

File Plan Management Solution for the Office of the City Clerk Capstone

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ABSTRACT

The File Plan is the master list of all approved record series, or individual record retention policies, for departments within the City of Austin. Currently, records analysts create records retention schedules by manually copying and pasting values from the approved record series into the retention schedule template. This process is inefficient and time consuming to record analysts with the Office of the City Clerk, and creates opportunities for inconsistent retention schedules. My project will help the Office of the City Clerk transition from a File Plan spreadsheet to a relational database model. I conducted stakeholder interviews, product research, and software testing to choose the most appropriate solution for the Office of the City Clerk.

My contribution to this organization is a complete list of functional requirements, a final recommendation of a potential third party software solution, and a report detailing my findings. My recommendation will help this department better manage the consistency of their records series and improve the workflow for File Plan database management.

METHODS

The Office of the City Clerk has been working towards an File Plan Management Solution for several years, and already developing the core foundation for a third party database solution. The Records and Information Management Division began adding functional requirements in 2014, and are recorded on the Office of the City Clerk Wiki ("Records Management Database," 2014). From 2014 - present, Records Analysts and officers updated functional and technical requirements, created data models and identified possible software solutions ("Records Management Database," 2014). As of 2015, the proposed functional requirements included generate record control schedules, display a searchable catalog of all record series, generate reports for all departments and divisions, revision history, security settings for user permissions, and series import feature ("Records Management Database: Requirements Table," 2014). These File Plan recommendations guided my initial research and the development of my stakeholder interview questions.

My methods included interviews, product research, requirements gathering, process analysis, and preliminary database modeling. I began my product by researching the general records management workflows and terminology developed by the Office of the City Clerk. My ability to understand and communicate these concepts is crucial not only for my recommendation, but also for conducting stakeholder interviews. I interviewed and consulted crucial stakeholders, specifically Office of the City Clerk Records Analysts, to best understand the current processes for maintaining the File Plan database and creating Record Control Schedules (Harris & Darnall, "Proposal," 2016). I also shadowed several meetings, including a File Plan Governance Committee, to observe the process for discussing revisions to the master File Plan (Harris & Darnall, "Proposal," 2016). Using feedback I received from Record Analysts and related meetings, I updated and elaborated on the Functional Requirements table initially

developed in 2015. Using these updated requirements, I developed a list of possible software solutions for testing. From this preliminary list, I selected a final software solution that best met the functional requirements, specifically focusing on reporting, security, and customization.

FILE PLAN HISTORY

The Office of the City Clerk has repeatedly updated the content and presentation of the File Plan to better record the lifecycle of individual record series. The first edition of the File Plan included individual record series, but only with limited attributes including just the record series number, record class, the record title, and a retention period. All record series descriptions were borrowed from the Texas State Library and Archive schedules (D. Korty, personal interview, September 13th, 2016). The Records Management Officer was primarily responsible for making changes to record series, but technically any records analysts could make changes to record series (D. Korty, personal interview, September 13th, 2016). Additionally, Records Analysts would frequently create new record series without thorough research or justification to suit the needs of his or her consulting departments. This previous workflow led to duplicated record series within the File Plan that current records analysts are still consolidating today. In approximately 2010, the Office of the City Clerk became using Infolinx to better manage storage of the city's physical records (D. Korty, personal interview, September 13th, 2016; "File Plan Change Requests," 2016). The Office of the City Clerk developed the current version of the File Plan with the transition to Infolinx, and began recording updates to record series about two years later (D. Korty, personal interview, September 13th, 2016). These changes helped lead to the present workflow for approving and modifying record series includes research, multiple peer reviews, and department review of any changes made to an individual record series.

	A	B	C	D	E	F	G
	Authority	Record Series Number	Record Class	RECORD SERIES TITLE 1	RECORD SERIES TITLE 2	RECORD SERIES TITLE 3	RECORD SERIES DESCRIPTION
1	GR1025-01(e)	AUD01-05A	Audit Records	Audit Records	Work Papers and Case Files		Work papers, summaries, and similar records created for the purposes of conducting an audit. Includes investigations, interviews, notes, etc.
2	GR1025-01(a); GR1025-01(c); GR1025-01(d)	AUD01-10A	Audit Records	Audit Records	Reports		Annual or biennial cumulative reports, periodic reports not included in cumulative and special audit reports of internal and external audits.
3	GR1025-01(a); GR1025-01(c); GR1025-01(d)	AUD01-10B	Audit Records	Audit Records	Reports		Annual or biennial cumulative reports, periodic reports not included in cumulative and special audit reports of internal and external audits.
4	GR1025-01(b)	AUD01-20A	Audit Records	Audit Records	Reports Included In Cumulative Audit		Annual, biennial, or other periodic reports of an internal or external audit if they are included in a cumulative audit.
5							

