



Profile and Account Management Systems  
An Integrated Internet Management  
Application

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## Abstract

The internet is an online information system that offers use and security of personal data, but it requires a significant amount of maintenance once information is shared. The more a person uses it for bill paying, sharing private information, buying, using credit, spending money, and all the many other things that require authentication, account management, and online enjoyment, the greater the information maintenance burden. This has evolved in a data and document management problem, leaving its users with only partially beneficial and protective systems, with information everywhere and an individual responsibility to manage with minimal technical solutions or direction. The design of the Internet does not follow an efficient database structure that allows source profile maintenance by its users and automatic updates where all the information is contained, used, stored, and held. There are several solutions to this problem, of temporary nature that use a quick program to change data, but a process and possibly a change in data management is required, as well as design standards and security practices. Users are left to manage their account information for each profile, one at a time, when we have technology available that streamlines this task.

Changing the design of the internet or creating an all-encompassing integrated application is not simple. This project will present a new profile management concept which will be applicable to other data management systems and once proven to be more secure and efficient, can be accepted as a legal requirement and standard for information sharing. Whether it's a single user application with a data management policy that solves the problem or it's a complete change to software design standards and information management, this project seeks to present a more optimal sharing solution.

# Contents

- Table of Figures ..... 4
- Introduction and Problem Statement..... 5
- Research Strategy ..... 7
- Project Goals..... 7
- Methodology ..... 8
- Research and Development ..... 14
- Project Scope ..... 14
- Preliminary Cost/Budget ..... 15
- Existing System..... 15
- Account Profile Management System - “MyApp” ..... 16
- Design Concept - One to Many Sharable Data System..... 17
- Verifications of Certified Identification, Profile and Document Management ..... 19
- Digital Content..... 24
- Summary of Findings ..... 28
- Recommendation ..... 30
  - Create an Official Project Plan ..... 30
- Summary of Problem and Solution..... 33
- Conclusion ..... 34
  - Literature & References ..... 36

## Table of Figures

- Figure 1 - The Bookmark Manager ..... 13
- Figure 2 - My Accounts Application Design..... 17
- Figure 3 - Account Management Process ..... 19
- Figure 4 - My Accounts Application - Identity..... 21
- Figure 5 - Internet Accounts..... 22
- Figure 7 - My Accounts Asset Management ..... 24
- Figure 8 - List of Internet Accounts ..... 26
- Figure 9 - Manual Account Summary ..... 27
- Figure 10 - Entertainment Insights..... 27
- Figure 11 - My Accounts Application Sample ..... 28
- Figure 12 - Application Menu..... 32

## Introduction and Problem Statement

The current design of the internet account system requires individual profile creation and management for each site when personal data is used. The ratio of user to account entry or creation is 1:anunacceptablehighnumber. While this type of design works for each individual site owner and account merchant for secure online financial transactions and information exchange, it presents serious maintenance and security issues. Users seem to have become accustomed to this style of use, perhaps because they have not seen a relational database structure that manages Internet Accounts. The Internet does not currently use a relational database design structure; therefore, this is a new concept and solution that improves data management. Every merchant and internet site where personal information is used or money is transferred requires a login and password, as well as account details – these are duplication tasks for the user and all systems each time a new account is created or when a person decides to do business on a new site. Some browser applications have somewhat improved this process with ‘saved passwords,’ and autofill functionality, but initial setup is still required, as well as maintenance in a very high number of sites and locations, which is also known as a data management nightmare. Saving credit card and personal data in a browser for autofill functionality works but should work better since profiles are used in many places, with every site asking for the same information, requiring users to duplicate data and authentication efforts every time with a standardized management procedure on the business side and freedom with no direction or technical solution useful for the persons spending money or sharing their details.

While the Internet is functional for buying and selling, as well as sharing of personal information, it is inefficient and often subject to human error and inconsistency in data, as well as security breaches leading to cybercrimes. The password memorization and reuse requirements are temporarily eliminated by auto-fill systems, but when browser data is deleted, all information must be resubmitted, thus requiring the manual storage of personal information, in addition to the browser’s save feature, or password vault applications. This process relates to personally identifiable information basics, such as name, phone number, address, email, password, and credit card numbers, which is far too limited for what could and should be done and how the information can be organized and best used. Social media systems enable the sharing of more information, making this an even more important security and information management problem that must be fixed. The degree of duplication is astounding, as is the severity of the problem with this type of information management design. As a user, I am forced to manage at least 16 different accounts that contain the same information, with no single source that can be updated that automatically updates all of them at the same time or randomly by using an old batch processing method of data updates.

Another serious problem to manage or obstacle to overcome is acceptance of low quality versus working towards more efficient ways, which require major changes industry wide. Without access to the right authorities or influencers, business must continue as usual and any new systems must conform to what already exists, rather than to hope for miraculous change. Many users don’t see it as a problem, and neither do many developers because they have not yet seen what a well-functioning and organized system can and should

do, therefore they are happy with what they have and rely on reasons not to change. These are obstacles. Another obstacle or challenge is explaining the problem in both non-technical and technical terms where an everyday user can understand it, as well as an advanced developer, as well as high level governing bodies. Therefore, creating a 'prototype' or test system is almost required. Integration with the internet is nearly impossible without advanced security talent when dealing with live systems and real human accounts and experiences. The project should follow the standard software development process, so an investment is required. It has potential to grow from a single user managed organization document management system to a fully integrated automated system but requires government and industry change.

Online systems are only minimally integrated and although they must match what is on file with banking institutions, the information does not extend past basic financially related personal information, of which there are several data areas that are just as important and require much better management. Data ownership and maintenance is also a serious problem and area in need of research, documentation, law, and policy, beyond the Privacy Act of 1974, the Paperwork Reduction Act, Freedom of Information Act, as well as all the Constitutional and Case Law surrounding information management.

With the use of social media and thousands of other sites that require profile setup, it makes sense to invest in a master profile manager and enable functionality for improved secure sharing or auto data transfer and update methods using all the master profile data, maintained in a single location for optimum accuracy and management. Using a database design for identity and profile management, with a one-to-many relational approach, the system can be redesigned to enable more efficient account management and reduce the security problems of the Internet. It is a simple concept of update one, which enables the automatic update of all the others, but seemingly impossible. The auto-source update practice is not used because of the way the Internet is designed, but this can change. If the entire Internet's design cannot change and individual developers or auto developers can't change their account management designs, then other solutions must be considered, such as an Application Programming Interface to connect to the master profile, but the Master Profile Application does not exist, therefore must be designed to improve security and personal data management. This is a new concept; thus, it must be explained, documented, compared, and show how it will improve and change nearly everything about how information is managed. The concept should be accepted as a management operational standard and required by law.

A major problem with the project is that it cannot be tested using the live Internet. Although it can be documented and broadly explained for common understanding, more technical specifications would have to be created and presented to governing boards, investors, and other interested parties before development can begin. Therefore, this project will only contain the problem, system comparisons, design, and a brief implementation plan or change strategy. The word 'prototype' is used in hesitation because it contains parts of the word that the project hopes to reduce or eliminate, which is 'pro-typing' of which users are asked to do far too much of in a duplicative manner. Technology exists that offers a better design, and this project will explain how it can be done and why it must be done and considered required by law.

## Research Strategy

Since there are a wealth of databases and plenty open search options available on the Internet and in published physical books at the library and in digital formats, the search strategy must stay focused on the subject and what type of research will most explain and benefit the problem area and system. The search strategy is focused on identifying the governing boards and process by which the Internet is designed and maintained, as well as what official process is documented and provide valuable technology reference for what can be used to solve the problem, as well as any progress towards the solution or previous attempts made by others. The research should not just be several sources that support the fact that digital identification and standard profiles are necessary or to point out the flaws in the Internet's design, but also to clearly outline the process to solve the problem. Historical reviews on how the Internet came to be and how its managed is not in the scope of the research because it already exists and is in operation across the world and retroactive research is not necessary. The search for official and supportive research is not limited to a single database, institution's library, or agency and therefore, the research will consist of a blend of official, commercialized products or solutions, proof of the problem, and the process to present changes to official governing boards.

The literature review is not conducted to further understand the problem because the problem has not been officially published by any other author and there is no published research to prove this fact, other than to share that extensive research has been conducted regarding the problem and no official or unofficial journal, articles, or solutions exist, other than what is presented here in the literature review. The term "literature" must be clarified and adapted for this project and considered a general term meaning 'writings and 'information' either in paper or digital form. Each reference, or literature that is used as a source follows APA standards for the type of research: Internet Article, Journal, Book, Movie, and Government Document, of which many non-collegiates are not privy to, just as collegiate readers would be forced to read the APA manual to know the type of reference source, therefore the research will be described for each source used.

## Project Goals

The goals pertain to the entire Information Technology industry and are set to prove there is not only a better design, but that Cloud Computing enables the achievement of the goals outlined in this paper, but not without lengthy planning, research, and clarification of the difficulties associated with changing a world-wide system. Changing the entire internet and creating a better software standard seems unachievable, which is most likely why we're stuck with systems that we are forced to adapt to. The overall goal is to improve the management of information exchanged using the internet which must be done by establishing better standards and requirements for the management of reusable and sharable data. Changes to policy affect all Information Technology systems and not just small or even large E-Commerce Online Information exchanges or 'internet sites' but how can policy be changed when there is no access to policy makers? The goal then shifts to solving the problems that we can solve and working towards a more advanced solution. It seems ideas and concepts cannot be sold because there

are no actual angel investors, or because the ideas are already taken as soon as they are typed and put together. Whatever the case, the paper and concept will be created to focus on creating an Official Document Repository with a phased integration plan.

The second goal is to show how a new design of Information Management using Cloud Systems is one of the best technology investments, but will take several years, understanding that the Cloud Architecture is not yet fully in place. This is not a new situation: where a great concept and solution is needed now, but the world is still far behind. One can't wait on the other, especially if the two don't coordinate and don't share the same design standards. The design, along with new standards and policies for data sharing and management will be created, as well as integration and data transfer methods. A small sample can be created for demonstration purposes to show how the Master Profile Application will work, along with new practices and policies for database development, leading to the passage of specific laws governing the system and prevent or create consequences for violators of standards and policy. Clarification of data ownership and management is required, as well as sharing and use policies. Everything cannot be completed in 8 weeks, but it will set the course for the doctoral research project over the next 3 years.

## Methodology

The research is a combination of qualitative phenomenological and case study compilations to show that Internet or Software Engineers follow a standard protocol for design and security, but lack in interconnectivity with each other, thus causing a flawed design for users of E-Commerce and Online Communication Systems. While the Internet enables connection and the sending and receiving of data, it only minimally uses integrated accounting or information procedures for multi-site systems. This leaves its users managing information in their own ways both digitally and on paper, in a nearly unmanageable number of locations. Phenomenological is used because of the mystery that surrounds the standardization of the Internet without a million or more intelligent designers and developers following a published directive on placement of information, product positioning, standard online buying processes, authentication, and account management. It is still unknown if the Internet's systems or E-Commerce sites are designed by humans that follow a standard protocol or if they are robotically created or designed by automation software. How internet sites or stores came to be is not the focus of the research; although online shopping and communicating is a phenomenal technological advancement and now necessity, this paper focuses on what currently is and the problem areas for both managers and internet users who manage multiple online accounts. As use grows, so does the management burden and potential for problems. It is not solely for personal, business, or education use. The old goals of DARPA for the advancement of ARPANET, which evolved into the Internet still operate using a 'store' and 'forward' approach of data sharing, but not so heavily reliant on the TCP/IP layer. This, in turn, means that to understand the service which can be offered by a particular implementation of an Internet, one must look not to the architecture, but to the actual engineering of the software within the particular hosts and gateways, and to the particular networks which have been incorporated. (Clark, 1988).



The internet and computers are intended to reduce workload, processing time, and to make lives more interconnected, organized, insightful, and enjoyable. These are factors that are not mathematically measured by surveys, polls, or formulas – they are explained by user experiences that can use an integrated and organized system. If no system truly exists, then no user polls or surveys can be taken. Only satisfaction surveys on ‘ratings’ using stars can be used, which is not suitable for this type of problem because it goes far beyond ‘experience’ or ‘satisfaction’ and ‘ease of use.’ Users can be polled on their information management practices, as well as their understanding of what security and profile options are offered by software companies, but user intelligence and understanding are not what is sought after in the research. The poll by The Associated Press-NORC Center for Public Affairs Research and MeriTalk shows that 64% of Americans say their social media activity is not very or not at all secure (AP-NORC, 2021). What is of more value in solving this problem is engineering understanding and use of database protocols in the design and use of the Internet. Efficiency and data integration is what is sought after, as well as a system that provides valuable insight from multiple sources that can be user managed and results in time savings, profit or better spending and investments in both business and personal computing systems.

