





*A blockchain-enabled platform that facilitates resident  
access to vital social and health services*






July 28, 2018: where we left off...


# Sample Prototype - upload/verification experience






Take Picture

From File









✓  
Successful Upload!

This document is a:

Drivers Li

Drivers License

Expiration date:

Done



Drivers License





Expiration date: August 2019


+ Add verification

Share

Delete this document



Please work with your case manager to complete this section



I verify that this Drivers License belongs to Alex.

Typed name of trusted authority

Sign in to complete

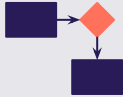


# Sample Prototype - interoperability



# What we learned

Our hackathon led us to improvements in:



**Our business logic**



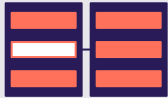
**How to employ smart contracts**



**Technical design framework**



**Quick platform user authentication options, including biometrics**



**Where blockchain adds value**



**Easy document sharing with QR codes**

*The winning teams developed a hybrid blockchain that aligned with homelessness service requirements.*

MyPass will be a **blockchain-enabled** platform that stores, secures, validates, and automatically packages personal documents, facilitating resident access to social and health services especially vital to ending homelessness, such as housing, benefits, and access to medical care.

# Needs

- 50% of clients seeking access to 13 vital services lack an ID; it takes clients 2-4 weeks to replace a document.
  - "Never had an ID, documents, birth certificate. Lost those documents in foster care." - person experiencing homelessness
  - "I have most of my documentation. I am waiting for my birth certificate in mail so I can get my other documents." - person experiencing homelessness
- Service providers told us this idea will positively impact homelessness services, by helping them gain efficiency.
  - Two service providers spend an estimated \$20,000 annually on document replacement assistance.
- Neighbors experiencing homelessness told us it would give them more agency and control and less worry. This small act of a digital ID can save lives.
- The Texas Homelessness Network told us how the platform that can help a broader population state-wide

# What success looks like

1. Efficiency of social service delivery: reduced rate of time from initial user input to provider acceptance for a service
  - Reducing this time expedites the process of receiving services, prevents further deterioration, increases trust in the system, and reduces costs on the system.
  - Trusted digital versions of documents, together with further smart contract development for benefits packages, would cut budget lines significantly, and create additional capacity in homelessness services.
  - "Substance abuse treatment depends on the type of insurance client has. MAP or no insurance they go to the Alameda House, if they have Medicaid they go to Austin Recovery or another org that takes Medicaid." - case manager on the type of navigation they have to do



# What success looks like

2. Increased control, agency, motivation: reduction in time for people to self-resolve their condition of homelessness
  - "Shows that you've taken initiative to take care of your own healthcare" [so you don't have to worry about bias in ER].
  - "A way to prove to people I've been doing things."
  - "With the help of this solution, homeless people don't have to worry as much."
  - "The most important card is my Art from the Streets card because you begin to feel like you're somebody."
3. Serve broader need: Scaling to 10% of those below the poverty line will help prevent homelessness to help with eligibility for:
  - Rental Assistance programs
  - Training and Workforce Development programs
  - Home Repair programs

**Robert Wood Johnson Foundation**  
*Pioneering Ideas in Technology,  
Infrastructure, and Health*



# Grant Parameters

- Develop and test a minimum viable product to create a blockchain-based digital platform (MyPass)
- that will allow people experiencing homelessness to securely and permanently store, validate, and automatically package and submit information needed to access health and social services.
- Digital documents will be linked to an account accessible on any device, and a client will always retain complete ownership of personal information, even after no longer being homeless or after receiving care from providers, and will be able to remove any reference to personal data from the blockchain platform at any time.
- MyPass is intended to empower clients with their own history, enable self-advocacy, and catalyze client-centered care.

# Grant Letter of Agreement

- The minimum viable product will result in
  - (1) open-source data and transaction standards that will enable service integration;
  - (2) design standards that will speed development;
  - (3) a web-based application, accessible from any Internet-connected device, that uses these standards to allow clients to store, combine, and share the information needed to access services; and
  - (4) learnings to help a coalition of partners to continue to develop the application.

# Do's and Don'ts

## DON'T

- carry on propaganda or otherwise attempt to influence legislation

## DO

- provide RWJF opportunity to review and offer feedback on the terms of use and privacy policy for MyPass (and any material changes thereto) before they are finalized and made public
- make explicit that use of MyPass and any related systems or services is voluntary in nature and that users may permanently delete (or otherwise make permanently inaccessible) their data and records from MyPass and end their participation in their sole discretion
- ensure that MyPass has functionality that allows users to permanently delete their data and records (or otherwise make such data and records permanently inaccessible) from MyPass and end their participation in their sole discretion.

# Do's

- Apply any applicable federal and state statutes and regulations regarding the privacy and security on individually identifiable health information, such as Health Insurance Portability and Accountability Act of 1996
- Have RWJF review and approve all contracts funded under this award (and all material changes thereto) before they are finalized.
- make the following materials publicly available without charge through open source basis license:
  - (a) the data, design, and transaction standards relating to MyPass,
  - (b) all reports and other documents regarding the learnings under this project, and
  - (c) to the extent permitted under the terms of use and privacy policy for MyPass and as otherwise permitted by law, any aggregated, de-identified datasets created from MyPass.
- conduct the research in compliance with the ethical standards, such as obtaining and maintaining institutional review board (IRB) approval and obtaining informed consent of participating research subjects.



