Juul App Concepts
2018

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Next Steps

- [J] Scoping BLE Integration
    - Followed by estimation mtg w/ James, Roxy, Bryan, J
- [Roxy]

Feature List

MVP Features

- **Communication between phone and device via BLE
    - ○ Technical requirement
    - ○ Eng Estimates:
        - ■ FW:
        - ■ EE:
        - ■ Mobile: 5 days to componentize the BLE code, 2 weeks for implementation and bug fixes.

Comment [1]: +j.curtis@pax.com Added these per feature. Already have the mobile estimates in here. If you can work on these (either speaking with Bryan, or Cole, or setting up mtg needed), that would be great. _Assigned to J. Curtis_

- **Device Registration / Age Verification
    - ○ User Story: Upon purchasing device, device is "locked". User must download the app, register device / age verify using Veritad to "unlock" device. User must only do once for initial device activation. If app is downloaded to another phone and device is paired to the new phone, user must go through registration / age verification process again.
    - ○ Tech: Pressure sensor switch?

- ○ Non-App approach: Upon purchasing device, device is "locked". User must navigate to a mobile webpage where they can register the device and age verify using Veritad to unlock the device. **Mobile page must somehow communicate to the device to unlock the device. (**How would we do this? Given a color pattern once verified (maybe this varies by serial number?), and must "enter" that color pattern into the device. Device cycles through 4 colors (RYGW) and must tap device when each color is passed to unlock.**
- ○ Eng Estimates:
    - ■ FW:
    - ■ EE:
    - ■ Mobile: 4 days. Need to do some research on what is returned by age verification system.

- **Device Lock
    - ○ User Story: (1) Once device is unlocked following device registration/age verification, user has the option to "lock" the device via the app. The device can only be unlocked using the app on that user's phone, not from any device UI (will use touch ID on iPhone). If the user loses his/her phone and wants to pair with another phone, s/he may download the app and pair the device to that app/phone, going through the device registration/age verification process again.
        - ■ (2) **Not for MVP**. Consider *optional* remote device lock. User can elect to have Juul lock when it is out of range from the user's mobile device for some standard (or adjustable) period of time. Requires further testing about BLE range, consumer interest in this feature, etc.
    - ○ Tech: (1) Same feature as Era/P3. Leverage pressure sensor(?)
    - ○ Eng Estimates:
        - ■ FW:
        - ■ EE:
        - ■ Mobile: 3 days

Comment [2]: Similar... you can unlock it from the device on Era/P3. May need to think about whether this is still the case.

Comment [3]: We only use that for CS though, correct? But yes, we'd want some CS workaround.

- ** Security Checkup
    - ○ User Story: Given the "lockout device" feature, users are more likely to attempt hacking by orders of magnitude. We will need to re-double our investigation on security.
    - ○ Eng Estimates:
        - ■ FW:
        - ■ EE:

        - Mobile: 0-5 days depending on results.
- **Firmware Update
    - User Story: When new versions of Firmware are available, the user should be notified when they are voluntary or required and be able to update their JUUL from the app.
    - Eng Estimates:
        - FW:
        - EE:
        - Mobile: 5-15 days depending on the compatibility with the the new NRF stack.
- **Find my Juul
    - User Story: Once device is registered to that instance of the app, user may open app and report a Juul as "lost". Phone will search for Juul.
        - (1) If Juul is in BT range of phone (Juul has battery), user may click a button to make Juul "shout", which will make its LEDs flash for 10 seconds. After 10 seconds, LEDs will stop flashing, and user can click "shout" again for another 10 seconds of blinking.
        - (2) If not in range of phone, app will share the last location that the device was paired with the phone. This would be visible immediately.
        - (3) If not in range of phone, app will also report device as "lost" to the Tile network, leveraging the Tile API which alerts user when a Tile comes within range of the device.
    - Tech: (2) Use location services on the phone. (3) Tile integration. (Does user need to download Tile app or is there an API for full integration with the Juul app? Roxy to look into.)
    - Eng Estimates:
        - FW:
        - EE:
        - Mobile: 1 day to go to Tile app. 10 days (more if we want server support) otherwise. Includes map kit integration.

Comment [4]: Why not just use Tile? It can be used for local finding as well as crowdsourcing.

Comment [5]: I need to meet with Tile. Apparently they wanted to charge $2/device which is too much.

Comment [6]: Unless we allow them to pay in the app, or whatever.

Comment [7]: We can also look into using signal strength to play "hotter/colder" with the phone.

Comment [8]: Yes, let's play with this. Era too.

Priority Features

- *Low battery alert
    - User Story: User may choose to receive an alert to their mobile device when (1) battery goes below some predetermined threshold. (Equivalent to "red" LED).

- (2) **Not for MVP.** May give user option to choose when they want to receive this alert (50% charge? 25% charge? 10% charge?). Wait for user feedback on MVP.
- Eng Estimates:
  - FW:
  - EE:
  - Mobile: 4 days, including settings setup

- *Usage Tracking
  - User Story: User can choose whether to see 7-day and 30-day usage on their device. Data **only stored locally** on device/phone. Not shared with us.
  - Tech: Ideally using a measure of energy / material consumed. May consider puff counter for MVP.
  - Eng Estimates:
    - FW:
    - EE:
    - Mobile: 3 days if same as PAX Vapor App.

Nice-to-Have / Next Gen Features

Unlikely to be in J2018, as probably require device changes beyond BT

- Device maintenance alert
  - User Story: User can choose whether to receive an alert if something is wrong with their device allowing him/her to (1) take some action to solve the problem (2) re-order another device.
  - Tech: Not sure whether there is any self-monitoring on the part of the device that would make this a useful feature. Requires ENG discussion.
  - Mobile Engineering Estimate: 5 days
- Low pod level alert
  - User Story: User can choose whether to receive an alert when a pod is at some low threshold level (either set by default, or giving user options).
  - Tech: Do we currently collect any data that could be used for this alert? Only a J2018 feature if it leverages data already being measured or logged.
  - Eng Estimates:
    - FW:
    - EE:
    - Mobile: 3 days

App-only features (FW/device/BLE agnostic)

- *Streamlined pod / device purchase
    - User Story: User's pod preferences, past orders, shipping and billing information is saved in app for a streamlined pod purchase experience, with potentially single click "repeat purchase" experience. Touch ID for iPhone purchases, PW for Android purchases.
    - Mobile Engineering Estimate: 15 days for native implementation, including server support. Maybe more if we also have to have user sign in for purchases.
- *Customer Support
    - User Story: If device stops working, user can load app, access customer support page that (1) provides troubleshooting instructions (2, **not MVP**) runs tests on device (3) orders and ships new device, using saved shipping information from Ecomm component of app.
    - Tech: Required for (2), which is not for MVP.
    - Mobile Engineering Estimate: 10-24 days depending on level of support
- Retailer Location Finder
    - User Story: User may search for (1) retailers nearby or (2) enter a zipcode. May get directions to that retailer via integration with map provider (Apple maps for iPhone).
    - Tech: (1) requires location services on device. Do we provide this service on our website? How accurate is this data right now? Are customers using it? Are customers satisfied with the results?
    - Mobile Engineering Estimate: 10-15 days, depending on whether we already did map integration for "find my pax". 5 days if we use the website for map integration.

Notes
** = MVP features
* = Priority features
No star = Nice-to-have features (unlikely to be in MVP, J2018)