Image 1.1: Screenshot of Approve Series in current File Plan

The current File Plan is an Excel workbook with multiple sheets. The first sheet lists of all 911 approved record series in their final format. In the current version of the File Plan, Record Series include the authority number, record series number, record class, record series title 1, record series title 2, record series description, in-office retention, records center retention, total retention, disposition type, Austin History Center notes, custodian, citation, Texas State Library notes, City of Austin Notes, vital record status, vital record notes, series status, approval date, and additional comments ("File Plan," 2016). Additional pages within the File Plan excel workbook include draft record series, approved changes, rejected changes, consolidated record series, deleted record series, and TSLAC authority schedule updates ("File Plan," 2016). All language changes, consolidations, and deletions must be recorded with a record of the date and individual initiating the change. Discussions include language, custodians, consolidations, and trigger changes to individual record series (File Plan Governance Meeting, September 9, 2016). All versions of the File Plan are stored and catalogued in the Office of the City Clerk's Electronic Document Imaging Management System, or EDIMS. Records Analysts create Record Control Schedules by selecting record series from the master File Plan depending on the series relationship with departments and divisions within the City of Austin. Learning about the history of records management for the Office of the City Clerk as well as processes has enabled me to better understand the needs and concerns of this department, and improved the quality of my final recommendation.

STAKEHOLDER FEEDBACK

As the primary users of the File Plan software solution, I interviewed all six Record Analysts working for the Office of the City Clerk. Through these interviews, I received valuable feedback about the history of the File Plan, the governance of the City of Austin, challenges with creating control schedules, and areas for process improvement. I also conducted a follow up meeting with the Special Projects Administration team and the Records Management Officers to receive further feedback on my initial recommendations and my proposed relationship diagram.

TSL RECORD SERIES NUMBER	COA RECORD SERIES NUMBER	RECORD TITLE AND DESCRIPTION	RETENTION PERIOD	REMARKS	VITAL OR HISTORICAL
«Authority»	«Record_Series_Number»	«RECORD_SERIES_TITLE_1» «RECORD_SERIES_TITLE_2» «RECORD_SERIES_TITLE_3» «RECORD_SERIES_DESCRIPTION»	«Retention_Trigger» + «Total_Retention» «Amount_Type»	«Retention_Trigger_Descriptions» «Custodian» «Citation» «AHC_Notes» «COA_NOTE»	«VITAL»
«Authority»	«Record_Series_Number»	«RECORD_SERIES_TITLE_1» «RECORD_SERIES_TITLE_2» «RECORD_SERIES_TITLE_3» «RECORD_SERIES_DESCRIPTION»	«Retention_Trigger» + «Total_Retention» «Amount_Type»	«Retention_Trigger_Descriptions» «Custodian» «Citation» «AHC_Notes» «COA_NOTE»	«VITAL»
«Authority»	«Record_Series_Number»	«RECORD_SERIES_TITLE_1» «RECORD_SERIES_TITLE_2» «RECORD_SERIES_TITLE_3» «RECORD_SERIES_DESCRIPTION»	«Retention_Trigger» + «Total_Retention» «Amount_Type»	«Retention_Trigger_Descriptions» «Custodian» «Citation» «AHC_Notes» «COA_NOTE»	«VITAL»

Image 1.2: Screenshot of Current Control Schedule Word Template

For the purposes of updating functional requirements, I primarily focused on feedback I received from the Office of the City Clerk Record Analysts. Office of the City Clerk Records Analysts provide consultation services to other departments within the City of Austin, as opposed to Department Record Analysts who

serve as records administrators for a single department (“File Plan Change Requests,” 2016). Unless otherwise specified, the term “Records analyst” will refer to Office of the City Clerk Records Analysts from here forward. Each Records Analyst consults about eight individual departments within the City of Austin, and there are currently 46 departments within the city administration (K. Cranford, personal interview, August 30th, 2016). Two of the Records Analysts also serve as File Plan Administrators in addition to their duties as a department records consultant. File Plan Administrators can make changes to the master File Plan, develop the File Plan Style Guide, and moderate File Plan Governance Committee meetings (“File Plan Change Requests,” 2016). Creating individual Record Control Schedules is time consuming for Records Analysts, as each analyst is responsible for consulting multiple departments. An individual department can have more than twenty record control schedules (“File Plan Change Requests,” 2016). The Office of the City Clerk is working with departments to consolidate record control schedules as much as possible, but there is still resistance from several divisions to consolidation (K. Cranford, personal interview, August 30th, 2016). These challenges need to be taken into consideration when choosing a File Plan Management solution.

When interviewing Records Analysts, I focused on reviewing the history of the current File Plan, challenges of the current process for creating records control schedules, and areas for process improvement. Likewise, I asked Records Analysts what functions they would need in a new third party software solution. The ability to create correctly formatted Record Control Schedules, search record series, and locate record series by departments and divisions is crucial for Office of the City Clerk Record Analysts. Specifically, Records Analysts wanted a solution that can generate Record Control Schedules more efficiently than manual entry, as long as formatting of schedules remains consistent (K. Decola, personal interview, September 16th, 2016). Analysts would be able to see relationships at the record series level, and track supplemental descriptions for individual record series (A. Webb, personal interview, September 20th, 2016). Supplemental descriptions are additional descriptions to individual record series within a control schedule that are requested by individual departments. Supplemental descriptions do not exist within the master File Plan, and are located by reviewing the last edition of a control schedule. Additionally, a record series may have many different supplemental notes depending on the Record Control Schedule (A. Webb, personal interview, September 20th, 2016). Thus, supplemental descriptions are uncontrolled information that is not currently modeled within the current File Plan. Each Office of the City Clerk Records Analyst offered unique feedback on the File Plan solution depending on his or her own experiences in records and information management.

