



**Highest Quit Rate**  
of any smoking cessation product

# Clinical Validation

## Lumme vs SmokefreeTXT Comparison\*

Data from national scale randomized clinical trial conducted by the **Yale School of Medicine**

*Study funded & overseen by the **National Cancer Institute**.*



\* The active control group used the "SmokefreeTXT" platform offered by the National Institutes of Health (<https://smokefree.gov/smokefreetxt>).

This platform sends static messages at fixed times throughout the day.

# Highest Quit Rate of any smoking cessation product

Lumme effectiveness vs. control odds ratio: **2.24x**

30.2%

SmokeFreeTXT

Control group. Static content sent at fixed times.

49.2%

Smoke free after 8 weeks  
treatment period

Lumme

Experimental group.

Personalized content sent  
just-in-time.

72%

Smoking reduction among non-quitters



# How it Works



## Phase 1 Pre-Quit (2 Weeks)

User wears the smartwatch and we gather data passively – the user doesn't have to do anything. Data gathered includes:

1. When the user smokes
  1. Time of day
  2. Day of week
  3. Before/After eating
  4. After waking up/before going to sleep
  5. Before driving to/from work
  6. While driving
2. Where the user smokes
3. Who is nearby when the user smokes  
(Based on seeing the same Bluetooth static address—we do not collect identities)



## Phase 2 Quitting

1. Based on the data gathered in Phase 1, our machine-learning algorithm predicts when the user will crave a cigarette
2. We can reliably predict cravings six minutes in advance
3. We target the user with cognitive behavioral therapy based messages at just the right time to prevent them from smoking
4. We continuously monitor the user's smoking behavior and refine our interventions for each individual user
5. We show the user how well they are doing and how much money they are saving on cigarettes
6. We provide aggregated, de-identified data to the employer on how well their employees are doing overall with reducing and quitting smoking

Product & Service	Reported Efficacy	Other Drawbacks	ROI Validation
Lumme	49%	No reported adverse effects	Tracks aggregate change in smoking frequency and reports ROI to employer in real time
Varenicline (Chantix)	44.6%	Side effects include nausea, insomnia, & headache. To be used in conjunction with counselling	Employer cannot validate effectiveness or ROI
Nicotine patches	39%	Common side effects include nausea, insomnia, and headache	Employer cannot validate effectiveness or ROI
TXT messaging	36%	Impersonal and not tailored for users	Employer cannot validate effectiveness or ROI
Individual counselling	11%	Huge time & cost commitment. Not accessible for most patients	Employer cannot validate effectiveness or ROI
Smartphone apps	Unvalidated	Requires user to log habits & request for help. Huge time commitment & often ineffective	Employer cannot validate effectiveness or ROI

Quit Rates

Commercial Products & Services

Source: Gomez-Coronado 2018, Whittaker 2016, Stead 2013, Stead 2012, Pfizer.com, Shiffman 2002

# Our unique, patented technology

Lumme is the only smoking cessation system that:



## **Detects**

Automatically detects when a user smokes in real-time, eliminating the need for users to manually log their habits



## **Predicts**

Combines each user's individual smoking habits with additional data such as location, time of day, social interactions, other behaviors, etc. and accurately predicts when the user is likely to feel a craving



## **Intervenes**

Intervenes in real-time six minutes before the user is predicted to feel a craving, using personalized messages to prevent the user from smoking

