



JUUL LABS

A Technology Solution to Underage Use of Our Products

FEBRUARY 2018

Data Visibility/truth

Product Feature

2018

Q1

Youth Prevention Dashboard

Enable an extremely low cost JUUL for viability in cost sensitive markets.
Tech could be a disposable JUUL at less than \$1 per pack equivalent.

Consumer Friction
Bluetooth Dependent
Pod Recognition Dependent
Resourced?
Test (T) or Go (G)
Gated By: April Bebop Launch

Resource Approach
Acquire 7 resources currently available in Israel

2019

Q4

Q1

Q2

Switching Success Dashboard

Quantify our success against the mission of the company. Enable stakeholders to be involved.

STEP 1:
STEP 2:
STEP 3:

Flavor/Strength Journey Dashboard

Enable an extremely low cost JUUL for viability in cost sensitive markets.
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Lockout

Enable the best HNB experience for smokers who would otherwise reject vapor for cigs.
Improved convenience, HPHC, elegance over IQoS.

Consumer Friction
Bluetooth Dependent

Passport Test

Consumer Friction
Bluetooth Dependent
Pod Recognition Dependent

Beaconing

Enable world's best vapor experience.
Improved manufacturability, COGS, consistency, efficiency, consumer variability.

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Hand Tremor

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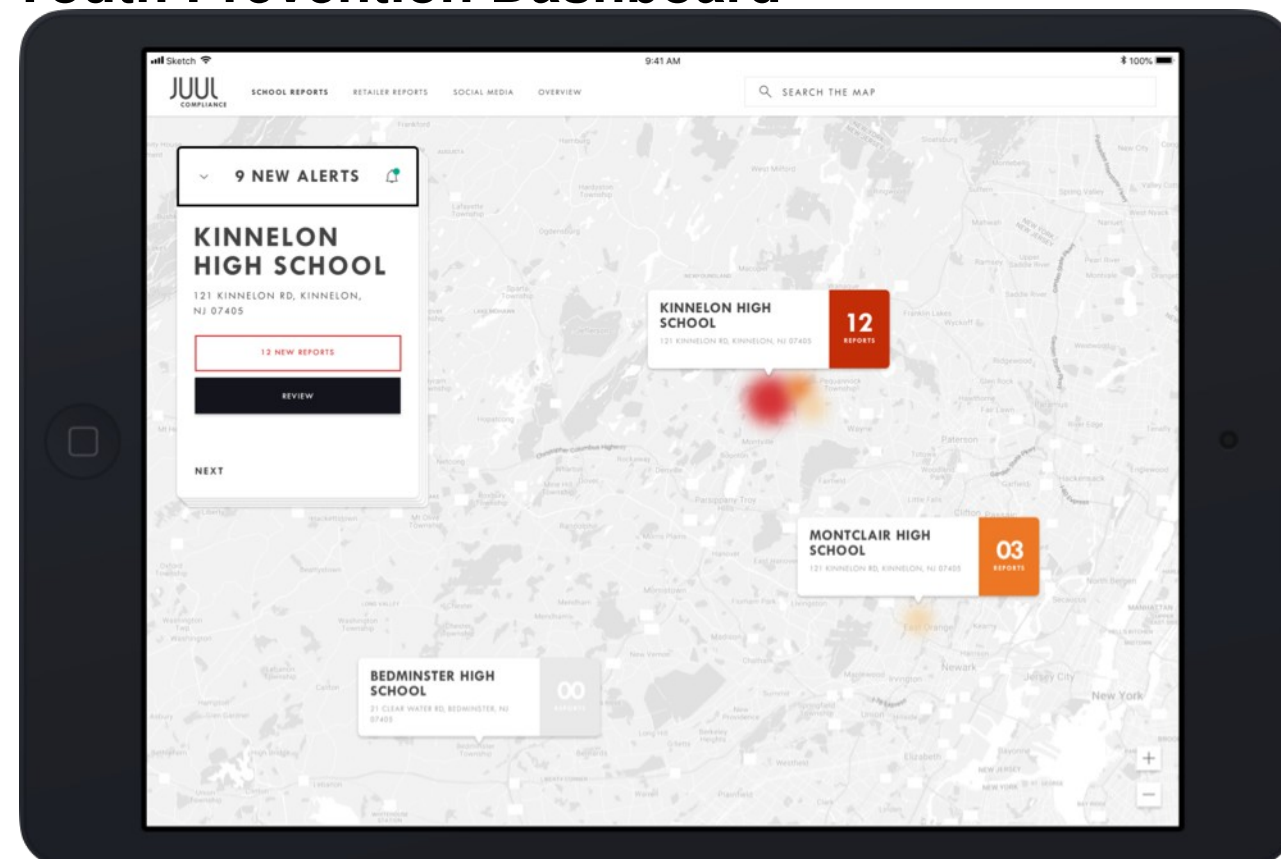
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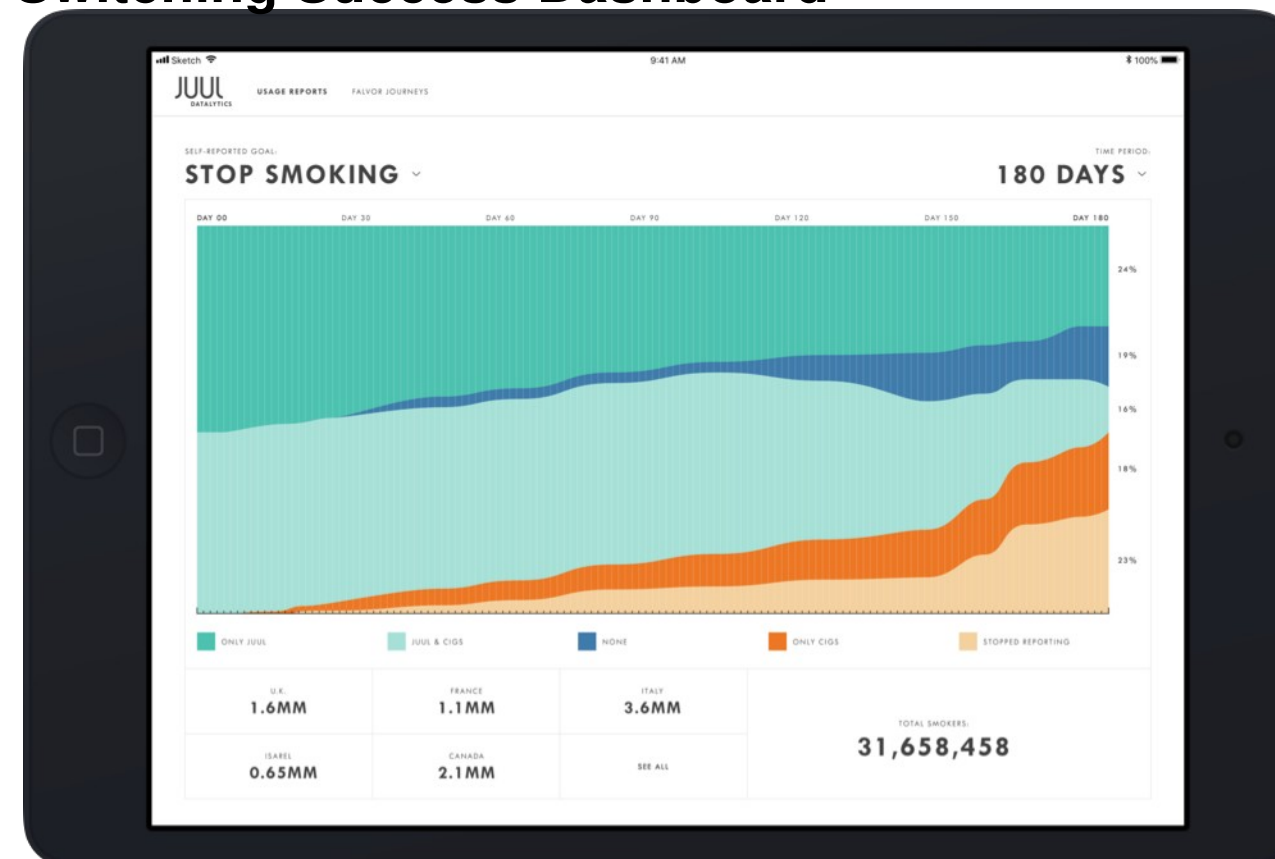
Next-Gen Biometrics

