



cheetahmobile

# Mobile Monetization Scenario Design & Big Data

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Arther Wu

Senior Director of Monetization and Business Operation

# Agenda

Quick update of Cheetah Mobile

Ad Scenario Design

Big Data / Relation with Advertising





cheetahmobile

**#1**

**Publisher**

of Mobile Tool  
Apps in GP

**#2**

**Publisher**

of Mobile Apps  
in GP Worldwide

**1.6B**

**Users**

**~500M**

**MAU**





CLEAN MASTER

600+M  
downloads

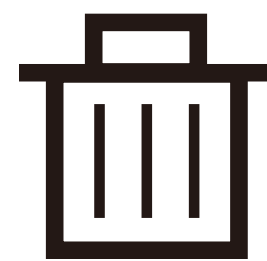
60+  
countries

No.1  
Android  
tool app

4.7  
rank  
★★★★★



Junk Files



Anti-virus



  
JUNK FILES

  
PHONE BOOST

  
ANTIVIRUS

  
APP MANAGER



Phone Boost

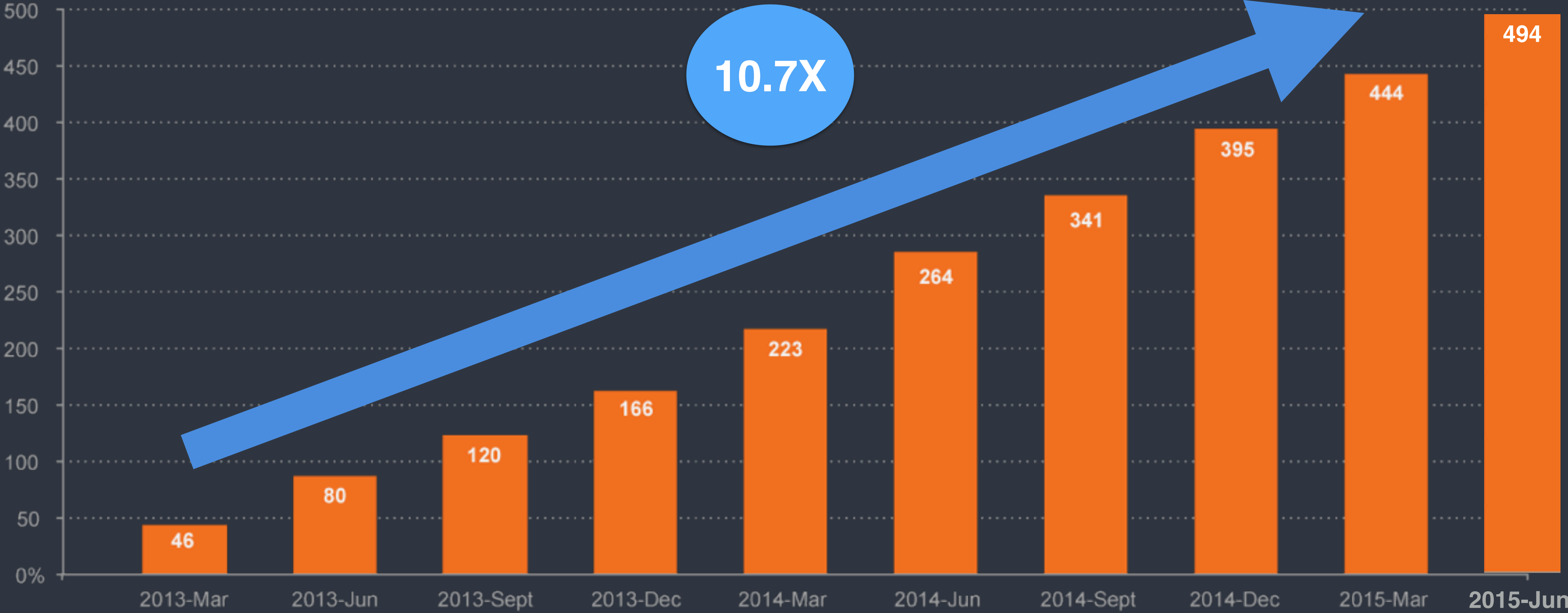


App Manager



# Rapid Growth of Global Mobile User Base

Mobile MAU  
MM