While each online storefront or site uses its own account management function, with and without financial transactions, no site interconnects to a centralized identity management system. Each internet site, managed by a Domain Name Server, with its own internet address and managers follows basic privacy protection policies and sets their own business rules for the protection of information. These are basic Internet Application or Site publishing standards. The problem areas the research covers are data management, security, authentication, and use of information as it relates to the Internet’s current design, standard relational database methods, and industry standard identification and verification methods in two areas: Financial and Personal Information, otherwise known as E-Commerce and Identity Management.

Only part of the scientific method is used to define the problem, identify existing research or background information on the problem, formulate and test a hypothesis, and manage observations through testing and experimentation. Because the timeframe for the project is short in duration, the experimentation was limited to performing as a user to show variation in account management. No quantitative numbers were developed to show account management statistics for comparisons of one click authentications using a ‘single sign on solution’ such as Google Logins, or Facebook because the number varies per each user. The statistics would not be of value because the problem can be shown with one single user case study to prove it is a functional system but creates excessive personal management. This leads to more in depth research on the design standards of the internet for account management and not on the user experience. The design of the Internet is reviewed and noted as a problem where two solutions are offered: an application to solve it or an Internet redesign using a Database or Cloud Systems approach, with both solutions evaluated for probability in change in terms of simplicity and long-term solution.

The problem is well stated, and the research sought to locate the governing bodies empowered to change it, as well as solutions provided by industry, with a software evaluation to point out how a better design or process for account management and identity verification not only changes, but drastically improves online activity, user experience, accuracy, and efficiency across the Internet and in locally managed systems. Reviewing the law on E-Commerce matters are ridiculously summarized in volumes of case law available for years of in-depth study

or available in short summaries and papers that recommend speaking to an attorney (Bigcommerce.com, 2022). There is not much published on consumer protections or technology solutions available for the management of personal information other than the “unsubscribe,” “Privacy Notifications or Policies” and the “Do Not Sell My Personal Information” option at the bottom of most internet pages (Amazon.com, 2022). Each site has a privacy policy, and the creators of the sites believe users read and fully understand what is published and practiced.

Simply stated, the account management functionality of the Internet works well for businesses, but buyers are left with outdated management processes with no integrated systems. While the Internet enables everyone to connect from their desktops, laptops, tablets, and cellular devices, many are left to their own organizational style and skill in data protection, storage, sharing, and privacy options. Some corporate giants such as Google, Microsoft, and Facebook offer individualized and customizable security solutions, it is not the only issue or need. Information Management for the everyday user is the need, but first, the ‘architecture’ and ‘design’ of the Internet requires review in order to develop the most effective solution for all parties and not to benefit only one type of application, user, or system. The one for one approach is unsuitable, as is the “one by one” approach, therefore a “one to many” connection and sharing solution is considered, as well as other possible information management solutions.

Special technology terminology such as Back End or Front End, Graphical User Interfaces, Application Programming Interfaces and Cloud Systems and Database specific concepts and industry ‘buzz words or phrases will be limited and fully explained when used. This is necessary to reduce complication and improve understanding of the problem and solution not just for technology professionals, designers, and developers, but the everyday human who refers to their search engine as a browser, their favorite online store as a store, or their profile as the place where personal information is requested to track detail related to their activity on an individual site. Use of terminology such as ‘virtual’ or ‘digital’ and ‘online’ activity or words in comparison to physical actions, such as buying, selling, communicating, signing on, or signing in, and managing information will be brief and it is expected that readers, reviewers, and commenters already understand the differences. The paper will explain the similarities in both activities and propose a change since the two are vastly different and technology is best used when fully connected and integrated as a whole system comprised of individual ‘sites’ known as businesses or resources, rather than “sights” in what the human eye sees being done and knows to be true or of value.

Some of the research was excluded because it was not found to contribute now or in the future to the research area. The methodology used in this project is not solely based on the research, but the research supports the problem area and is used to show no current solution exists and no scholastic articles, professionally published, or even non-professionally published discuss the project’s proposed solution, meaning it is original. Qualitative data is presented to show many sites sampled that utilize consistent account and identity management processes, with some variation in credential process, but no mathematical statistics will be presented because the value of creating a complex figure is minimal and unnecessary, therefore simple numbers are used. No timed tests are taken to strengthen the argument that the current design is not only a security problem, but costly in time and has great potential to cause psychological harm, as well as personal and business injury at very high dollar amounts, where no insurance

coverage exists. Rather than to center the research around potential hazards, the project is more based on identification, background, design, existing solutions, and two future solutions.

Although an article in 2000 reports Microsoft's passport as a provider of an integrated online application service, not much new research is available on usage and acceptance of the technology. Internet sites that price the goods they sell based on the number of buyers and Microsoft Corp.'s Passport service, which lets Web-based shoppers enter their names, addresses and credit-card information just once and have it downloaded from a Microsoft server to other Web sites where they shop; this way, the credit information is entered only once and stored in a single, presumably safer place, yet it can also be shared easily (King, 2000). The tech giant is creating a digital identity wallet where users can store private documentation that could be available as early as August 2022 (Barr, 2022). Instead of having personal information spread across a host of apps and services, this Verified ID system acts as a kind of digital wallet or personal info portfolio that can be handed over to employers, bankers, or whoever needs a verified identification (Barr, 2022).

While some scientists would enjoy investing in statistical research for time on page, number of accounts, frequency of access, security risk profiling and posturing, cost of current business structure, personal and business management processes in comparison to experimental systems in test phases, this project takes a simplistic everyday user experience approach. It combines user experience and technical knowledge to explain the current design in comparison to a relational database design and how cloud computing can and should change current practices, but that there are other solutions that can work interchangeably with current systems, as well as future systems. This research offers a simplified solution to identity and account management for a problem that once existed for businesses and now exists for citizens. The problem cannot be understated; the problems businesses once faced is now the responsibility of citizens, and many software services are available at a high price for training and use. This has become not only an unfair business practice, but nearly a detriment to society since we were led to believe that computers and software help make our lives easier. They in fact do and we cannot live without them, but there is much work to be done to make it a better place. There are many leaders and users content with the status quo or keeping things the way that they are and for a time, this is acceptable. It is not wise to introduce major or rapid change without good planning and preparation, but it is shocking that no company or person has created a solution or application to make it easier.

The proposed design brings together multiple parts of applications to provide summary and an interconnected information resource center, customizable, and less expensive and exhaustive as the current online accounts management system. It fixes the problems of duplication of important data, such as profile, identity, activity, and any and all places where information is the same, ensuring customers or users only enter the data once and the system is smart enough to utilize existing data to connect and manage all others, such as your credit cards, banking, social media, education, healthcare, and even government records.

Four case studies are presented that show consistency in account and identity authentication processes, yet abnormally duplicative, making data management and sharing a critical responsibility for users, but no useful and manageable account authentication and security solution. The problem is not reviewed or researched using step by step procedures for the creation of an account; that is a standardized process but is explained by looking at the

entire online profile, digital file management, and authentication procedure across the entire internet as an individual and as a business or government organization.

No user or community feedback or survey instruments are used because the research does not include opinion or user experience. No system test is available to compare the existing system to the proposed system or to question account holders on their feelings towards Personal and Business Account Management on the Internet. The research is not based on user thoughts or feelings, other than those involved in its development. It's based upon the standard account management and authentication procedures where personal information is exchanged, which is everywhere online and always in use by one or more accounts. The problem is simplified by calling it a Personal Data Management problem where users are responsible for the creation and management of accounts, which does not follow a unique digital architecture or process, but closely resembles the physical buying and communications process. Since technology operates differently than humans doing business or pleasure in physical locations, accounting and information management practices must revolutionize and not continue to follow the same "in person" processes and expect the same type of systematic transaction. Old system must change, not simply be upgraded to suit the needs of those who now use Internet Applications, but for those who standardize the buying and selling processes, the laws surrounding online transactions, and the rights, responsibilities of consumers, as well as their own ability to effectively manage their own information. Much is different, while some parts are the same.

A short example of the problem from a database perspective:

The standard sequential and sortable table view (similar to Excel with more options):

Sheri Wilson	Student	434-710-2148	434-710-2148
Sheri Wilson	Payee	434-710-2148	434-710-2148
Sheri Wilson	Beneficiary	434-710-2148	434-710-2148

A relational database report design:

Sheri Wilson	434-710-2148
Student	Institution Name
Payee	Financial Name
Beneficiary	Legal Instrument Account

Organization and presentation of data is one part of the problem; another part is the connections between the applications and showing summary data, using the 'enter data once, use it multiple times' approach and to add "without retyping or reentering" not using a 'for each' programming "line by line" model.

Once all the test case scenarios are identified and existing processes are compared to new processes, as well as the Internet's design for account management is explained, then solutions to the problem can be more clearly presented and readily accepted. As with most systems, there is more than one way of improving things, therefore two options must be compared for what is best for the future of the Internet, the People, Businesses and what is

possible and most advantageous for all with minimal change to the original system. The fundamental question is: to redesign the Internet or build on what already exists? A systems analysis will not be conducted because it is not 'all systems or an individual system that must change or is the cause of the problem; it is the standard application or internet policy and procedures in data exchanges or transactions that must change, as well as operations offline by account holders. Some applications will be presented to show useable functionality or a way to take parts of each system and create and integrated application, but it will not include every system. While security and privacy are important, problems will remain and increase if individuals are forced to manage their own systems and data and if corporate competition drives the marketplace of solutions. With a better system, they can, but they not only need better tools, human intelligence and industry cannot continue to grow and evolve without it.

A new concept is presented made up of the standard required information and authentication practices but uses one primary source profile, rather than to force users to create a profile for each account and on every device. Two locations are required because it contains a profile system where information is available online, which is now called the Cloud. Ideally, one application would update all the others, but because of mobile computing and the fact that not all changes are and should be user initiated and because convenience is sometimes, but not all the time the utmost importance, as well as access to critical information anytime and anywhere, the profiles must be available both at home contained in a connected and non-connected secure device, as well as within an Internet Profile Application. The concept of data transfer and management is simplified: the source application contains personal information of value, which is all accounts the person is responsible for, as well as other critical and identifiable information, such as official records that show proof of identity and other account information, as well as their legal responsibilities, such as children, contracts, and more. A bookmarking system to maintain shortcuts to accounts and favorites works only minimally and still requires multiple site visits for management.

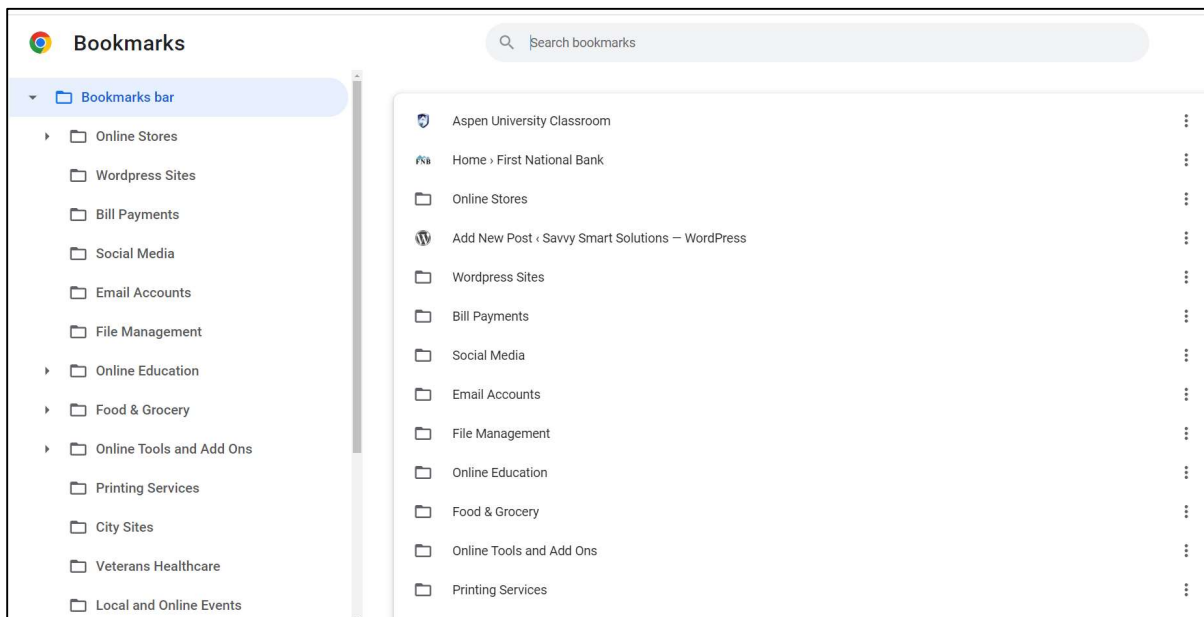


Figure 1 - The Bookmark Manager

## Research and Development

Much research and documentation will be completed that does not fit the psychological research model, unless security and account management documentation, articles, problems, and design functionality can be found. Whatever research is found regarding this specific problem will be used, but unlikely because like many other revolutionary ideas in their infancy stages are protected from the public. This is disappointing considering the timeframe since its introduction and leaves an obvious conclusion that it will not be fixed or changed in our lifetime, a doom and gloom approach to the problem. A small and simple comparison of the existing system and new design, process, or application will be completed, along with two possible solutions is necessary, but resources are not available, given the commercialization of technology and the need for major investment. The theory of “One Apple Can Spoil the Whole Bunch” has been proven true – A Workplace Violence Restraining Order, where a fight between two co-workers restricted access to all company resources, leaving no one to turn to for development and project management of the proposed system. There are other developers and perhaps that company’s leadership in World Technology is the cause of the problems.

