Our story began in January 2006 with a global technical challenge:

The Internet was built without a way to know who and what you are connecting to. (source)

Without this essential capability what has emerged is a hodgepodge of identity and tracking solutions. Absent a native identity layer, individuals have no reliable way of knowing when they are disclosing private information to untrusted or unknown parties. Additionally, there is no simple, consistent, comprehensive privacy framework for controlling, or even remembering, the many different aspects of an individual's digital identity. We (5o9, Inc. dba 3PHealth) set out to solve technical identity challenge and address the new business and privacy challenges that emerged once we had built the initial framework. Before we started writing the code base we talked to individuals and enterprises to see what they needed in a solution. The answers were unambiguous…

The consumer needed three things:

1. Convenience - no behavioral change to use, and a simplified user interface for easy navigation
2. Privacy - over the personal data that they wished to share
3. Control – over with whom they shared their data

The enterprise (business) needed three things:

1. Commerce - save time and make money
2. Simple Integration - for them and the consumer
3. No Change - to existing knowledge bases or infrastructure

With these needs in mind we laid the foundation for what was to become Choice®. The cornerstone was privacy. Our definition was simple - I (the user/data subject (GDPR)) control the collection, flow, use and assignment of my private data. This translated into building a secure (encrypted) database where all of my data could be stored and controlled only by me.

With the core design in place, we then turned to the founding document of the internet design RFC 2616 to see how we could transmit that data securely across the web. The internet is an 'extensible' protocol (communication layer) and can be extended by using its 'headers'. To transmit non-standard private data, we added this new data as headers to an outgoing HTTP request. This approach solved the problem, but it created another issue.

Having this personal data in an HTTP request would be a potential violation of the user's privacy. (Sec 12.1 of RFC 2616). So, we added real-time encryption to ensure that all header data in an unencrypted HTTP request would remain private. We also added 'field level' control over each piece of data so that with a simple check box the individual could fine tune the sharing of their data, in the moment, based on their needs, values and preferences. We now had a simple, consistent, comprehensive framework to send any private/personal data from a device across the internet to aid in letting the server know who and what was connecting to it.

It was only when we had successfully transmitted individual private data securely across the internet, did we encounter the next challenge. To truly unlock the value of personal data we needed to invent a solution that enabled the global convergence of services. Services that flowed *through* you (the Enterprise) rather than *around* you. Services that leveraged a loosely coupled value network. Services that personalized and tailored content to each individual in real-time based on their needs, values and preferences, in the moment.

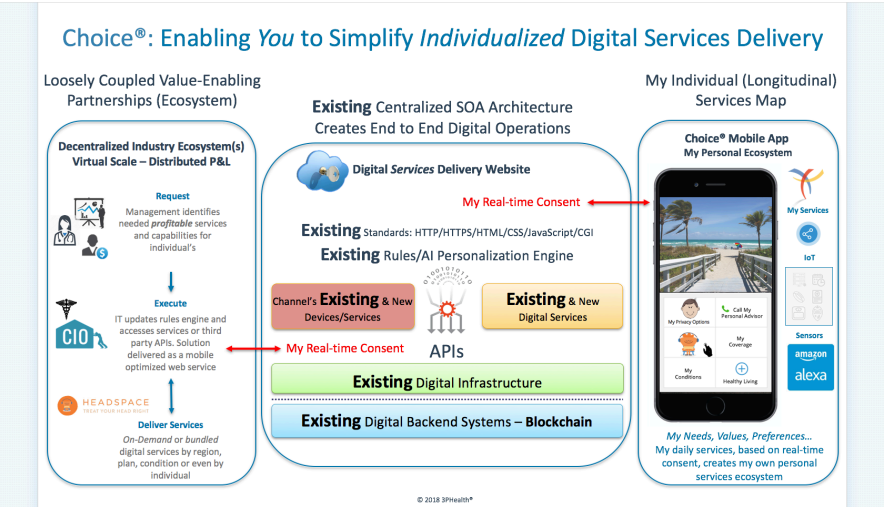
To more fully understand this problem a little more context is required. We started on these challenges in 2006, before the invention of the smartphone (iPhone/Android), and before anyone thought about privacy. At the introduction of the iPhone in 2007 Steve Jobs announced that Web 2.0 + AJAX would be how services would be delivered on the iPhone. One year later on July 10, 2008 the App Store was introduced and history forever changed. The entire development community shifted their focus from Web 2.0 toward the 'app for that' approach.

There were still no software tools that offered sufficient flexibility or cost/time savings for us to solve the challenge of enabling individual customers to decide how much data they were willing to grant access to in exchange for integrated, value-added services that could cross traditional boundaries of a single, standalone service or vertical market. This is best summarized in this July 2018 article by Robert Contri (Global Financial Services Industry Leader at Deloitte) titled: [The currency of the future? How data is becoming the lifeblood of financial institutions](#).