**GLOBAL FOOTPRINT**

~71% Mobile MAU Overseas <sup>1</sup>

# Global Presence for Advertisers





# Mobile Monetization



In-app Purchase

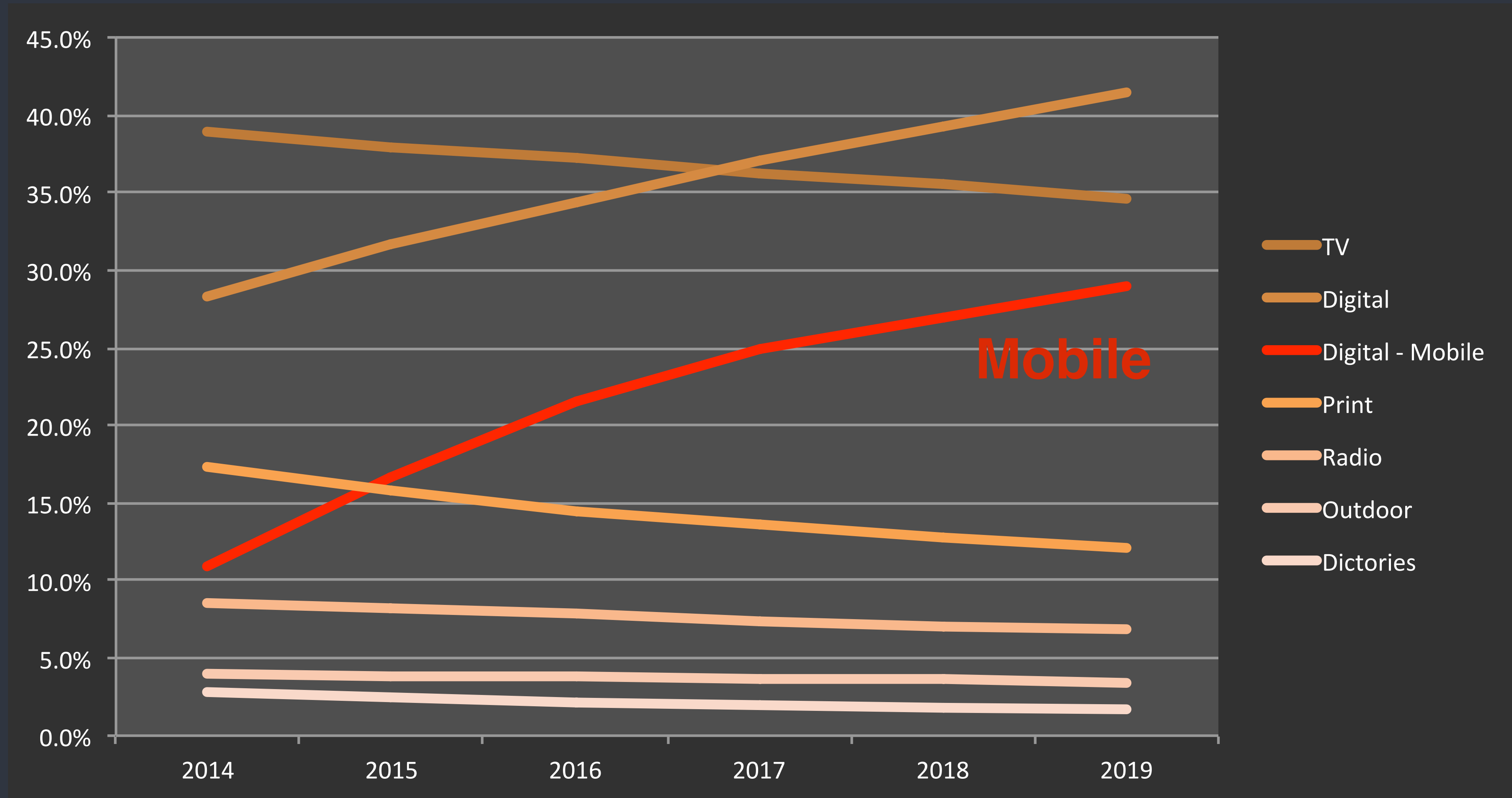


Advertising



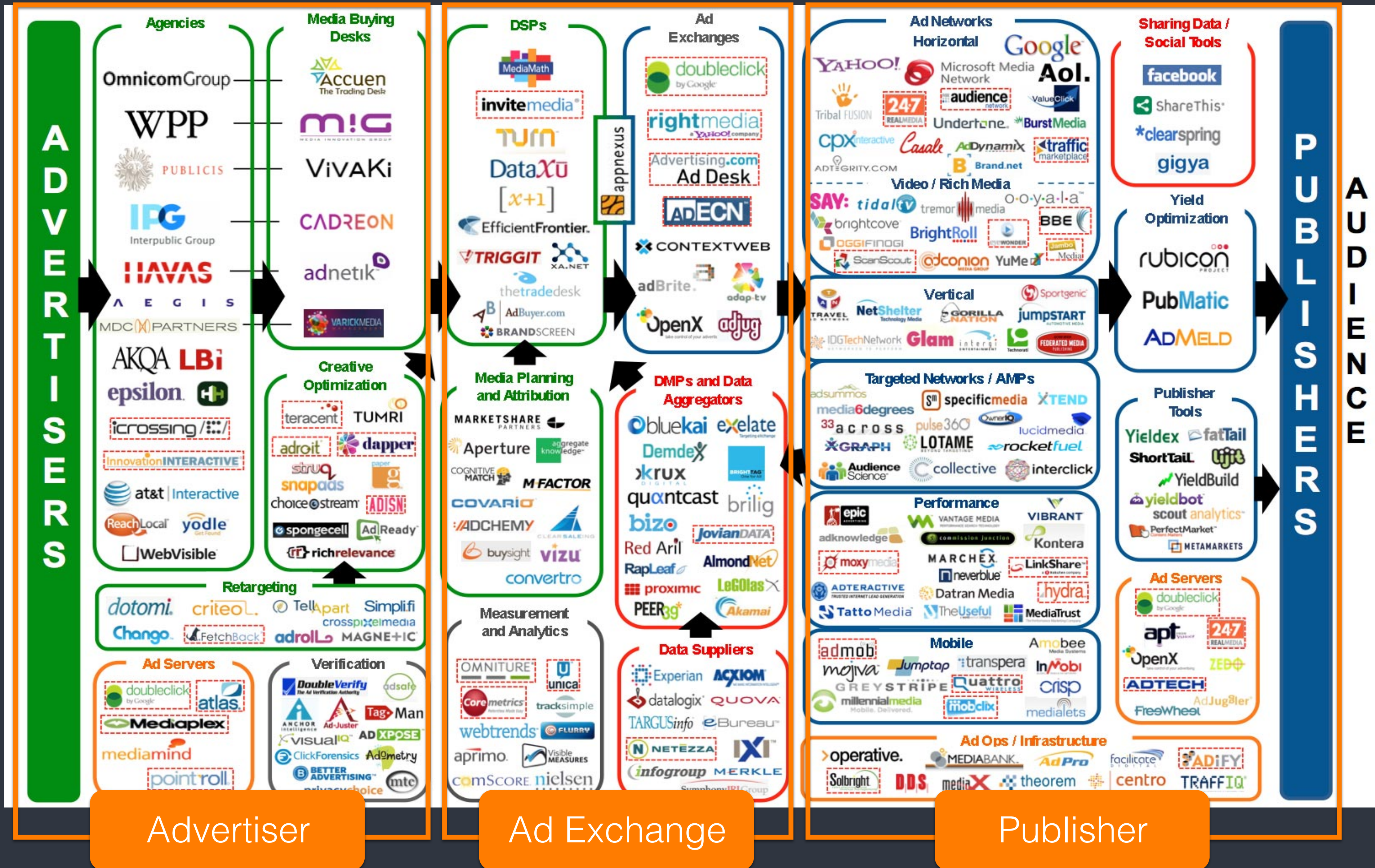
Paid Download

# US Total Media Ad Spending Share, by Media 2014 - 2019





# Mobile Advertising Ecosystem





## Demand

Advertisers  
Ad Network

Advertiser



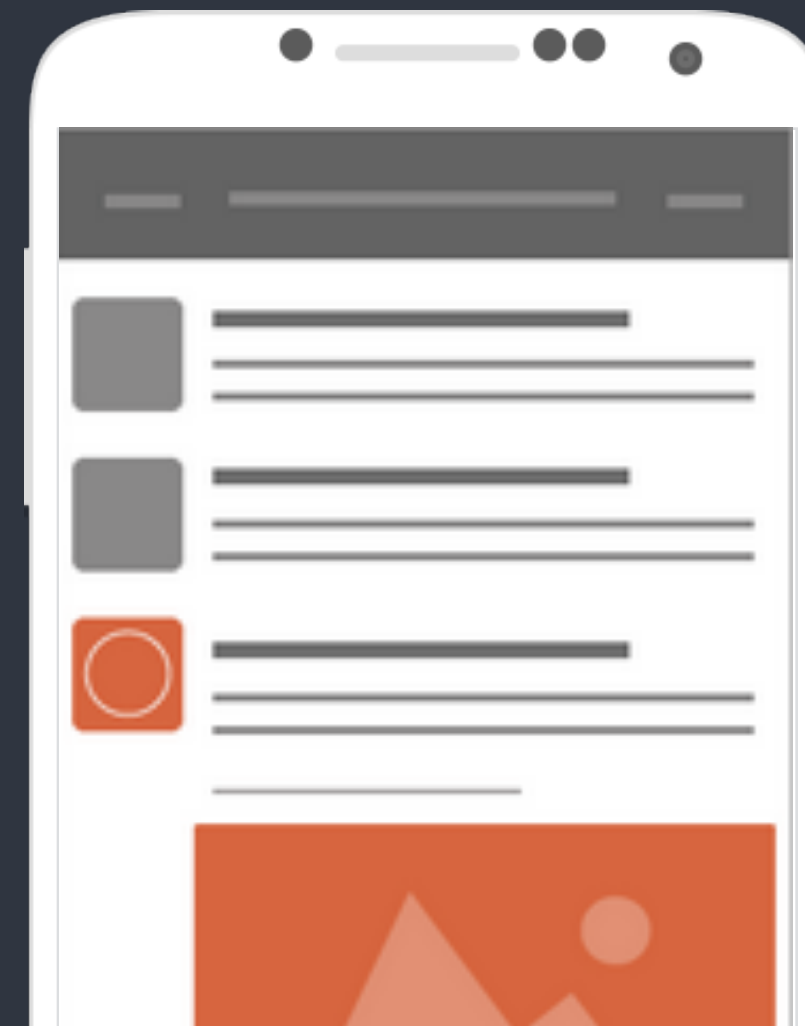
CM Cloud  
Data

**CPM**  
ad platform

## Supply

Cheetah  
Apps

Publisher







**CMT**  
ad platform

# Cheetah Mobile's Strength on Mobile Advertising

# How Does Cheetah Mobile Ensure Ads Performance

Appropriate  
Ad Format

Scenario  
Design

Big Data  
Usage



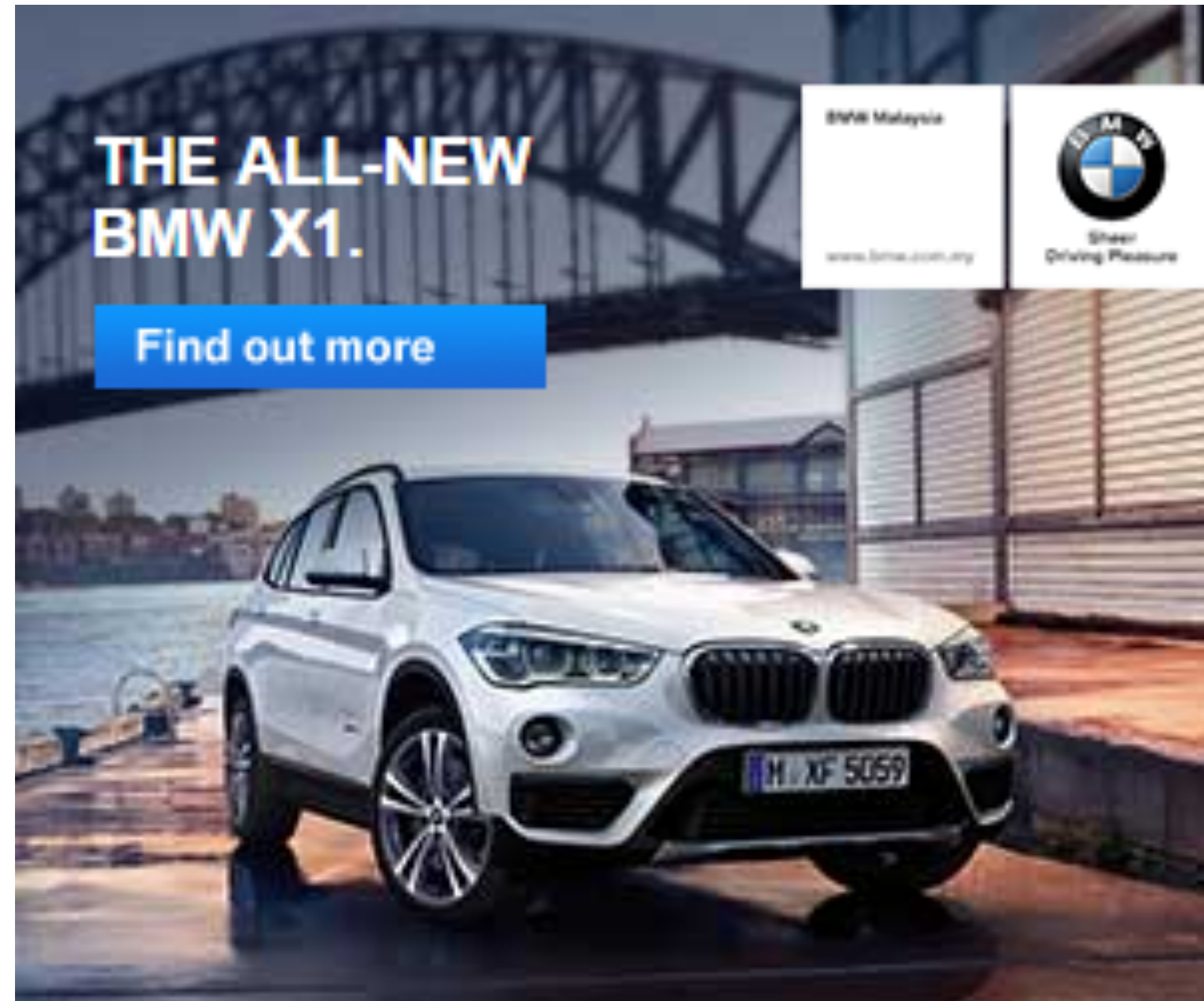
# Multiple Ad Formats in Cheetah Apps





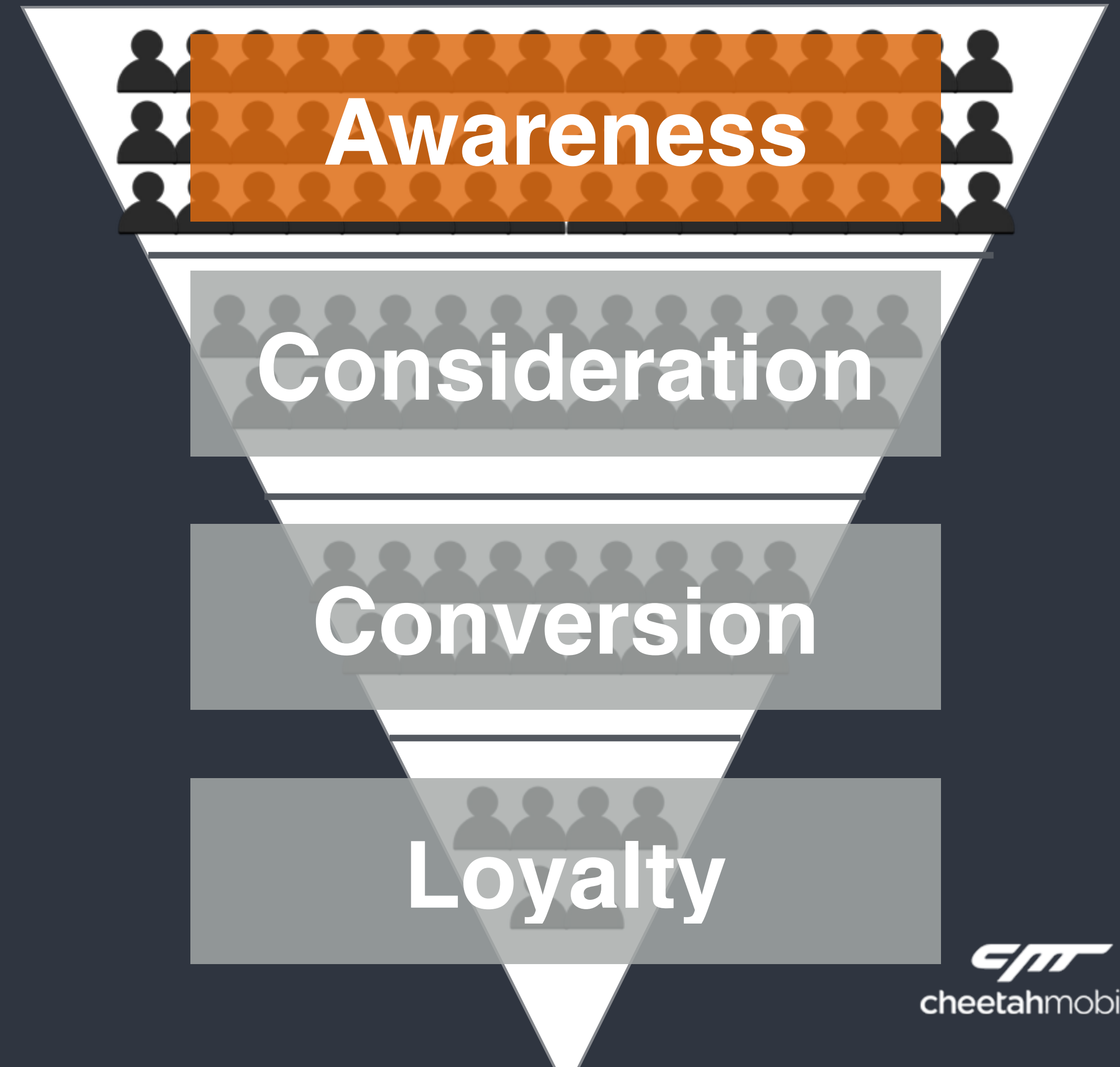
# Cheetah Ads Satisfy Marketing Objectives