Hand Tremor for example

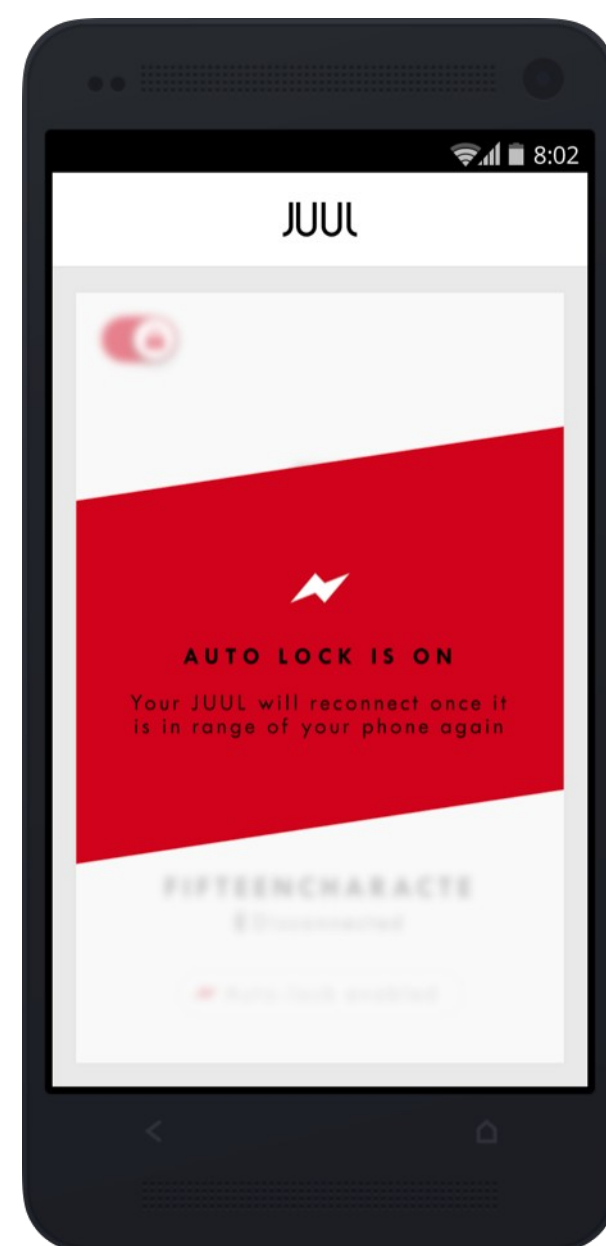
Youth Prevention Dashboard



Switching Success Dashboard



Flavor Journey Dashboard



Lockout



Passport

Mission

**To improve the lives of the world's
one billion adult smokers by being
their first choice and delivering the
best experience.**

JUUL and regulators want the same result.



We need to ask ourselves if the e-cig industry is sustainable in the long run, as a viable option for adults, if it leads to a whole bunch of youth initiation on tobacco products. So, we need to do all we can, working together, to address the youth use.

...Even if the data ultimately shows that e-cigs may help reduce smoking rates among adults; the initiation of youth to tobacco products also is big factor in determining net health benefit.

Nicotine and the Role of Science in Regulation

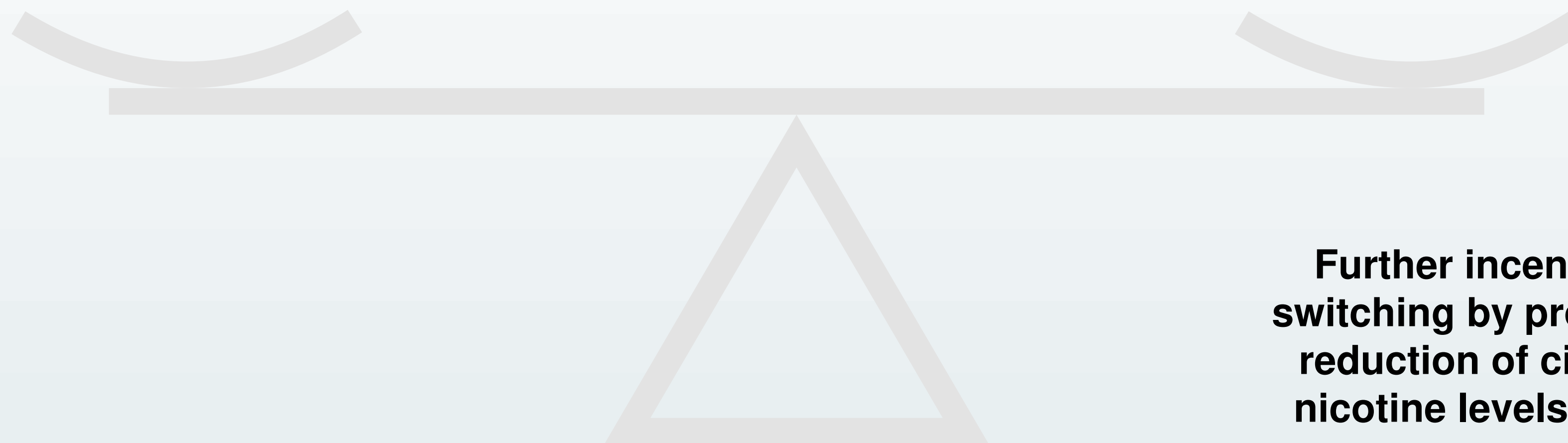
Remarks by Scott Gottlieb, M.D.

Commissioner of Food and Drugs
Society for Research on Nicotine and Tobacco (SRNT)
Annual Meeting
“Nicotine and the Role of Science in Regulation”
February 23, 2018
Baltimore, MD

Balance

Reduce youth
incidence to near
zero....