File Plan Administrators cited additional parameters for a third party solution. Usability of a final software solution is crucial. Any selected solution must be understandable to Records Analysts as well as end users, or department Records Analysts (E. Martinez, personal interview, September 6th, 2016). File Plan Administrators have led the effort to consolidate individual record series as much as possible. Currently, there are about 900 approved record series; File Plan Administrators would like to eliminate at least 50 to 100 redundant retention policies (E. Martinez, personal interview, September 6th, 2016). To improve accessibility of finalized Record Control Schedules, the File Plan Administrators want a software solution that is compatible with the current Office of the City Clerk Wiki. An ideal solution could host direct updates of Record Control Schedules directly to the Wiki page without relying on individual PDF and Word documents (K. Cranford, personal interview, August 30th, 2016). File Plan Administrators are also working to finalize the File Plan Style Guide, and would like formatting recommendations to be implemented in the chosen software solution.

Regarding hosting options, I received positive feedback regarding using a cloud-based solution. For any cloud based solution, data security is paramount and should be detailed in the final contract (K. Decola, K. Darnall, E. Martinez; personal interviews, September 2016). Concerns regarding cloud-based software

include verifying that the Office of the City Clerk is considered the owner of the material, and that “be very careful with the contract” to ensure that information still belongs to OCC and not the vendor (D. Korty, personal interview, September 13th, 2016). Ownership of record series is crucial to the Office of the City Clerk, and any cloud-based solution “must include the ability to export or archive the data on premise” if the information is housed primarily in the cloud (K. Darnall, personal interview, September 9th, 2016). Consolidating feedback from my stakeholder interviews, I added series export, multiple user capability, customization, SharePoint compatibility and usability as five additional functional requirements for my final software recommendation.

PRODUCT TESTING

I began by reviewing software categories as outlined by the initial research conducted by the Office of the City Clerk. These categories included Inventory Management Software, Asset Management Software, Case Management Software and Library Cataloging software (“Records Management Database,” 2014). The structure of the record series inventory makes inventory management software and product information software good possible alternatives to traditional records governance software.

I limited my final evaluation to software products that enabled access to free trial. In order to make a final recommendation, I needed to be able to test the advertised functionalities offered by each platform. My experience has been that companies that offer free trials tend to be somewhat more receptive to user feedback, which is an important consideration for the Office of the City Clerk. The City of Austin has combined state and local record series and added additional information into their file plan, making customization and flexibility an important feature of any application I choose. Building from earlier recommendations of the RIM team, I focused my product research in three software product categories: inventory management software, product information software, and records governance software. When testing each software option I tested, I specifically focused on the functional requirements related to searchable catalog, reporting capabilities, revision history, data importing and exporting options, and user permissions.

Three initial products I researched included LibraryWorld, Virgo, and Salsify. These three products were library catalog software, records retention software, and inventory management software, respectively. Considering that the Office of the City Clerk had considered Library Catalog Software as an option, I started researching cloud based library solutions (“Records Management Database,” 2014). I choose LibraryWorld because of economical pricing options and my personal experience using this product. LibraryWorld’s pricing was well within budget, with all features available for as little as \$495 per year (“Pricing, Active Libraries,” 2013). LibraryWorld is created for use as a cloud based library catalog system, and lacks flexibility to accommodate record retention policies. Individual records can only be created using MARC cataloging language that is not applicable to the retention policies of the Office of the City Clerk.

Shortly after reviewing Library catalog software, I began researching information governance or records retention specific software solutions. Through product and business consumer reviews, I located Virgo, a retention schedule specific information governance solution. Virgo is a product created by Information Governance Solutions, LLC, specifically for managing records retention schedules. Virgo is developed and advertised as an information governance solution and hosted an interface very similar to the spreadsheet model that my department has become accustomed to using. However, once beginning my free trial of Virgo, I quickly realized that Virgo would not be suitable for the needs of the Office of the City Clerk. Virgo lacked options for customization of individual record series and search options. You could only search for series attributes that fit within the current window. Even if the column exists in the record series, you will not be able to search that attribute unless the column is selected in the primary

view. Most importantly, individual users cannot add or customize attributes of individual records. The current File Plan spreadsheet contains attributes that are unique to the City of Austin, and must be reflected in the final database solution.