**Themes over the workshop days**  
**To inform the project plan**

# Pulling it together

1  
MVP Tech  
Stack

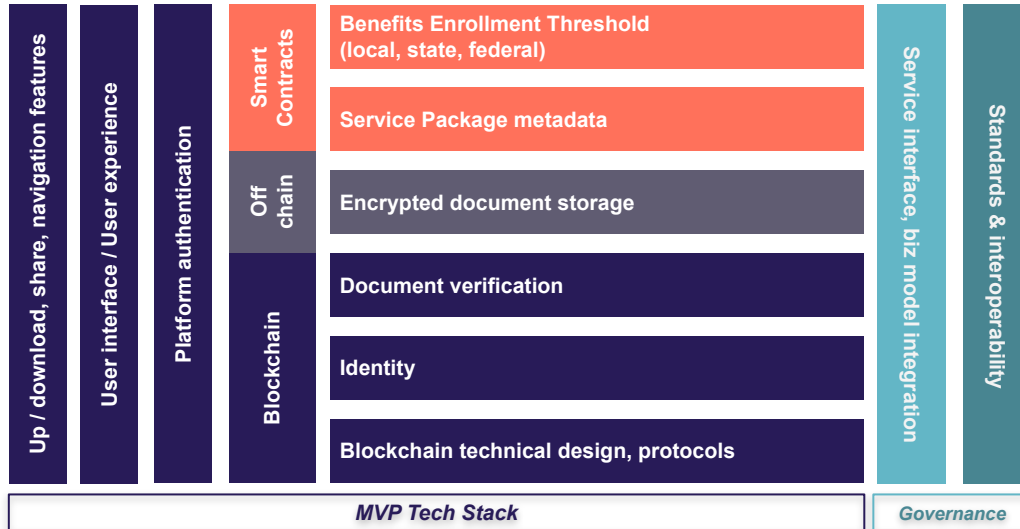
2  
Document  
Storage

3  
Service  
packages

4  
Service  
design

5  
Governance

## Partnerships make it happen



How we might build such a platform in a sustainable, safe, secure, and dignified way for those in need?

Exploring the layers in partnership...

# Pulling it together

1  
MVP Tech  
Stack

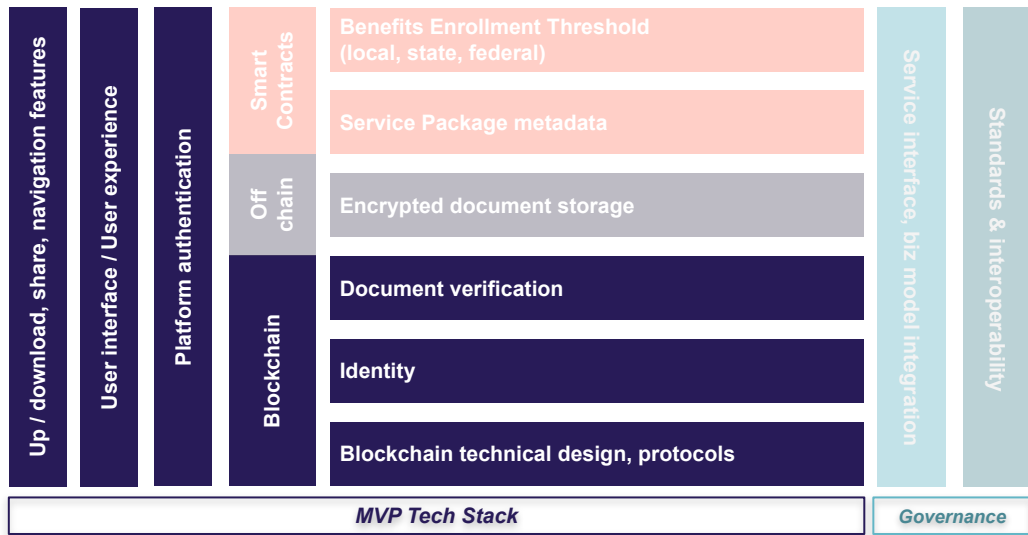
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5  
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## Build just enough to learn more about what we need

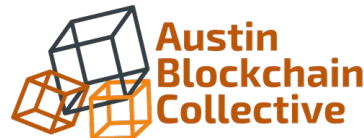


**Goal:** Create a tech stack and MVP application to build-out initial use cases. It should have the flexibility to expand to more complex services, and the interactions between them.

**Implementation options:** RWJF-funded team, Other-funded team, In-kind development, Adapt existing stack, Contracted build