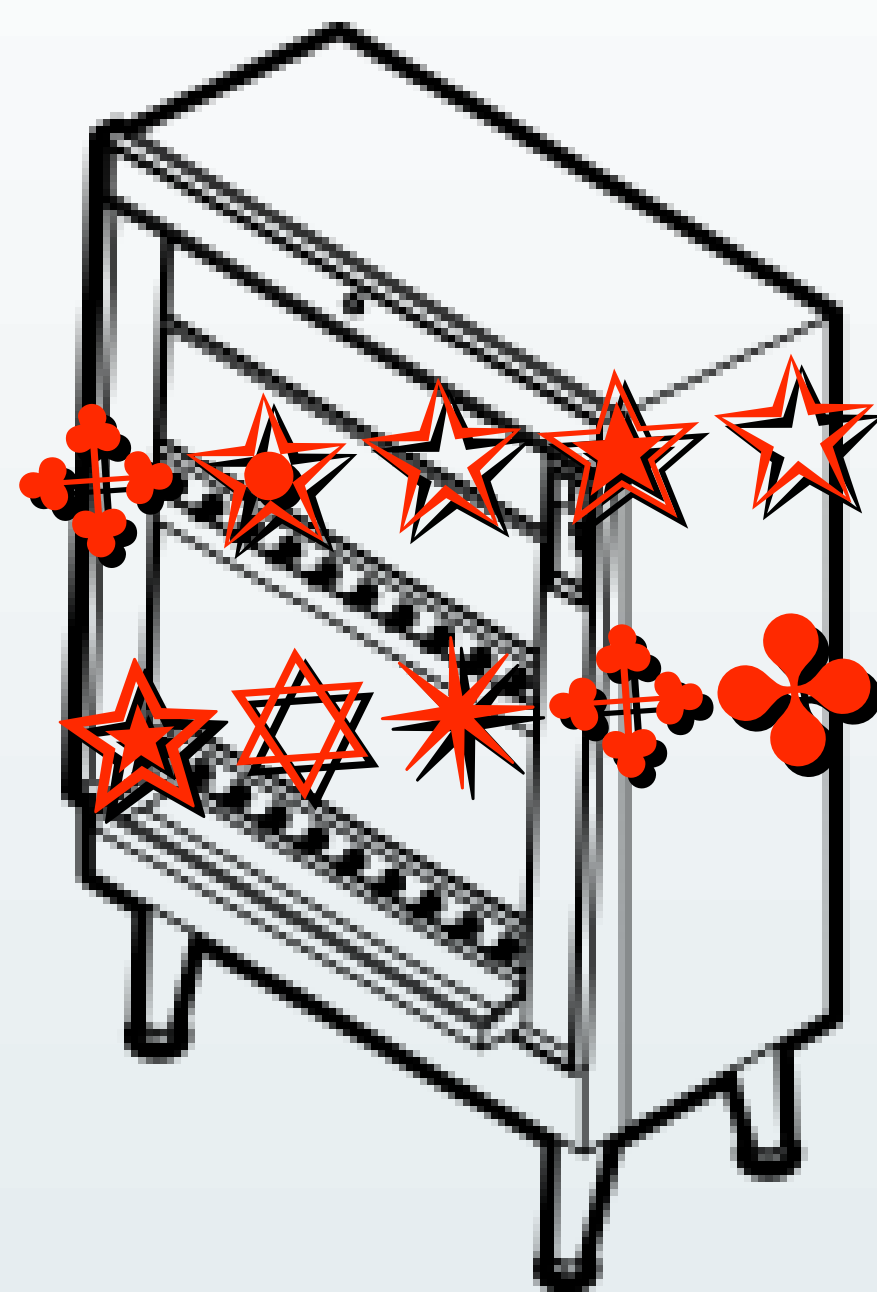
...without sacrificing
switching
attractiveness for
adult smokers.



Further incentivizing
switching by proposed
reduction of cigarette
nicotine levels helps.

**We'd like to give the FDA the tools to do
this, for the first time in the history of adult-
use consumer products.**

Leapfrogging a century-old issue



In an effort to prevent youth access, cigarette machines were banned in 2010 except in places people under 18 aren't allowed.



This enabled compliance with age-restricted selling to fall solely on personal interactions with retailers.

Despite the threat of steep fines or loss of licenses, approximately 11% of total alcohol consumption is underage according to CDC estimates. 64.3% of people under 18 have tried a tobacco product.

Retailer non-compliance often has perverse financial incentives. A retailer armed with a willingness to sell to underage youth has a less competitive consumer base and an ability to charge more.

Despite these efforts,

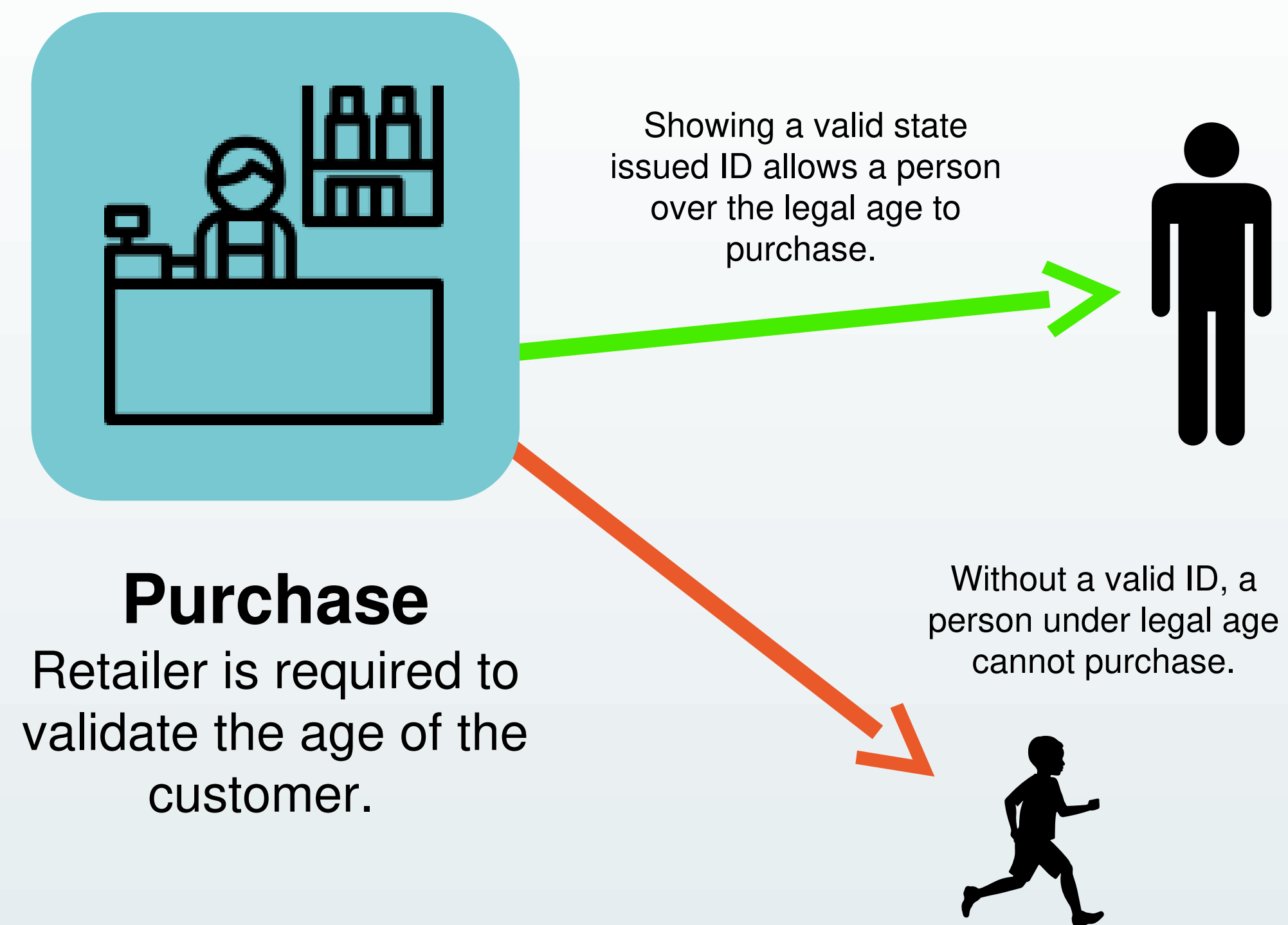
According to the 2016 Monitoring the Future Survey, nearly half (45.6%) of eighth graders and nearly two-thirds (62.9%) of tenth graders say cigarettes are easy for them to get.