# Accuracy Validation

95%+

## **Smoking Gesture Detection**

False positive gesture rate: 0.005

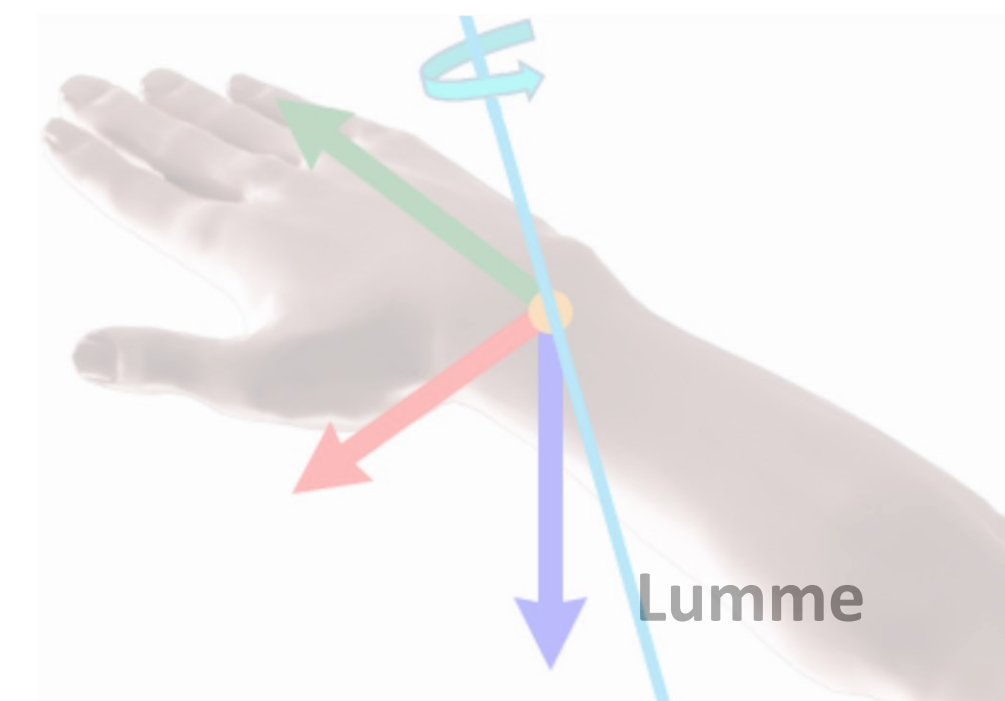
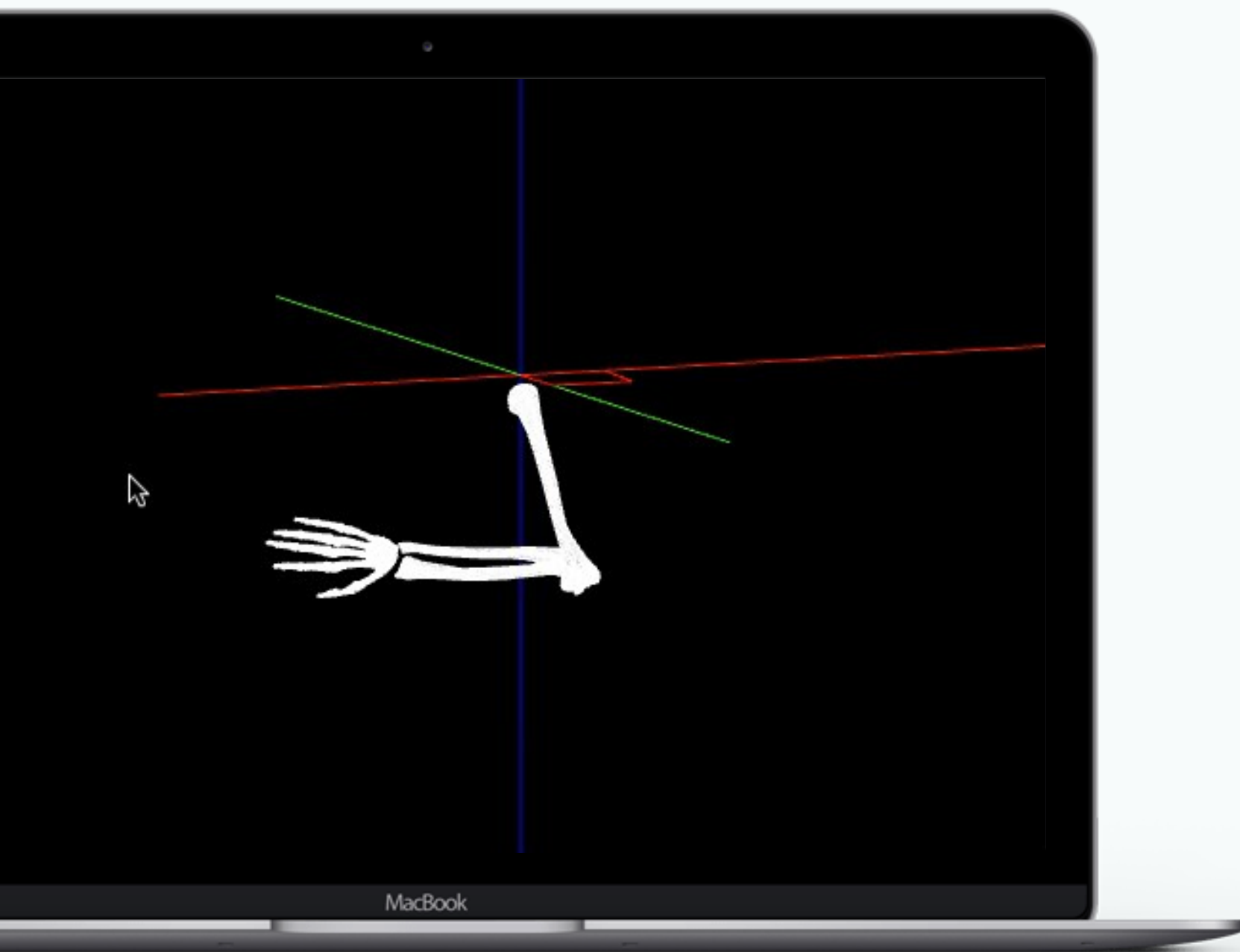
False episodes detection rate: 1.4 cigarettes/day

100%

## **Smoking Event Prediction**

5 high risk situations

6 minutes in advance



# Our Users' Stories

The most valuable thing by far is showing the amount of money that I have saved. **That has been an incredible motivation to me.** Overall it's a great system!



**Michael S.**

My only plan to quit smoking was before I turn 40. **Your program expedited that process.** For this I want to thank you. I feel like I can now help others quit smoking.



**Jeremy F.**

I **finally** quit.  
Thank you.



**Lucy R.**





# App Demo & Cessation Program

Employee Facing Product

# Meet Alex.



# This is his typical day.



# He's tried quitting smoking using other apps...

- He constantly forgot to report smoking
- He rarely could recollect smoking times later





# ...and during the quitting period, he was overwhelmed and demotivated.



- Generic, non-personalized tips and information
- Timing of tips is not optimized to cravings
- Information overload
- No clear actionable item

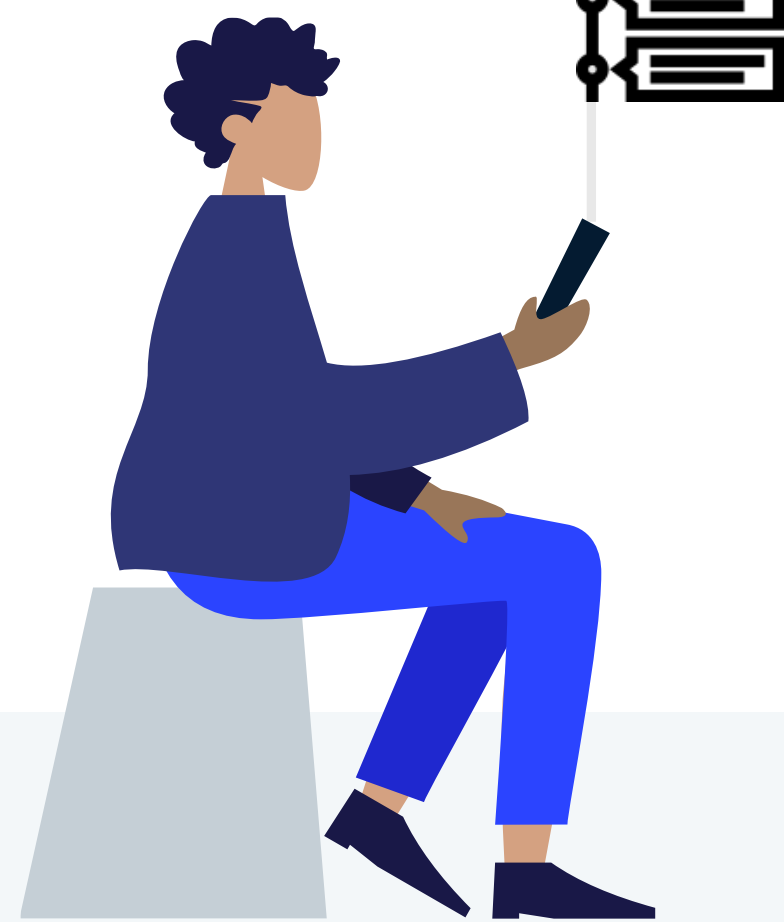
# Lumme's approach is different in the pre-quit period...