**Potential implementation partners:** ID2020, Austin Blockchain Collective

# ID2020



# Pulling it together

1  
MVP Tech  
Stack

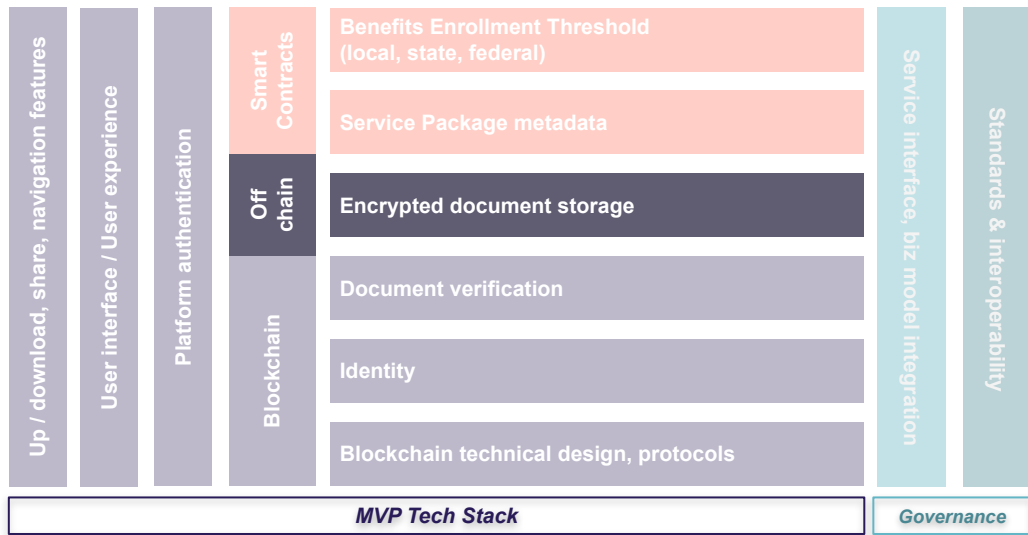
2  
Document  
Storage

3  
Service  
packages

4  
Service  
design

5  
Governance

## Safe, secure, portable documents



**Goal:** Create secure, client-oriented document/asset storage component that interacts with transaction (blockchain) layer of stack.

**Implementation options:** Non-preferential SaaS procurement, In-kind donation

**Potential implementation partners:** ID2020 Alliance members, AWS, Permanent.org

ID2020



Permanent.org

# Pulling it together

1  
MVP Tech  
Stack

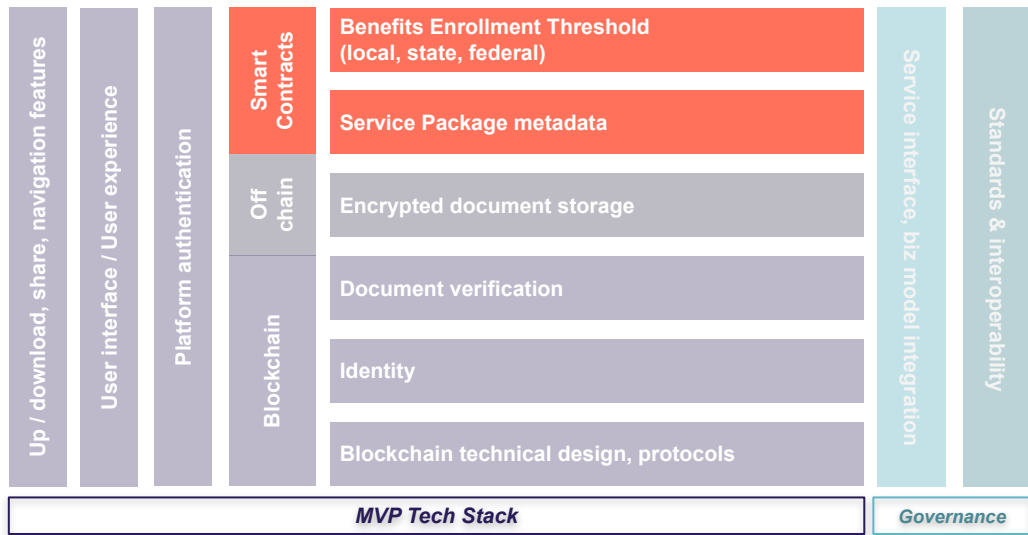
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packages

4  
Service  
design

5  
Governance

## Facilitate resident access to social and health services



**Goal:** Create a basic service package which clients can meet eligibility for, enroll in, and that service-providers can interact with. Create the infrastructure for additional and connected service packages and automated enrollment in the future.

**Implementation options:** RWJF-funded development capability, Other-funded development capability, Adapt existing option

**Implementation partners:** Central Health, ECHO, National Innovation Service



# Pulling it together

1  
MVP Tech  
Stack

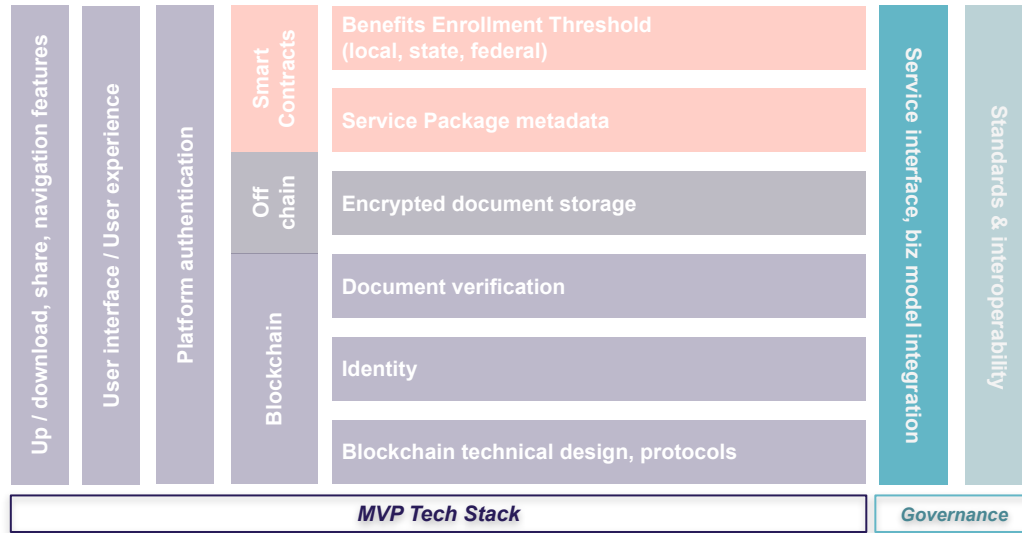
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packages

4  
Service  
design

5  
Governance

## Integrate into the service provider ecosystem



**Goal:** Design service interactions for the service package, for both client and provider users, which allows for secure, intuitive, accessible onboarding and interactions on the platform.