## Cheetah Ads



**CPM** / Branding

## Advertisers' objectives



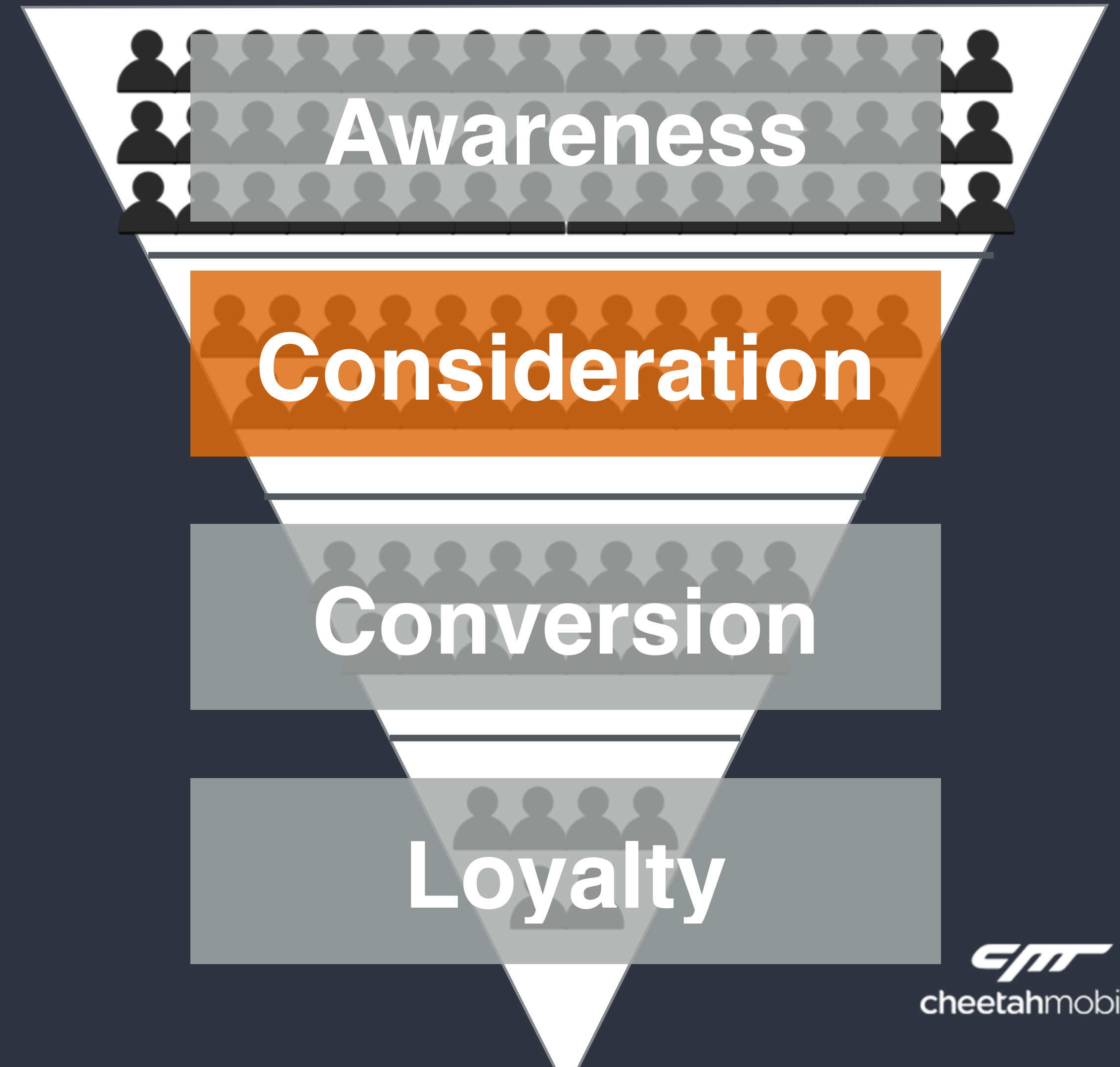
# Cheetah Ads Satisfy Marketing Objectives

## Cheetah Ads



**CPC** / Brand Cognition

## Advertisers' objectives





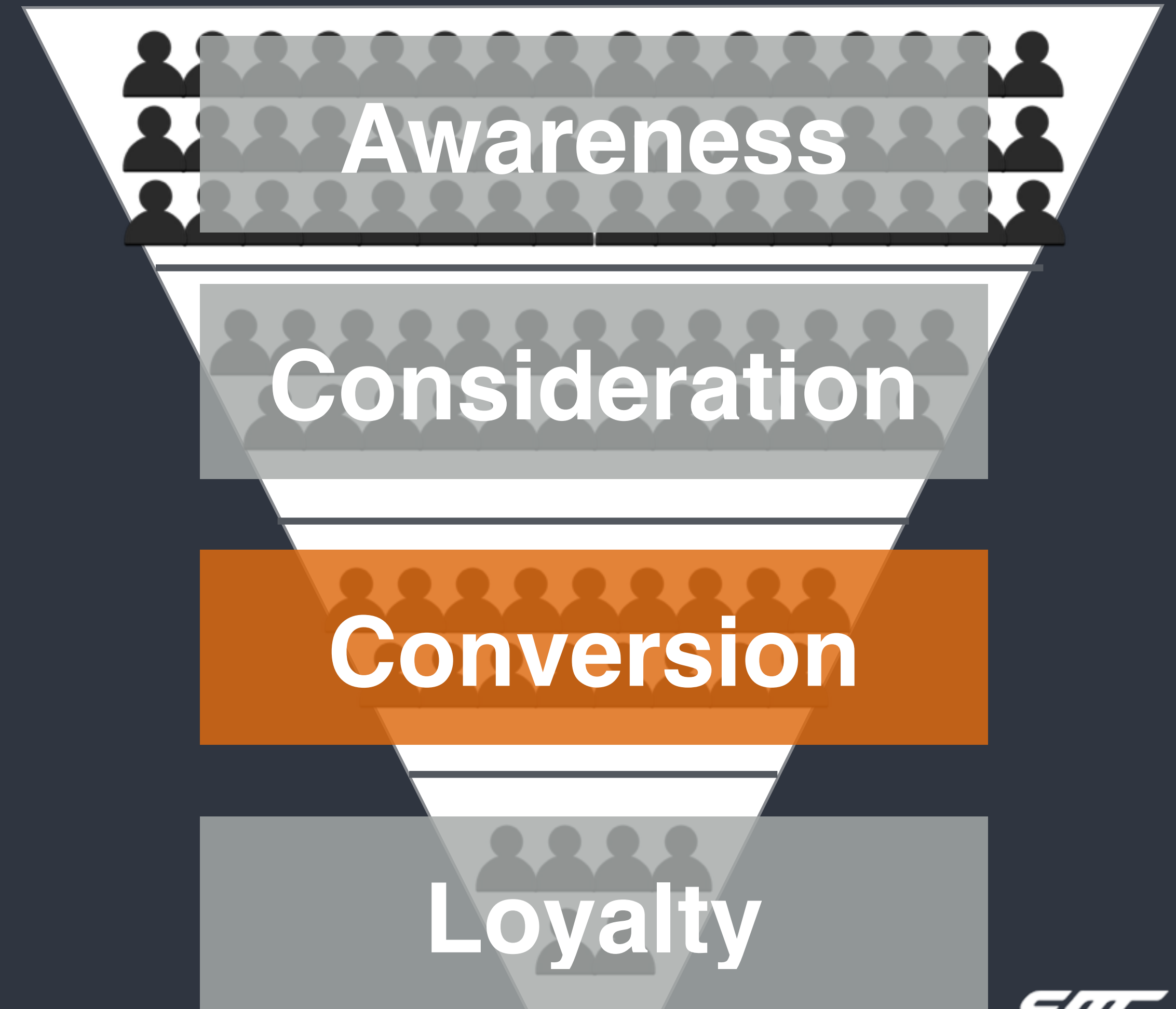
# Cheetah Ads Satisfy Marketing Objectives