Salsify is a combination between inventory management, product management, and digital asset management software. Unlike Virgo and LibraryWorld, Salsify enabled a customized catalog that easily allowed data importing, exporting and reporting. However, Salsify could not model the relationships between record series, departments, divisions and retention schedules. Uploading large amounts of data was difficult in Salsify, as was modeling basic relationships between record series. Salsify is also more expensive than the Office of the City Clerk can manage; Salsify plans currently start at about \$1,000 per month for a basic plan ("Salsify [Review]," 2016). I considered other Product Information Management solutions such as Catalog Machine and HPE Content Manager. Catalog Machine is a more economical version of a product information management platform like Salsify. In comparison to Salsify, Catalog Machine lacks customization and reporting options for records series. Catalog Machine lacks the capability to host multiple user accounts, and is not a viable solution for the Office of the City Clerk.

Table 1.1: File Plan Preliminary Product Testing Results

Product	Product Category	Outcomes
Infolinx	Records Management Software	Cannot produce control schedules, tested by department. In use by Office of the City Clerk for managing off site physical records storage.
Accuratc	Records Management Software	Lack of free trial option available.
Virgo	Records Management Software, Retention Schedule Software	Virgo is developed and advertised as an information governance solution and hosted an interface very similar to the spreadsheet model that my department has become accustomed to using. However, once beginning my free trial of Virgo, I quickly realized that Virgo would not be suitable for the needs of the Office of the City Clerk. First of all, Virgo lacked options for customization. The attribute you wish to search for must be in the main record series view. Even if the column exists in the record series, you will not be able to search that attribute unless the column is selected in the primary view. Most importantly, individual users cannot add or customize attributes of individual records. The current File Plan spreadsheet contains attributes that are unique to the City of Austin, and must be reflected in the final database solution.
RulesMapper	Records Management Software	The Office of the City clerk previously accessed RulesMapper; several screenshots of this product interface exist in EDIMS. RulesMapper's product webpage was uninformative and lacked detail about this software's specific functionality, costs, or interface. I contacted RulesMapper directly on September 27, 2016 for additional product information but never received a response.

Salsify	Product Information Management, Asset Management Software	Free trial available, has import/export functions, change logs for individual records. However, Salsify could not model the relationships between record series, departments, divisions and retention schedules. Uploading large amounts of data was difficult in Salsify, as was modeling basic relationships between record series. Salsify's strongest feature is integrating inventory management with digital asset management, which is not needed for a file plan solution for the Office of the City Clerk and drives up the monthly cost of this solution.
InFlow	Inventory Management Software	I considered inFlow as an option for the Office of the City Clerk because of the low costs and strong user reviews. However, I was Unable to access free trial when I tested this product, and was generally unimpressed with the performance of this software.
LibraryWorld	Library Catalog Software	The Office of the City Clerk had considered Library Catalog Software as an option. LibraryWorld is created for use as a cloud based library catalog system, and lacks flexibility to accommodate record retention policies. Individual records can only be created using MARC cataloging language that is not applicable to the retention policies of the Office of the City Clerk.
QuickBase	Online Database Application	While QuickBase offers users the option of creating databases with low coding, the user interface is very confusing. This product lacks the usability of a final file plan database solution appropriate for the Office of the City Clerk.
Confluence	Team collaboration Software	I was drawn to Confluence due to team editing and audit trail capability. However, I could not create a searchable catalog of record series within Confluence.
Caspio	Online Database Application	My final recommendation is Caspio, a low-code cloud database solution that also has extended reporting capabilities. Using the relationship model I developed with help from file plan administrators, I have tested creating control schedules and related reports using Caspio, and have been very pleased with the results. Caspio is unique in providing a high level of customization that I have been unable to replicate in related software applications.
Catalog Machine	Asset Management Software	Catalog Machine is a more economical version of a product information management platform like Salsify. I tested both Salsify and Catalog Machine in mid-September. In comparison to Salsify, Catalog Machine lacks customization and reporting options for records series. Additionally, Catalog Machine lacks the capability to host multiple user accounts, and is not a viable solution for the Office of the City Clerk.
Power BI	Business Analytics Software	Power BI has advanced reporting capabilities, but cannot support a database of the scope of the File Plan.

Once I begin the software-testing phase, I realized that none of the leading records retention or inventory management solutions could represent the complex relationships between record series, control schedules, departments, and divisions. I had briefly explored several traditional database options but I initially experienced a lot of difficulty modeling the relationship between records series and departments. Additionally, I wanted to find a solution that could be used by all departments within the City of Austin, and therefore sought a low-code database option that could be used and understood by everyone. Early in my research, I primarily focused on the functional requirements of the software solution; I did not initially consider how the relationships between departments and record series could be modeled in the database. Many software solutions meet the software requirements, but cannot reflect the relationships between retention policies, departments, and divisions. These challenges lead me to investigate low code database options that enabled customization without burdening the customer with backend development.