The research will clearly show the problem, using figures and process flow diagrams of the existing system comparable to the design and flow of the new system. It will also show how the change will greatly improve more than just the user experience, but also reduce cost and maintenance of technology, enabling better organized data management policies, laws, along with functional applications that more than just solves the problem, but provides a better online business of life experience.

## Project Scope

The plan is to limit the project to a Master Profile Application to show the one-to-many database concept for use in Internet Applications and to enable users to manage their own data by creating something that can be invested in and improved over time to meet additional needs of all for more than just the purpose of financial and identity verification transactions. The project has great potential to grow and change the entire design of the Internet and its applications for optimum use, but the project must be completed within 8 weeks, therefore, the scope will be limited to the Master Profile Management System and how it will work with all systems, is user managed, verified, secure, enjoyable to use, is profitable, has long term investment with high value and profit potential. The fundamental question that the project must remain focused on and seek to answer is, if the Government is designed for the people, by the people, then why is the Government responsible for providing individuals official documentation of their existence, such as a Birth Record and then charging a high cost to obtain it. Individuals can create their own, but the government serves as a data certifier of a document of proof. The data, or documents, once created are unchangeable without a legal process, yet data across the internet about personal details are freeform, fictional, non-connected, changeable, inaccurate, duplicative, non-restrictive, is a free for all for identity theft, misuse, mismanagement, and available for use by many dysfunctional systems. The project manages what is beyond the questions of who the certifier is, maintainer, requestor, user, sender, and at what cost, but how it

can be better managed, most efficiently shared, and protected and that is the focus of this project.

## Preliminary Cost/Budget

There is no additional cost to complete this project beyond what is already budgeted and paid for. Cost and budget to fully implement the plan cannot be estimated until the research is complete, and the project might include a general budgeting strategy, but will focus more on the technical functionality and change. A full financial valuation assessment would have to be completed because it is not just a cost, but a profitable system. This the project will not contain specific and detailed figures because it must focus on the problem, solution, and plan for the architecture and the application, and how it can become a necessary household system.

## Existing System

The current internet design requires a username and password, along with name, address, phone number, and email for profile setup. Many finance applications and transactions require the same information, of which internet browsers store and the users can update. Each site requires the same information, and the user can use saved information within the browser, but each site still asks for it. A user is required to provide account information for its operating system, as well as its individual accounts, such as email, social media, banking, and individual e-commerce sites. The user can create different usernames and passwords for each individual account and there is no standardization, limitation, or user guidance for the management of the credentials, leaving users to do what they want, which leads to problems. Users often save their account information within the browser and use auto-fill features, as well as separate password vaults. Account information is often stored on the computer or in writing and used as their management system. This is an inefficient process, sometimes requiring the creation and maintenance of over 15 usernames and passwords just to do business or conduct electronic activities using the Internet. Security breaches happen often, either at the company or corporate IT level or at home from account mismanagement and poor security. Account profile details and security protocols are standardized across the internet, showing the internet can create and require a standard of all its merchants and users, thus a change to how it's done is also possible.

Currently, people are required to send documents to show proof of identity, often using their driver's license, passport, government issued identification card, insurance papers, birth certificate, utility bills, cellular phone bills, mortgage deeds, and school records. These 'proof documents or 'requirements of companies and agencies are often sent as pictures, portable document formats (pdfs) and word processing documents – commonly known as files. Each company has different processing and storage requirements, but all are bound by law and promise privacy and security of information. These documents are usually sent via email or uploaded to a software system for processing or storage. Individual card or document proof providers and owners do not have an application to manage them, therefore they store them somewhere on their hard drives or provide proof as needed and then delete them. Government agencies who are responsible for delivering these documents, such as the Department of Motor

Vehicles, the Bureau of Vital Statistics, and Passport Agencies mail these physical documents and have online replacement ordering systems, but do not store digital copies for access and use. Once it is created, it is sent to the person who requested it and management and use is common, which is a wallet or a file cabinet. Because identity is so often requested and is required as proof, a better digital system must be created, but first, security must be considered top priority.

## Account Profile Management System - "MyApp"

This new concept is made up of the standard required information and authentication practices but uses one primary source profile, rather than to force users to create a profile for each account. Two locations are required because it contains a profile system where information is available online, which is now called the Cloud. Ideally, one application would update all the others, but because of mobile computing and the fact that changes should be user initiated and because convenience is the utmost importance, as well as access to critical information anytime and anywhere, the profiles must be available both at home contained in a connected and non-connected secure device, as well as within an Internet Profile Application. The concept of data transfer and management is simplified: the source application contains personal information of value, which is all accounts the person is responsible for, as well as other critical and identifiable information, such as official records that show proof of identity and other account information, as well as their legal responsibilities, such as children.

Security on the Operating System is necessary because this is where the main application runs and the same is true for the browser which runs the Internet Application. Ideally, the two systems would share information from one application source, with both being editable anytime anywhere, all synchronized, cross-checked for accuracy, and up to date, using automatic update options that are not only user generated but also system generated and updated when it connects to other systems, such as credit profiles, school records, online accounts, and anything else that the application can and should manage. The problem is that all the many other systems collect just about the same information, but use different types of systems, databases, processes, and this forces users to individually enter the same data many times in many different places and forces them to be held responsible and liable for its accuracy. What originally seemed simple, which was to add a bookmark, or a favorite to the Internet browser, and manage account information in a physical file storage location, becomes routine practice, but a major change management problem, as well as inconsistent and nearly directionless oversight in account security management in both digital file systems and physical files. Because more information is exchanged online, there is an opportunity to develop an application just about as valuable as a person's life, home, career, children, or their wallet because it contains everything about their life and everything that makes it what it is.



## Design Concept - One to Many Sharable Data System

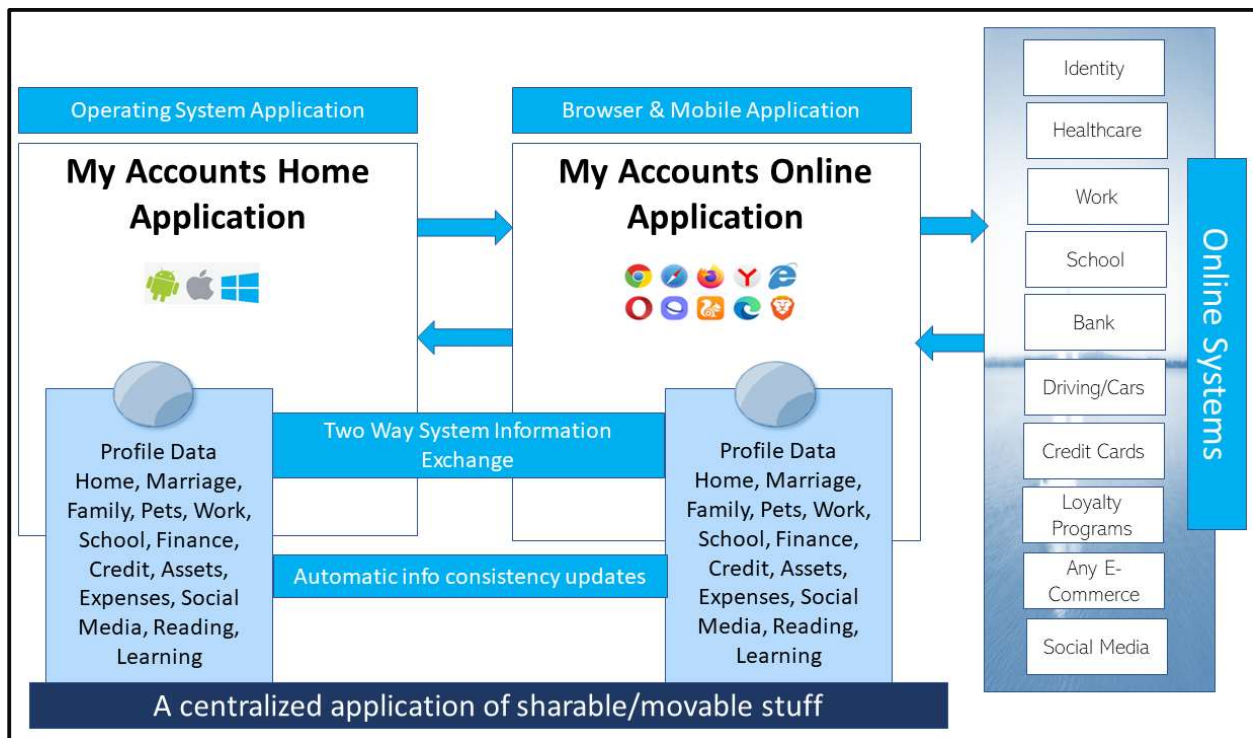


Figure 2 - My Accounts Application Design

Digital images and data should be available anytime, anywhere and we all have a general idea of privacy and sharing of media, yet small applications add to the management problem, with more accounts and more options. In a better system, users don't have to duplicate their personal details or manage files and data in multiple locations, like their hard-drives, online storage drives, and media applications, as well as their physical photo albums, professional printing applications and others. Login would take place in the operating system and at the browser which authenticates use, in connection with its operating system profile and account security information. Account creation or update on individual internet sites can be completed with a single click, rather than forcing the user to re-enter profile information. The main profile application (browser) will automatically create the profile page. Since internet designers create profile and account pages for each new site, they can either stop developing this way and enable the browser to auto-create a profile account (a data transfer) or the browser can automatically fill in, complete, and submit the form. Most internet sites require confirmation emails and with secure profiling and authentication, this requirement and practice can be removed, or contained within the Application so that it is better organized and set apart as account management tasks. It would be most secure if there was a formal process in place to enter, validate, and verify personal information that connects to the official record holder of the information, but that would require cross-checks from multiple internet applications which may or may not have online systems or the infrastructure in place. If the application owner uses the application correctly and stores their personal information, with digital copies of their identity data, such as driver's license, passport, birth certificate, then there is no need to require

authentication from the official recorder. It would be wise to validate the information against the official record keeper, and for a multi-exchange function to exist, but that would require development of applications for several government agencies.

If the entire population, or every user with an online account used the application as their main identity storage, then automatic reports can be created, as well as automated legal processes, such as name changes, change of addresses, certification of official records, and the protection from tampering or unauthorized use and duplication can be better managed. One application can be created with the same database design and certification criteria that is not shared by all but is similar in design with different views and access levels for its users. For example, a user's Account Management Application can always be subject to government audit for identity matching and information validation tasks and permissions granted to make changes from its creditors, merchants, and select users. Specific architectural and database design matters with permissions and criteria must be designed with the overall goal of sharing of from one source, with update, send, and receive capability that does not require excessive duplication of information or constant email confirmation and management. A consolidated site of 'memberships' or 'account holder' internet reports based on the existing internet design was considered but found it to be a business-as-usual approach, with another layer of management added on, which would reduce the burden, and simplify subscription processes, but does not advance user insight and give them a valuable tool to manage more than just a login and email contents, which is not nearly enough. Although each online account offers a management console, it becomes a manual plus electronic reconciliation process of cross checking, validating, and manual inputs of bill paying, interacting online, and shopping. In short, people can function online, buying and selling, but they are forced to create their own processes and organization system, which is insufficient, and a simple application does not solve the problem.