- Automated smoking detection
- Nothing to do

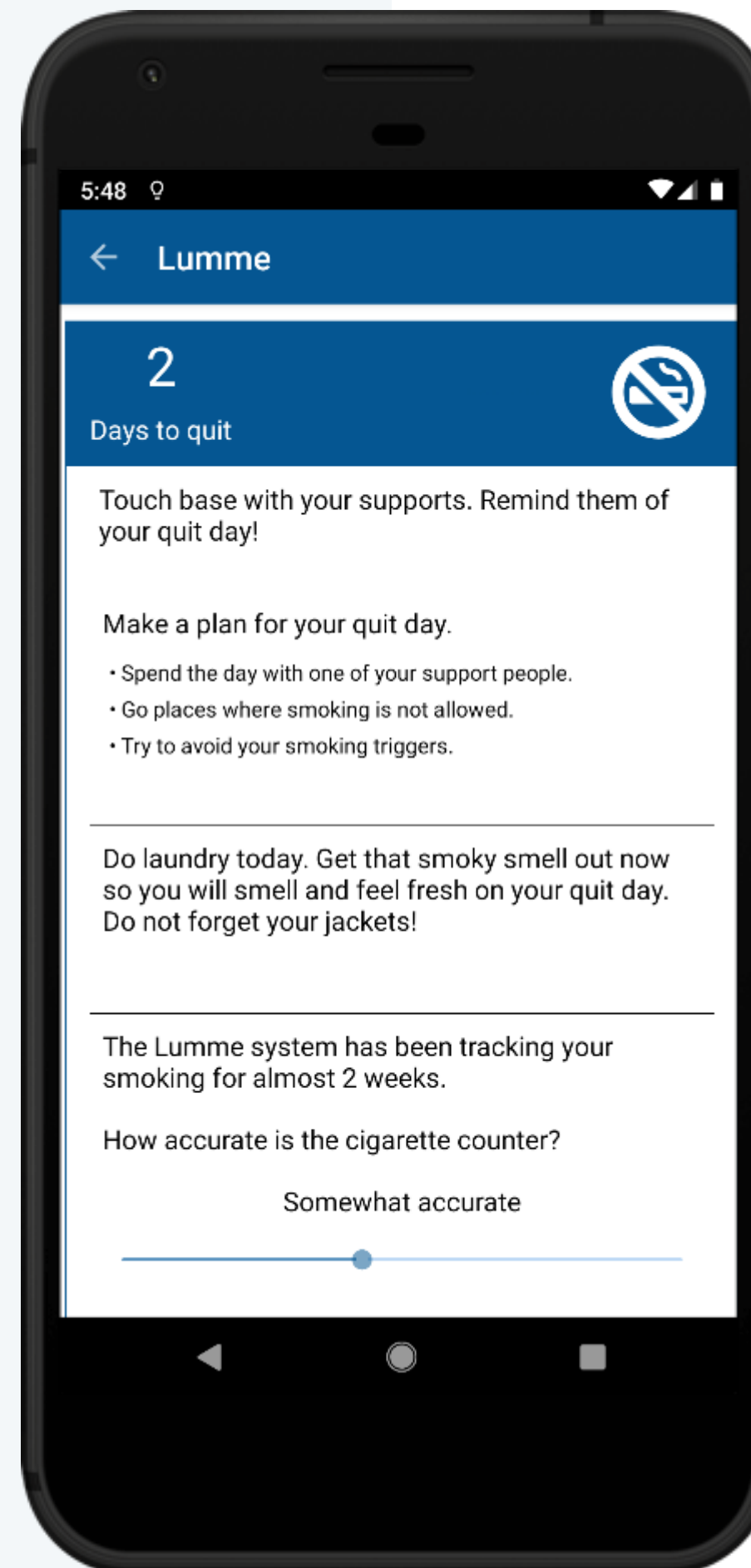


# ...as well as during the quitting period.

- One precise tip at the right time