FINAL RECOMMENDATION

My final recommendation is Caspio Bridge, a low-code cloud database solution that has extended reporting capabilities. Caspio, Inc. is a small privately held company in business since 2000 with less than 200 employees (N. Pajic, personal communication, November 22, 2016). Caspio has several established companies as customers, such as Coca-Cola, Barnes & Noble, Box, HP, and Version, and Yale University (“Customer Success,” 2016). Caspio Bridge is Caspio’s primary software application. Using the relationship model I developed with help from File Plan Administrators, I tested creating control schedules and related reports using Caspio’s free trial option. Caspio is unique in providing a high level of customization that I have been unable to replicate in related software applications. Caspio hosts advanced reporting capabilities that can be customized according to your data presentation preferences. Database administrators can set unique user access for each Data Page and application, modifying editing, deleting and viewing privileges by an individual user or department. I have already created and tested a preliminary relationship diagram that is compatible with this database model, and would be a great solution for the Office of the City Clerk. Another advantage of Caspio is unlimited user accounts. Unlike other cloud-based software, organizations do not have to pay by the number of users. Instead, Caspio offers standard monthly fee depending on the plan and features selected.

Choose the fields to join the Tables in this View:

Department.Department_ID = Divisons.Department_ID

☒ Include only matching records
 ☐ Include all records

Relation	Join
Department.Department_ID = Divisons.Department_ID	inner
SeriesRelationships.RecordSeries_ID = RecordSeries.RecordSeries_ID	inner
SeriesRelationships.ControlSchedule_ID = ControlScheduleStatus.ControlSchedule_ID	inner
SeriesRelationships.Division_ID = Divisons.Division_ID	inner

Image 1.3: Joining Tables using the View function in Caspio

Within the Caspio interface, you can create multiple apps, or applications, based on your business needs. Using the App capability, I created a mock File Plan with multiple tables, DataPages, and Views. Caspio lets you create tables and Views within individual applications. A View is essentially a join of multiple tables that can be created with almost no code, as long as the administrator understands the relationships between tables. Administrators can also create DataPages, which are essentially the front end of web forms, reports, charts, and other displays created using data in Caspio (“What is a DataPage,” 2016). For the purpose of the File Plan, DataPages provide an option which enables outside department users and analysts to search and view the relationships between record series without having to write individual queries. You can use a DataPage to view results from an individual table, or from a more advanced query. I created several DataPages to individual view record series, and additional DataPages to create retention control schedules.

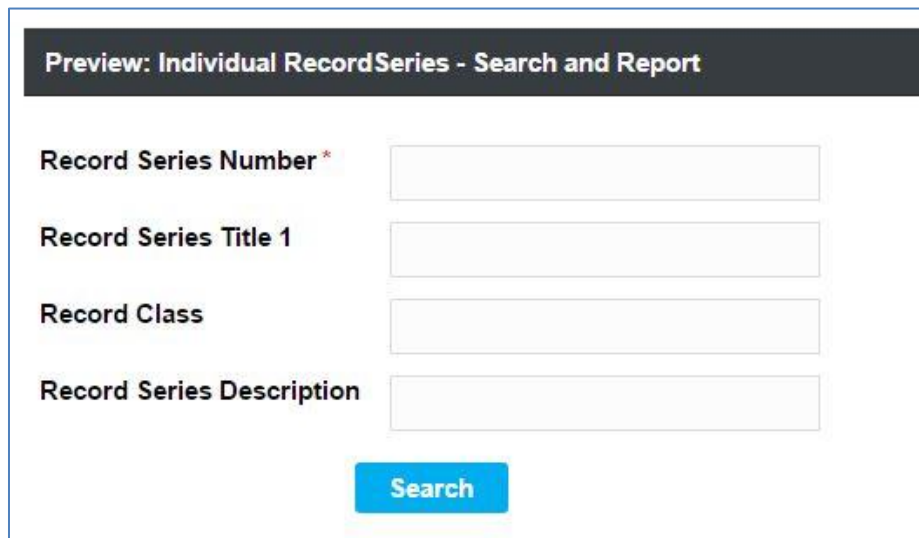
The image shows a web form titled "Preview: Individual RecordSeries - Search and Report". It contains four input fields: "Record Series Number *" (with a red asterisk), "Record Series Title 1", "Record Class", and "Record Series Description". Below these fields is a blue "Search" button.

Image 1.4: Screenshot of DataPage Record Series Search Form

For example, I created DataPages can show a searchable catalog of record series and a searchable catalog of record control schedule values. Once the data is input into tables, creating a retention schedule report takes less than a minute. When creating a DataPage, you can select what fields you want to search, what fields will be displayed, and how the results can be accessed by individual users. These DataPages can be embedded into other websites, and with specialized development for SharePoint, could be integrated with the Office of the City Clerk Wiki Page. While creating individual DataPages, you can add an HTML block to the “Results” page to combine individual fields or edit how information is displayed in the results page (N. Pajic, personal communication, November 22, 2016). Working within an individual DataPage, File Plan Administrators should be able to insert HTML to combine record series attributes into fields that are compatible on the current record control schedule template. Additionally, Caspio provides extensive technical documentation on developing DataPages and Views should any questions arise.

I have been very pleased with Caspio, Inc. as a vendor. While reviewing other information and database solutions, I was repeatedly harassed by vendors once I began my free trial. In some cases, I was contacted by email and called me several times a day regarding my free trial request. Additionally, several vendors immediately dismissed my question regarding product functions and pricing. These initial vendor interactions gave me insight not only into the product itself, but also the culture for the vendor relationship of that product.