Below is a comparison of a new account creation and management process. While online setup and auto-bill payment are convenient features, it is another account that must be managed, and another site where ownership and subscription data is stored, and emails are generated – separate from all other activity. Subscribers of all online services with accounts should have a centralized account management system and the information should flow from the profile and financial system to the new service and back to the profile or account management user application. Additionally, ownership and subscription data should be viewable next to other digital media assets purchased or subscribed, to create a real entertainment profile, use statistics, and to offer better suggestions and ratings based upon real data. Additionally, parental controls can be better managed from a single application, rather than individualized sites. This example only pertains to account setup to show how information from the profile application can autogenerate accounts based upon user initiation and payment – removing the data entry burden. Email confirmations can stop because information can be managed in the single application for services and digital online accounts. Currently, user's media sources are plentiful and there is no intent to consolidate all media viewing or to create reports of all media content, unless purchased. Improved data sharing with an application that consolidates this information gives user or household insight into entertainment spending, more organized account management, and improved finances. One of the major purposes of what is being called "MyApp" is to reduce the authentication step and automate security with application tokens or some form of verification with up to date and verified "My App" data. All accounts should be managed within MyApp, some unseen and automatic, some user initiated.

Another intent is to reduce manual confirmations and notification that are sent via email by implementing account integration within the application to show payment, verification, activity, and ownership data. Current standards are individually managed, requiring duplication, multiple site visits for data management and verification. Application integration can eliminate most of these problems.

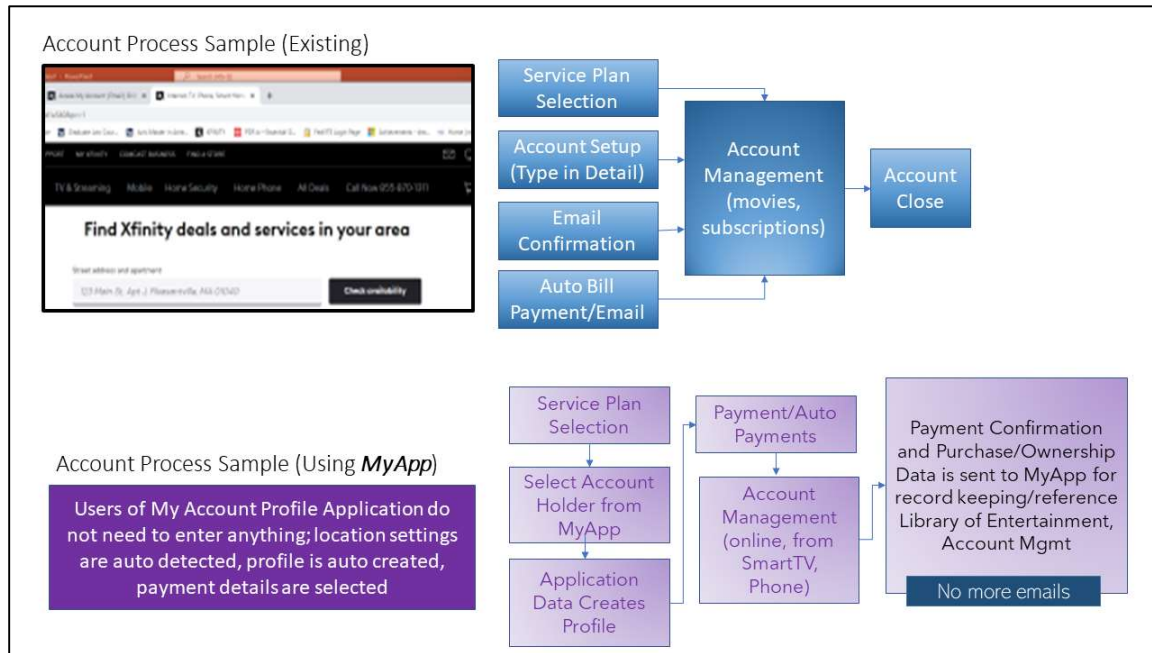


Figure 3 - Account Management Process

In this section, a short comparison will show the current design, which is a ‘many to many’ relational structure in comparison to a one-to-many design, where the “MyApp” is the source account, sender and receiver and will interact with government agencies, merchants, public and private institutions, as well as other online applications using their existing design, which is the standard account profile management system of one per application or site. The concept of one profile with an automated data transfer that is user approved and initiated is sufficient to create a new account in any internet application, provided the applications have the correct profile creation standard. Directives or standards must change to the account creation and management process on each site and allow the auto creation of accounts with verification inside of the “MyApp.” This change can only take place if accuracy and security is guaranteed. It is no secret that profile information can be automatically duplicated without permission, so security is critical. The two-factor authentication with a single sign on solution is appropriate, but the type of proof required should change from username, password, and secret questions to actual certified documents. This is the foundation and the best feature of “MyApp” as well as summaries of all Internet Accounts, regardless of monetary exchange for goods and services.

## Verifications of Certified Identification, Profile and Document Management

Every citizen of the United States has at one time or another, used or must use a government issued identification card, a driver’s license, a birth certificate, or a passport.

Sometimes two forms of identification are required. The application will provide an organized online system to store certified digital copies of these official documents. The certification process should be simplified, and technology advanced to provide high quality digital photographs of these documents or cards, as well as a certification number, maintained at the certifier's agency. When systems are effectively connected and the high-quality digital photograph of the cards are acceptable and correctly certified, the information can be directly sent from one application to another. This process will work for new advanced digital identity users. Users without advanced digital identity certifications might need to follow other processes until the entire internet advances. The application still offers a centralized and secure online location for storage and sharing of official documents for use, as requested by merchants for verifications, loans, and other transactions. Smartphones can be used to photograph identity documents, which can be uploaded to the application. When the documents are requested by a merchant, they can be easily accessed and sharing activity recorded in a database to show a specific trail of use – who it went to, for what purpose, and the system could contain specific detail on the laws surrounding the use of the specific document so that it is clearer on what kind of records disposition requirements and security measures must be taken. Reminders can be set to prepare for the renewal of official documents, such as license expiration, registration, and insurance coverage periods. There is no system to manage all this in one single location; it is a manual user-initiated process.

Initially it seemed identity documents were not often requested or used as verification for online transactions if personal details and financial data was shared. This is not true in all cases. The next example shows how “MyApp” will work with online transactions where identity related proof is exchanged, as required by the merchant, as well as how it will be stored and secured or managed using “MyApp.” Since this is not a single user system, but a household system, it must manage information for more than one person with suggestion or instruction on best practices for the use, restrictions, and responsibilities of sharing data inside the household and outside the household. The application will provide an organized place to maintain account sharing agreements, use policies, information, and make account management more efficient, showing information trails, as automated as possible.

Advanced integration would enable location tracking, summary reports, mileage, and other useful statistics for both the user and manufacturers, retailers, friends, and family. Most beneficial will be the lengthy record keeping it offers, enabling users to review their history dating back to the first day they drove a car, until their senior citizen days and show miles driven, locations visited, number of cars owned, and maybe even some personal stories with a journaling and sharing interactive feature with online social media systems. Its database architecture will work best when it can both send and receive, interactively with agencies to update and recertify information, such as license, registration and create official driving records,

more useful than a 'derogatory system' of reporting and verification used by the Highway Patrol and DMV, but one that shows experience using mathematical statistics.

The best technical approach has not been determined, but an application programming interface is being considered, as well as a new development standard for account management. Its success depends on the usefulness of the product which is of much greater value when information can flow in and out of the application with minimal effort, accuracy, consistency, and security. When integrated, it can work with other identification-based information systems that are used for employment, physical building security, and government positions.

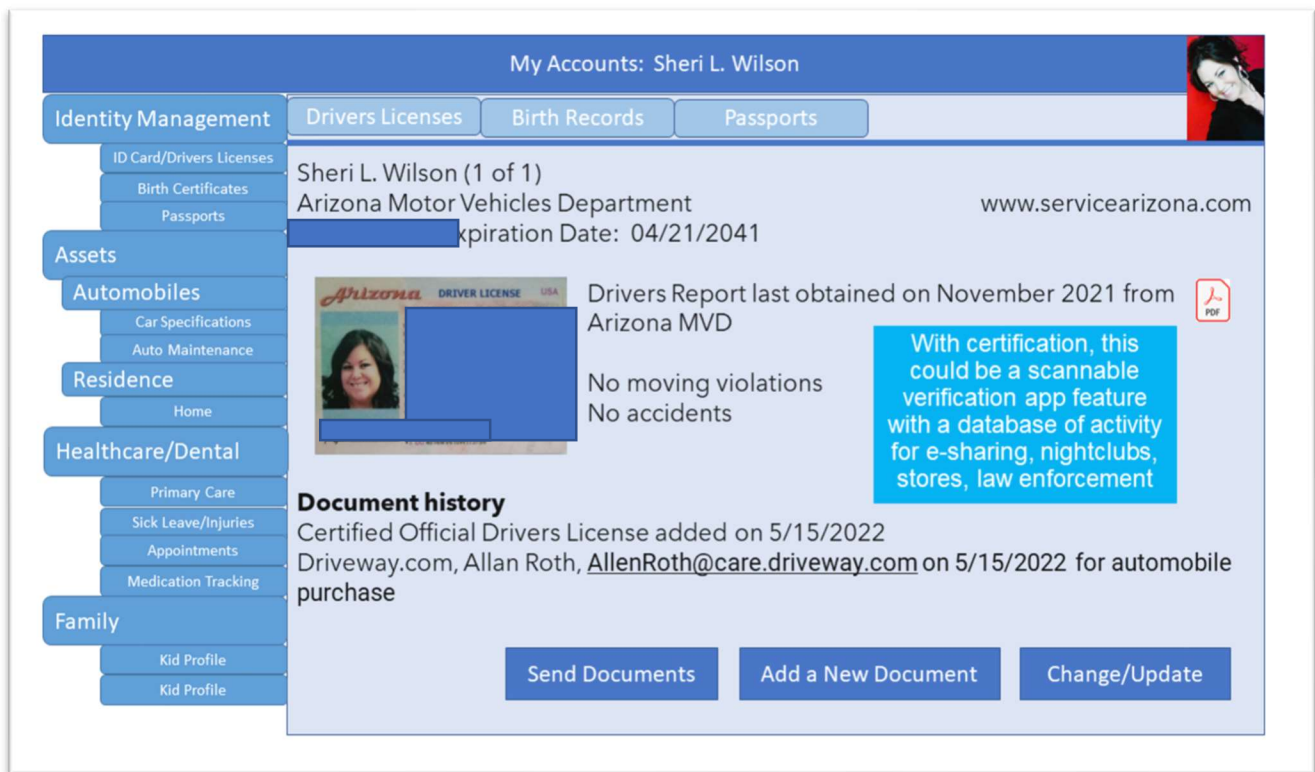


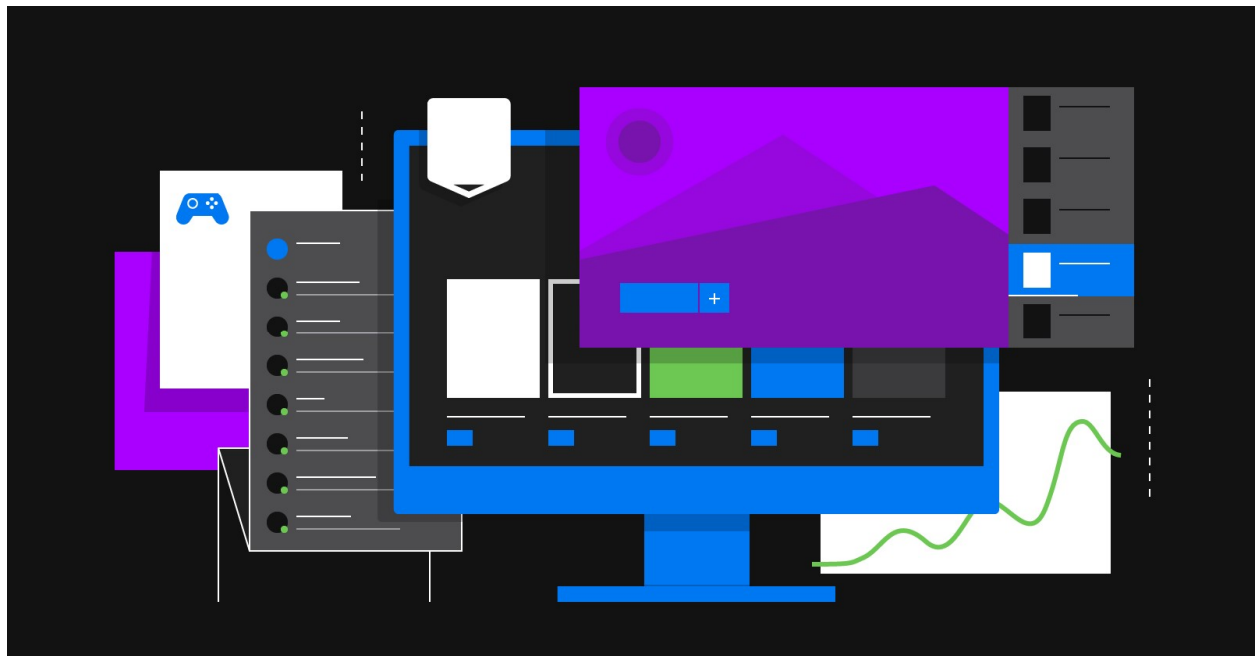
Figure 4 - My Accounts Application - Identity

If a premium SmartTV entertainment channel can be ordered and added to an online bill in the click of a button, then accounts can be automatically created or changed, but security and the current design must be corrected and development using old methods must immediately stop.