tobaccofreekids.org

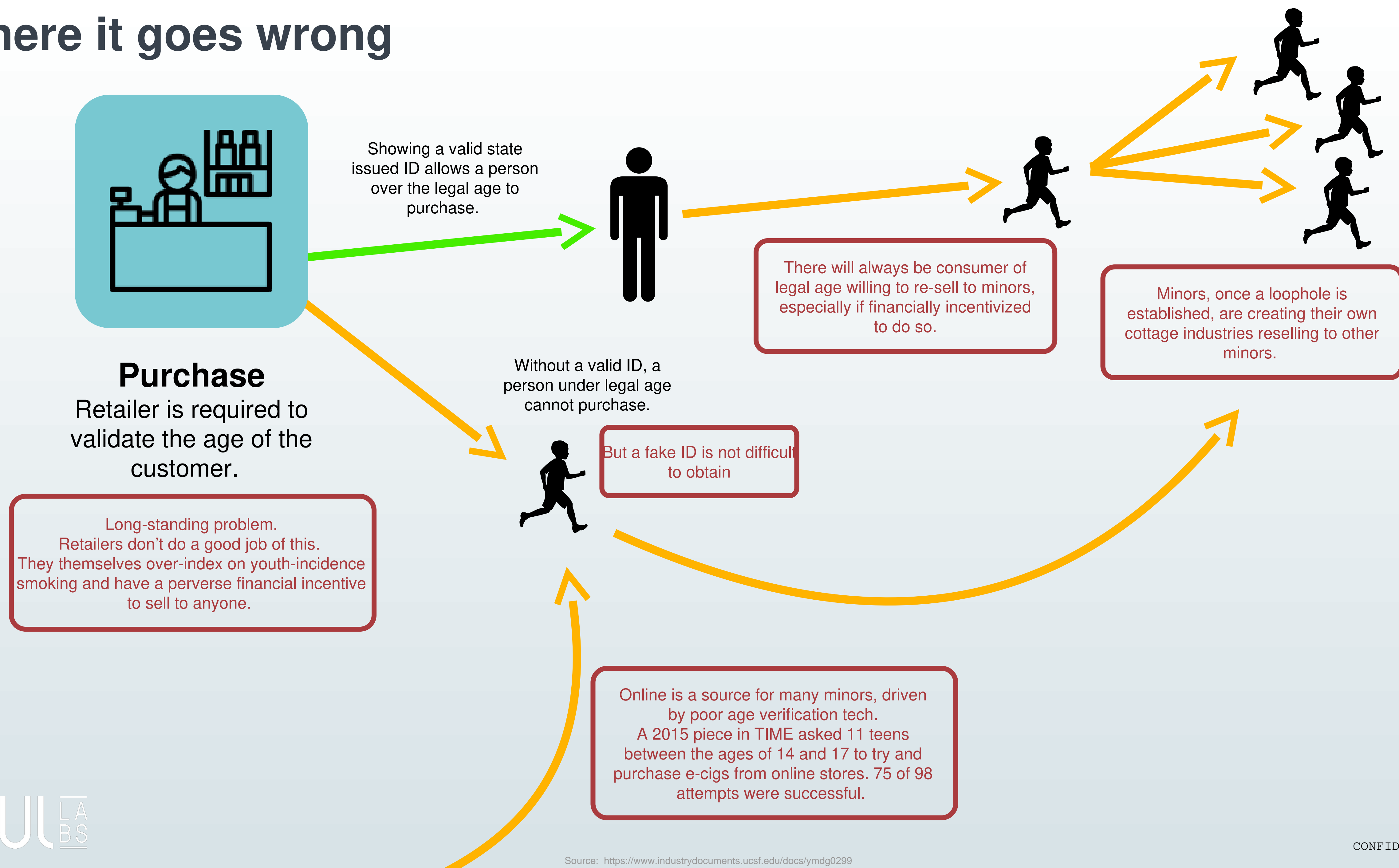
MEANS OF CIGARETTE ACQUISITION (12-17 YO)

- ~~1 Give money to someone else to purchase (63%)~~
~~41% of those purchasing and giving to minors are of legal age~~
- ~~2 Direct purchase from retailer with of-age ID (53%)~~
~~Easy to acquire scannable fake ID~~
- ~~3 Purchase from friend, family member, classmate (31%)~~
- ~~4 Take cigarettes without asking (13%)~~