## Cheetah Ads



**CPS** / Customer Willingness

## Advertisers' objectives



# Cheetah Ads Satisfy Marketing Objectives

## Cheetah Ads



**CPA** / Customer Loyalty, Retention

## Advertisers' objectives

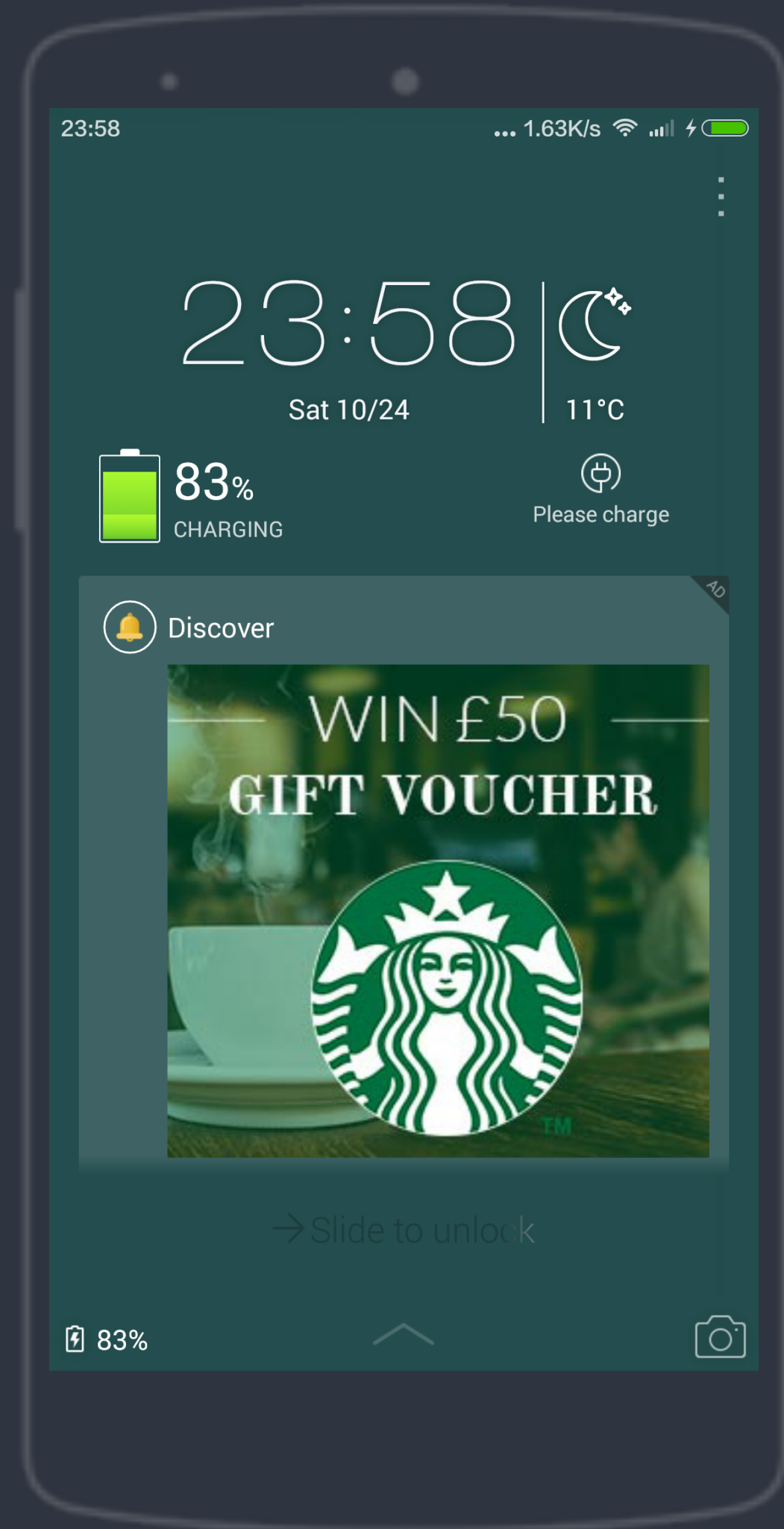
Awareness

Consideration

Conversion

Loyalty

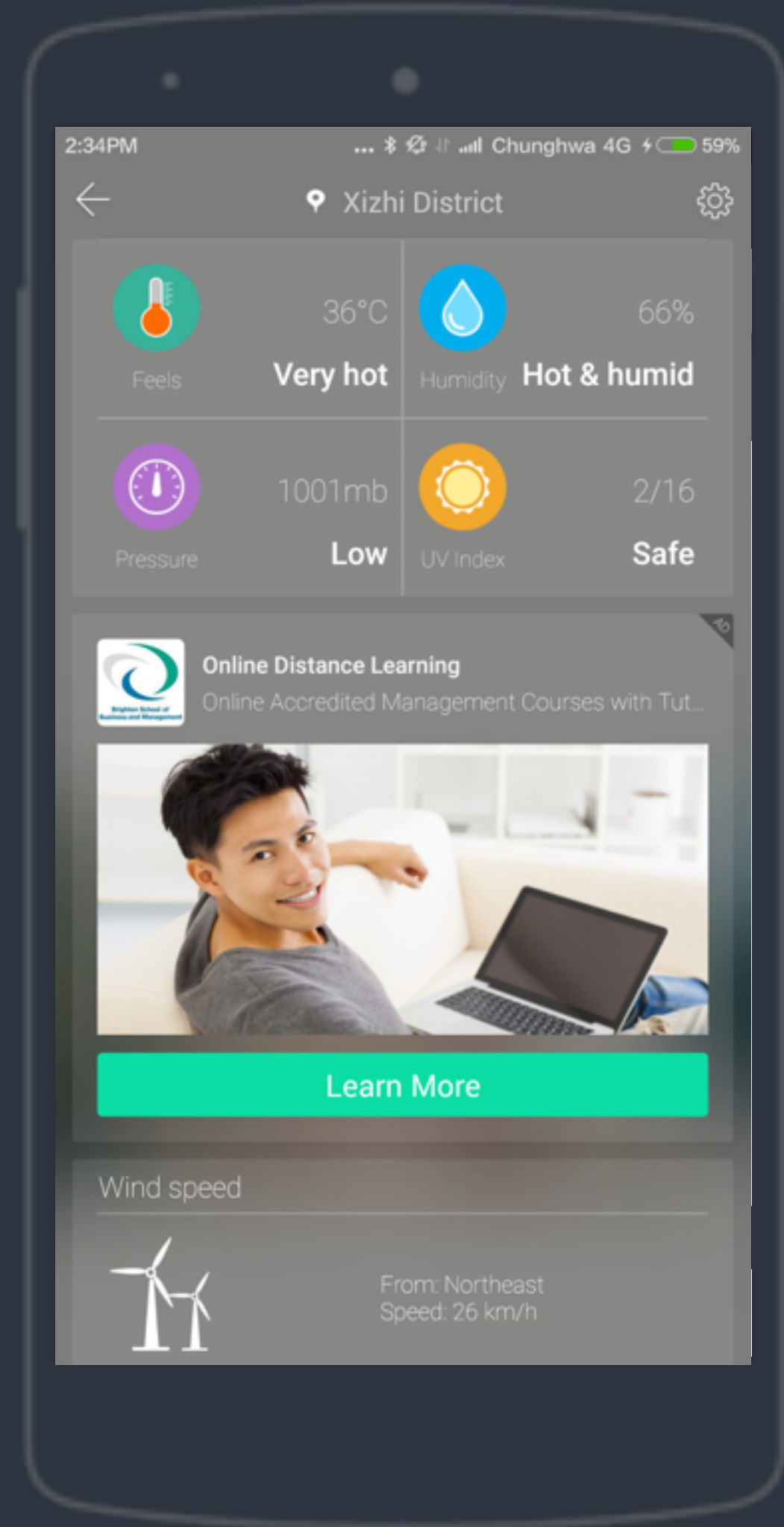
# Users' daily life cycle



CM Locker: Charging screen

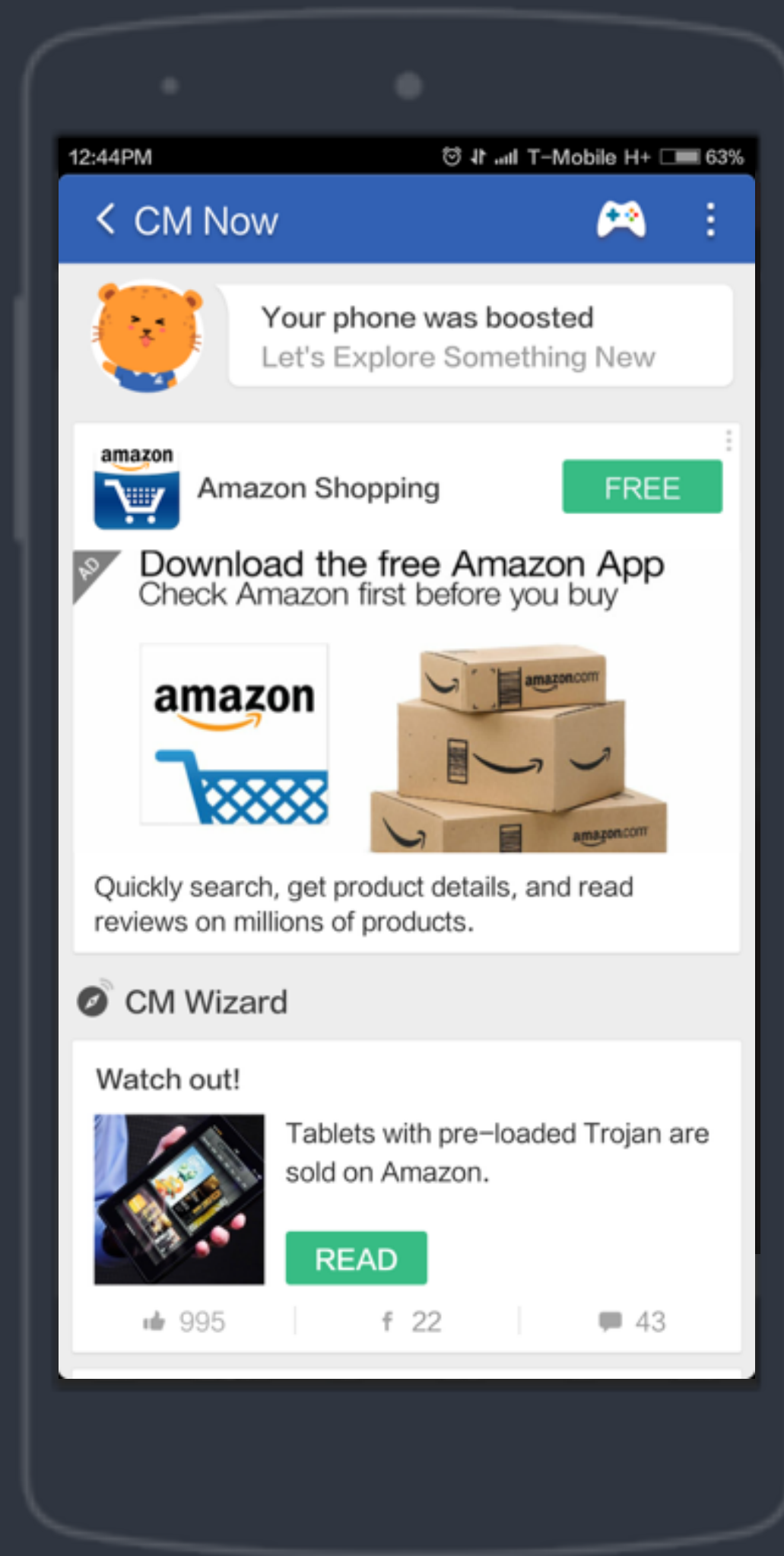
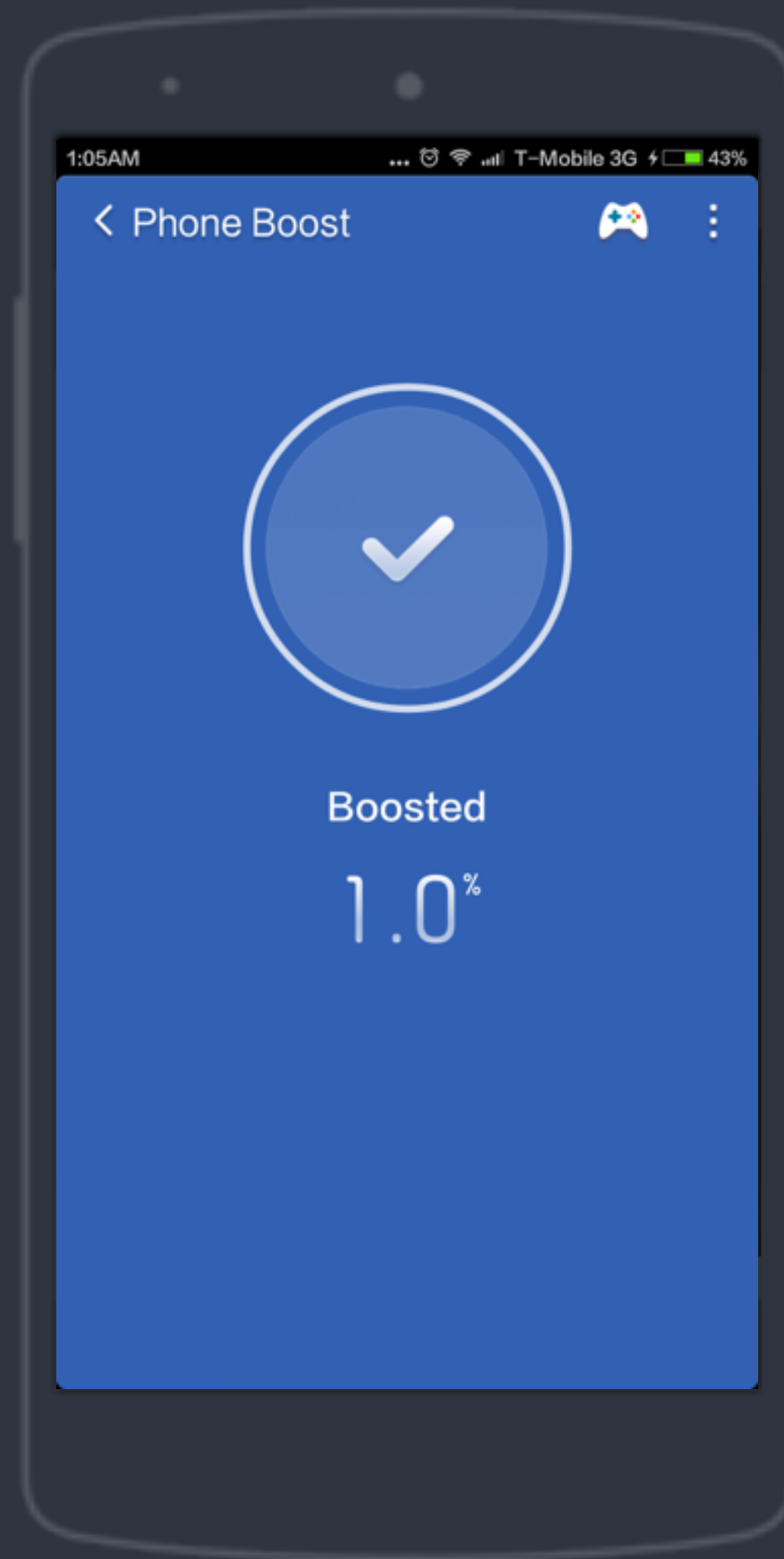