> *"That data in and of itself is useless. It's about transforming it into knowledge to drive efficiencies and to tailor offerings to customers."*
>
> *… Moreover, and this is particularly important in the current climate, it means the customer has to control their data. Individual customers will decide how much data they are willing to grant access to, in exchange for value-added services* ***which will often go beyond the traditional parameter of financial services****. The more value they can receive, the more data they will be willing to share, and financial institutions can then use this data to drive revenue or mitigate risk. How did we solve this challenge?*

To overcome the convergence challenge, we invented a new mobile user interface. We combined the simplicity and elegance of the hyperlink (for navigating the web) with the simplicity and elegance of native mobile app menus (for navigating on the device). Since the consumer was familiar with both so no new learning behavior was required to use the solution. Now, not only could an individual have complete control over the data that they shared and with whom they shared it (service/ecosystem vendors), they could easily navigate to any content, service or mobile device functionality. To enable the new value-added service vendors to offer their services in real-time, we used simple HTML commands so that those vendors could provision an 'app for that' *service* dynamically.

We now have a ***simple, consistent, comprehensive data privacy and individualization navigation framework*** that solves all the challenges. A single image paints the picture of how it works.



Starting on the far right - Choice® enables the consumer to control the collection, flow, use and assignment of their private data from their mobile device. As they connect to the enterprise this data is made available in real-time. Based on their 'in the moment' needs, values and preferences, that data can be shared with an ecosystem of loosely coupled, value-enabling partnerships. They in turn use web standards (HTTP/HTML/JavaScript) to deliver a 'mobile service' dynamically to the consumer. The business model for this 'currency of the future' is what we call 'Negotiated Digital Commerce' (Transactional Revenue) in support of end-to-end digital ecosystems. Individual customers can decide how much data they are willing to grant access to in exchange for integrated, value-added services that can cross the traditional boundaries of a single, standalone service or vertical market (i.e. appointment scheduling, financial services, healthcare services, retail, search, or all of them – combined in a single personalized app for me, in the moment). The enterprise in the middle enables the transaction to take place and earns a fee for doing so.

Let's now examine how Choice® applies to a real-world use case... Healthcare.

Market Challenge: The Need for a Precision Care Delivery Presentation Solution

The day-to-day delivery of patient care remains largely unchanged. Today, we have precision medicine without a precision care delivery system. If the overarching goal of care delivery is to support individual patient behavior change in order to achieve better outcomes and lower costs, then we must first recognize that patient engagement and behavior change cannot be mandated, prescribed or expected. Success requires that you empathetically engage each individual based on their unique, intrinsic motivators as they continuously prioritize their ever-changing needs, values and preferences.

Our Innovation – Choice®: A Web Standards based Precision Care Delivery Presentation Solution

Choice® enables each of us to have a tailored, evidence-based, longitudinal care map and access to a health ecosystem that brings together exactly the services we need on a daily basis. The key is an autonomously programmable user interface that leverages your purpose driven analytics to enable the delivery of precision care in support of a prescriptive daily health plan for each individual patient. Choice® is a software tool that addresses one of healthcare's greatest challenges. How to meaningfully and empathetically create a seamless user experience that engages individual patients with a precision daily health path, by enabling them to choose the products and configurations they want from an ecosystem of health, wellness and community vendors. This ecosystem will sustainably drive higher quality care at lower cost with the precision care and the consumerization of healthcare for which patients and providers have been waiting.

Choice® Supports Your Business Requirements for Individual Precision Care Delivery in a Single Mobile App

1. Attract customers through a new and unique product that integrates into their daily lives (between episodes of care) and create new market opportunities
2. Actively engage each customer through the entire care continuum (i.e. all of their bio-psychosocial needs) to improve outcomes and lower costs
3. Collaborate in real-time with health system and community members to build a system of choices to direct care that reflects each individual's needs, values and preferences (i.e. psychographic profile)
4. Construct customer-focused products and services with a network of health and other ecosystem service providers that support new monetization opportunities for continued growth

Choice® Supports My Personal Requirements for Precision Care Delivery in a Single User Interface

1. Personal – enables services based on my choices, and my constantly changing needs, values and preferences
2. Empathetic – engages me within the context of my holistic life story to drive positive behavioral change
3. Mobile – simple to navigate user interface enables precision care delivery services, in the moment

Choice® Supports Your IT Requirements via Seamless Web Standard Integration and Data Interoperability

1. The enabling mechanism that shifts the locus of care, when appropriate, from the physical health clinic to facilitated health and wellness networks – while preserving individual privacy
2. Enables the delivery of any service at a regional or market level - independent of any other region or market
3. Enables the appropriate presentation of services based upon each customer's needs, values & preferences – creating an individual focused, prescriptive daily care path
4. Bolster margins by reducing cost and supporting new revenue generating services across multiple industry ecosystems without changing existing workflows or learning new knowledge bases

The Business Value of Choice® – Enabling a Profitable Precision Care Delivery Strategy AND Lower Costs

Overcome existing technology constraints to deliver a unified customer ecosystem experience in support of better health outcomes and lower costs of care. Simplify customer choice with an individual focused, prescriptive daily care path. Choice® is simple to integrate with all existing infrastructure, and can scale from a single patient, to tens of millions of patients. Our business model is simple – we license our product code, so you have control over how you realize value. Deliver greater value for your customers – Your Strategy, Your Tactics, Your Outcomes, Your Profits.