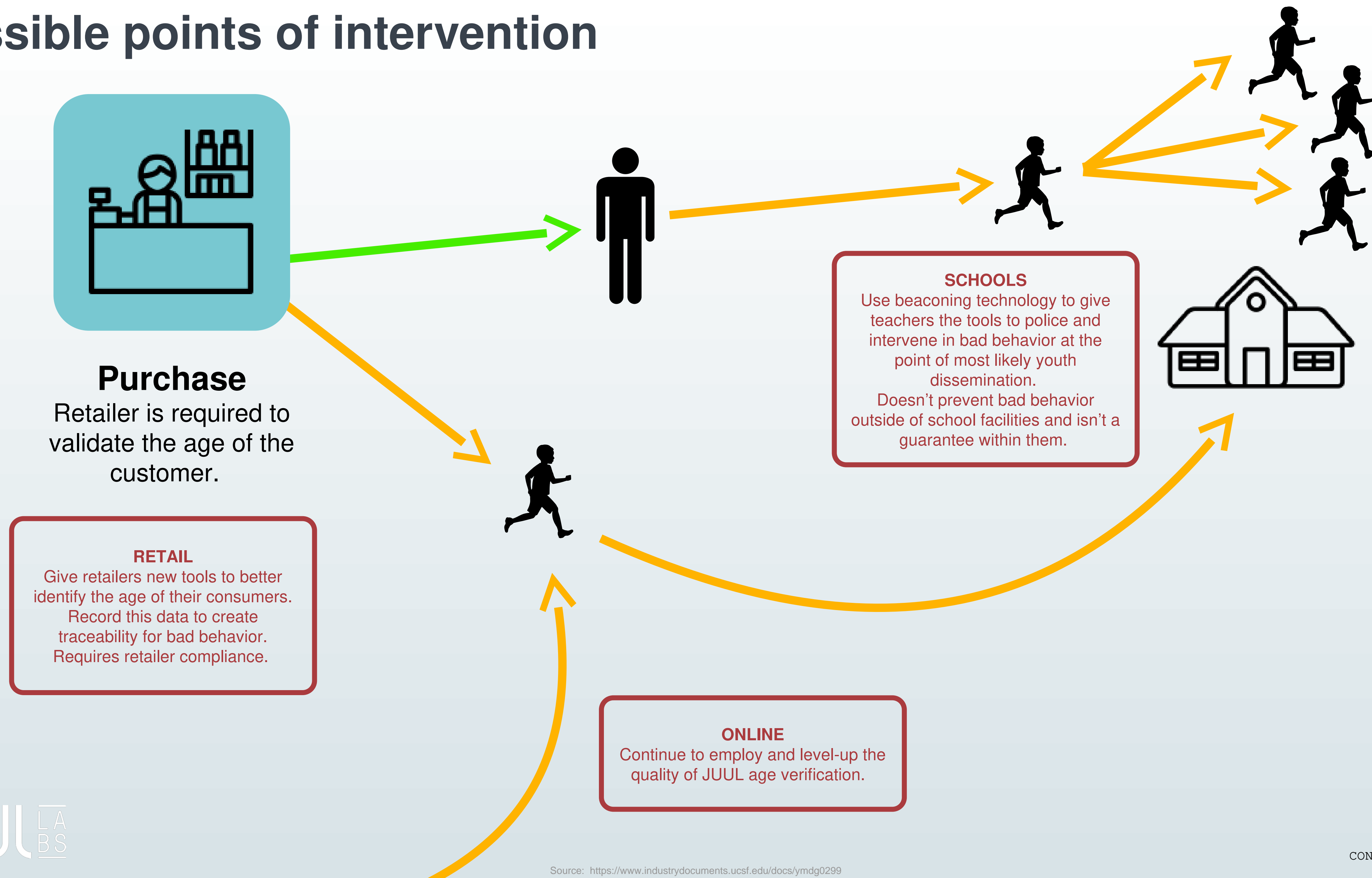
Current age verification paradigm



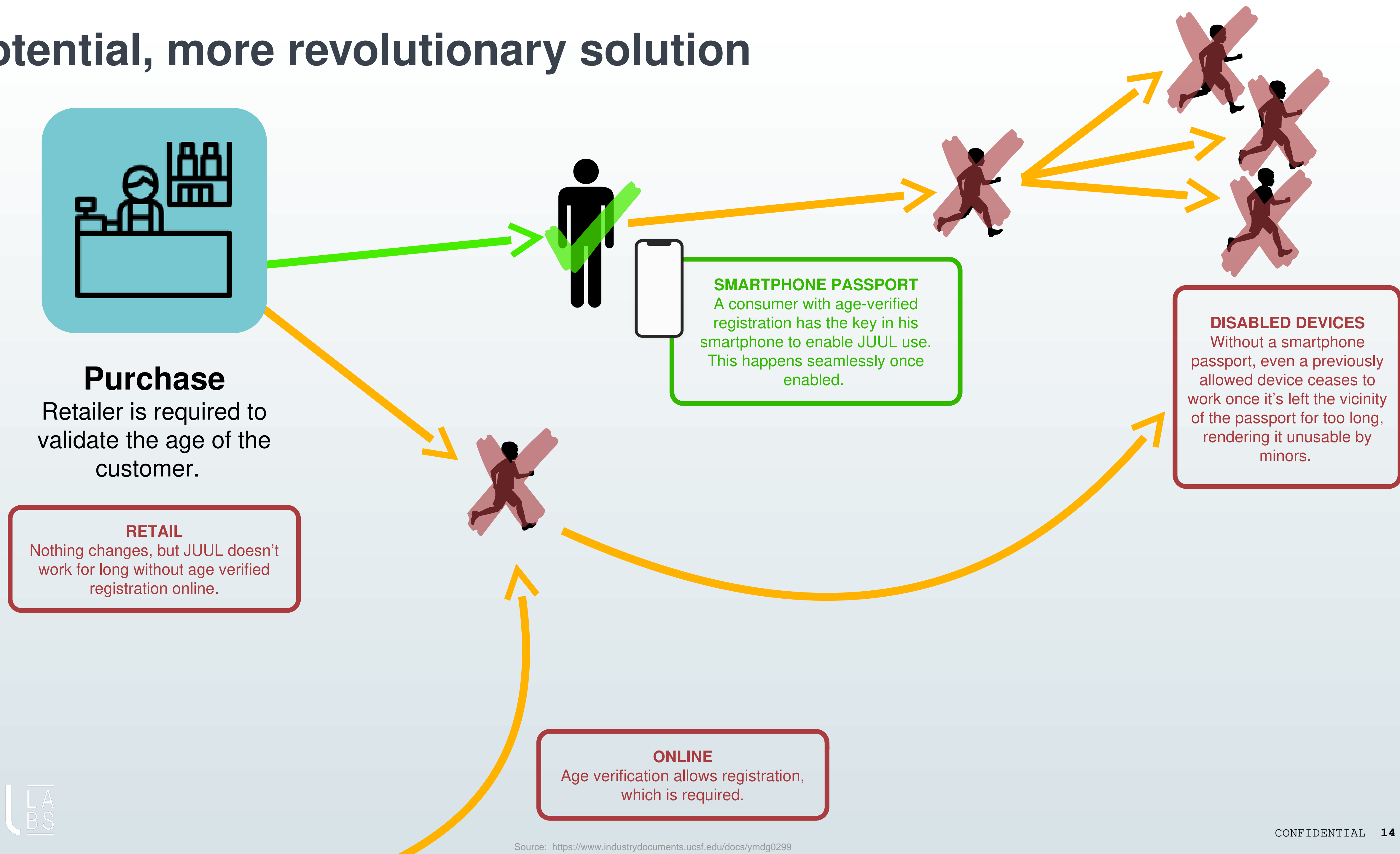
Where it goes wrong



Possible points of intervention



A potential, more revolutionary solution



How it works

Existing Retail



Are you of age to purchase this product?

Consumer purchases product at retail.

Consumer has no incentive to purchase underage because it won't work.

JUUL e-commerce

Are you of age to purchase this product?

Consumer purchases product via JUUL e-commerce using best-in-class age verification technology (Veritad).

User account is created.

JUUL Passport System

1. Are you of age to use our product?

Consumer must register (and age-verify) or be pre-registered via JUUL e-comm, or using retail tools to be developed..

2. Pair devices to passport

Shake device. That's it.

3. Is it you who is trying to use the product?

Two-factor authentication happens seamlessly in the background. When you're near your phone the device functions normally. If you're away from your phone for a period of time it will cease to function until it's near the phone again.

Keep record of ID scans per account?

Only allow login on one phone at a time to eliminate possibility of re-using a personal identity.

User authentication value

Is there a long-term value to JUUL in knowing who each consumer is?

PROS:

- Complete traceability and management of each consumer use
- Ability to market retention options, limit switching back to cigarettes
- Transparent customization based on similar consumer behaviors

CONS:

- “Big brother” reputation potential
- Potential consumer fears of data leaks, especially for a stigmatized activity - “What if my insurance company asks for your data”?