# Users' daily life cycle



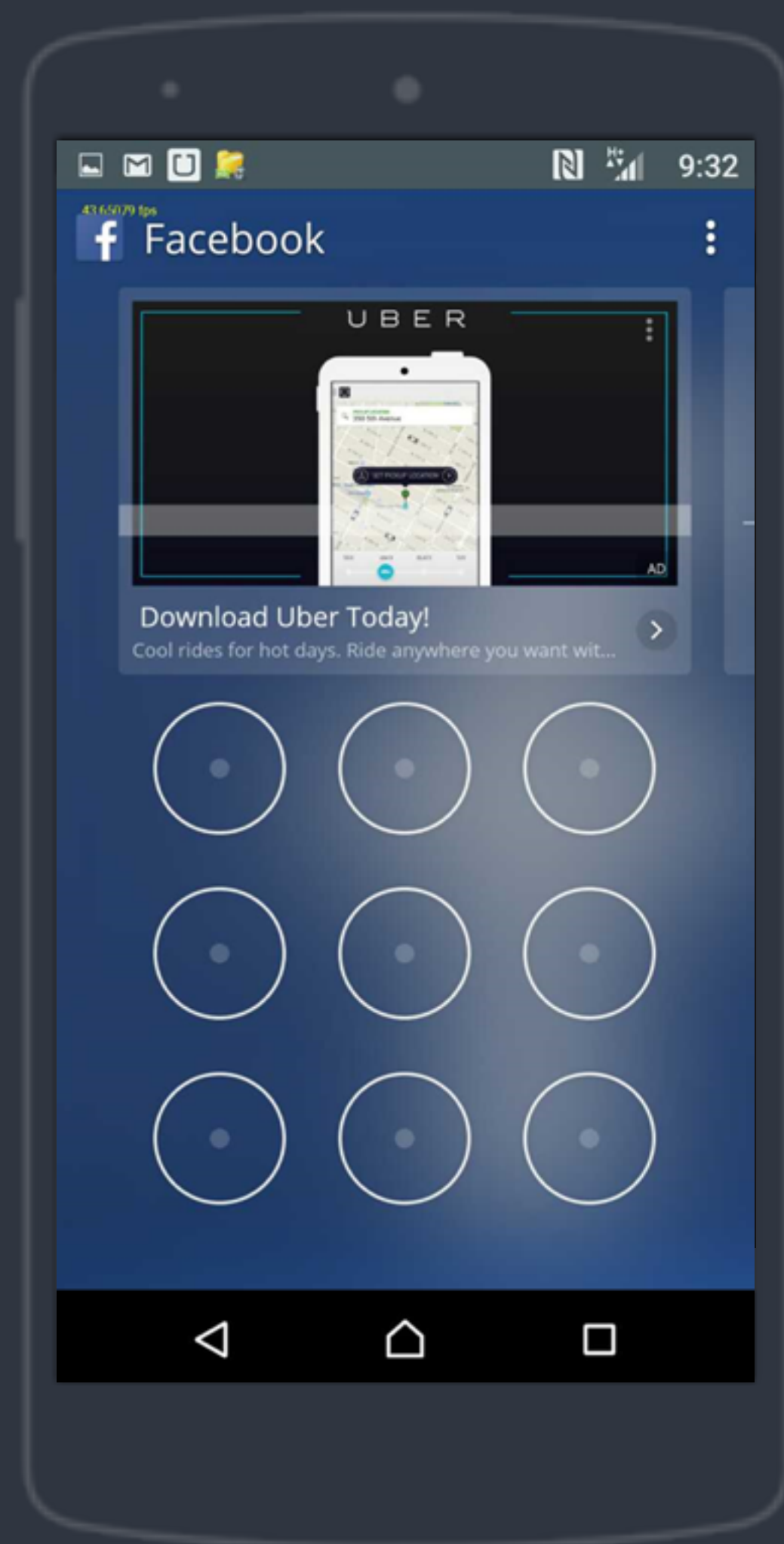
CM Locker: Weather flow

# Users' daily life cycle



Clean Master: Phone boost result page

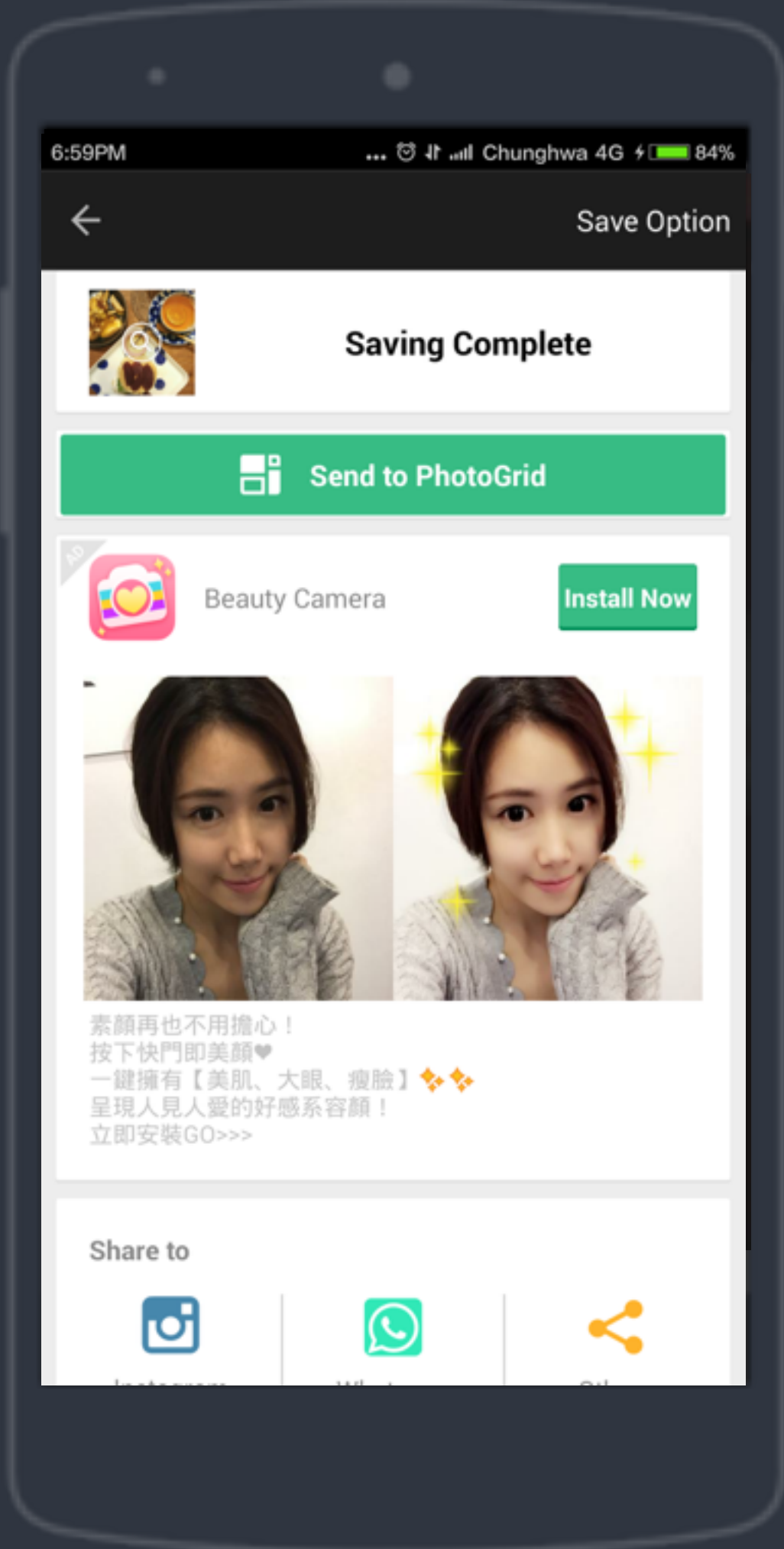
# Users' daily life cycle



CM Security: AppLock



# Users' daily life cycle



PhotoGrid: Result page