Figure 5 - Internet Accounts

Create One Profile per Adult and use the Information many times — no more form filled account creation systems or duplicative typing. A management application provides centralized insight.



A colorful consolidated Internet Account System makes management and use more enjoyable.

While each individual application offers some advanced insight, there is nothing consolidated or connected. Friends on Facebook are not connected on LinkedIn, Streaming Media like Spotify and YouTube, and everything is disconnected – only connected by Banking and Credit.

Integrated account management, with a single profile system, along with new record keeping modules and options for legally binding agreements with virtual mediation and arbitration practices to resolve disagreements, financial problems, and other contract disputes electronically and quickly, leaving less room for ambiguity and surprise or learning after the fact. A shared application of live information that provides user insight and connection to others in financial agreements, such as co-signers, co-habitants, wives, husbands, and other close creditors offers early alert and resolution opportunities to prevent serious mishaps. Location tracking increases trust, digital media entertainment sharing improves relationships, and information or resource sharing lowers cost of ownership. A family application is a place to not only store ‘official’ identity documents, but also Christmas and birthday wish lists, dates, reminders, budgets, plans, and memories. Even greater life management is gained when electronic responsibility or chore lists are tracked and rewarded, along with goal setting tools for getting good grades and staying out of trouble.

While “MyApp’s” main purpose is to serve as an Official Document Vault, it can be organized into an access-controlled place for family or personal property and asset management to organize and resell or reserve for a legal estate will and trust. It can also be used as a Family Healthcare system to manage not only appointments, but preferred medication, uses, reactions, and gives accurate insight into health patterns. If connected to government systems, it can be a user managed official record system which offers ease in

projects, tax payments, assessed values, rentals, and real estate sales or what is summarized as a community data system.

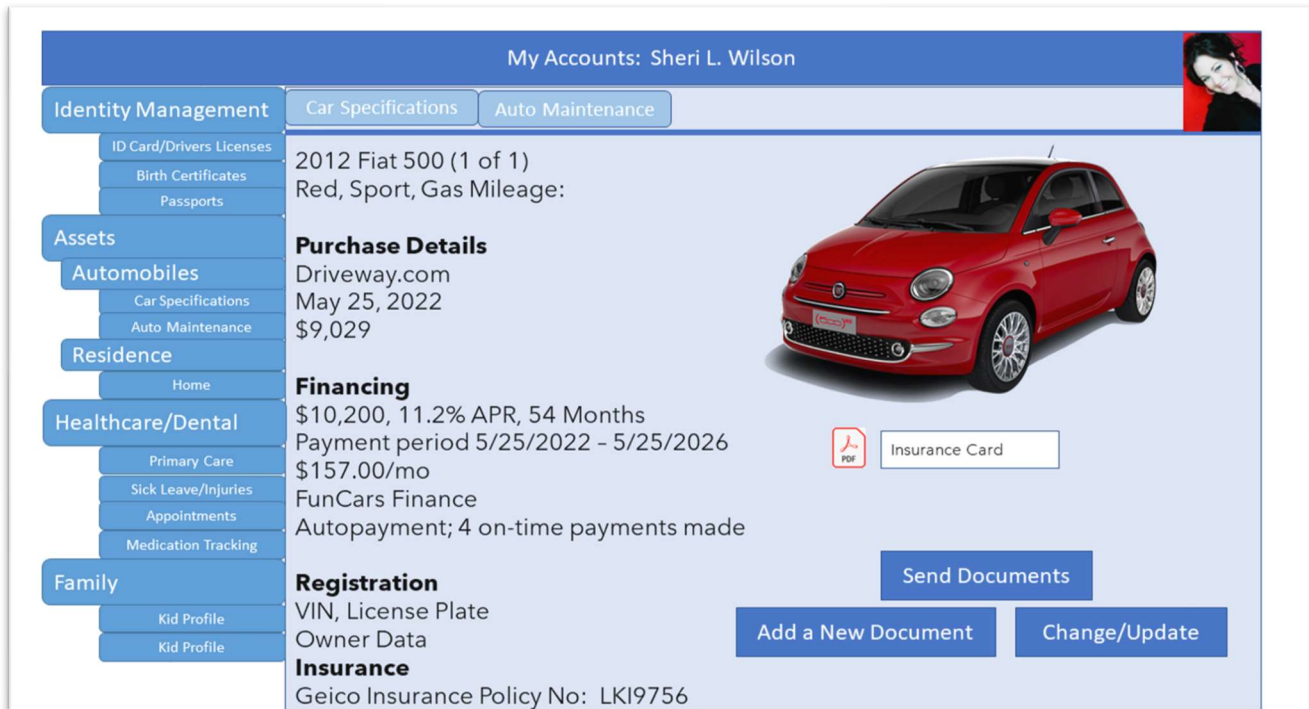


Figure 6 - My Accounts Asset Management

## Digital Content

This is a broad category that comprises photography, music, television, self-created works, and copywritten media. While the SmartTV and the Internet has made it easier to purchase and download movies, music, share and print photography, and publish journals online, it has not offered well organized account management systems or ways to manage preferred sites, vendors, or personal digital assets. People use their own methods of file organization, sharing policies, and use social media and email to share, following standard internet policies. Smaller group applications enable better security, but it needs a structured system that separates purchased copywritten sharable and sellable works from personal works, along with features and integration with applications that create products from digital media. Applications such as Shutterfly, Instagram, Facebook, CGI Print, Vista Print offer digital upload, customized product creation and delivery, but there is no integration with the personal file system to show those photographs, documents, or works were published, shared, and there are no statistics or financial reports.

Management of these applications are important for the future of business and individual media accounts. Better application designs enable the creation of more advanced family and educational systems, such as yearbooks, family albums, and trees, as well as creative preservation of new and developing artists, such as your child, friend, or self. Integration of



educational systems with personal business systems and child work areas offers an organized area to maintain and preserve more than just school transcripts and friend pictures. Advanced compilation programming can create consolidated annual works for publishing, and with good mathematical reporting, can show progress beyond what a school system does, but also what family involvement, healthcare, and other data provides insight into the development of mankind or society. The way digital content is currently structured does not allow for interactive viewing, commentary, or opportunity to create virtual meetings and share interest in entertainment choices. The more people watch and share their thoughts about today's television options, delivery methods, programming, content, and group sharing, the more the people govern themselves and shape society, rather than Hollywood shaping it for us, using old methods.

The "MyApp" system should not only keep a running account list on how much was spent and enable easier account creation and management, but also provide access to regular reports on purchased or gifted products, television habits, choices, preferences, and ownership, which can be used to share and sell media or serve as conversation pieces and educational experiences. If Suzy has an organized digital library of movies she owns, contained in a list in the "MyApp" and Lucy also uses the "MyApp" and is just building her library, she can rent movies from Suzy, and they can follow the same process for Book Groups. This level of sharing not only helps them maintain digital libraries, but also provides others insight into their skill, interests, and achievements, as well as gives them opportunity to buy, sell, and share in the entertainment business at a lower cost. They can create a re-occurring event to gather on a specific day to watch their favorite series, bringing them closer together physically and involving others virtually who cannot be present. Other application integration opportunities are food choices, refrigerator inventory, recipes, and coupons. This is another opportunity where reports can show meal plans, guests, habits, routines, surprises, food ratings, and interactive record keeping or 'virtual gratitude.' At the least, it can document medical conditions and allergies.

If the "MyApp" is limited to just a profile management system and does not grow to manage life information beyond financial spending, then it has accomplished nothing more than to make logging in and managing passwords easier. There are password vaults for that. The intent of the "MyApp" is to create a household system that integrates with government agencies and institutions for full identify verification, data management, and to make the process of electronic data sharing more efficient. A third phase of its growth is to integrate with other users inside and outside of the household for data comparisons, sharing, which can ultimately create community and social reports beyond a 'streaming social media' feed of pictures and status, but of real value that drives change in the economy, life habits, personal awareness, responsibility, and enjoyment conducting business online. Currently, no system or application exists for users to manage their own data; they are left to process forms to request physical documents, which is one of the major reasons the internet is a risky place to do business. Although systems are improving, they are extremely inefficient, duplicative, inconsistent, and cannot be fully relied upon. A good system offers reports, summaries, statistics, and personal insight for growth and retrospect, as well as goal setting for the future. Small applications without integration cannot achieve this. It can be argued that the Windows or Apple Operating Systems offer file structures that enable efficient management of digital information, but each user is left to their own organizational skill, of which many have varied standards and no specific direction for the protection of identity, finances, and digital assets. No digital asset inventory system exists for

the everyday person and a good one would integrate with choice E-Commerce vendors. The typing and data entry burden must be reduced to only what is necessary, with everything else electronically shared and managed in a centralized personal account system.

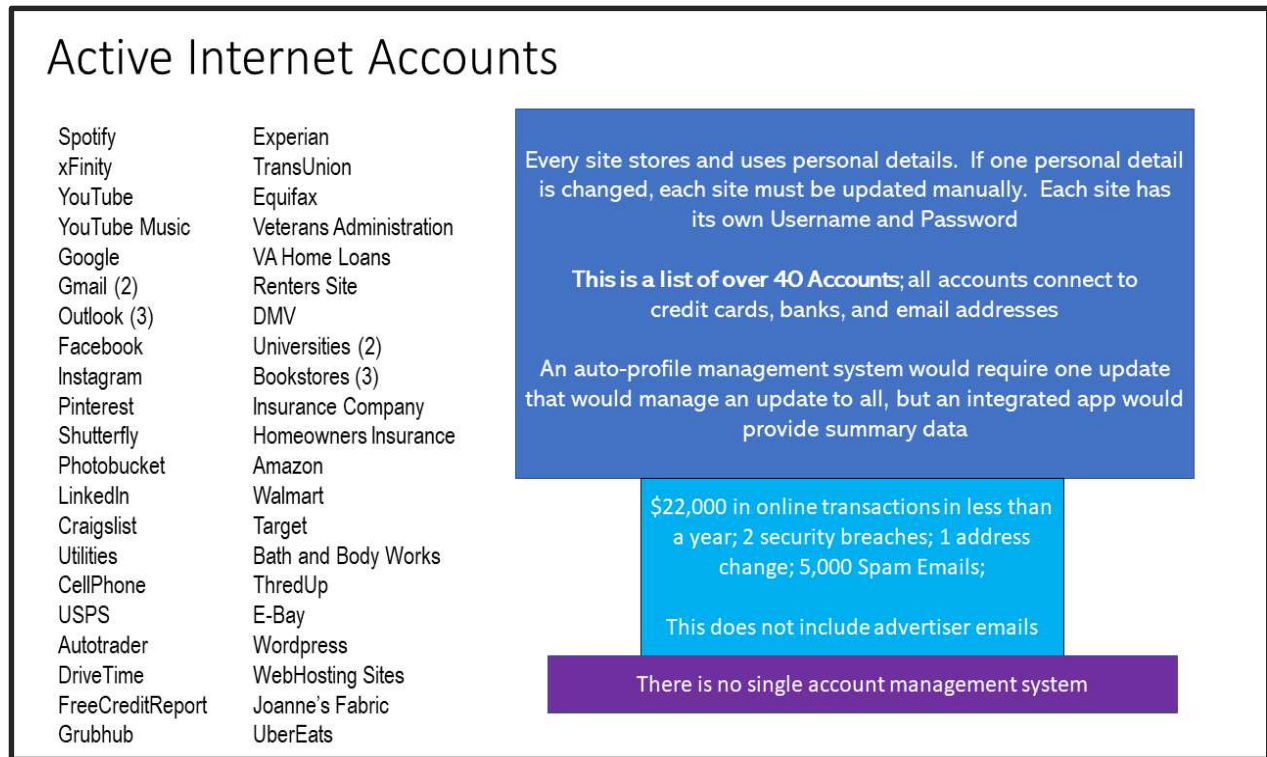


Figure 7 - List of Internet Accounts

An icon view, with statistics and links to the Applications is more beneficial. Automatic data transfers between one application (user managed) and the individual applications improves data sharing and accuracy. These efforts reduce heavy inbox activity, unwanted contact, unnecessary and irritating notifications, and offers a necessary level of insight to the Internet's users beyond a Financial Statement or Balance Sheet. When fully integrated, with school, work, and social activities of actual value, such as leisure activities, with online social media integration and shopping, this creates a virtual experience of value. The more automation that can be built in, and the less 'retying' of the same information, then the better the application.