**Implementation options:** RWJF-funded service designer, Other funded service designer, Contracted service designer

**Implementation partners/advisors:** Central Health, ECHO, National Innovation Service





# Pulling it together

1  
MVP Tech  
Stack

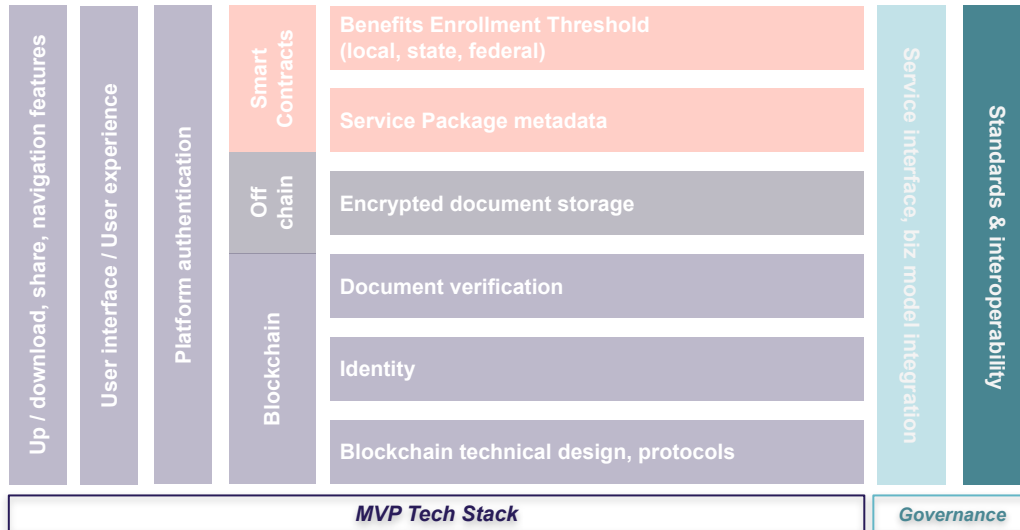
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## How standards and features will advance over time, and by whom



**Goal:** Govern the data and design standards so core principles are maintained, clients have reliable and secure service, and different types/levels of providers can (inter)operate on the platform over time.

**Implementation options:** Collaborative, Anchor institution (e.g. tech-capable non-profit), Federal government

**Implementation partners:** ID2020, Central Health, National Innovation Service, Texas Homelessness Network

ID 2020



**Thinking about service design**

# SERVICE DESIGN 101

## PROPS

Physical or digital artifacts, including products, used throughout the service



## PROCESSES

Workflows, procedures, or rules needed to perform the service successfully



## PEOPLE

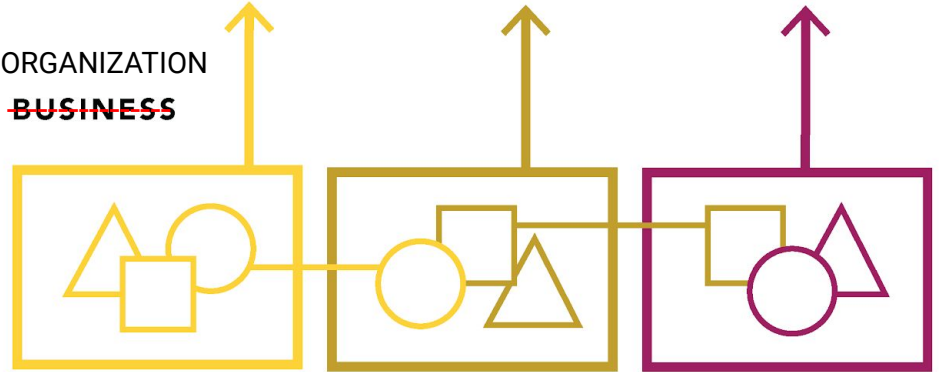
Anyone who creates, uses, or is indirectly affected by the service



## CUSTOMER JOURNEY



ORGANIZATION  
~~BUSINESS~~



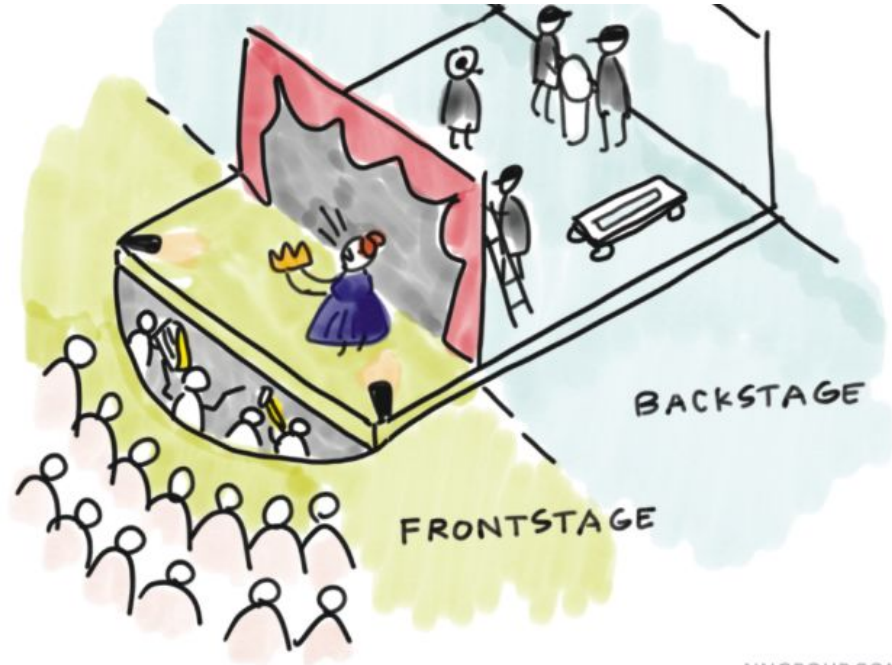
# Our focus - the journey, the front stage, the curtain