# Scenario Design

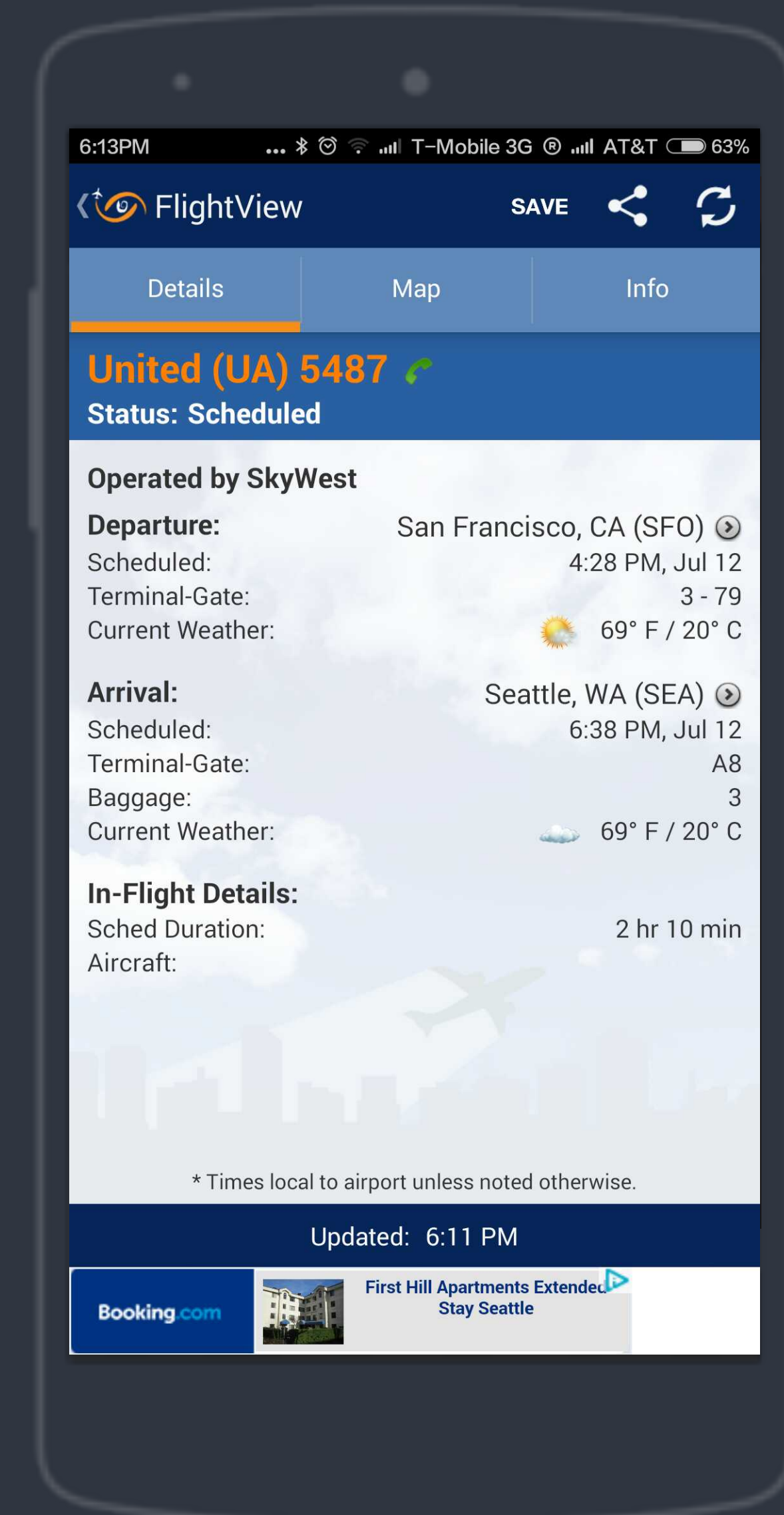
**User  
Behavior  
Flow**

**User's  
Current  
Scenario**

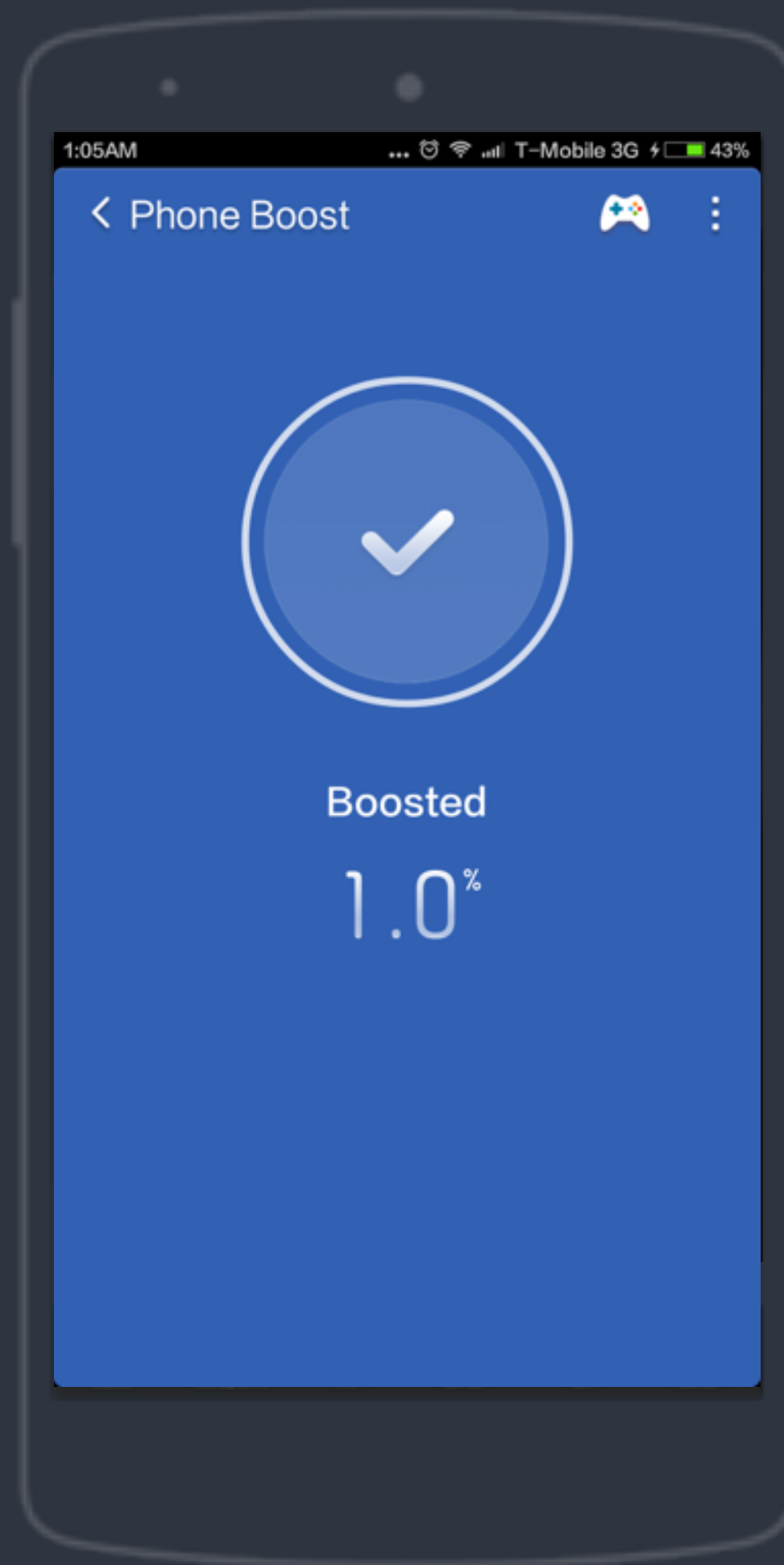


# Relevant Information User's scenario

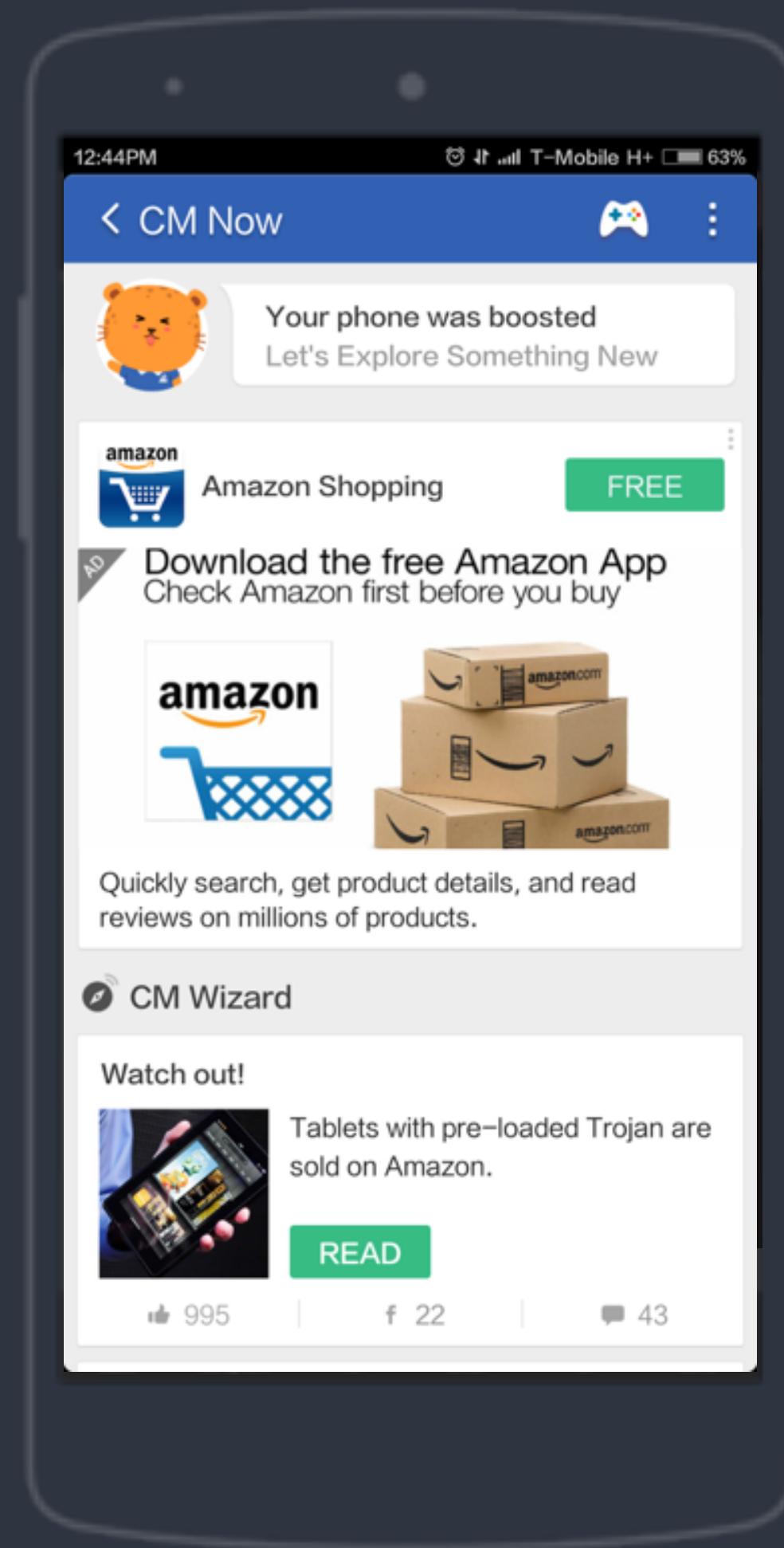
Flight Search  Hotel Info