# Account Summary – Consolidated System

User Preferences/Account History  
**Sheri L Wilson**

Service/Goods	Company	Site	Type	Membership Plan	Monthly	Paid to Date
Physical Mailing	USPS	<a href="http://www.usps.com">www.usps.com</a>				
Shopping	Amazon	<a href="http://www.amazon.com">www.amazon.com</a>	App	Student Prime Member	6.99	83.88
Music	Spotify	<a href="http://www.spotify.com">www.spotify.com</a>	App	Free Membership		
Television Channels						
	HULU	<a href="http://www.hulu.com">www.hulu.com</a>		Monthly Basic	6.99	83.88
Greeting Cards	Postable	<a href="http://www.postable.com">www.postable.com</a>		Pay Per Card		14.99
Business Printing	VistaPrint	<a href="http://www.Vistaprint.com">www.Vistaprint.com</a>				21.75
Home Utilities	LocalCo	<a href="http://www.utilities.com">www.utilities.com</a>		Cost Varies	136.75	786.28
Car Insurance	Geico	<a href="http://www.geico.com">www.geico.com</a>				
Mortgage	VAHL	<a href="http://www.vahomeloans.com">www.vahomeloans.com</a>		Mortgage	505.03	6010.12

Account Numbers and Login Information can also be stored, but should be separately secured

In a Two-Way reporting system (or connected to Master, Merchant, and Bank) special reports can be created and primary data managed for change, verification, update, and confirmation of payments, receipts, spending, etc. – Further organization can separate required vs. optional spending, reoccurring from one-time payments, and show quarterly, annual, and lifelong reports, investments, ownership and when connected to official documents, provides better and more accurate reports than a **Credit Bureau Report**; Account permissions can be granted, changed, monitored, as well as ownership data, location, and shared with government agencies

Figure 8 - Manual Account Summary

Entertainment Insights May 2022				
<b>Owned Movies</b>				
None (scan barcode to add physical DVD copies to a library database)				
<b>Rented Movies</b>				
Top Gun	14.99	May 1, 2022	Internet Cable xFinity	
Yosemite, Season 4	14.99	May 2, 2022	Internet Cable xFinity	
<b>Internet Smart Television</b>	30.99	May 3, 2022	Monthly Subscription	
HULU	6.99	May 4, 2022	Monthly Subscription	
<b>YouTube Videos</b>				
None				
<b>Home Movies</b>				
Name or Event	Birthday	May 5, 2022	Location/Stored	
Kitchen Project	Home Improvement	May 1, 2022	Smartphone/Google Drive	
<b>Take Out/Dining</b>				
GrubHub	275.60			
Instacart Delivery	575.45			
The Application can monitor activity and compile information for organization, spending, and insights				

Figure 9 - Entertainment Insights

Account summaries and profile activities are managed on each site, requiring any account or data compilation to be completed manually, with documents and data stored in over 40 different locations. When all systems or accounts are connected, customized reports and summaries can be created with different types of sorting, viewing, and categorization. A document management feature can associate contracts and official correspondence with Account, for record keeping purposes. New certified reports can be created and used for personal ownership, activity, healthcare, budgeting, parenting, and other legal reporting or educational, economic, and social statistics.

My Accounts: Sheri L. Wilson

Identity Management | Bill Payments | Open Accounts

Assets

	DEC	Jan	Feb	Mar	Mar	May	Date Paid
Mortgage	No Pmt Due	504	503	504	504	503.21 pd	4-May
Internet	auto	45	40	40	40	40 auto	5-Mar
Utilities		176	153	244	170	170	137
Dental - DDIC VET	auto	37	37	37	37	37 auto	7-Jan
Blog 1AND1	auto	12	12	12	12	12 auto	17-Mar
Skype		0	0	0	0	0 np	
Hulu	auto	7	7	7	7	7 auto	10-Mar
Prime	auto	7	7	7	7	7 auto	
Food		0	210		110	175	100
		10	70		40	40	60
House Cleaning	auto	111	100	111	111	111 auto	24-Mar
Capital One (2 Cards)		50	16	45	50	150 pd	
TracPhone		20	16	16	21	21 auto	12-Jan
Gas			15	10	0	15	15
Books			99	0	50	0	50
		425	1320	1003	1154	1189	1139.21
	Jan	May					
Dep	1399.9	1400					
Rem	79.9	260.79					

Annual Report | Review Contract | Add/Connect Account

**This is a manual process**

When connected, it will automate payment reports and confirmations with running totals and balances

Can connect to Digital Library, Product Lists, Projects, Goals, Academic Assignments, Expense Summaries, Income, Earnings, Payments by Asset Type, planned vs. actual, due dates, custom categories

Accessible on Personal Business Mobile Application

Figure 10 - My Accounts Application Sample

## Summary of Findings

This project was focused on Identity and Account Management. In the physical world, things are purchased and managed with cards, specific pieces of identifying information, paper applications and billing statements, with accompanying goods and services where receipts are often given, saved, filed, thrown in the trash, recycled, shredded, and closely reviewed or not, sometimes by more than just a single individual. The physical and online processes are similarly managed, but they should be different because technology works differently. Accounting practices vary by individual, some required to pay taxes, and some not required, with some households that operate with very strict accounting principles, and others with no requirements at all. It is not because of the variance in procedure, laws, style, or requirements that make Identity and Account Management a problem on the Internet. On the Internet, buying and selling is different, which is the business area called “E-Commerce” and it was

designed to closely match the physical administrative process, with a different buying and delivery process. It is not the processes that are the problem – it is the design of the Internet, in the way that Information Sharing only minimally exists; each save and constantly reuses their own information, when there is a better solution.

Centrally managed identity, financial, and other official and unofficial documents required or used for Life Management requires administration and connection to multiple government agencies and currently, there is no systems integration amongst them. A simple example is an official change of address online. In the physical world, a customer submitted a postcard to the post-office and all creditors and mailers were updated simultaneously. In online systems, users are required to change each and every one, site by site – which is extremely inefficient and causes serious internet security and accuracy problems. Generalizing it by saying it's a data management problem is not the answer or case – it is the design that is the problem. If the design cannot change, then an application must be created to manage the problem, making it more complicated, yet still very useful because it takes the requirement away from government agencies and enables citizens to manage their own personal data. Unfortunately, they do not have the right tools and are forced to complete the tasks in more places than before the Internet was invented – thus making us realize, that while the Internet offers convenience, it brings a greater level of an information burden. The problem can be fixed. The problem must be viewed from more than two perspectives: The Government, The Banks, The Shippers, The Merchants, The Buyers, and The Developers.

Laws and work levels vary also, which changes the processing times, styles, and tasks of those work build, and work behind the scenes. The buying processes are typically the same for every online buyer, but different than the physical experience, which includes wait time and additional tracking. Because systems are only minimally integrated, meaning the banking institutions or financial institutions are connected to the Internet sites, and the credit cards, where identity was once verified, it leaves Internet buying into what might seem like an Insecure process, in need of special software or encryption for protected transfer and sharing of data and identity. Data retention timeframes for transactions is unknown, but buyers trust the goods and services they order will be professionally processed without crime or mishap and delay. While more businesses require more proof of personal income, identity, and other documents for successful online transactions, many are still far behind and those that are online are not fully integrated, requiring the sending and receiving of data more than once to multiple places, as well as the requirement to store information and proof in multiple places, such as hard drives, storefronts, online storage sites, and physical file cabinets.

Each person and place have their own ways of organization, just as there is variation in software development skill, talent, and ideals of what is considered good business and efficient. Although we have advanced computer systems with account management functionality, not all companies offer a billing statement where categories are correct for the type of goods sold or purchased. Leaving this up to the customer or consumer is unfair because the products should be categorized before being available in the marketplace. Standardization makes product management on a worldwide level far more consistent and easier to manage. The project found that such variance is not directly responsible for insecurity and distrust on the internet, but causes additional problems when customers seek to integrate their bank with financial accounting products. The same is true for the duplication of profile management where the ratio is one to one for each account. Distrust was found because identities were not officially

registered and some previous workers were found likely to steal, disorganize, or use faulty business skills of low-quality workmanship and product engineering. While some of the trust has increased, people are still forced to duplicate data in too many places, making organizational management and ease of use, and access of proof documents required without a well-defined integrated system that works for both businesses and consumers. Trust was not measured by interviews and data points, but the statement is made upon old and existing concerns of the Internet from numerous people where complaints or reasons for not using it went undocumented. It is not that complaints must be documented for the problem to be accepted as fact or real, although in formal studies it is helpful, but that requires another set of software and survey methods that were not included in the project. The student naturally trusts online buying, but problems still occur for unknown reasons, perhaps due to low quality systems and lack of decent talent, or personal attack on those who seek to limit information and cause business problems to the buyer.

The theory or reason behind the Internet's slow advancement is not total incompetence, but the community's inability to set quality design and data standards that uses a better database system that truly works for both business and consumers. Priorities seems skewed for Technology developers, while providing entertainment and other software, without considering the entire architecture and how each works with each other and how much time can be saved with better accuracy and content if a better design is created. Access control is a problem and so is non-flexibility and adaptation, which is often what keeps a business from innovating and becoming better. It is not true that a problem must occur for a better software professional or service to take over, but since serious problems exist, the project sought to solve it. Excessive duplication, document variations, inefficient processes, and individual proof are the problem. Systems can fix this. The project identified the proofing, documents, and the recommendations are included below.

## Recommendation

### Create an Official Project Plan

Since changing the entire design of the Internet is an unlikely project or initiative, then designing specifications for a solution called "My App" to manage personal and account information is better. The first phase would start with a through process review and creation since one only partially and incorrectly exists. The need to compare the two can be completed at the end to compare changes. The the design of the user's system should be created in more detail with a test product integrated through a new data exchange network. A detailed plan must be written to show official agencies and all people, systems, and places that use the information. How data is exchanged, updated, sent, received, and viewed on both ends for consistency, accuracy, responsibility for management, and source file or 'original' and official records must be outlined, as well as data flow diagrams, with update or change frequency management. Defining requirements within this project did not take place because, but should in the future to consolidate what applications already exist for acquisition by a large company for investment for the two or more-way data interchange center. An interchange must be developed that enables application summary data, including new accounts built on simple application procedures that no longer require retyping and recertifying.

Users must have summarized consolidated numerical insight: Number of Active Credit/Banking Accounts, Total Amount of Available Funds, Daily Withdrawal and Use Limits, Number of Transactions, further separated by physical storefront transactions and online purchases. Summaries of Spending, available by multiple timeframes like a banking balance sheet but consolidated with quick access to specific account detail from one application. The standard industry terminology used for this kind of functionality is a database format with custom report views or small active application boxes on a consolidated view like Google Apps Icon feature, but with Application Summary data on the same page, with clickable access to the actual account within the browser without visiting the internet page and logging in. Transactions must be viewable by user and as a household. These figures should be summarized and available on a household and government local, state, and national level for economic reviews. The strategic goal set for this project is to reduce duplication and create a better centralized Internet System for all computer and in person activity. To generally summarize the project by saying a project team should be formed, but it's a large undertaking that cannot be completed by one student or professional. The solution is a centralized integrated application. Some tasks for the project are generally presented: 1) Identity Management and Profile Integration to create one profile and login process for the system with automatic authentication for the integrated applications, 2) Define relevant and useful statistics that connect to other systems for automated tax filings, official records management, along with specific process diagrams for standardized use and programming specifications. 3) Identify all manual household processes in comparison to standard business processes and automated solutions to create a changeable and standardized version for both types of uses. 4) Work towards changing the Merchant Internet Account Design to utilize the Central Profile Management System for efficient account creation for accounts that require it for spending.

