcement intake, and the other is with a commercial company which provides subscription support and access to a Housing Counseling case management solution.

Context Analysis Report

Activity	Expected Outcome	Measurement	Current Measure	Evidence of Change
IVR Research	Understand IVR / XML bridge	Tech Spec	None	Existence of Spec
Paper Form Analysis	DB Structure Plan	Relational Model	None	Existence of model
Database Architecture	Empty Database	Does it exist?	None	Completed Empty DB
Document Import	Imported Documents	# imported (%)	# documents	new record count
Test DB Conversion	Converted Data	# converted (%)	# existing records	new record count
IVR Integration	Active Data Aq.	Operational?	No	Successful IVR Aq.
Web access to DB	Authenticated Website	# sessions	Limited	# Successful logins
List-Serv	Mass intranet emailing	Sucessful list-email	Impossible	Possible
Metrics and Demographics	Reporting Features of DB	# reports	0 (or only a few)	Multiple custom-izable reports
FannieMae Integration	Integrated Billing system	Additional metrics/reports	None	Accessible Accounting

Figure 3: A context analysis report for the Fair Housing Partnership

Internal and External Communication

Internally, it's done by word of mouth, email and voice-mail. Microsoft Outlook is the current email platform. The telephony system uses a trunk and a subscription phone-mail system. External calls are handled by a rotating team of respondents, who receive calls or send calls to a general mailbox or employee-specific voicemail system. An installed but unconfigured IVR is in use as part of the proposed initiative for case intake.

Information Management: Windows Filesharing, Windows small office LAN/WAN.

Weakness of current IT infrastructure: Existing consultant relationship is tenuous at best and is fraught with an overtly complex and esoteric design that is incomplete, the current Intake CRM is incomplete.

Strengths of current infrastructure: Lots of equipment, but perhaps more than is necessary for call volume and number of cases on a daily basis.

Recommendations

Examining Google Earth and its functionality as a navigation tool might also aid enforcement as it will provide context for volunteers. Google Earth can provide somewhat accurate representations of neighborhoods and is useful in navigating Pittsburgh and Allegheny County.

Using microfiche or digital document scanning to catalog existing paper case files.

FHP should finalize plans for Housing/HUD CMS, or begin case studies on possible future consultants and commence to take bids on their own projected solution from outsourced technical firms with proven track records. Also, add additional reporting and visualization features, metrics, and analysis features for tracking impacted geographies and increasing the retention of new client data.

To protect from email virus attacks, there is a recommendation for Symantec Norton Anti-Virus or to renew existing anti-virus security software. It was determined that viruses were a problem but more direct methods of unwanted access were rare occurrences. Made a recommendation to compare with existing Microsoft solution, or switch to McAfee or Symantec alternatives.

One of the current initiatives is a delayed Intake management software for the Enforcement Division, and a separate Case Management System from an outside software company that is specialized for needs of Housing Counseling and their needs for forms and applications with respect to HUD and Section-8 clients.

Information for finding future consultants included exploring alternate venues using an outsourcing agency; freelance consultant to replace or aid the existing consultant teams, that could also work on the mobility study and other data-related projects. Freelancing agencies such as www.RentACoder.com, which is the Wall Street Journal's top site for freelance talent, can provide a source for proven talent.

Recommendations included routine backups, reinforcement of an existing technology policy. The routine backups will maintain data integrity and improve sustainability of organizational memory, providing an evolved decision making process.

For the mobility study, a recommendation of using GIS/ArcView experts to develop mapping with the Heinz School for Public Policy and Management was established. There was a definitive need for mapping CensusTract data onto two-dimensional maps. A task was created to explore this data and its use.

With the fractured client intake and case management system, FHP is not as efficient in its case retention and case processing, and could utilize more statistical metrics and demographic feedback from the currently unreported data metrics. By completing the integration, the CRM will improve FHP response and accuracy of information retained, as well as improve data entry working conditions by automating part of the process using Case Management tools.

As an intake solution, deploy a CMS or CRM system that manages cases and provides feedback and a shared web resource for monitoring and updating cases, performing investigations and works with housing counseling organizations to automate form submission and case status. Ideally, one that encompasses both the Enforcement and Housing Counseling operations. This will benefit organizational memory, reporting and client tracking which furthers the mission statement, provides statistics over time, and can be used to track billable hours. It could also be used for reporting and to facilitate status information between FHP and outside firms. FHP benefited from intake software development planning because it put into perspective the development time for an off-schedule project. A software development plan was provided to demonstrate the relative duration and scheduling of such a project.