## Frontstage:

- Channels
- Products
- Touchpoints
- Interfaces

## Backstage:

- Policies
- Technologies
- Infrastructure
- Systems

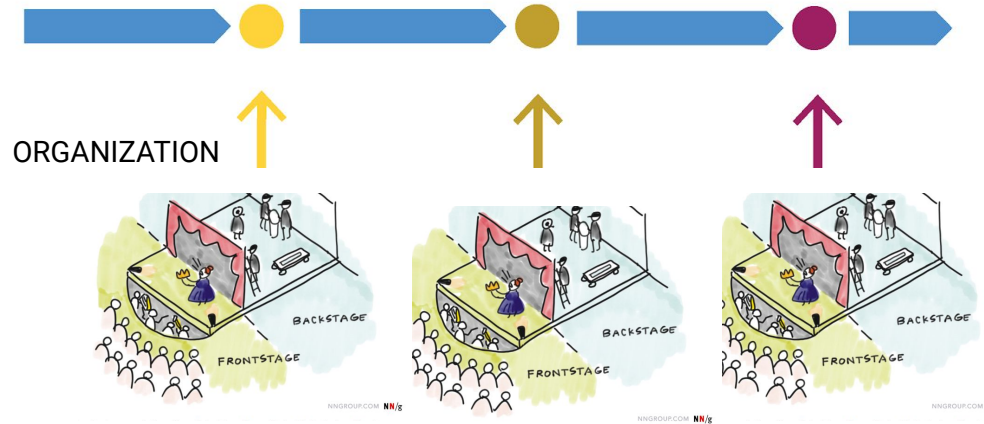


NNGROUP.COM **NN/g**

# Documents needed at various touchpoints

- Identification
- Residency
- Medical
- Income
- Housing
- Justice System
- Employment
- Disability

## CUSTOMER JOURNEY



An individual has a document....

That is proof of a facet of their identity and...

May need to have official certification...

At varying thresholds of proof...

To get access to specific services.

# Backstage policies set requirements

Documents required

Levels of certification

Thresholds of proof



## Permanent Supportive Housing Packet

### Submission should include:

- Current State issued ID or driver's license
- Social Security Card
- Completed PSH Packet with all signatures

### Instructions:

- ALL periods of 30 days or more without homeless documentation covered by either the third-party verification form or the self-certification of homelessness
- Each month of homelessness must be accounted for
- Every attempt should be made to obtain third-party verification before using the self-certification of homelessness



## What do I need to bring to my in-person appointment?

### **Proof that you live in Travis County.**

Examples include:

- Current Texas driver's license
- Utility bill
- Mail postmarked in the last 30 days

### **Any proof of U.S. citizenship or residency for your household members.**

Examples include:

- Birth certificate
- Legal Permanent Resident Card
- Passport
- Other USCIS documents

### **Picture ID for all adults in your household.**

Examples include:

- State-issued driver's license
- Foreign ID
- USCIS document
- Passport



**Thinking about documents**

# Matrix of documents needed, shared

Source agency	Document	Central Health/MAP	ECHO/Housing	SSA	DACC	Municipal Court	CUCC	David Powell Health Clinic	Hospitals	EMS	IC	VA	DPS	SNAP	Avg # work-hours to obtain	% Clients that do not have at first contact
	Photo ID	X	X	X	X	X	X	X	X	X	X	X	X	X	3	35
	Medical History			X			X	X	X	X	X	X				
	Insurance Cards	X		X			X	X	X	X	X				1	52
	Healthcare Records			X			X	X			X					
Social Security Administration	Social Security Card	X	X										X		3	
	Court/Legal Documents		X		X	X									2	
Local Vital Records	Birth Certificate	X											X		1	
	Proof of Residency	X											X		1	
	Military Service Documents		X									X			1	3
	Proof of Homelessness		X										X		1	
	Pay Stubs/Income Verification	X												X	1	
Social Security Administration	Disability Declaration	X	X												2	
Social Security Administration	SSI Award Letter		X											X	2	
	AIDS/HIV Verification/Intake Form		X					X							1	

# Working at the document level

A Name ▾	A notes ▾	☰ Documents
Identification	documents that describe who we are	Divorce certificate Marriage certificate U.S. Passport Other state ID/Driver's License TX ID Card/TX Driver's License Birth
Residency	documents that describe where we reside	Other state ID/Driver's License TX ID Card/TX Driver's License Mail (postmarked in the last 30 days) Voter ID Travis County
Medical	documents that describe our health conditions	Case Manager letter SSA Disability Award Letter Medical Record Medicare card Medicaid card Prescription MAP Card
Income	documents that describe our income	Zero Income Verification Medicaid card SSI Letter Pay Stub
Housing	documents that describe our housing status	Case Manager letter Current lease agreement Homelessness Statement
Justice	documents that come from police, courts, or jails	Case Manager letter Warrant TX Inmate ID Advance Parole Document
Citizenship	documents that describe our nationality	Permanent Resident Card U.S. Passport
Employment	documents that describe our ability to be employed	Case Manager letter Employment Authorization Document
Disability		SSA Disability Award Letter Medical Record Medicare card