Preview: ViewNovember12 - Search and Report						
Search Again						
Series Authority	Series Number	Record Class	Record Series Title 1	Record Series Title 2	Record Series Title 3	Record Series Description
PS4025-01(a); PS4025-01(d)	SAF40-05A	Reports	Activity and Statistical Reports	Daily/Weekly Reports or Logs/Registers		Narrative and/or statistical activity reports or chronological logs or registers of activities prepared by shift supervisors, unit heads, or other public safety personnel on daily or other periodic activities such as roll calls, briefings, inspections, drills, or visitors, except reports of other types described included in other records groups in this schedule
PS4250-02(a)	SAF20-11A	Investigative Records	Criminal Process	Arrest Warrants		Arrest warrants, capiases of all types, and witness attachments.
PS4125-01	SAF03-05A	Activity Logs	Activity Logs	Citation and Boot Reports		Logs or equivalent records, usually arranged chronologically or by case, court, or citation number, providing summary data on complaints investigated by law enforcement officers, arrests made, citations issued, accidents investigated, court arraignments, court appearances by officers, photos, and similar activities relating to the arrest or citation of persons or the investigation of offenses.

Image 1.5: Screenshot of Control Schedule DataPage results view

In contrast, Caspio, Inc. has been very flexible in working with me to answer all my questions and extend the free trial period. I have repeatedly emailed my vendor contact to answer questions regarding functionality, price and implementation. I requested to extend my free trial into November, noting that being able to present this software live would be a beneficial to my department, not expecting this request to be granted. Not only did Caspio grant this request, my contact also agreed to extend my contract until the end of November 18th (N. Pajic, personal communication, November 2nd, 2016). Caspio's level of flexibility in communication will be a benefit to working with the Office of the City Clerk, as Records Analysts like to maintain a healthy level of communication and contact in all their working relationships.

CASPIO IMPLEMENTATION

For my list of potential third party solutions, I focused on three individual plans available through Caspio for the Office of the City Clerk based on costs and functionality. For this project, I was given a budget estimate of approximately \$3,000 - \$5,000 a year (K. Darnall, personal interview, September 9th, 2016). I focused on plans that were at or near that price range that still meet most of the functional requirements. Because Caspio is a cloud-based solution, the Office of the City Clerk would need to regularly back up information hosted in the File Plan Database, and continue to maintain a revision history depending on the plan selected. As noted, an advantage of Caspio is that the Office of the City Clerk would not have to pay additional fees for user accounts, a usual feature for cloud based applications that I tested. Caspio

offers additional pricing options and standard plans on their website, as well as customized options that would be discussed directly with the vendor.

The Professional Plan is the best option for the Office of the City Clerk if purchasing cost is the greatest concern. With the Professional Plan meets the functional requirements of generate record control schedules and related reports, data import and export, user account settings, and a searchable catalog or table of record series. The Professional Plan is also within the proposed budget, the monthly costs range from \$211-\$250 depending on a monthly payment or yearly contract commitment ("Caspio Cloud Database Pricing," 2016). Functional requirements that are not including in this plan are revision trial or audit history, and the ability to generate separate PDF documents from DataPage search results. In my Caspio product testing, I was able to copy DataPage results from the web browser into a Word document without compromising formatting or text. Of these three options available, most analysts supported the Professional Plan as the best option presented based on cost and functionality. Concerns were raised over DataPage limits, SharePoint integration, and compatibility with the current control schedule template. Customers are able to purchase additional DataPages within an individual plan for \$8.50 for each additional page (N. Pajic, personal communication, November 22, 2016). With additional development and customization, DataPage results can be displayed within SharePoint, but this integration is not automatic with a Caspio plan and requirements additional development within SharePoint. For the Office of the City Clerk, the Professional Plan offered by Caspio, Inc. meets most of the functional requirements needed for a File Plan Database solution.

Table 1.2: Third Party Solution Details - Caspio Cloud Database

Plan Name	Functional Requirements Met	Additional Notes	Cost per year
Professional Plan	Able to generate records control schedules Searchable catalog Generates Reports by departments and divisions Series Import Feature Series Bulk Editing Series Export Feature Security Settings Multiple user accounts SharePoint Compatibility Customization Usability	Best for cost 50 DataPages Unlimited users Cannot export control schedules or other reports as PDFs in this plan Does not include Audit trail Database storage: 7 GB	\$3,000
Performance Plan	Able to generate records control schedules Searchable catalog Generates Reports by departments and divisions Series Import Feature Series Bulk Editing Series Export Feature	Best for Reporting Unlimited Users 150 DataPages DataPage Revision history Includes PDF Reporting Does not include Audit trail	\$9,600

	Security Settings Multiple user accounts SharePoint Compatibility Customization Usability	Database storage: 12 GB	
Professional Compliance Plan	Able to generate control schedule Searchable catalog Generates Reports by departments and divisions Series Import Feature Series Bulk Editing Series Export Feature Security Settings Changes Logs (Audit trail) Multiple user accounts SharePoint Compatibility Customization Usability	Best for Revision History 50 DataPages Unlimited users Cannot export control schedules or other reports as PDFs in this plan Does include Audit trial Database storage: 7 GB	\$12,000 (discuss with vendor)