- Precise actionable items



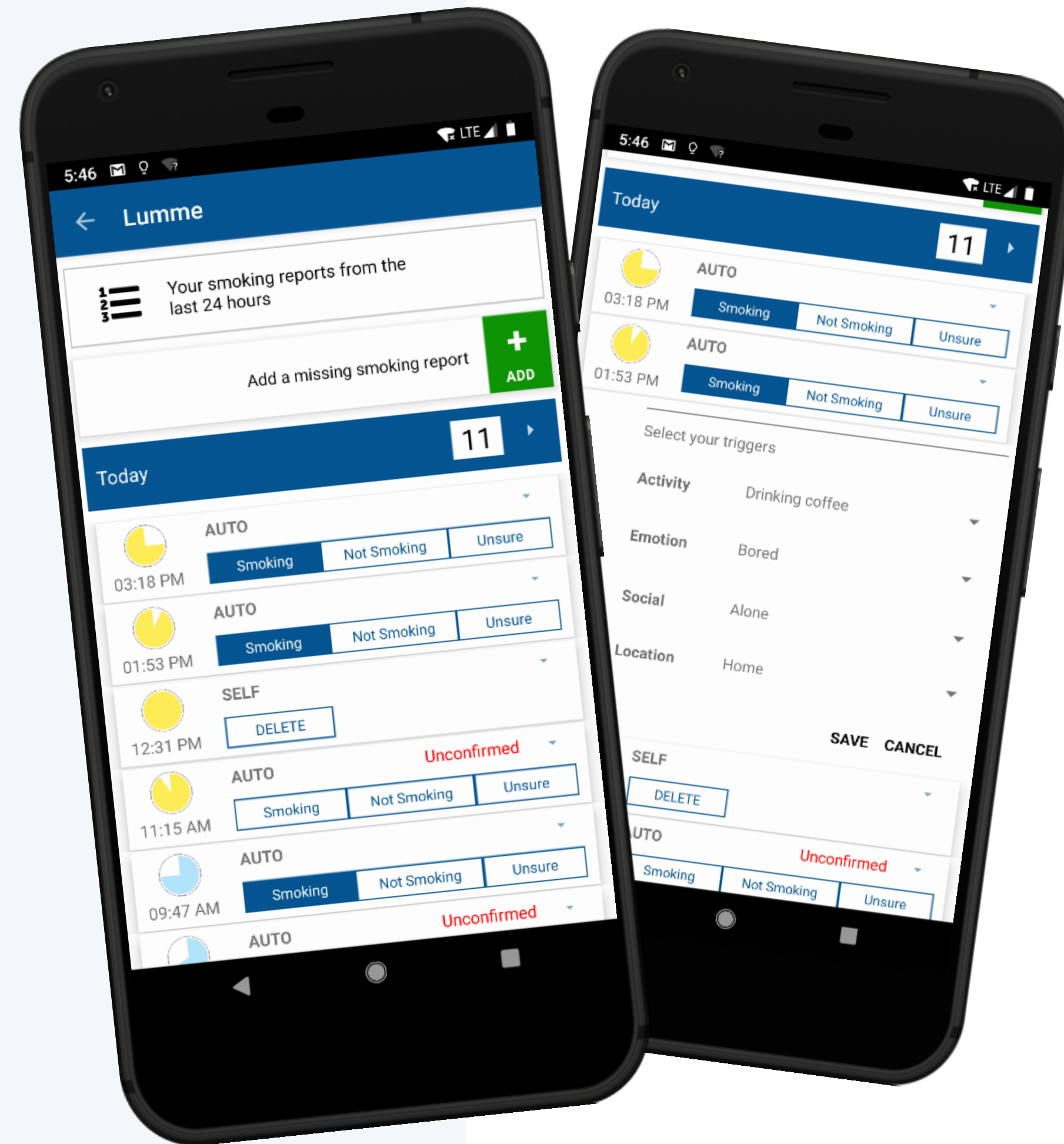
# Lumme Application Features



## Quit Plan

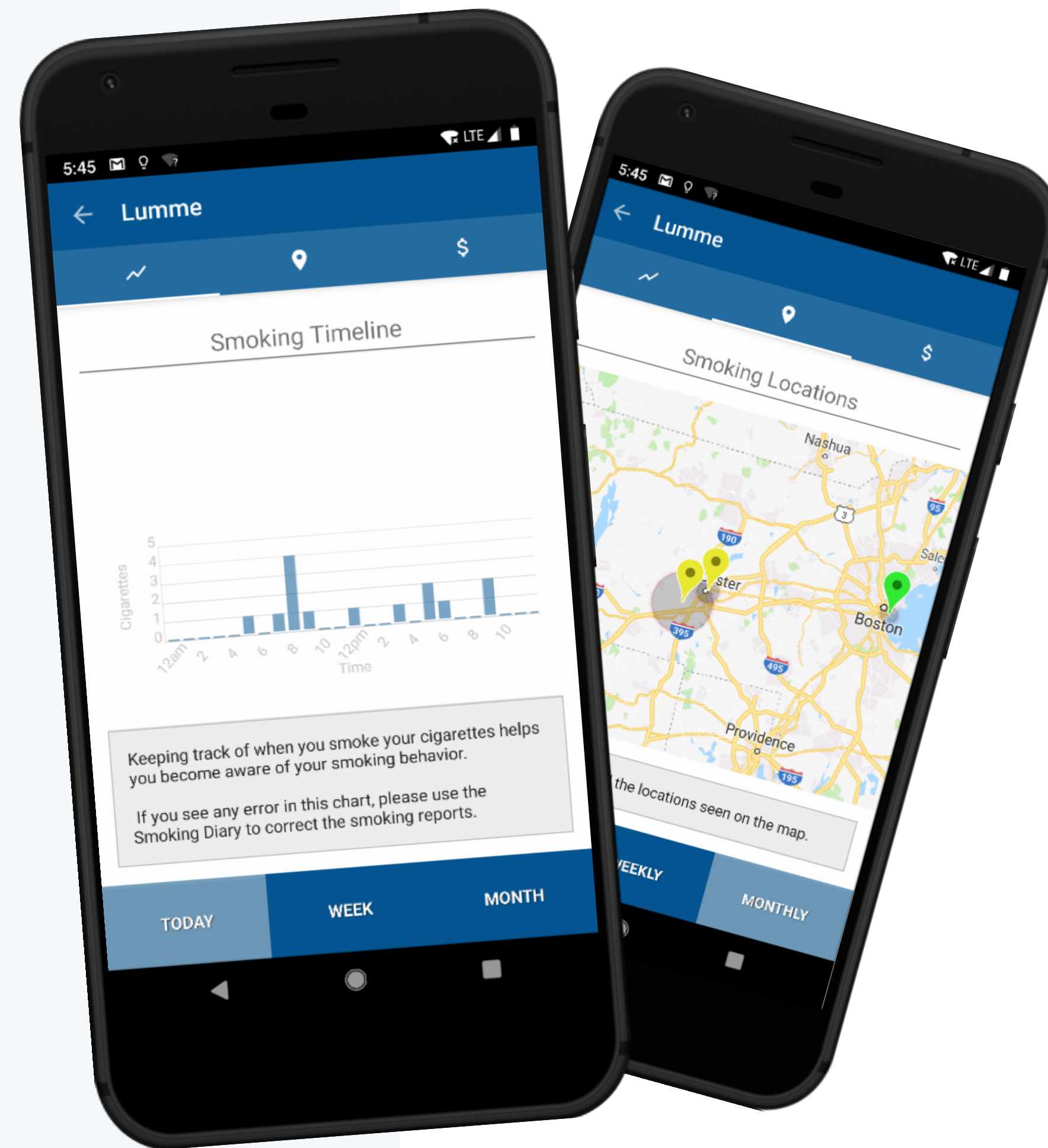