A Certification level ▾	A= Definition ▾	A Requirements to meet condition ▾
Validated	Approved to be valid document and belong to the holder (platform user)	Status is reserved for documents coming directly (digitally and physically) from the originating ...
Verified	Verified that the document belongs to the holder (platform user) and the document i...	The physical document must be seen by the certifying entity
Uncertified	Exists as a document/asset, but not marked as validated or verified	A self-uploaded form, such as a Homelessness Statement

CATALOG CARDS  
ARE ARRANGED ALPHABETICALLY  
BY FIRST LINE

SUBJECT CARD

**TITLE CARD**

SUBJECT CARD

AUTHOR CARD


**PEABODY**  
**VISUAL AIDS**

PUBLISHED BY  
FOLLETT BOOK COMPANY-CHICAGO


BOOKS ARE ARRANGED  
FROM LEFT TO RIGHT  
NUMERICALLY BY CALL NUMBER



# Documents & metadata

**CENTRAL  
HEALTH**

**MEDICAL ACCESS PROGRAM**

**MAP**

---


ID#: 10002638      Group ID: 53210000  
Group: MAP-CBRACKFQ      Plan: CBRACK  
EFF: 8/17/2017      EXP: 8/18/2017  
Alanna zzztest      DOB: 3/1/1980  
Coplay: OP (\$10) IP (\$30) ER (\$25)  
PCP: CommUnityCare      512-978-9015  
Dental: \$10  
RX: Form/NonForm \$7/\$10

03/08

**Texas**

**DRIVER LICENSE**

USA  
TX

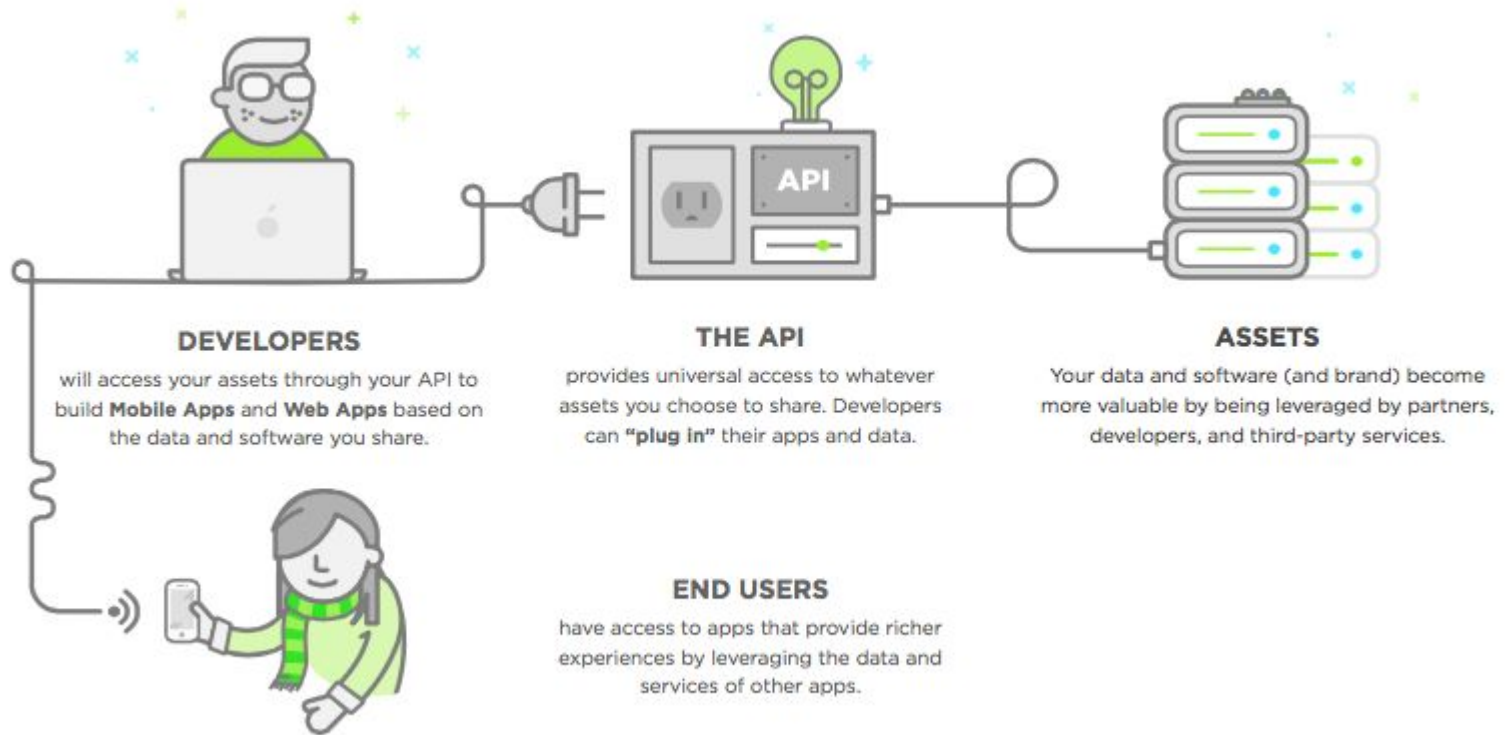


4a DL **12345678**      9 Class **AM**  
4b Iss **07/30/2006**      4b Exp **07/30/2014**  
3 DOB **07/30/1976**  
1 **SAMPLE**  
2 **JANICE**  
6 **2120 OLD MAIN STREET**  
**ANYTOWN TX 12345-0000**  
12 Restrictions **A**      9a End **P**  
16 Hgt **5-04**      15 Sex **F**      18 Eyes **BLU**   
5 DD **12345678900000000000**

**Thinking about integration**



# APIs = application programming interfaces



# **Notes from Workshop**



# Lines of inquiry - Day 1

## **“Digital Wallet”**

Using analog ID as an on-ramp to a digital ID to verify who you are.