First time consumer experience - via retail

1 Purchase JUUL at any authorized retailer as usual.



2 Download JUUL app and proceed to create account.

Create Account

Full Name _____

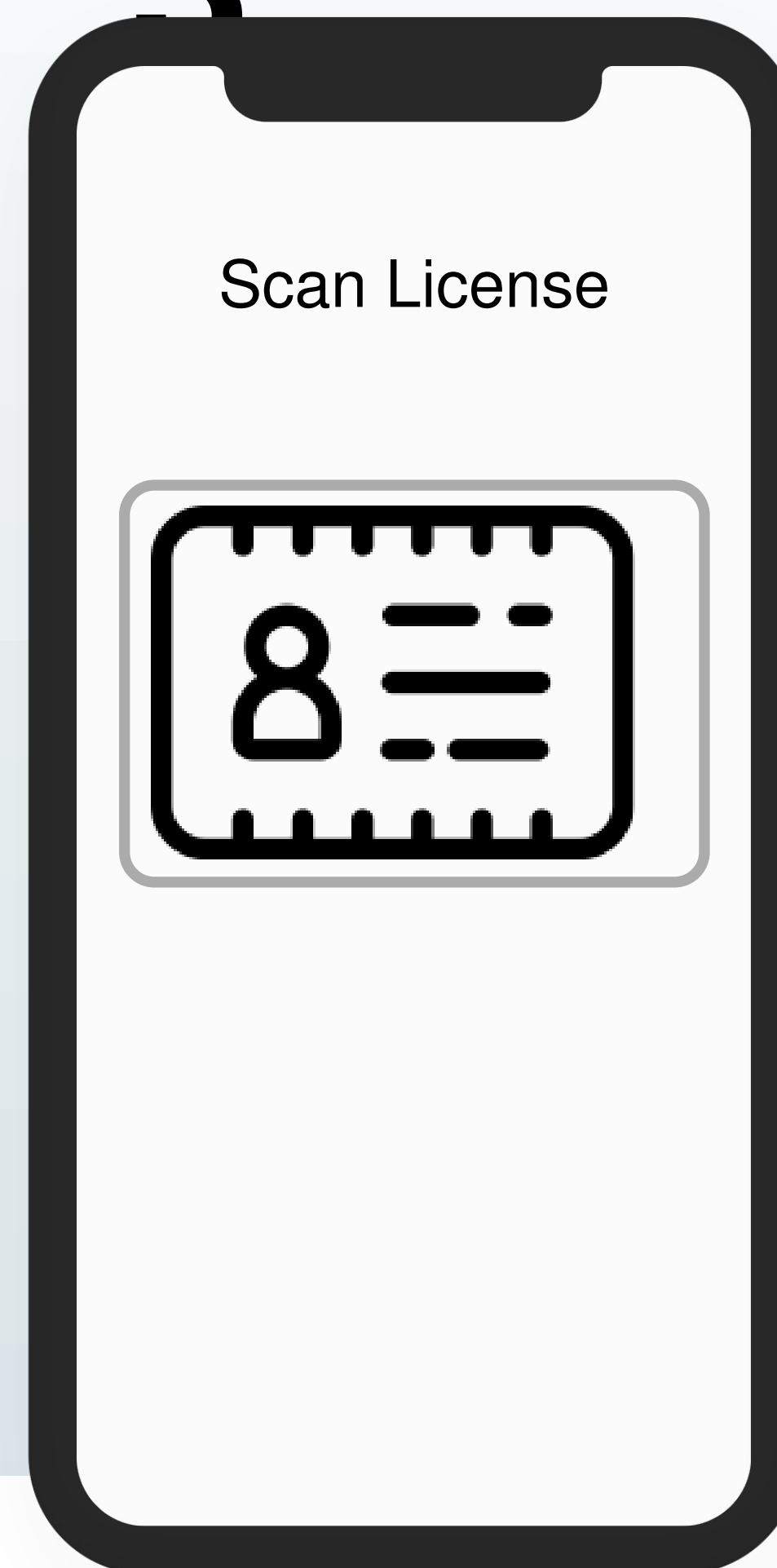
Date of birth _____

Address _____

DONE

Only allow login on one phone at a time to eliminate possibility of re-using a personal identity.

3 Scan drivers license with camera to age verify.



If your area, purchase location, or other data is flagged as more likely an age cheat you'll be given the Veritad process instead.

4 Pair JUUL device by shaking it when prompted.



First time consumer experience - via e-comm

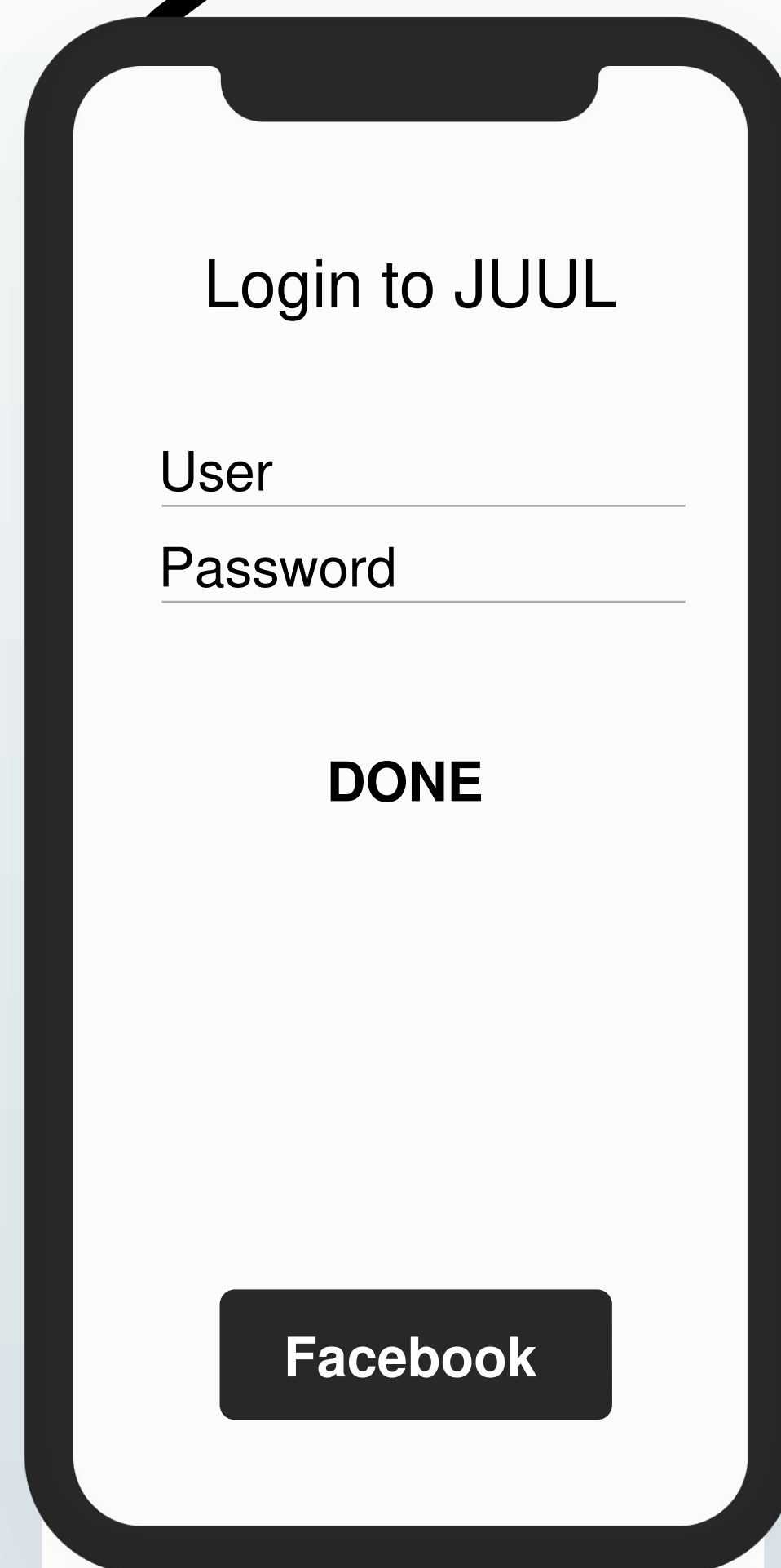
Order and age-verify on e-comm platform. Account is created.

1



Download JUUL app and log in when prompted.

2



Only allow login on one phone at a time to eliminate possibility of re-using a personal identity.