Advanced project planning should also include customer service tasks related to account management, as well as integration tools for overall account and internet use reports, summaries, and online sharing amongst household members or others authorized to view reports. Life's business or personal and non-business-related functions, such as education, learning, specific spend, and communication features need to be built in to truly be beneficial for more than just businesses, but for parents, school officials, potential marriage partners, and family members for best estate planning while living and not wait to die to summarize and create asset inventories and useful life statistics. The project is not limited to insight into activities, but the purpose is to create a more useful system that reduces the burden of 'retyping' or in other words, using information that has a standard data owner with more than just an 'email' system and online area to see spending, limits, purchases. A well organized and architected system could show exactly what is in one's closet, show serious insight into needs for the right cost of living, style choices, and help plan one's life better, not just as a luxury item to help children and adults get ready for work or school every day and too make sure their cupboards, cabinets and refrigerators are stocked with products associated to recipes, but for budgeting, reminders, healthcare, and matching. While price matching and comparison of products across the internet are helpful, it is not the management of 'new items' in search for the lowest price that needs attention; it's integrated account management to see what was bought, what are regular purchases, likes and dislikes by household, as well as financial planning tools that integrate with all open and even closed accounts to make life for insightful and organized. Better online applications that offer ease of use in opening and managing credit and banking accounts, as well as any other account that requires entry of personal information makes the

internet a more secure place to visit and shop, as well as store official records for access available on smartphones that are connected to more than just a physical wallet, but Global Positioning Systems, with helpful solutions beyond email and calendar reminders that a human has to physically set. Even those are not connected to anything of value, other than duplicate confirmation messages that can be eliminated with an integrated application.

This project presented some solutions to the problem, with old features of the Internet that the browser provides to manage accounts, but it does not entirely solve it. Organizing bookmarks for accounts already setup provides quick access to management tools. Overall account management, along with ‘profile’ or ‘identity’ management is still everywhere on every account and a maintenance problem, which causes inconsistency since Internet users have no way to know where and how their information is used, was used, or where. Users of the Internet should be the people responsible for the management of data they no longer have access to but should because it’s about them and it is theirs. Legal requirements must be set, but rather than to write laws around what could potentially change with a single integrated application, it’s better to focus resources on how the Application will work with the existing Internet architecture and what must and will change for it be more efficient and useful. Although big companies such as Google and Microsoft, Inc., have made changes by adding the “remember me” and “auto-fill” password and username functionality, they are miniscule changes that do not offer a centralized profile management system. With reservations, it is summarized that the architecture and design might need to be only slightly adapted to make it a more manageable solution, but after testing some online applications, it is better to have a centralized management system available on multiple devices that are interconnected by household.

Application Integration Consolidated Reports for all Online Accounts Up to the Minute Real-Time Views				
<p><b>Primary Profile</b></p> <p>Name, Picture, Address, Phone Numbers</p> <p>Government Photo IDs</p> <p>Drivers License, Social Security Card, Military ID</p>	<p><b>Banking &amp; Credit</b></p> <p>Number of Open Accounts</p> <p>Banking: \$\$ Credit: \$\$</p> <p>Total Available: \$\$</p> <p>Monthly Bill Payment Total: On-Time Score</p> <p><a href="#">Access Detailed Accounts</a></p>	<p><b>Shopping</b></p> <p><a href="#">Physical In-Store</a></p> <p><a href="#">Online</a></p> <p>Summaries of Locations, # of Visits, Products, with detail views</p> <p>Integration of Online + Physical for Spending to create product inventory</p>	<p><b>Outings</b></p> <p><a href="#">Physical In-Store</a></p> <p><a href="#">Online</a></p> <p>Summaries of Locations, # of Visits, Products, with detail views</p> <p>Integration of Online + Physical for Spending/Consumption</p>	<p><b>Online Accounts</b></p> <p>Summaries of Locations, # of Visits, with Statistics</p> <p>Favorites, Frequency Interactions, Purchase Summaries</p> <p>One Click Open/Closes</p>
<p><b>Family or Individual Media</b></p> <p>Family Photos Special Events School Pictures</p> <p># Shared, Viewed, Printed, Locations</p> <p>Heirlooms</p> <p>Auto naming, timestamped for Organization &amp; Access Control</p>	<p><b>Digital Assets</b></p> <p>Purchased, Rented, Locally Stored or Streamed</p> <p>Movies, Music, Videos, Cable Purchases</p>	<p><b>Nutrition</b></p> <p>Grocery Lists Recipes Store Visits</p>	<p><b>Game Activity</b></p> <p>In Person</p> <p>Online</p> <p>Scheduling, Wins/Losses</p>	<p><b>Subscriptions</b></p> <p>Trials w/Dates Product/Topic Area</p>

Figure 11 - Application Menu



## Summary of Problem and Solution

The first phase of this project was completed by reviewing the process for identity verification and account management. Once the problem of heavy duplications was seen, as in high ratios of individualized data management, the need for a better design became clear. Because the overall design of the Internet cannot be changed by a single individual, the second part of the first phase was to locate the process by which the architecture can change and to identify products, companies, and agencies who have begun. This required short software tests and reviews of four or more applications, as well as numerous authentication sites, both the ones where financial transactions took place and ones where they don't. The third phase or part of the project was to compare the software and document or count duplication, as well as show what has improved, or progress made and then assess whether the problem has already been solved. Since the software reviews show the problem is not completely solved, but that companies are working towards a solution, further analysis was required to decide if a centralized application with integration is still helpful and to consider its profitability and acceptance by users. A benefit analysis was conducted. The project is challenged by a tough internet design, inability to change it, and competitive large corporations who might not even know there is a greater problem. The final phase of the project was to lightly document a solution and how the integrated application might work, without offering a fully automated and integrated home management solution because the project must stay focused on what can be realistically accomplished since this is not an automated system that creates overnight sensations and banks thirty or more million on one-time fees or trial-based software. The project is also challenged by wanting to work with Internet Engineers to change the innerworkings of the Internet, but also to create something independently and just adapt to what is, rather than backwards engineering. Another project challenge is having been in a position of power, in decision and development roles and dealing with the shock of this new discovery.

The concern is that the developers, and users of the Internet do not know what databases are and how they are designed, which is why this problem exists, causing even further concern for who caused what and is responsible for fixing it. The assumption is made and accepted that the Internet's design will not be changed, nor will the current page by page Internet structure of site individualization by address, merchant, or registered owner. Since it cannot be changed, a solution for the data management problem, as well as officializing identity and other accounts must be created. The standard business analysis process is used, but not to document step by step procedures that can be used to teach people how to use the Internet, but to review how personal business and data is managed, stored, used, and processed on both ends and by multiple agencies and organizations. It is clear there is some application integration, but not enough and does not offer users enough technology or automation to be found useful beyond what already exists. "Experian.com" is a credit system with integration to Banking Systems, of which there is an actual Credit Bureau Process and option that offers identity monitoring, but again, insufficient for user management, integration with official records, and of use in household spending, accounting, budgeting, forecasting, and planning. These are government systems of approval or disapproval based on hidden formulas, which is inconsistent and causes dysfunction.

None of the systems lead to insights for local, state, or national economists, nor does it provide much use beyond a 'number' and individual account tracking for its users, which is limited information, not connected to each other or consolidated. This is a burden for users and almost a full-time job. Since there is no real consolidation that offers valuable reports, not solely limited to money, the problem must be looked at on a different level with an effort focused on reducing duplication and create something integrated that uses a database design and not individualized minimally connected applications. If another individualized application called "My App" is created, with no or minimal integration, then the problem is still manual and is not solved, showing we do not have the technology, resources, or skill to complete it on our own because it requires a Federal Law and coordination with more than one agency. The first phase is complete, with a single user's view of the problem, but might not be sufficient to convince others that there is a world-wide problem and need for a valuable solution. Because of the timeframe of the project, data gathering, and testing was limited to one, then it is not certain that the problem or awareness exists for all users. It is not a single technical dysfunction; it is a design problem of the Internet. Household use of the Internet is not merely just for Entertainment and Socialization and business systems can and should be used at home, but without a complete customized design that separates business from life management is required. Since the project is a large undertaking, it cannot be fully completed in this paper, but it can prompt interested parties to invest in further study or to abandon it and give the ideas to the large companies to build on what already exists since they do in fact, have the architecture built and are close to offering something valuable.

## Conclusion

The Internet requires users to create one account for every Internet site where personal information is used. After several weeks or months of use, this results in a very high number of accounts that use the same personal information (or data) and requires the user to manually type in this information. Some browsers offer 'auto-fill' functionality and 'remember me' login features that make this easier, but it does not solve the constant identity verification process, the duplicative typing process, and shows that while the Internet allows people to connect and share information online, using the system for communications, E-Commerce, and some business work, it proves there are very few applications that are designed to share information from a primary data source that contains official documents and records, beyond identification. Building a better system of information management for personal and business use, leads to larger tasks called "Application Integration" since the Technology Industry has gone forward with individualized applications without data sharing, official records management, and user rules and management of their own information in an efficient and affordable way. This causes serious problems for users of the system, as well as the entire architecture of the Internet.

A simple solution is to create an independent application that contains official records and shares with all of the Internet sites or places that uses the data, but the design is already in place, thus requiring a change to not only the architecture, but also the process of identity verification, account management, and use with a focus on both business and personal efficiency and accuracy. The goal is to reduce the constant need to confirm identity and retype the same information. Good integration leads to better automated solutions with consolidated reports. This report provides some large companies solutions that can be used to solve this

problem, as well as challenges the project faces, including the difficulties the Internet has brought onto its users and what industry can do to make it easier and more enjoyable for all, not just business purposes.

## Literature & References

1. The Internet Architecture Board convenes workshops of specialists, initiates, and executes specific work programs, and writes documents that lead to comprehensive technical analyses of matters of interest. While its work may influence the industry broadly, the IAB does not operate from a grand-architecture blueprint of, or vision for, the Internet. Rather, the IAB's efforts are guided by fundamental design principles—the Internet's building blocks and their interactions—that make the global open Internet what it is.

The Internet Architecture Board, Overview About, accessed via the Internet at <https://www.iab.org/about/iab-overview/> on May 28, 2022

2. The Internet Engineering Steering Group administers the process according to the rules and procedures that have been ratified by the Internet Society trustees [RFC 2026]. It is directly responsible for the actions associated with entry into and movement along the Internet "standards track," including final approval of specifications as Internet Standards.

The Internet Engineering Steering Group, About, accessed via the Internet at <https://www.ietf.org/about/groups/iesg/> on May 28, 2022

3. The Internet Society supports and promotes the development of the Internet as a global technical infrastructure, a resource to enrich people's lives, and a force for good in society. It has identified three areas of focus: Building and supporting the communities that make the Internet work; advancing the development and application of Internet infrastructure, technologies, and open standards; and advocating for policy that is consistent with our view of the Internet

Internet Society accessed via the Internet at <https://www.internetsociety.org/mission/> on May 28, 2022

4. The National Aeronautics and Space Administration (NASA) is America's civil space program and the global leader in space exploration. NASA is included with a podcast reference called "The Mystery of the Moon" because the Moon and Space is a vast part of the Universe with Communication Systems launched from the land all the way to what we consider the top of the Universe. Satellites enable communications across the world, as does the Internet. Although NASA does not own Google Earth's technology, it uses it and the Internet, when fully integrated and better organized can provide a better structure and purpose for and by which we use the Internet and Integrated Software Systems.

National Aeronautics and Space Administration (NASA) accessed via the Internet at <http://www.nasa.org> on May 28, 2022; the podcast "Mysteries of the Moon" is accessible using

Google Podcast player at <https://podcasts.google.com> and is used to metaphorically describe the first scientific observation, the invention and advancement of things that allow us to take a closer look, and to see how earth and our understanding is transformed – "most of what we know, we've learned from information."