# Lumme Application Features



# Smoking Diary

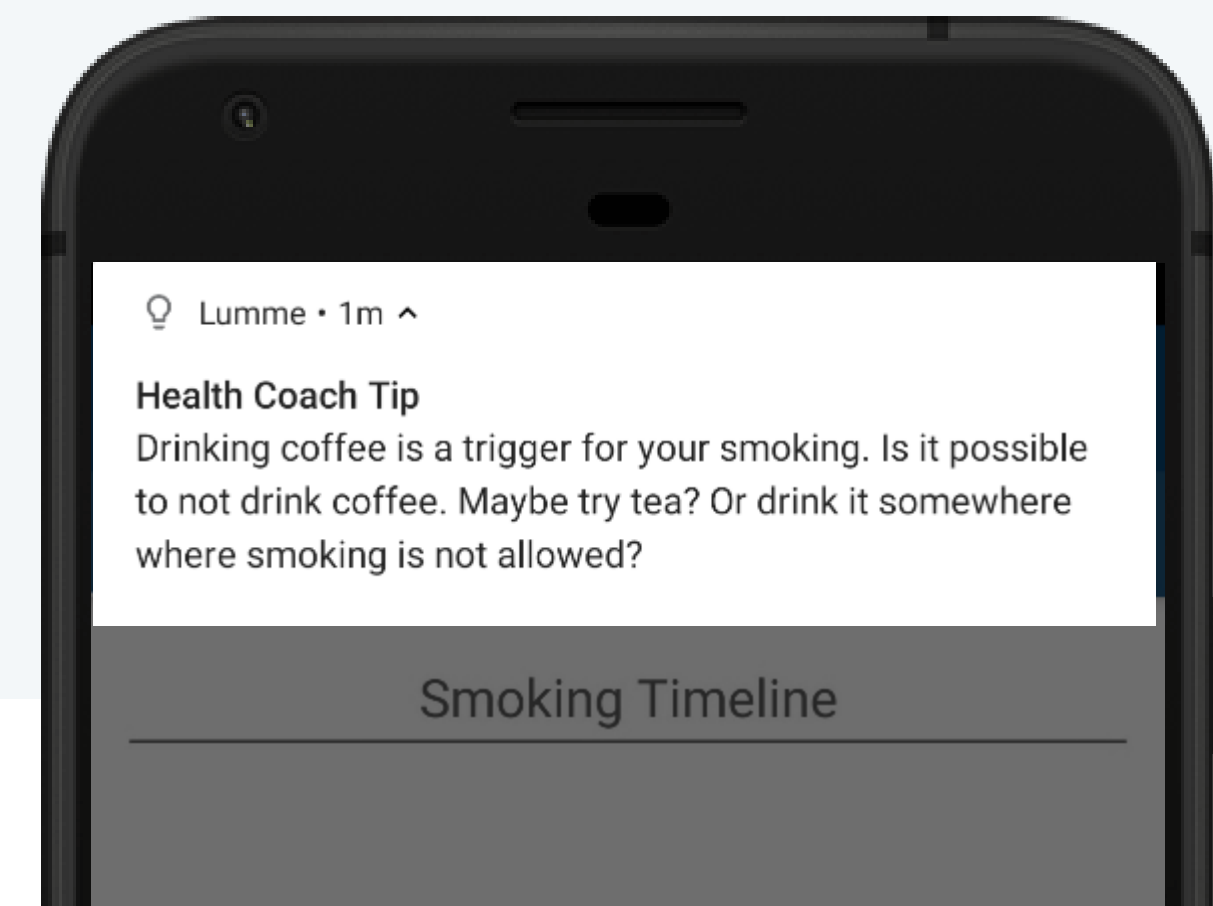
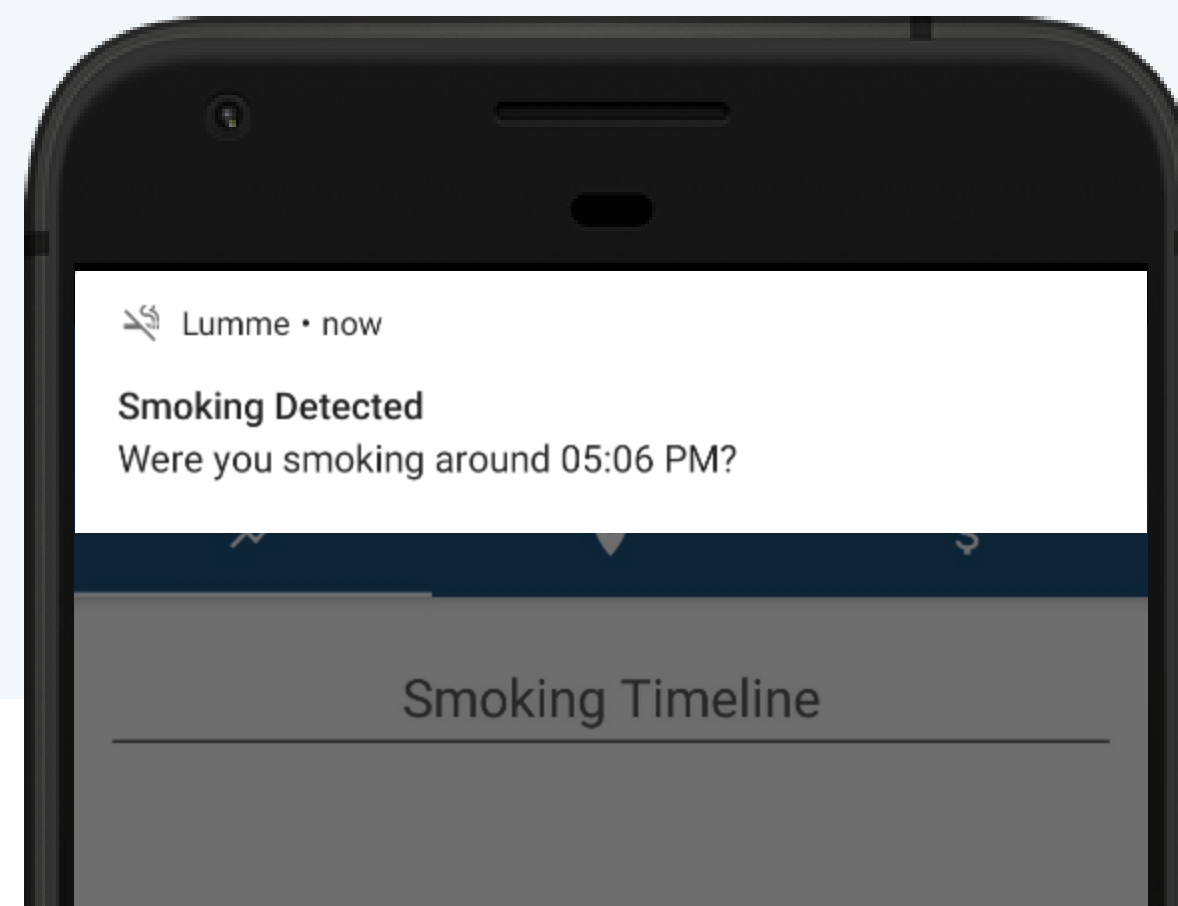
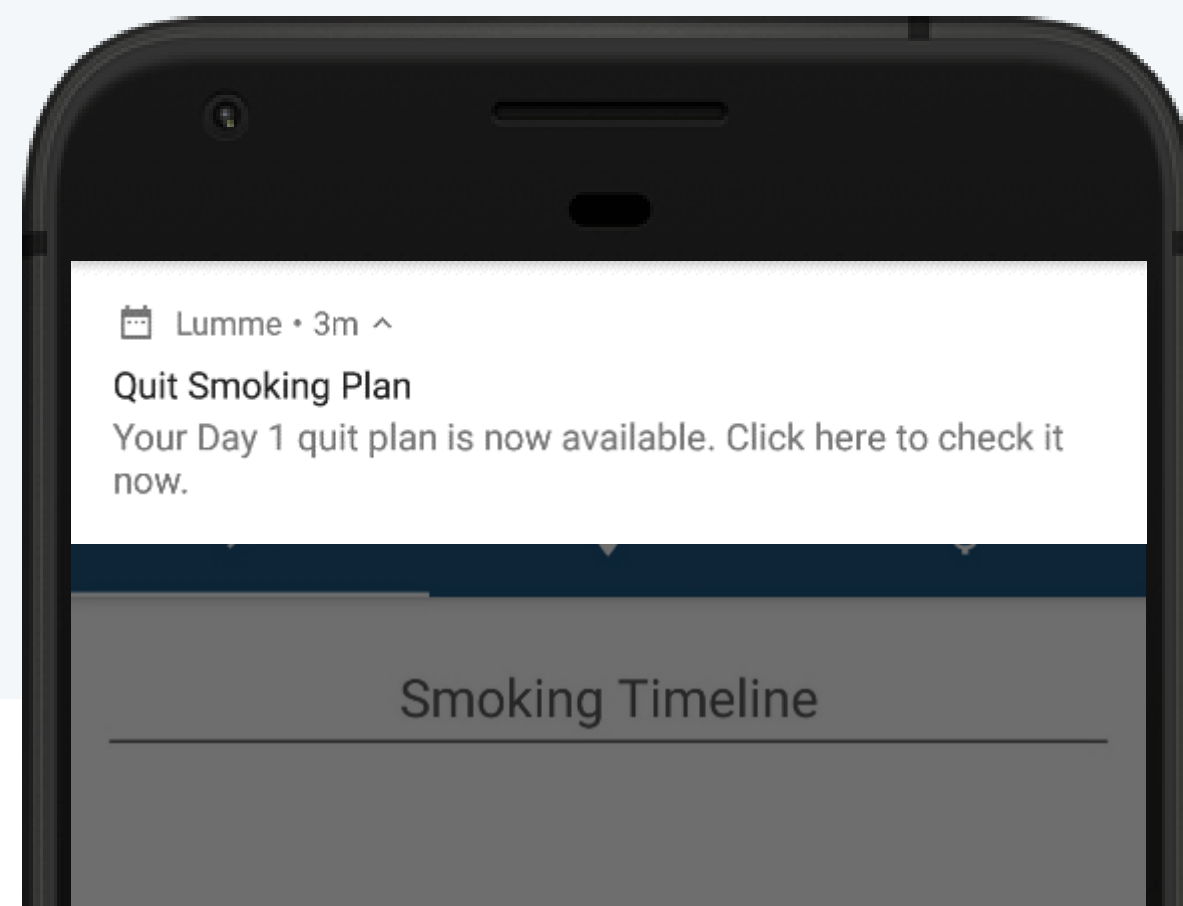
# Lumme Application Features