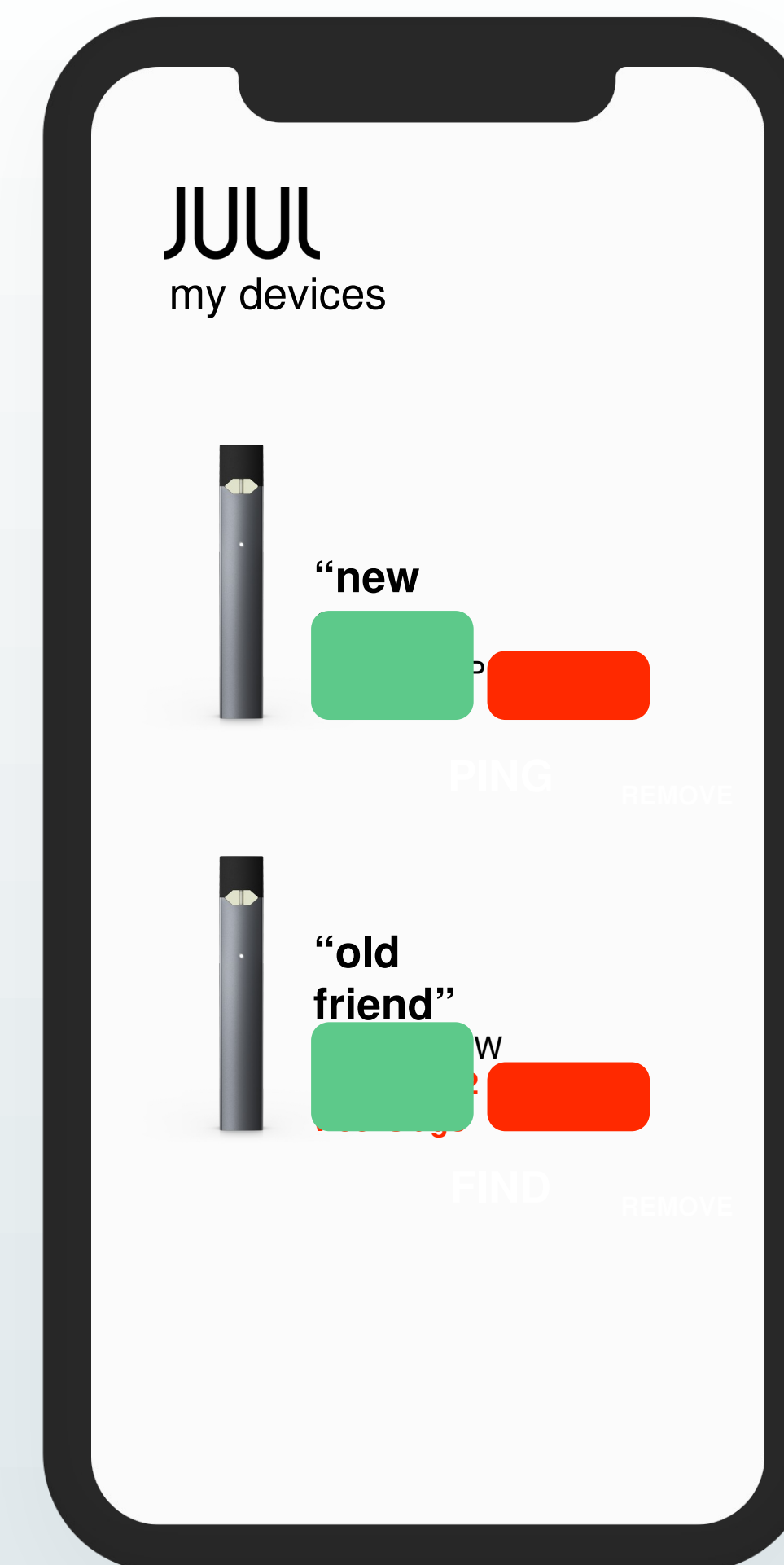
Pair JUUL device by shaking it when prompted.

3



Consumer experience - ongoing

1. **Use JUUL as normal** - Nothing changes.
2. **Phone proximity** - If your registered JUUL doesn't see your registered phone for a period of time (can be instant if near a school zone) your JUUL will lock. It won't be able to be used again until your phone is back within range (about 30 feet).
3. **Multiple phones** - If you have a second phone, you can switch the passport to that phone instead. Upon enabling the new phone, the old one will receive a confirmation to allow transfer.



A device management page allows for quick removal and addition of JUUL devices.

Added consumer friction

	Issue	Mitigation Options
1	Pre-registration	<ol style="list-style-type: none">1. Allow device to be used for a period of time before requiring registration - 1 week?2. Automatic online registration at time of e-comm purchase3. Retailer training and tools?
2	Smartphone Ownership	<p>Is this a risk?</p> <p>Can field sales teams drive a new standard for brick and mortar assistance for in-door registration?</p>
3	Smartphone savvy	<p>Can offer tablets with Juul app to achieve this but requires a lot of training and management.</p>
4	Consumer data concerns	<p>Don't keep long-term traceability of who is who? - Anonymize users after initial age verification. Could lead to duplication concerns unless we find a creative solution.</p>

1. Age Verification

1. **Veritad** - best for age verification, could be painful for adult consumers
2. **Driver's license scan** - good for age verification, easier for adults, can get better over time - add Veritad where compliance is being broken
3. **Text message** - 2-factor auth could add confidence. Currently researching this for e-comm optionality.

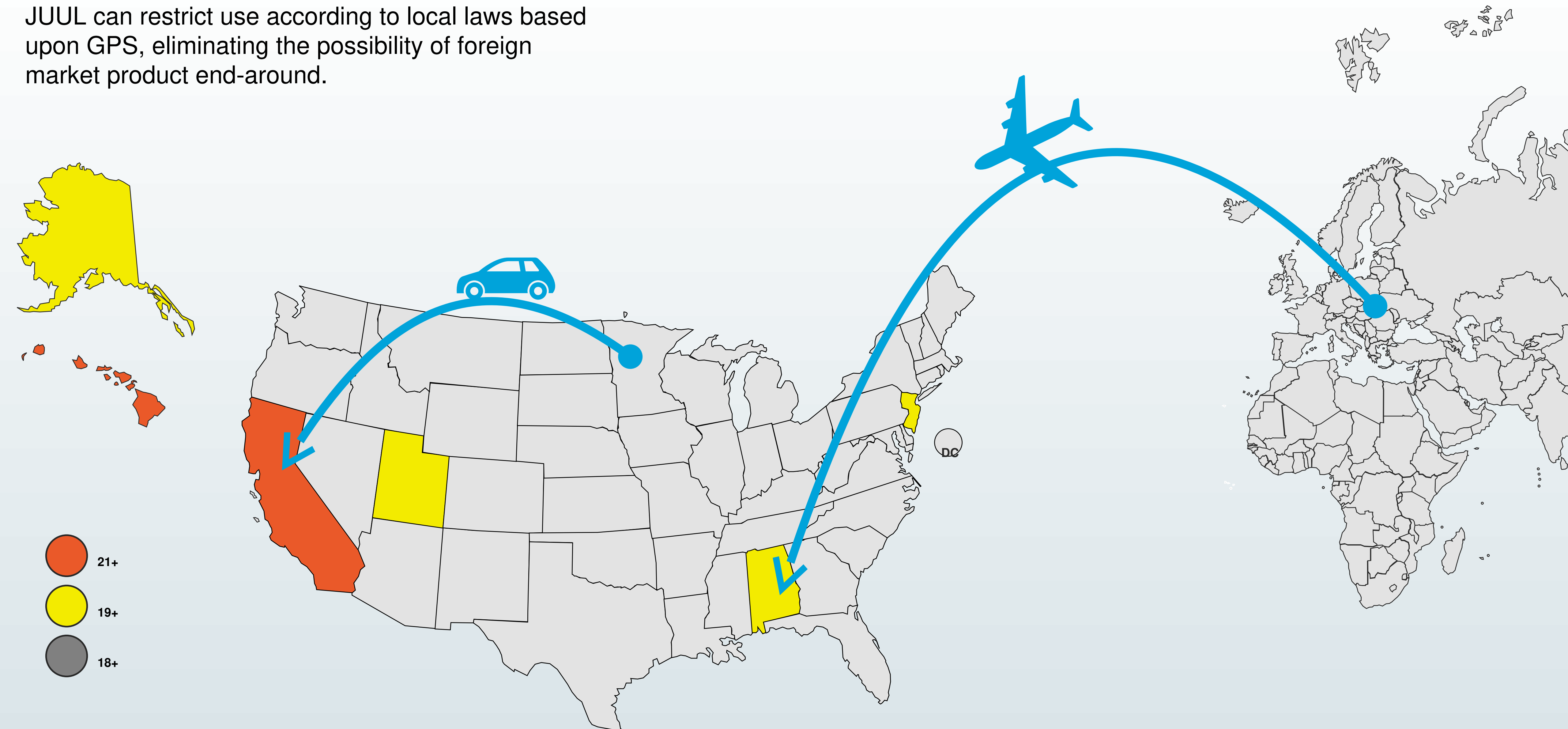
2. Two factor auth

1. **Registration** - Consumer must be logged in to their account on the JUUL app. This happened during step 1.
2. **Driver's license scan** - good for age verification, easier for adults, can get better over time - add Veritad where compliance is being broken
3. **Text message** - 2-factor auth could add confidence. Currently researching this for e-comm optionality.

