Development Phases

Phase 1: Smoke Check-ins

Functional

- Check-ins support CRUD (create, read, update, and destroy) operations with a user interface for Android phones that supports the following data:
  - what triggered the craving (free text)
  - how strong is your craving (scale)
  - time (default to time of check in, can be changed)
  - location (automatic, just raw coordinates for now)
  - who are you with (if any, list of free text)
  - situation (free text)
  - emotions
    - What word describes your feelings (tag-based)
    - How stressed are you?
  - how much they smoked (free text and/or scales)
- Views
  - Show list of check-ins, from most to least recent.
  - Show check-in.
  - Create check-in.
  - Edit check-in.
- Ask the user to check in at the end of the day.

Non-Functional

- This is an Android app compatible with at least Android Lollipop (version 5.0, API 21).
- Multiple screen sizes of phones are supported (but tablet support is not required in this phase).
- Data is saved to the user's device, and not persisted to any servers.
- It should be theoretically possible to upload the app to the Play Store (though it may not be necessary to do it immediately).

Phase 2: Trial/Smoke Periods and Urge Check-ins

- Urge Check-ins
  - The user can check in an urge, with a subset of the smoke check-in answers, if they have an urge to smoke but aren't smoking yet.
- Trial Period
  - Starting to use the app prompts the user to pick a quit date between two weeks and one month in the future.

- ○ Initial survey for user information.
  - ■ wasn't thinking of quitting (recommended app)
  - ■ Not sure
  - ■ Prepared to quit (try to encourage this)
- ○ Collect if the user has an urge to smoke, even if they don't actually smoke.
- ● Quitting Period
  - ○ Initial survey for user motivation (reasons the user is quitting).

Phase 3: Cloud Check-ins

- ● A restful web service saves all check-ins in on a RESTful web service that we host.
- ● The web service must either support a PaaS (**Platform as a service**), support containers, or provide scripts for easy provisioning on different services.
- ● Users should be able to log into separate accounts that organize their check-ins separately.
- ● Check-ins can be made offline, and are synced (at least one way) to the web service when the device has an Internet connection.

Phase 4: HIPAA Compliance

- ● Encryption (storage **and** transit)
  - ○ Auth Credentials
    - ■ I'm not sure if usernames need to be encrypted in transit, we should check HIPAA requirements.
    - ■ Passwords must be salted (and we should check if HIPAA forces us to do it a certain way).
  - ○ PHI (Protected health information) associated with the user's account
  - ○ Check-ins
- ● Users can only access their own account information and check-ins from their accounts.
  - ○ The data should have been organized by user before, but here we must ensure that this separation is secure.
- ● If any, our user documentation should be updated to reflect HIPAA compliant promises and agreements.
- ● User agreements / business agreements

Phase 5: Feedback

- ● Locations should represent specific places (when possible) to allow for improved feedback.
- ● Prompt the user for a check-in if it is expected that they are about to smoke.
  - ○ It's important to not make this too frequent or infrequent.
  - ○ provide motivations or cognitive exercises

- Give the user information about what they can do to resist urges to smoke.
- Only interrupt the user when you have learned about what the user has been doing and expect something to happen.
  - what can you do to avoid the situation?
  - what can you do to cope?
    - example: take nicotine gum or another replacement/alternative
- initial threshold: prompt the user if the smoke at a particular time/place at least 50% of the time
  - read about just in time intervention
- recommendations of things to avoid
- prompt semi-randomly about the user's mood, using it as an additional trigger if there is an expected risk
- Quitting Period
  - cognitive exercises
  - user can view statistics on their progress when quitting
- contacts support

Phase 6: Content

- Generalized static content from the cloud is available to all users.
- Content can be easily modified without updating the app.

Phase 7: Therapist Interface

- Therapist accounts are tied to specific client accounts, and they can only access those users' data. This linking process should probably be mutually agreed upon between the client and therapist.
- Can access their clients' check-ins through the cloud.
- Check-in statistics are available to therapists.
- Can manually add feedback and content.