Two additional plans I considered for the Office of the City Clerk included the Performance Plan and the Professional Compliance Plan. Both of these plans are considerably more expensive and currently out of budget for the Office of the City Clerk. The Performance Plan is similar to the Professional Plan, but with additional storage included and the ability to generate PDFs of DataPage search results (“Caspio Cloud Database Pricing,” 2016; N. Pajic, personal communication, October 28th, 2016). With the Performance Plan, clients receive 150 DataPages and the ability to generate PDFs of search results. Audit trail capability is only available with Compliance add-ons to the Professional, Performance or Corporate plans (N. Pajic, personal communication, November 8th, 2016). Compliance add-ons include a complete revision history of all data, including details on the user who made the change, the change made, and when the change was made (“Compliance Datasheet,” 2016). Additional details on Compliance Details on compliance plans are not publically available; clients need to contact Caspio directly for additional information. The Office of the City Clerk could upgrade to a more advanced plan at any time during their contract if needed (N. Pajic, personal communication, November 22, 2016). The Performance Plan and the Professional Compliance Plan are two additional solutions that could be utilized for File Plan maintenance.

If purchased, using Caspio as a File Plan software solution will impact the workflow of records analysts, especially File Plan administrators. In addition to the purchasing cost of Caspio, the Records and Information Management division would need to consider the costs transition in terms of workflow and implementation. The Office of the City Clerk will want to review and negotiate any contract with Caspio, Inc. before moving into the purchase approval phase with the City of Austin. File Plan Administrations would be most impacted by implementation of this new software solution, as they are primarily responsible for maintaining consistency and formatting of the current File Plan. Additionally, there are elements of the current File Plan that would be covered by my proposed Caspio model. For example, using the Professional Plan, revision history would be to continue to be maintained in house, possibility within the current File Plan excel spreadsheet. Caspio offers additional customization options within

applications and DataPages using HTML. Additional scripting would need to be implemented within Caspio's DataPages to create customized formatting that is compatible with Texas State Library and Archive requirements. This additional customization within the Caspio application could be a responsibility of the incoming IT Application Developer for the Office of the City Clerk. In addition, once Caspio has been set up, Records Analysts would need to receive training on how to use Caspio to search for Record Series and create Record Control Schedules. New training materials and presentations will need to be created for supported department Records Analysts on how to use Caspio. Additional impact factors include employee transition and purchase and approval processes for the City of Austin. Several Records Analysts for The Office of the City Clerk are transitioning to other departments or positions, and these transitions that may impact implementation of a new software solution.

CONCLUSION

The purpose of my capstone product was to assess the market of off the shelf solutions for a software application to better manage the File Plan for the Office of the City Clerk. This capstone sought to answer whether the Office of the City Clerk could improve the process of creating control schedules and maintaining the File Plan using a third party software solution. Through stakeholder interviews, product testing, developing functional requirements, I have selected a realistic off the shelf solution for managing the File Plan and process improvement using Caspio. Caspio offers an affordable option for the Office of the City Clerk to maintain the File Plan in a cloud hosted database. While implementing Caspio would challenge the current File Plan Governance workflow, this product is the best off the shelf solution for managing record series in terms of customization, reporting, and information ownership with limited in house development. The Office of the City Clerk benefits from a detailed process analysis as well as a final software recommendation. Before purchasing Caspio, the Office of the City Clerk will need to reassess the workflow impact on Records Analysts and File Plan Administrators to make the transition as smooth as possible. Once established, Caspio is a viable File Plan management solution for maintaining the master File Plan and creating Record Control Schedules for the Office of the City Clerk.

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CASPIO RESOURCES

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Caspio Online Help & Technical Documentation
<http://howto.caspio.com/>