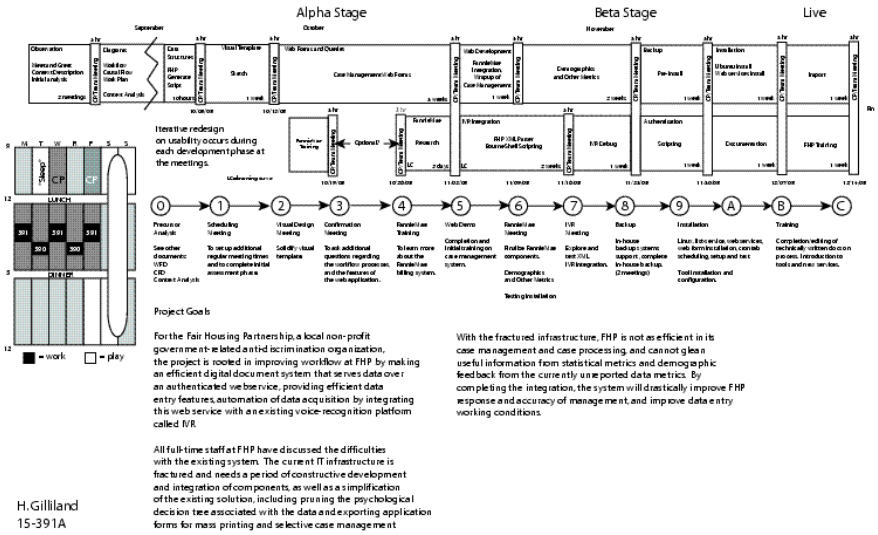


Figure 4: Software development plan for a unified organizational Intake and Case Management tool

Task 1: Data Analysis

Scope of Work

Examine existing database information from the old server; generate new reports for future mobility study. The mobility study can start with a few charts generated from the old intake Access database. The charts cannot be properly viewed until the missing data is restored. Data restoration will include examination of data stored on CD-ROM, and possibly importing information into an Access database, or restoring a copy of the existing database from the previous system.

Benefits

Source data for the demographic requirements of the new mobility project will become high priority during the first quarter of 2006. FHP's mission is provided with a new direction for reporting. It represents a several year span of the organization's Housing Counseling client records. The organization will be able to develop trends and patterns-matching, heuristics and statistical comparisons, and signal processing, to provide an informed view of changes.

Simple metrics may be the best approach to applications of this data, primarily in the form of two dimensional (third dimension *time*) maps and displays. The data can also be used to compare selected demographic information to generate a perception of historical change in number of impacts, pattern-matched impacts, and may provide dimensionality to the reports generated by FHP.

Risks

Some data may not be recovered. The reasons behind why the data may or may not be there indicate a possible unrecoverable loss to the organization's records.

Outcomes

Data was examined and found to be stored under the relational database model Access, in a file dumped from Microsoft SQL Server 7. Unfortunately, the original data files are not present. The MSSQL7 files will be converted to a special format for displaying the migration patterns of impacted and non-impacted move events within Allegheny County. Not all information was completely retained, however mobility data was discovered intact.

A “Parse Errors” table was discovered in the Access Database which revealed the extent to which the data had been retained. Peter and Tina were able to describe and help me locate the CensusTract subset of data which will be useful for making visualizations.

Task 2: Mobility Study and Visualization Research

Scope of Work

Utilizing data discovered during the data restoration process, information will be exported from Access into a CSV (Character Separated Value), and used as data for rendering 2d mobility data onto an interactive map of Allegheny County. The data will be then cross-referenced in a variety of demographic combinations, including an animated time line feature for displaying the data in three dimensions (time, location, impact status). [CensusTract data is geocoding statistics that correspond to geographic locations. This data is used by the Fair Housing Partnership to catalog and store "impacted" and "non-impacted" renter movement patterns.]

Benefits

Used as a reusable knowledge resource, the private version of the tool will be an extensive case viewing system providing access to confidential data, which can parse both CSV and FannieMae 3.2 data files. The tool can be used for referential communication in meetings and via the media. The Public version provides an anonymous viewing portal to the same or a secured subset of data.

By providing a viewport into the case management system, and the recovered data and new data can be viewed and examined for trends and patterns of activity to be used for planning. By providing a public portal, perhaps others in the community may benefit from visualizations of this data.

Risks

Careful planning is needed to assure that no personal client information is leaked to outside agencies or via inadequate security measures.

Outcomes

Product is an interesting visualization for submission to other organizations that will benefit the mission statement. Creation of data visualizations for reporting and public relations. Data will be made anonymous and public domain, providing a data source for GIS/ArcView and Java web applets that will generate visualizations. The visualizations can be used in meetings and for public consumption as a kiosk. The benefit to the mission is a wider, more aware audience for the organization's political focus. The suggested conceptual design and interactive design elements coincide with positive initial research into the Task's feasibility. CensusTract relationship data is stored in a relational database at the United States Census Bureau and the U.S. Bureau of Statistics, and is available for a fee.

Allegheny County experienced a series of racially-motivated moves during a portion of the organization's memory. To prevent further discrimination, a mobility visualization and impact study would benefit the organization's ability to provide evidence for litigation.