5. The book, *Passages: Predictable Crisis of Adult Life*, by Gail Sheehy is a short story about life's stages, crisis, growth, regression, milestones, and expectations from a human life perspective. It refers to challenges that aging presents and is compared to the Internet and how identity management also changes, and systems grow or regress, as well as potentially suffer from similar human problems in aging. It's used as a reference to the digital identity management system and referenceable to the Internet's design as a whole because perhaps when we set out on a course to share information across the world and create change, we had one idea and way of doing so in mind, and it grew into something where now, we reconsider its design and restructure it – just like a human would after its reached a maturity milestone, learned a life lesson, and felt the pressures of the self, others, societies, and the entire world.

Sheehy, G. (1984), *Passages: Predictable Crisis of Adult Life*, Random House Publishing Group

6. The 1995, American action film, "The Net," starring Sandra Bullock who plays the character Angela Bennet, a systems analyst chased by thieves and put into the hospital for three days. She wakes up to find a diskette missing, as well as any evidence of her existence, including the memory of her by her neighbors. It's a tale of the purposeful chase and accidental release of programs containing information and viruses, leading to government suicide, death, and injury to professionals on the project.

Winkler, I. (1995). *The Net* [Film]. Columbia Pictures

7. Profiling, defined by Oxford Languages: the recording and analysis of a person's psychological and behavioral characteristics, to assess or predict their capabilities in a certain sphere or to assist in identifying a particular subgroup of people.

"we put everyone through psychometric profiling"

Oxford Languages Definition: Profiling, accessible via the Internet at <http://www.google.com>,

Google Word Search: Profiling, Oxford Definition accessed on May 28, 2022

8. The National Institute of Standards and Technology's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life. NIST Special Publication 800-63-3 Digital Identity Guidelines provide technical requirements for federal agencies implementing digital identity services and are not intended to constrain the development or use of standards outside of this purpose. The guidelines cover identity proofing and authentication of users (such as employees, contractors, or private individuals) interacting with government IT systems over open networks. They define technical requirements in each of the areas of identity proofing, registration, authenticators, management processes, authentication protocols, federation, and related assertions. The three AALs define the subsets of options agencies can select based on their risk profile and the potential harm caused by an attacker taking control of an authenticator and accessing agencies' systems. The three-level risk approach is like the protection of classified information, with different procedural protections and consequences.

National Institute of Standards and Technology Special Publication 800-63-3 Natl. Inst. Stand.

Technol. Spec. Publ. 800-63-3, 75 pages (June 2017) CODEN: NSPUE2 accessed via the Internet at <https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-63-3.pdf> on May 28, 2022

9. Multi-factor authentication, Who Has It and How to Set It Up, is an article listing many of the common large sites that allow multi-factor or two factor authentication. It explains what it is and how secure it makes online accounts, but it does not cover a single sign on solution or discuss integrated services for all accounts on a main or multiple devices. It reports that there are two or three authentication factors: 1) your password; 2) your device, and 3) fingerprint, categorized by something you know, something you are, and something you have. Users still have somewhat standardized customizable security options within applications.

Griffith, E., Multi-Factor Authentication: Who Has It and How to Set It Up (2022) accessed via the

Internet at <https://www.pcmag.com/how-to/multi-factor-authentication-2fa-who-has-it-and-how-to-set-it-up> on May 28, 2022

10. It's important to understand the difference between single sign-on and password vaulting or password managers, which are sometimes referred to as SSO which can mean Same Sign-on no Single Sign-on. With password vaulting, you may have the same username and password, but they need to be entered each time you move to a different application or website. The password vaulting system is simply storing your credentials for all the different applications and inserting them when necessary. There is no trust relationship set up between the applications and the password vaulting system. With SSO, meaning Single Sign-On, after you're logged in via the SSO solution, you can access all *company*-approved applications and websites without having to log in again. That includes cloud applications as well as on-prem applications, often available through an SSO portal (also called a login portal).

How Does Single Sign-On Work? Identity and Access Management 101, by One Login, accessed

via the Internet at <https://www.onelogin.com/learn/how-single-sign-on-works> on May 28, 2022

11. Connecting internet applications and sharing information requires some form of secure programming middleware to send, receive, match, and update or change data; the functionality exists, but is individualized on each 'site' or 'account.' The Application Programming Interfaces for Modern Commerce seems to be the technology used to connect two or more systems, which enables the most efficient use of data, but its current protocols or requirements are that one must be designed and programmed without a standard customizable API – the APIs are developed after accounts are setup, meaning there is still much duplication of data that serves or is designed for multiple uses, such as personal details. Those who offer API's, such as Amazon, Google, and others suggest that APIs can be built and offer the tools to do so, but there is no technical direction that tells developers of commerce systems the protocols and process by which an API is to be

used, meaning there is technology, but no directive, and this means individual software companies can create integrated systems, but not customizable, generalized API systems as a development standard. Without an API, Goetsch suggests you'd be left to directly query databases and perform other tricks that expose the caller to too many of the implementation details of the application you're calling. In the suggested design to create a 'dashboard-like' integrated system with summary levels, detail, and is fully connected to all systems as one management application, an Application Programming Interface idea is used, but does not actually 'call' internet sites, nor does it 'query' databases. It's new design, which has yet to be written uses different terminology.

Application Programming Interfaces (API) for Modern Commerce, Goetsch, K., (2018), O'Reilly

Media, accessed via the Internet at <https://commercetools.com/> on May 28, 2022

12. Application Integration is the terminology used to connect two applications together for information sharing. Advanced integration allows for change management policies between the two for data consistency and accuracy. When a third layer is added on top of the integration applications, a new application is created where data is sourced from the integration. It's a complex layered system of data gathering, programming, and calculations to offer various levels of view best for data viewing and management purposes. This type of approach enables more than one application to provide input to a master application, but each integrated application must be designed, developed, and created in a special format for optimum data use and protection, therefore there are many components to application integration and not just data. Informatica offers a partially acceptable definition: Application integration is the effort to create interoperability and to address data quality problems introduced by new applications. It is not only data quality, but management, process, policy, use, accessibility, and standardization in third party or layered applications where one system is dependent upon another.

Informatica: What is Application Integration? Accessed via the Internet at

<https://www.informatica.com/services-and-training/glossary-of-terms/application-integration-definition.html> on May 28, 2022

13. The Google Password Manager in the Google Account Help provides an area to manage account passwords. This is only password management, but it provides a list of accounts where login and passwords are used, with the associated email account. This solves part of the account management problem of not knowing what accounts exist in your name and email and where to update, change, or use them. Google also has a profile manager that allows sharing, via contacts and other means, but does not automatically complete new account setups on individual internet sites.

Google, Inc., Help Center, Manage Your Accounts, accessed via the Internet at

<https://support.google.com/accounts/answer/6208650?hl=en> on May 29, 2022

14. A case study conducted by Google with Pinterest, a leading photo sharing social media application, showed Pinterest users are 2X more likely to use Google One Tap vs. multi-step sign in options, New user sign-up, 47% increase in Sign Ups (Web/Mobile Web) and

126% increase in Sign Ups (Android), Returning user sign-in 16% increase in Sign Ins (Web/Mobile Web), 34% increase in Sign Ins (Android). Pinterest uses the Sign in with Google button across its mobile and web platforms and has subsequently also implemented Google One Tap on Android, Web, and Mobile Web. Specifically, Pinterest migrated from the previous solution to the new suite of products called Google Identity Services, which includes the new One Tap module, because it enables Pinterest users to access their accounts and saved content with a single click, instead of being sent through a multi-step sign in process.

Google, Inc., Google Sign In & Pinterest, Case Study (2021) accessed via the Internet at <https://developers.google.com/identity/sign-in/case-studies/pinterest> on May 29, 2022

15. Integrating and mapping identity providers is time-consuming and can be painful. With an IAM solution, these integrations are already built and provided. An IAM should also offer SDKs for popular development stacks, further reducing additional coding needed to integrate the authentication system. A company's engineering team can focus on configuration rather than coding and customizing. Increased security: Storing data with a third-party identity management solution strengthens security. IAM solutions adhere to security compliance policies and certifications. A solution takes on the responsibilities of keeping user data stored and transported securely. In addition, an IAM solution provides federated identity so that users don't engage in bad practices like reusing the same password to avoid having to remember multiple login credentials. While Auth0 works wonderfully with the basics, it does not offer profile sharing, or a master profile management account system, meaning the login and password can be created, but some Internet sites still require profile setup, even though users have already created them in many other places.

Auth0.com, Build vs. Buy: Guide to Evaluating Identity Management, accessed via the Internet at

<https://auth0.com/resources/whitepapers/build-vs-buy-evaluating-identity-management/> on May 29, 2022

16. The mission of the IETF is to produce high quality, relevant technical and engineering documents that influence the way people design, use, and manage the Internet in such a way as to make the Internet work better. These documents include protocol standards, best current practices, and informational documents of various kinds.

Internet Engineering Task Force (IETF), Mission, accessed via the Internet at

<https://www.rfc-editor.org/rfc/rfc3935.html> on May 29, 2022

17. One to Many (Single and Multi) Database Designs work in single applications on-site or Internet Applications. They are not used by all organizations, many waiting to move to cloud-based systems. First the migration to Internet Applications takes place, tested, and areas identified not just for security issues, but connection failures. Changing the understanding and direction of developers and leaders requires them to understand it is no longer the "Internet Connectivity" focus, but now data management and standardization in process, which leads to Integration and reduction of duplication through sharing. It is a national and global level using a "One to Many" design approach,



with all systems integrated that offer several levels of detail when summarized, calculated, and used together in the most efficient way.

Savvy Smart Solutions, LLC, Cloud Based Systems using a Database Design Approach for Internet

Application and Data Integration Management accessed via the Internet at <http://www.savvysmartsolutions.com> on May 29, 2022

18. Cloud Based Architecture with Auth02 Framework

19. Moving to the Cloud opens companies up to data exposure, security and compliance violations and other threats –This is why visibility and control are vital for governing access to cloud resources. Three cloud governance best practices that help strengthen your cloud infrastructure: Gain visibility across your cloud infrastructure, manage federated access, Tighten Identity Governance. Reasons for moving to the Cloud are to work with more efficient distributed automated systems – for better integration, away from individual non-connected software systems. It's not because of data insecurity, vulnerability, threats, or breaches that require movement to Cloud Based Systems, but to prompt integration and interoperability for maximization of data use to improve experience and increase efficiency. *This reference offers a very negative introduction to the Cloud.*

Sailpoint: Best Practices for Cloud Governance, accessed via the Internet at

<https://www.sailpoint.com/identity-library/best-practices-for-identity-governance-in-multi-cloud-environment> on May 29, 2022

20. Microsoft, Inc.'s LiveMail offers profile, account management, and special features for gaming, online spending, family management including game spending, events, to-do lists, and quick access to email and calendaring. Google, Inc. has a comparable system, with more in-depth ability to manage bookmarks, accounts, contacts, calendars, and access to third party applications using Single Sign on or Google's One Tap feature. Both companies offer Cloud Software Solutions for spreadsheets, presentations, and word processing, along with developer tools for major systems. Both companies offer solutions and customers select one or the other as their primary system provider, with some using both. While both software providers advance, both are still very much behind in Integration, and there is no technical specification or article that discusses the missing elements that provide an overall online account management solution or 'software' and online system portfolio for best management and efficient sharing beyond what people understand as sharing status, photographs, location, and their basic name, email, and phone number. Microsoft 365 vs Google Workspace: Which productivity suite is best for your business?

The Associated Press-NORC Center for Public Affairs Research and MeriTalk, Center for Public Affairs Research, O'Brien, M., The Associated Press accessed via the Internet at <https://apnorc.org/americans-have-little-trust-in-online-security-ap-norc-poll/> on June 3, 2022

Online Business Laws and Regulations: An Ecommerce Guide, Estay, B. accessed via the Internet at <https://www.bigcommerce.com/blog/online-business-laws/> on June 3, 2022

Amazon.com, Inc., Privacy Notice, February 12, 2021, accessed via the Internet at <http://www.amazon.com> on June 3, 2022

SIGCOMM '88, Computer Communication Review Vol. 18, No. 4, August 1988, pp. 106–114, accessed via the Internet at <http://ccr.sigcomm.org/archive/1995/jan95/ccr-9501-clark.pdf> on June 3, 2022

Computer World: Internet Application Integration, King, J., Sep 2000, accessed via the Internet at <https://www.computerworld.com/article/2597188/internet--application-integration.html> on June 3, 2022

Gizmodo.com, Microsoft Wants to Prove You Exist with Verified ID System, if You'll Let It, Barr, K., June 1, 2022, accessed via the Internet at <https://gizmodo.com/microsoft-verified-id-entra-digital-identity-wallet-1848996341> on June 3, 2022