How does the system benefit when solving for identity as a fundamental layer? What happens at the lowest common denominator service touchpoint - the check-in?

## **“Digital Locker”**

The form of centralized data storage that most service agencies do already.

But in this case, the documents would be owned by the consumer.

## **“Digital Identity”**

Covering all or many attributes of identity.

Based on a combination of biometrics, credentials, attestations, all controlled by the consumer.

# Lines of Inquiry - Day 2

## Identity

- relatively easy

## Eligibility

- disclosing reliably is most important and tricky.
- enables service transformation.

## Access

- relatively straightforward; example of QR code + pin, plus photo to prevent impersonation

Selecting the starting point - which hypothesis to explore first?

Some suggest starting with Central Health and getting system-wide engagement first.

Central Health's MAP is part identity, but more eligibility & access

# Lines of Inquiry - technology explorations

## Concepts

- Identity
- Wallet
- Locker

## Acquisition

- Build
- Buy
- Partner

## Skills needed

- Non-functional front end, prototyping early
- Back-end - full stack if building the whole product; not necessary if prototyping only
- Need a technical architect to understand the whole thing

## Verifications & Trust

Where are requirements coming from?

Balance System vs Consumer value

Self-uploads are a design decision

Access controls & governance

Transparent interaction by entities

Standards exist for verifiable claims

HMIS model & culture can help facilitate exploration

# Technology Explorations

## Prove

- Interoperability
- Prove value now to get investment later
- Viability model

## Team needs

1. PM
2. Architect / tech policy
3. Service designer
4. User researcher
5. Front End dev
6. Back End dev
7. Business process & delivery
8. Communications

## Dealing with data

- synthetic data helps with mitigating risk aversion
- Anonymous data - negotiating access takes time

## Steps

- Onboarding
- Principles
- MVP form
- User journeys
- Project planning
- Prototyping
- Early tech development

# Risk & Trust

Social engineering & coercion - authentication mechanism is a key defense

Information Security will be key

Situational trust - allow for the possibility of variability in the project

How much proof is needed to identify -?  
Financial transactions tend to need high proof. Emergency medicine tends to work with no proof.

Many low levels of documentation over periods of time can be difficult to replicate from a fraud perspective

- If need to explore - think about industries that have a long tail of small transactions like credit cards, insurance companies,
- Examine ethics & privacy in these

# Sequence and Principles - Day 1

1. Map out the user journey, understand value proposition on both sides - consumer, service provider
2. Start with interoperability in mind, insuring the structure facilitates trust
3. On ramp identity first, digital locker is a separate service
4. Interoperability may also include if you meet \_(criteria)\_, then you can access (\_\_\_\_)
5. Understand which agreements are needed to facilitate access
6. In the journey, first engagements of persons experiencing homelessness will be different than the second, third....multiples)
7. Bake in a process for redress
8. A key principle is data minimization
9. With biometrics, consider failure rates as well as source tech (for-profit or non-profit)

# Success looks like - Day 1

Speeding up continuity of care

Proove what's possible from a data perspective in a municipal, local social service system

For Central health - value is facilitating access to all care needed to be healthy.

Success measures can come from metrics/measures from agencies as well as qualitative surveys of experiences.

# Of note

Central Health does not routinely see clients - partners provide eligibility entry points, such as EMS or clinics.

Funders may require a paper audit trail, and therefore a digital ID would require change management further upstream of the service providers.

Data minimization should be a key principle

Biometrics - consider failure rate of the technology, and whether or not the technology is provided by for-profit or non-profit organizations