Task 3: Reporting

Scope of Work

A completed report: the concrete evidence is existing reports printed out in the possession of Tina Doosė, Director of Housing Counseling at the Fair Housing Partnership; the outcome evidence will be printed reports and the "software" template that eases Tina's reporting for grant organizations. Without the report, the grant agencies won't be able to fairly assess the organization without further probes, and longer reporting meetings. The report requires five independently constructed spreadsheets to be combined into a single report for the Heinz Endowments. This report comprises demographic information from a series of reports generated by each partnered housing and discrimination-related organization.

Benefits

Once a new "reporting template" is created, the reports will help the Housing Counseling Director communicate more effectively and efficiently in meetings with the Heinz Endowments. The organization's mission is benefited by a positive, smooth reporting meeting with the grant organization. It will possibly increase the monetary potential of future grant proposals and funding sources by providing Tina with more background for future reporting tasks.

Risks

If the need diminishes, the task will diminish. Otherwise, the reports are imperative and thus the outcome will be a productive part of the system. When the reporting template task is complete, the task shows sustainability through adoption of the new routine and its required technical steps. Excel is the leading spreadsheet that isn't tied to an enterprise-level system, so it is effective in providing the functionality of an enterprise-level financial reporting software. The risk is low, but the task must be completed, so it is also an important risk.

Outcomes

Developed a sustainable template for the organization's reporting needs; retrain and fortify existing MS Excel and MS Access skills within the group. This was positive as it improves the organization's overall skill with an essential technology.

Tina will produce adequate reports in a flexible and easy-to-use format. The mission will benefit from employees with an increase skill in Excel. As Tina adds more reporting methods, communication will become more effective with the donors and the general public.

Continuing training and utilization of office reporting technologies is an important facet of this process.

Task 4: Fix The Copier

Scope of Work

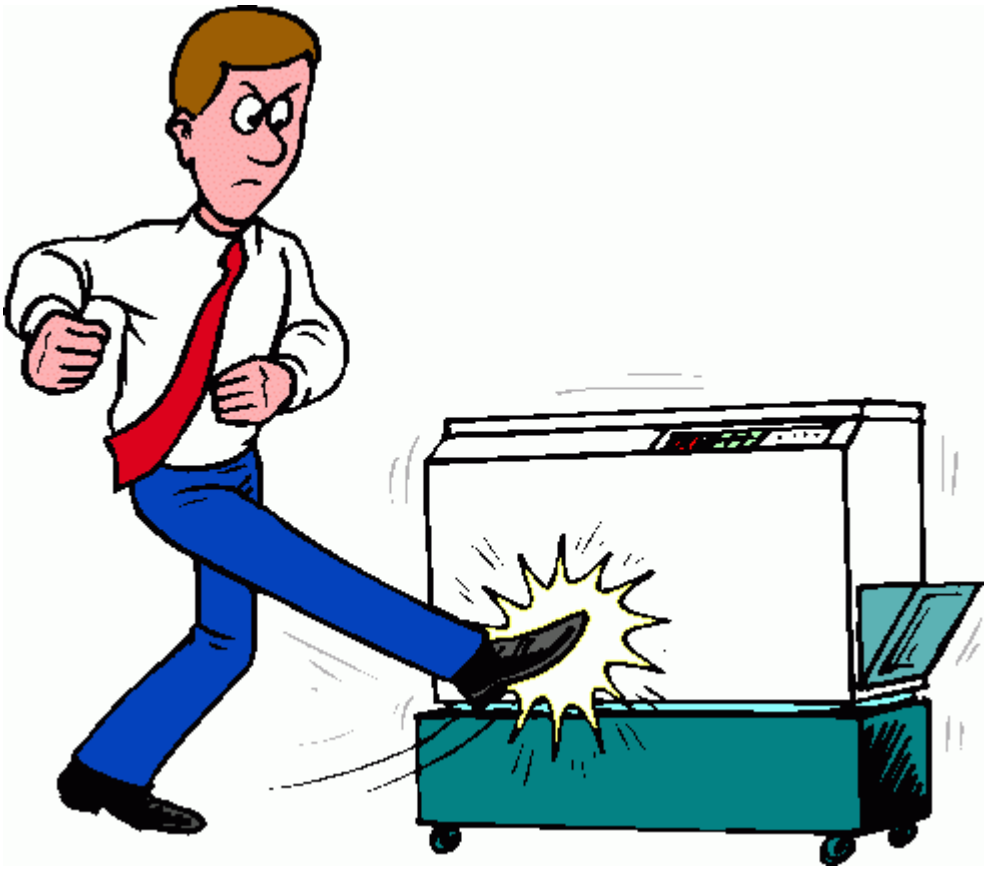
A paper was jammed in the Xerox. The organization needs the Xerox machine to make copies.

Benefits

Having a working Xerox is an office necessity.

Risks

An untrained or inexperienced employee could inadvertently damage the copier or be injured.

Outcomes

The copier's paper jam was successfully fixed without incident. The organization benefits from a working copy machine by providing the organization with a way of duplicating paper documents.