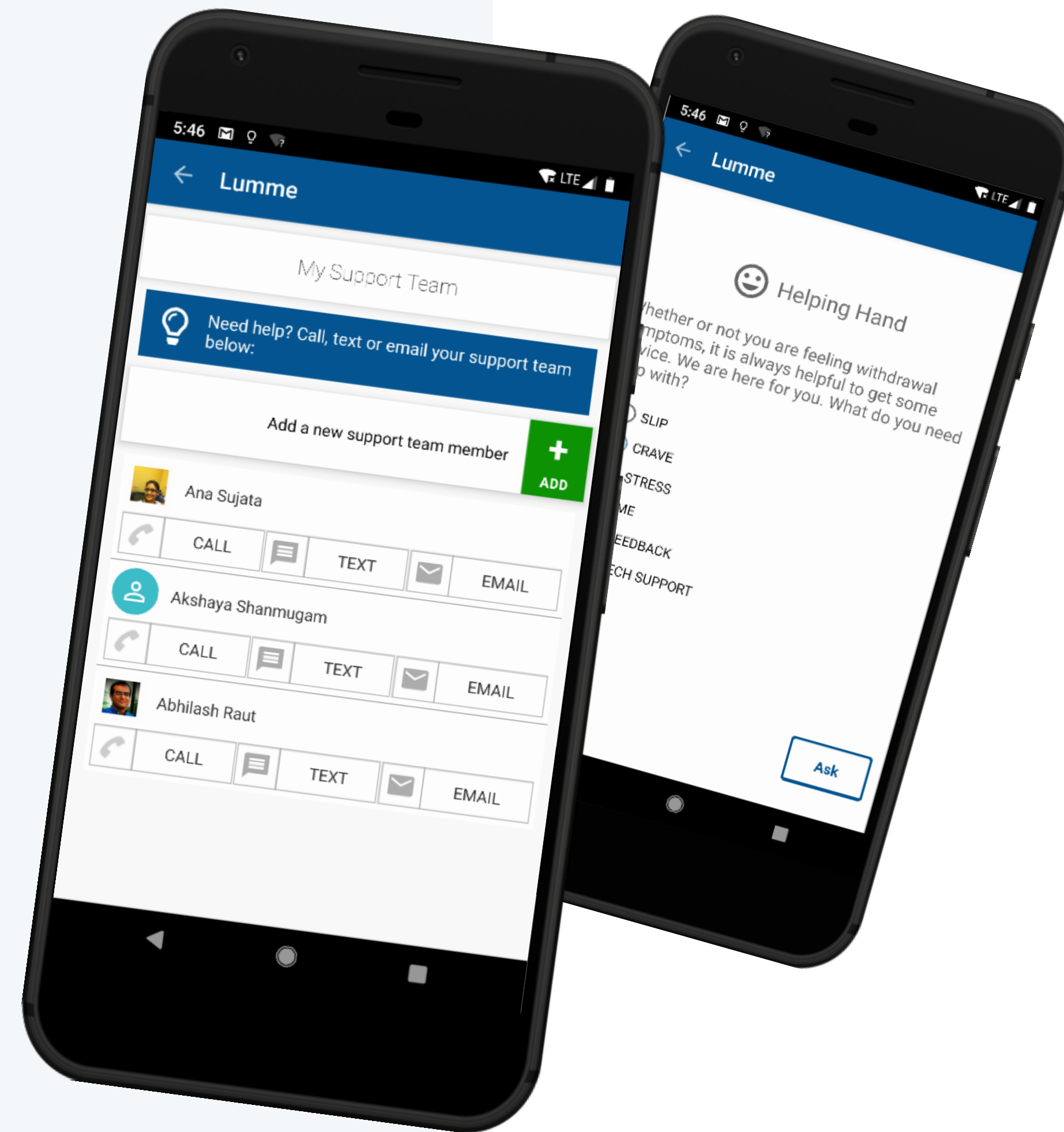
# Smoking Trends

# Lumme Application Features

- Quit plan reminder once a day
- Takes less than 5 minutes
- Becomes aware of his smoking habits
- Feels encouraged to check his smoking diary
- Up to 6 personalized tips targeting various triggers
- Does not interfere with daily life