Time-limited authentication - 24 hours?
Improve this as we gather data

Universal Compliance

JUUL can restrict use according to local laws based upon GPS, eliminating the possibility of foreign market product end-around.



When we can prove it

Most of this work is already well underway.

In early April Bebop Alpha 2 will be complete. This will be the first integrated prototype, with all hardware and firmware requirements to support this system.

Functional features of login + time out device lock can be ready 4 weeks after alpha, (6/30) assuming FW and ecom have their segments ready as well. This assumes no change in prioritization of development before app alpha (HW/FW beta build).

Qualification of system performance could be demonstrated by July.

What does an appropriate consumer test look like?

What do we do with a more perfect solution?

1. Approach FDA?
2. Approach AGs?
3. Speak to the press?

Potential FDA proposal

1. Public announcement of a joint plan to eliminate underage use of JUUL products.
2. Further announcement of an accelerated PMTA approval for a new version of JUUL that supports advanced age gating.
3. Joint meetings with Apple to ensure app support?
4. Ongoing joint meetings to review system efficacy and balance?
5. Free license for all competitors, but retain the right to pull license if we believe a licensee may be infringing on any JUUL IP.

Interim step options

1. School-proximity triggered registration requirements

Introduce Bebop, but only require registration if the consumer is frequently in proximity of school zones.

2. Beaconing

Introduce Bebop, but don't introduce up-front registration requirements. Instead, give tools to schools to enforce usage on their grounds, particularly in bathrooms.

3. State or metro beta

Introduce Bebop and focus on a relationship with one local government to start. Geo-fence that area so that all improvements to minor access are clear in the data. Use that data to clarify challenges to country-wide regulators and works together on expansion.

Illustrative potential headline futures

TODAY

“Cool-Looking and Sweet, Juul Is a Vice
Teens Can’t Resist”
NYT FEB. 16, 2018

Beaconing

“JUUL gives teachers the tools to police the
use of their products in schools”

Retail

“JUUL gives retailers new tools to verify the
age of their customers”

System

“FDA looking to accelerate PMTA approval
for new JUUL product to eliminate
underage use.”

Timeline

Q3 2018 Proof of Concept

Demonstrate functioning system using Bebop prototype and enterprise app.

Q4 2018 Bebop

Eliminate all underage use of new products sold

Q4 2019 Steam

Replace all current product and eliminate all underage use of all products. Stop selling old pods.

Resource requirements

Final thoughts for now

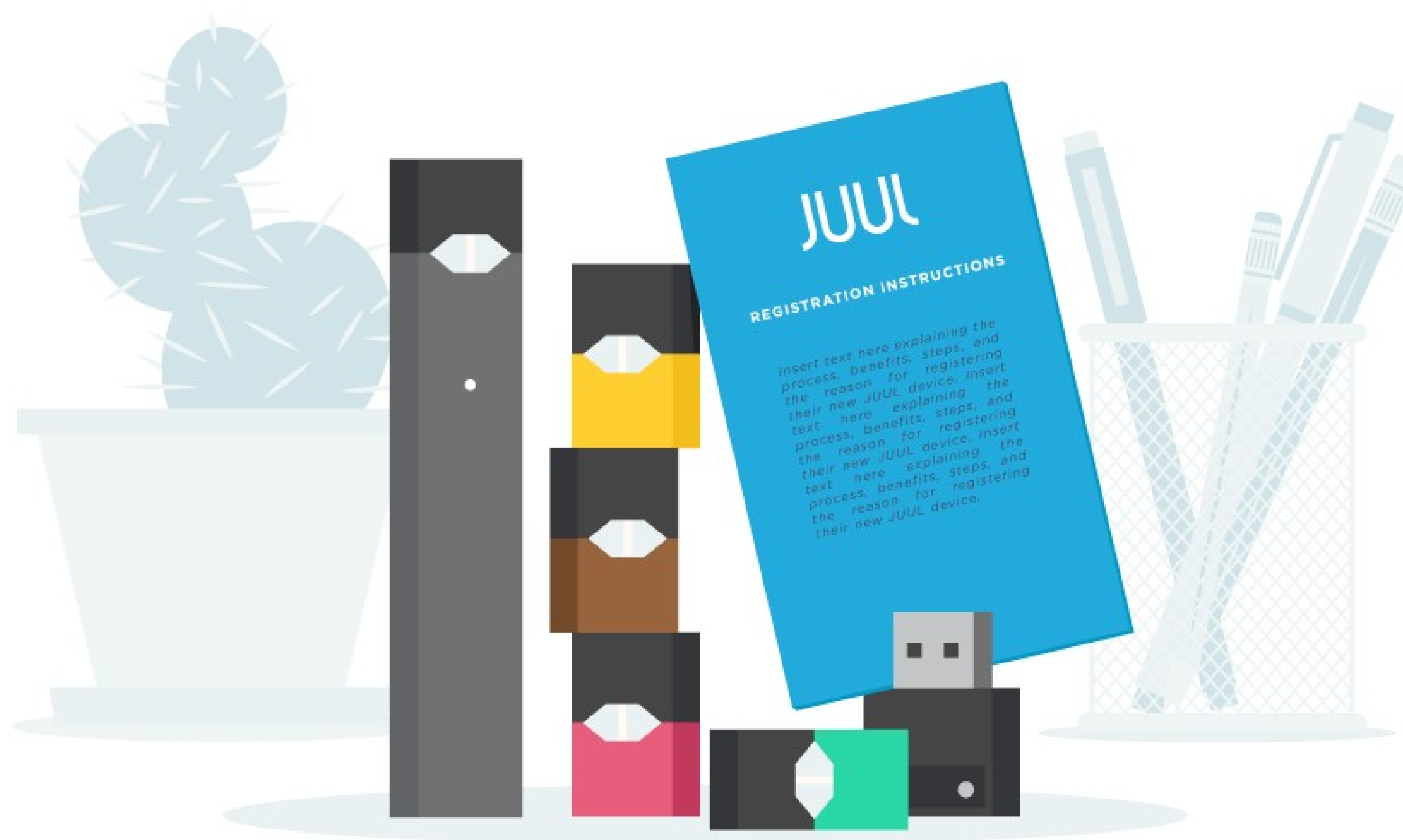
Making a move this bold, breaking so sharply with history, is a risky proposition. To endanger our success in migrating smokers away from the leading cause of preventable death is to endanger our mission.

98% of the US tobacco market is still using dangerous, antiquated products, so the potential for a regulatory tailwind is a huge opportunity.

In the current, unknown but stagnant state of new product introductions in the US, an opportunity to innovate is a tremendous corporate advantage, and a potential boon to switching pace.

If we believe such a sea change in the way minors are limited access to restricted, adult products is inevitable, we should be the company pioneering that change.





JUUL LABS