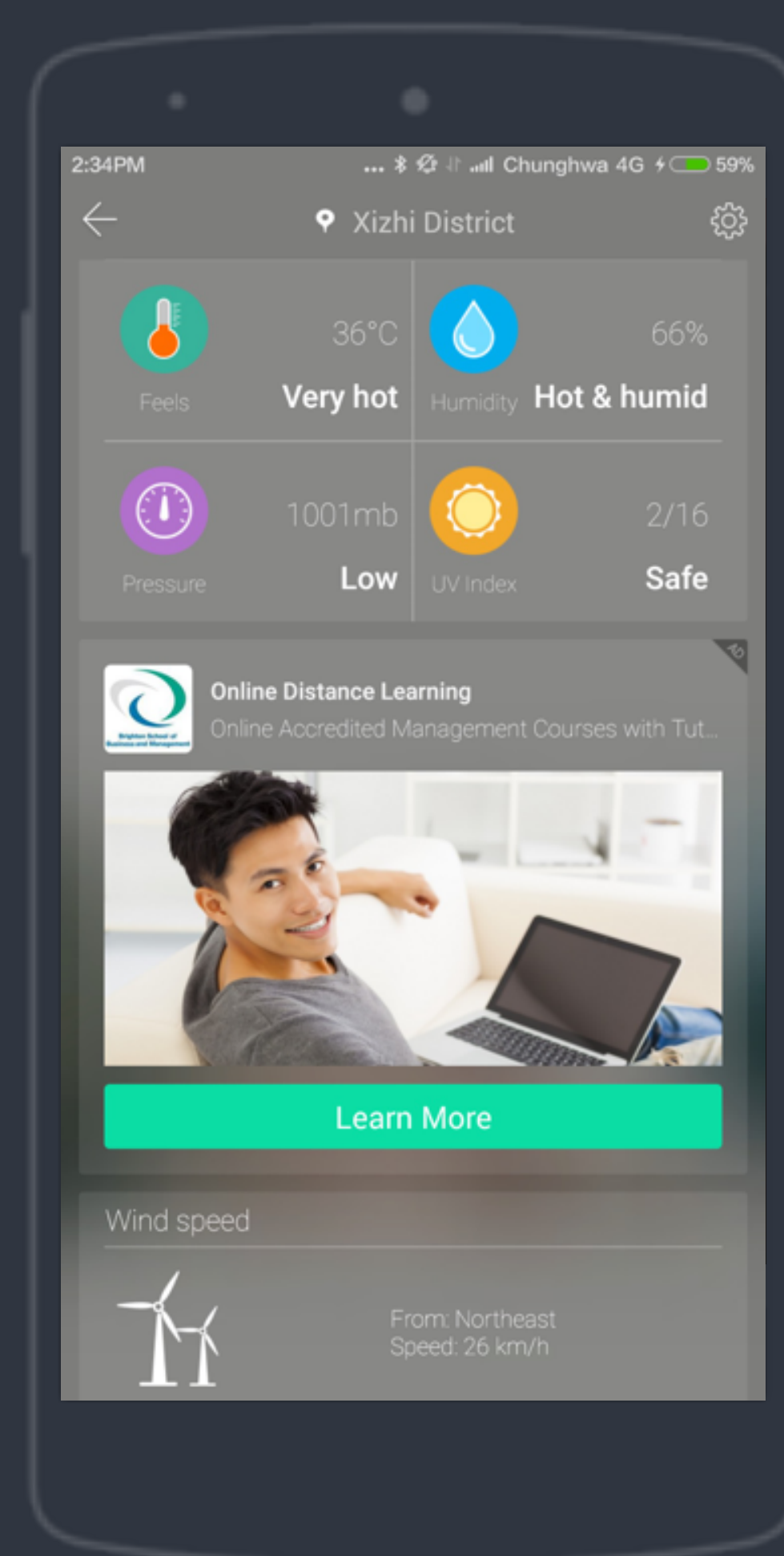
# User Engagement Non-intrusive Placement



Clean Master: Phone boost result



CM Locker's info page





# CM Launcher's News ballon

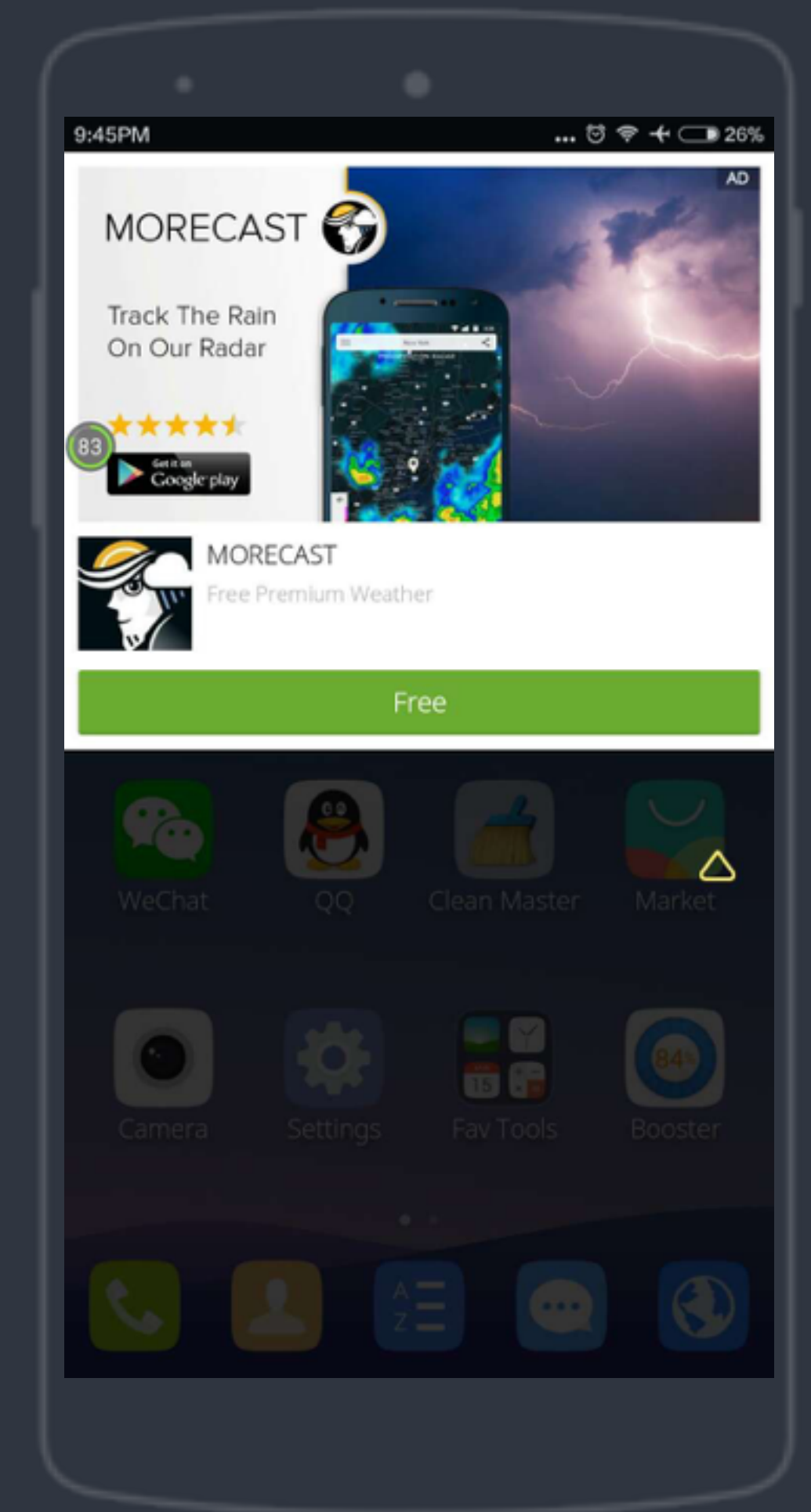
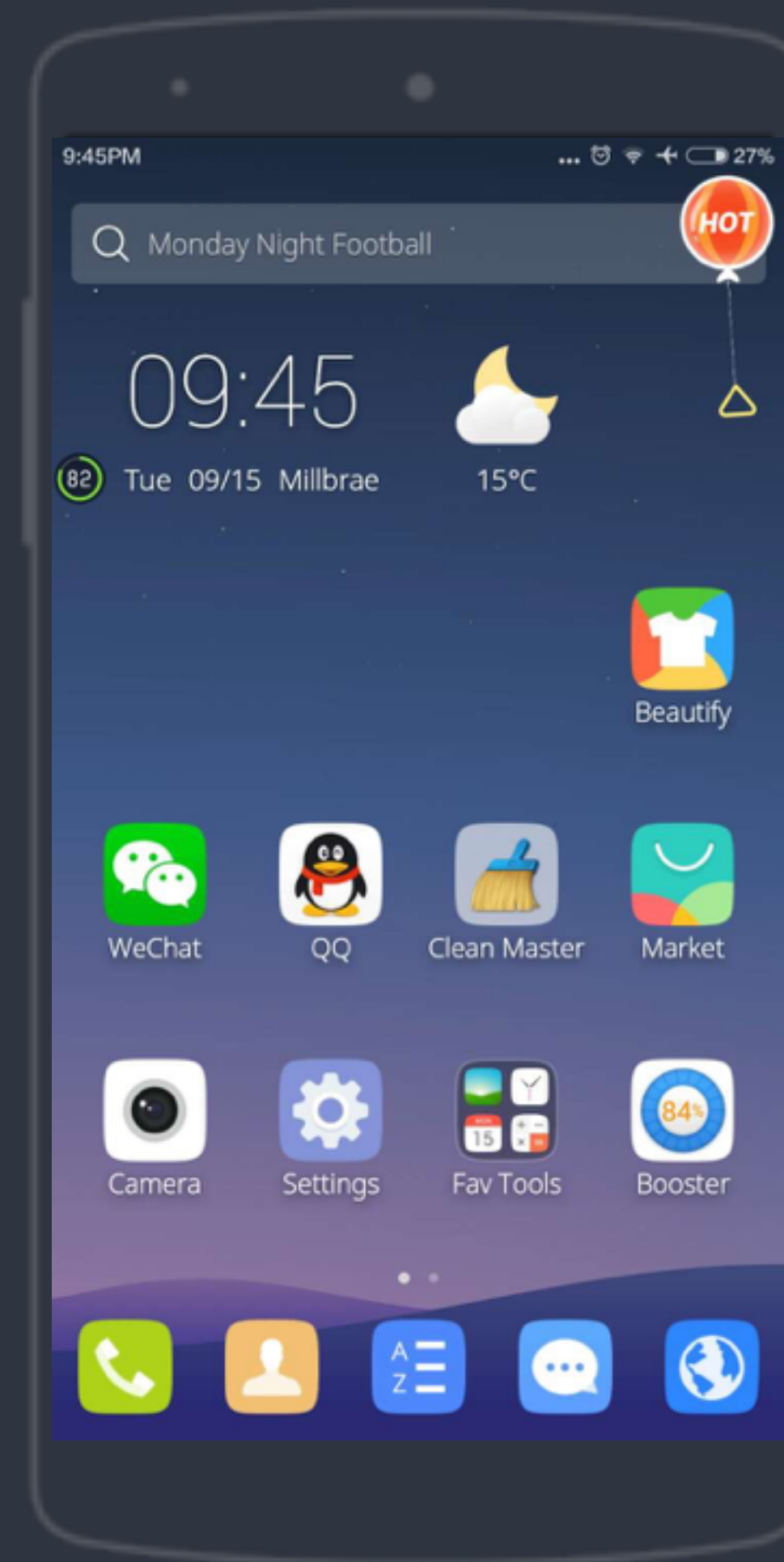
Longer Time on Page