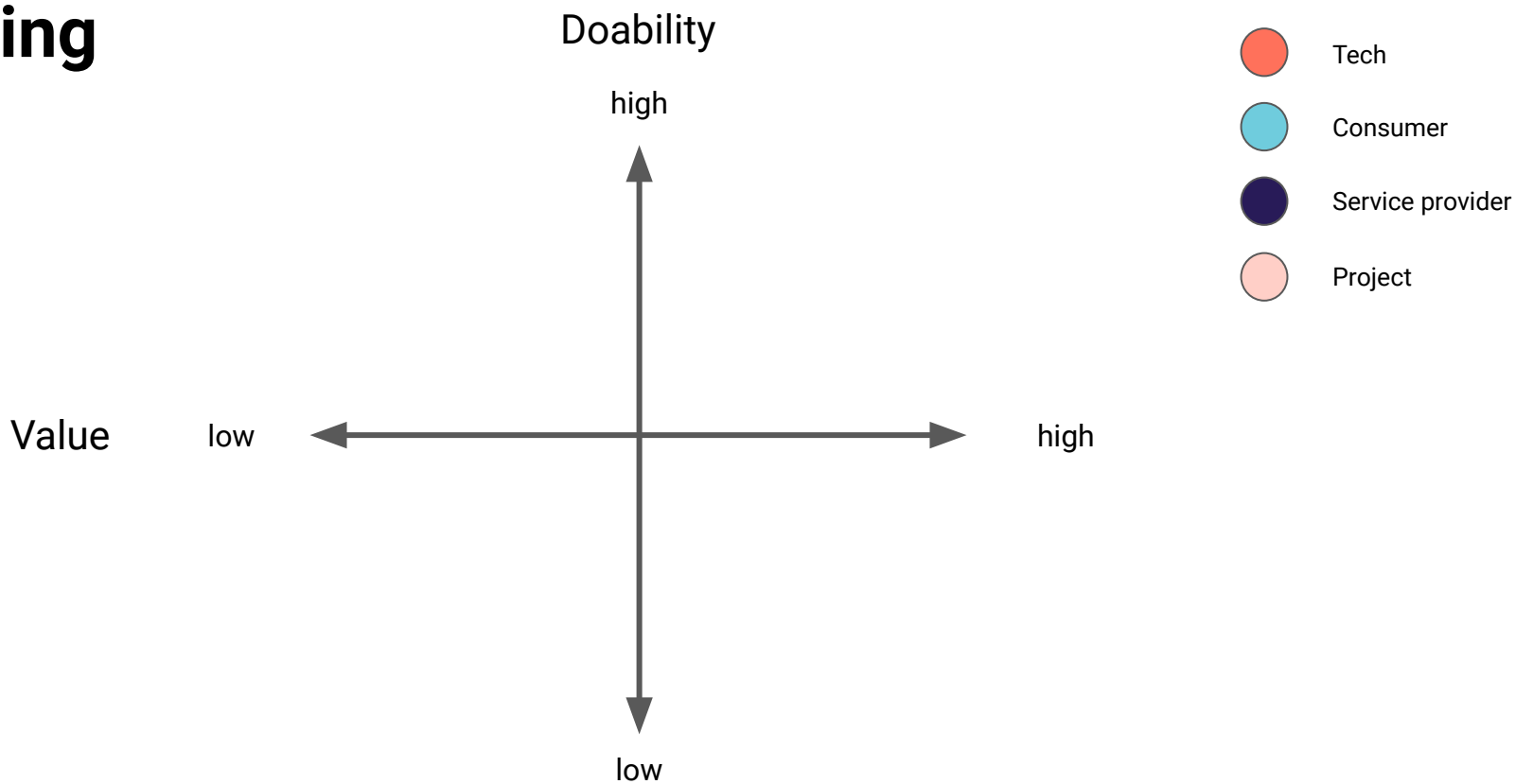
# Day 1 Take-aways

1. Value to clients - what is valuable to them?
2. User journeys, on-ramping IDs is a great starting point
3. Appending services to MyPass, like transportation can provide a further value proposition
4. This can provide a foundational service for everyone
5. Keep people at the core - human connections matter
6. Identity does not necessarily equal outcome
7. Sharing learnings and process to amplify the conversation, the work, and collaborations
8. Capitalize on coalitions of service providers
9. Inclusive governance
10. Build in the open; be visible
11. Big opportunity that's very complex - what is the goal, how will you measure success, and where do you want to take it?
12. Get granular with where we are now
13. Security and Privacy need to be core

## Day 2 take-aways

1. Modular = good for scalability
2. Interfaces define what this will be and if it will be a success
3. Research plan - what do we need/want to understand?
4. Research plan - what is the sequencing of questions & inquiry?
5. Create assets that power bigger/broader conversations
6. Identity has consequences
7. Establishing trust is key - why is more important than what; what is the value for our neighbors; what is the value for providers?
8. Value may be far out; find early value for clients and be patient
9. Collaboration and working relationships are strong
10. Use networks!
11. First use cases will show a lot of ah-ha moments - get here quick
12. Managing scope will be key.
13. Keeping people at the center is the core of this endeavor
14. Begin thinking about what trust looks like - will power the conversation
15. Crypto-blockchain experience with security standpoint in devs is crucial
16. Keep lived experience at the center. Focus on and empower the client.
17. Bring skeptics on board early

# Planning



# Planning

## Mapping

- Documentation req'd
- Service friction
- Level of proof needed, ambiguity traditionally involved
- Trusted source(s)
- Standardization
- Network connections
- Program eligibility, standards, including source and authentication / attestation
- Where rules engines can play a role
- Metadata standards
- User journeys

## Client Segmentation

- Vulnerability
- Strengths
- Chronic conditions
- Values
- Service engagement history
- Goals

## Concepts to define

Locker - types of information, identity attributes

Wallet - eligibility requirements, thresholds

Collaborator network - value proposition, credential acceptance

Core functionality of MVPs

- Identity/asset validation
- Eligibility, enrollment
- Service navigation

What can't go into MVP?

## Research

- Qualitative consumer
- Qualitative service provider
- Information
- Journeys - happy/unhappy
- Tech capabilities
- Interoperability
- Rules Engine
- Baselines - productivity, savings, access, agency/motivation

# Partners

## Central Health

- Casa Marianella
- Caritas
- Central Texas Foodbank
- EMS

## Eligibility specialists

## Legal & Privacy Counsel

## IDNYC

# Hiring needs for a scrappy team

- ❑ Project planning
  - ❑ Task management
  - ❑ Team management
  - ❑ Project reporting
  - ❑ Stakeholder engagement
  - ❑ Knowledge management
  - ❑ Research Planning
  - ❑ Hypothesis formulation and testing
  - ❑ Product Roadmap
  - ❑ Sprint/feature strategy
  - ❑ Journey mapping
  - ❑ User archetypes
  - ❑ Technology policy (privacy & ethics)
- ❑ Front end (client side) dev
  - ❑ Digital interaction design
  - ❑ Front end prototyping
  - ❑ Usability testing
  - ❑ Technical architecture
  - ❑ Back end engineering (inc integrations and dev ops)
  - ❑ Blockchain development, integration
  - ❑ Maintenance and tech debt
  - ❑ Business process mapping
  - ❑ Business process integration and change management
  - ❑ Service design
  - ❑ User recruiting
  - ❑ Marketing and promotion
  - ❑ Communications (visual & written)