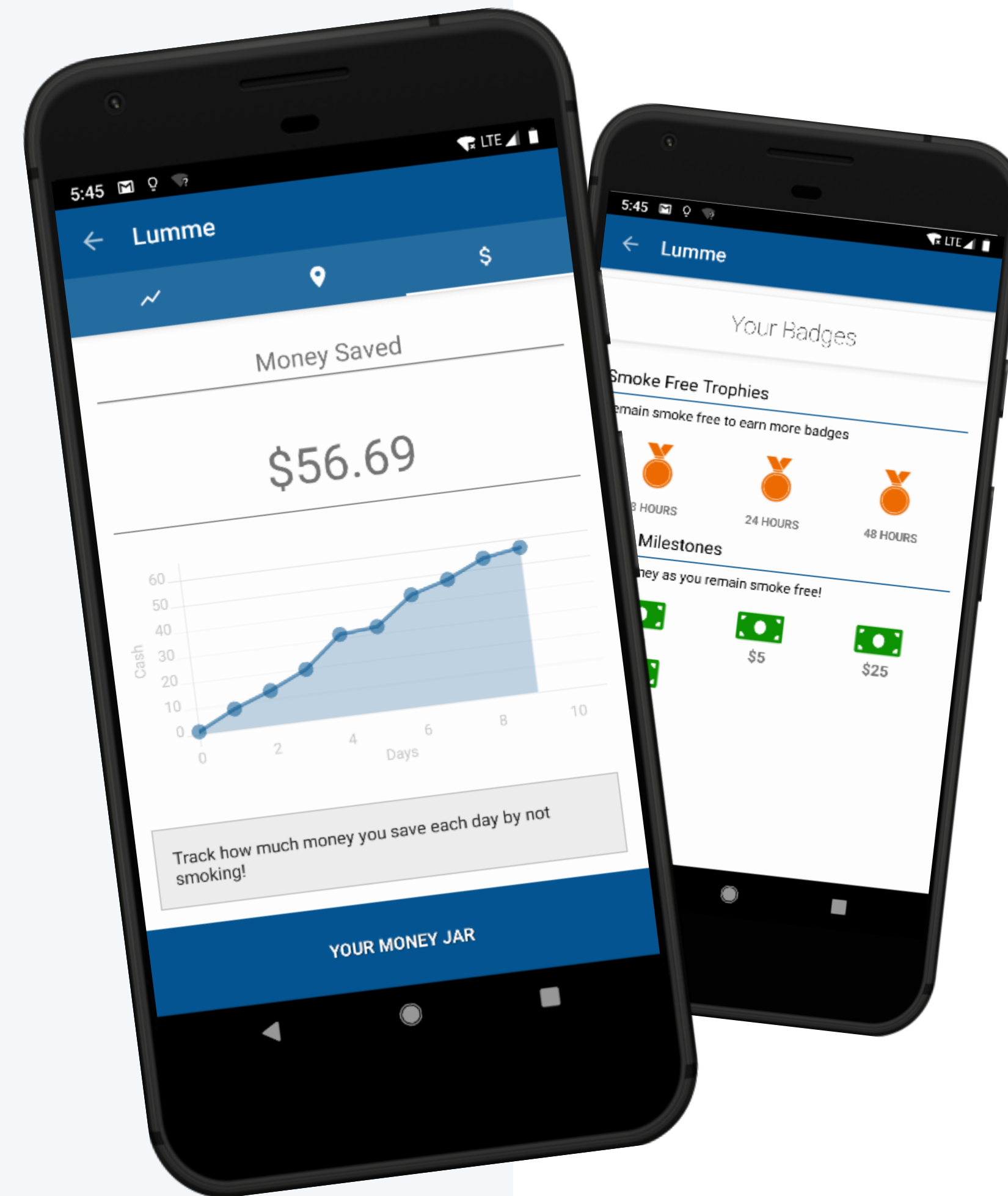
# Lumme Application Features



# Support & Instant Help

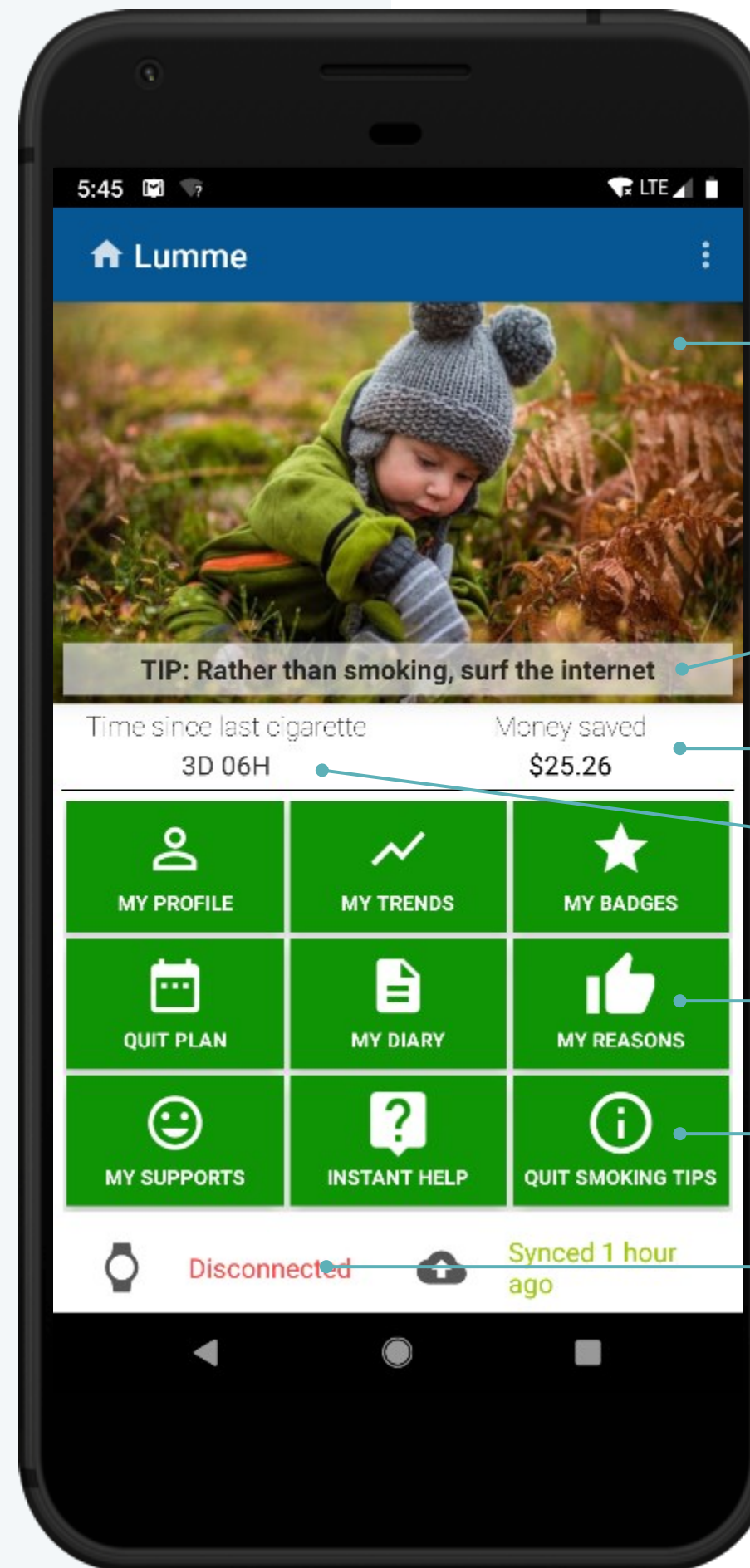


# Lumme Application Features



## Money Saved & Badges Earned

# Lumme Application Features



Motivational picture

Instant tip

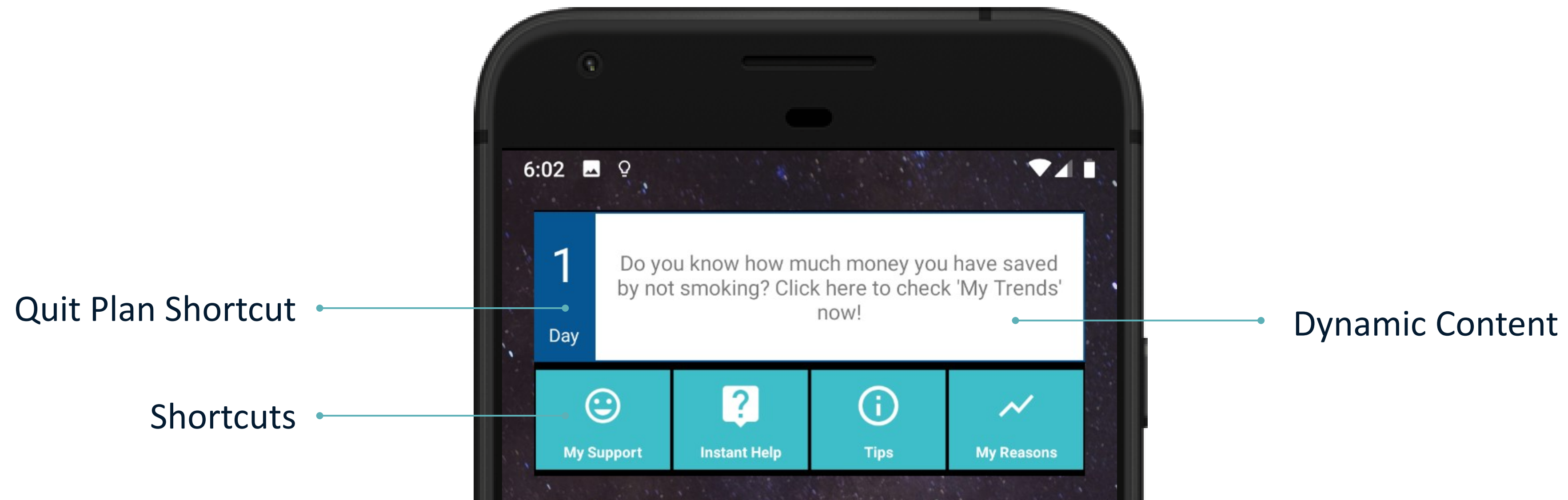
Money spent/saved

Time since last cigarette

Reasons to quit

More tips

Watch connection status



- Home-screen widget: Help without launching the app.
- Dynamic tips changing throughout the day.
- Dynamic shortcuts for helpful resources in the app.

## Lumme Application Features