Creating Caspio Tables & Views
<http://howto.caspio.com/tables-and-views/>

Creating DataPages, Forms, adding HTML
<http://howto.caspio.com/datapages/>

Caspio Development Guide
<http://someapp.com/np/apps/workflow/index.html>

Caspio “Tech Tips”
<http://howto.caspio.com/tech-tips-and-articles/>

APPENDIX

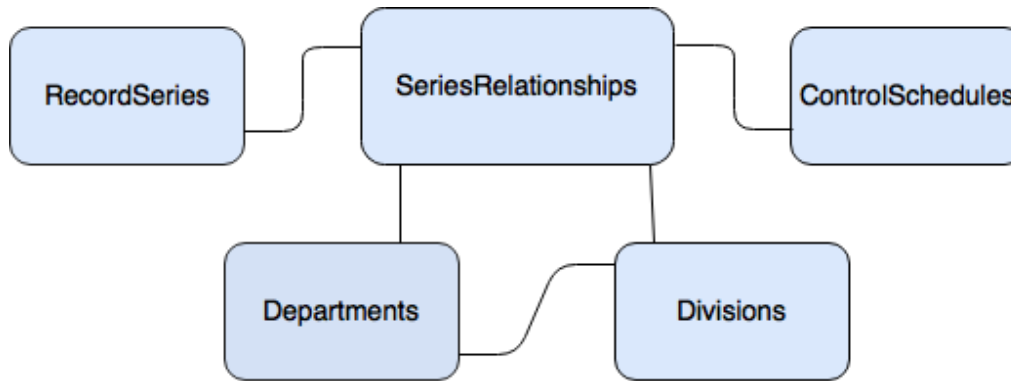
1.1: Updated Functional Requirements

Requirement	Additional Description	Reporting or Functional?	Need to have, or Nice to have?	Requirement/Authority
Generate Records Control Schedule	Must produce RCS documents in a template that contains relevant fields for each/all departments and divisions	Reporting	Must have	TSLAC has requirements for management of SLR 500 forms - any documentation changes to current template must be approved.
Displays a searchable catalog of all record series	Used to view, update, add series to specific departments	Functional	Must have	Necessary for completion of work by analysts and departments
Generates reports for each / all departments and divisions	Reports may include: • Hierarchical reports (e.g. view series by department, division, business function) • Analytic reports (viewing number of departments with a specific series) • RCS approval workflow (which schedules are under review, approved, approved and signed, when a schedule is up for review)	Reporting	Need to have (hierarchical) Nice to have (workflow and analytics)	Records Analysts need to have advanced reporting options within record series database. For File Plan maintenance workflow is ideal!
Change logs: Any changes made to the catalog of record series will be tracked, including:	Any changes made to the catalog of record series must be tracked, including: • Date changed • Content changed • User who initiated change	Functional	Need to have	Vital to documenting RIMS decision making and tracking file plan governance
Security settings	Ability to set different permission levels for users (view, read, edit) • File Plan administrator • Records Analyst	Functional	Need to have	Necessary for departments to have read only access to RCS for their teams

	Read only Ideal: File Plan administrators could edit, update, create reports, and delete content. Records analysts could search, select and generate reports, but not edit content. Read only would be other department view. Analysts would have the ability to restrict department views to applicable record series for that respective department.			
Series import feature	Bulk import or update feature to adjust multiple series	Functional	Need to have	Ideal for Records Analysts to have this capability within record series database.
Series Export Feature	Bulk Export all record series at any time	Functional	Must have	Crucial to maintain security and ownership of Record Series
Customization	Ability to customize records series attributes Must be able to include attributes as designated by current File Plan	Functional	Need to have	Crucial to maintain the consistency of the File Plan
Multiple User accounts	Multiple user accounts for all File Plan administrators and records analysts as applicable.	Functional	Need to have	Records Analysts will need access to this database to keep formatting and creation of record control schedules consistent across all departments.
Compatibility with SharePoint	Directly link reports and views of record series through the Office of the City Clerk Wiki page.	Functional	Nice to have	File Plan Administrators would like to maintain consistency between File Plan database and Office of the City Clerk Wiki page.
Usability	The user interface of this application is usable and understandable by all records analysts in the department.	Functional	Nice to have	The final software recommendation should be usable and understandable to all records analysts after an appropriate training period.

1.12: Proposed Entity Relationship Model & Tables

I. Proposed Relationship Diagram



A. Sample Table for RecordSeries

	Name	DataType	Unique
▶	RecordSeries_ID	Autonumber ☐	☒
	Authority	Text (255)	☐
	Record_Series_Number	Text (255)	☐
	Record_Class	Text (255)	☐
	RECORDSERIES_TITLE1	Text (255)	☐
	RECORDSERIES_TITLE2	Text (255)	☐
	RECORDSERIES_TITLE3	Text (255)	☐
	RECORDSERIES_DESCRIPTION	Text (64000)	☐
	TotalRetention	Text (255)	☐
	AmountType	Text (255)	☐
	TransferToAHCforreview	Yes/No	☐
	AHCNotes	Text (255)	☐
	RetentionTrigger	Text (255)	☐
	RetentionTriggerDescriptions	Text (255)	☐
	Custodian	Text (255)	☐
	Citation	Text (255)	☐
	TSLNOTE	Text (255)	☐
	COANOTE	Text (255)	☐

B. Sample Table for SeriesRelationships

	Name	DataType	Unique
▶	Series_Relationship_ID	Autonumber 	☒
	RecordSeries_ID	Integer	☐
	ControlSchedule_ID	Integer	☐
	Department_ID	Integer	☐
	Division_ID	Integer	☐
	Supplemental_note	Text (255)	☐
	Vital_Status	Yes/No	☐

C. Sample Table for ControlSchedules (ControlScheduleStatus)

	Name	DataType
▶	ControlSchedule_ID	Autonumber 
	Schedule_Name	Text (255)
	ControlSchedule_Number	Text (255)
	Filing_Type	Text (255)
	Change_to_Schedule_Date	Date/Time
	Status_NextSteps	Text (255)

D. Sample Table for Departments

	Name	DataType
▶	Department_ID	Autonumber 
	Department_name	Text (255)

E. Sample Table for Divisions

	Name	DataType
▶	Divison_ID	Autonumber 
	Divison_Name	Text (255)
	Department_ID	Integer