Non-interruptive Placement



User Engagement



**Yet, there's NO such "law" in Scenario Design**



A group of diverse people, including men and women of various ethnicities, are shown in formal attire (tuxedos and gowns) smiling and laughing. The scene appears to be a social gathering or event. The text "What would people do after editing photos?" is overlaid in white on the image.

**What would people do after editing photos?**

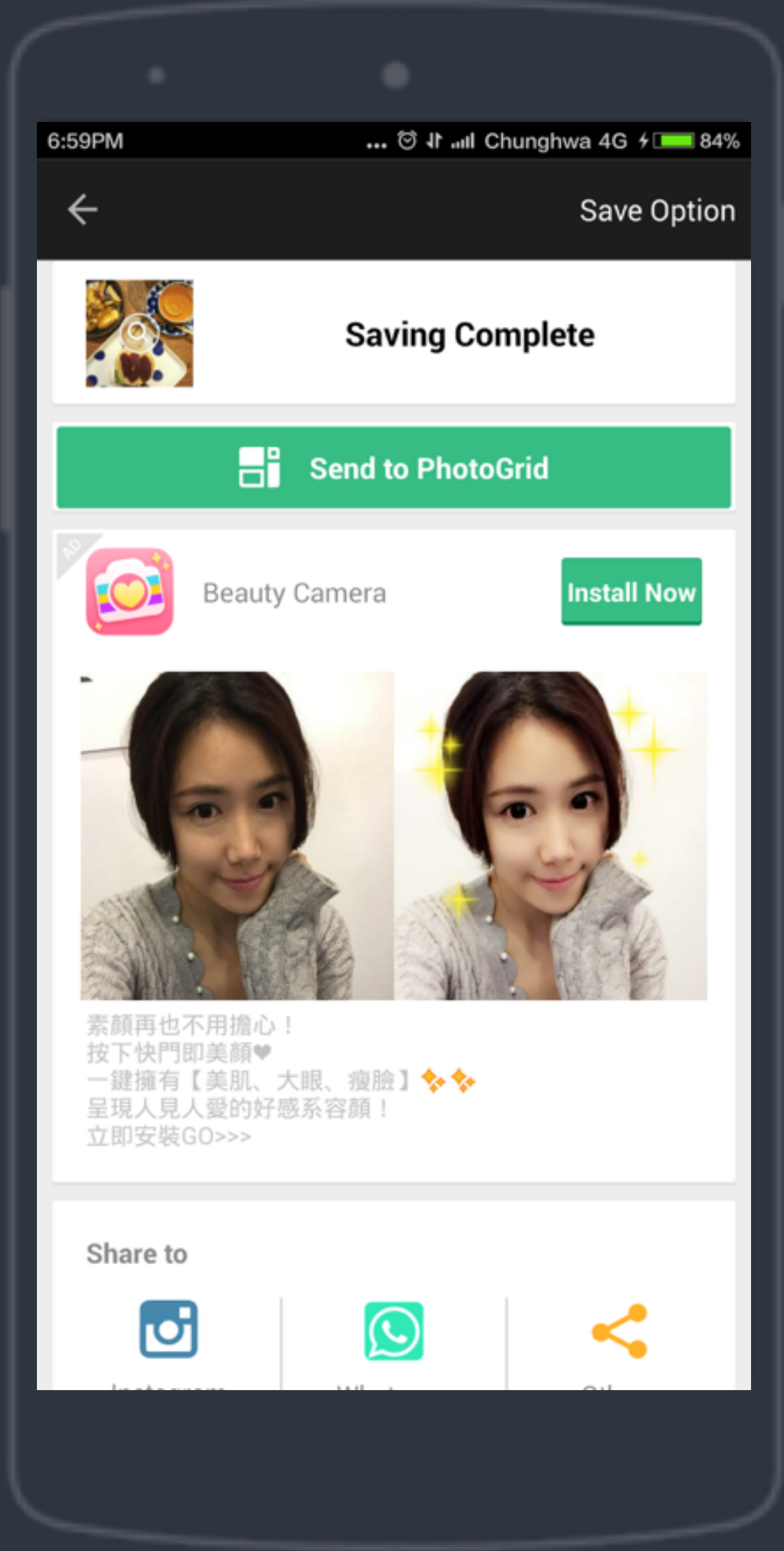


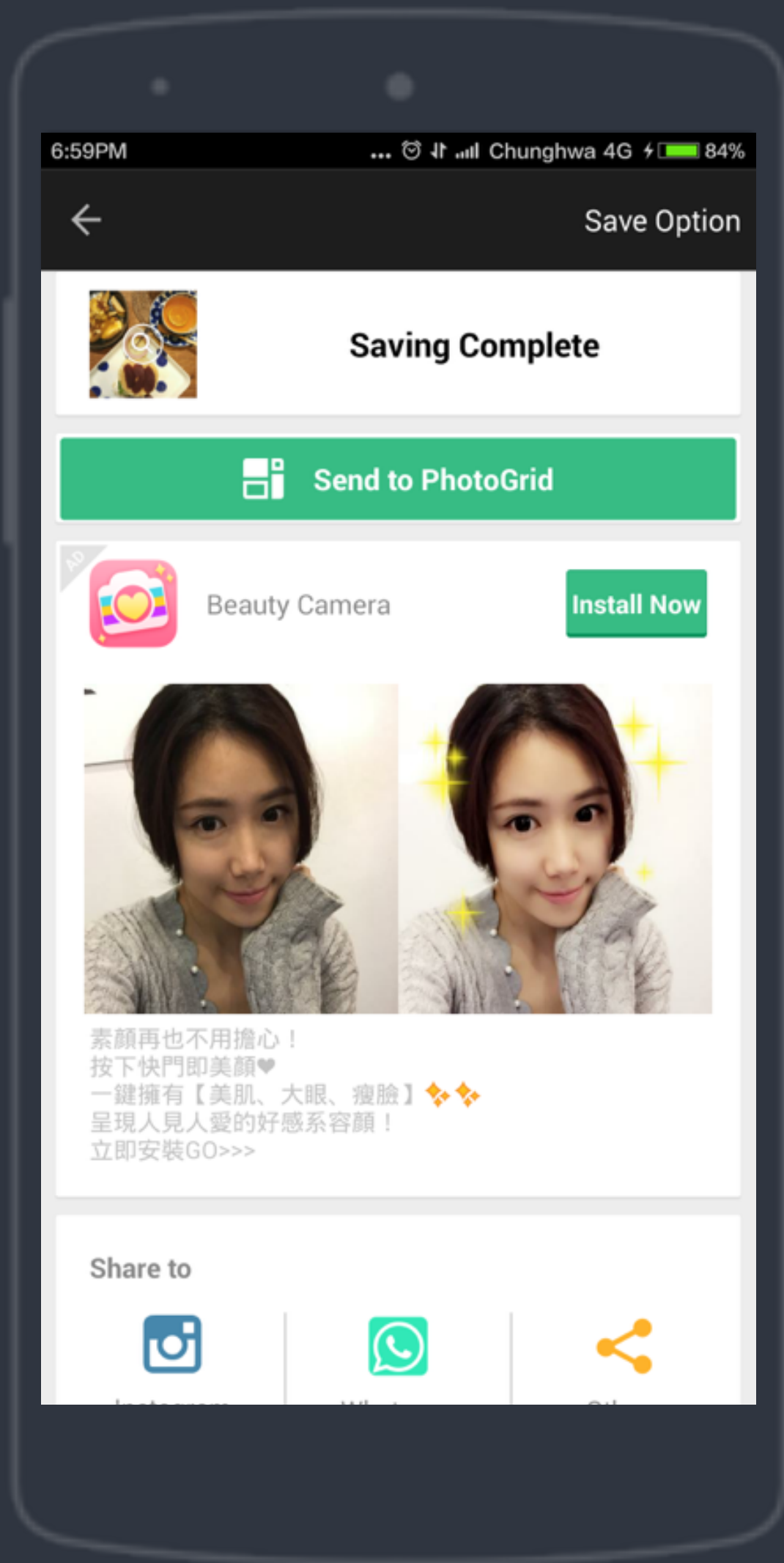
People share immediately either on social media or instant messenger.





User behavior flow cannot be interrupted  
But you can extend it.

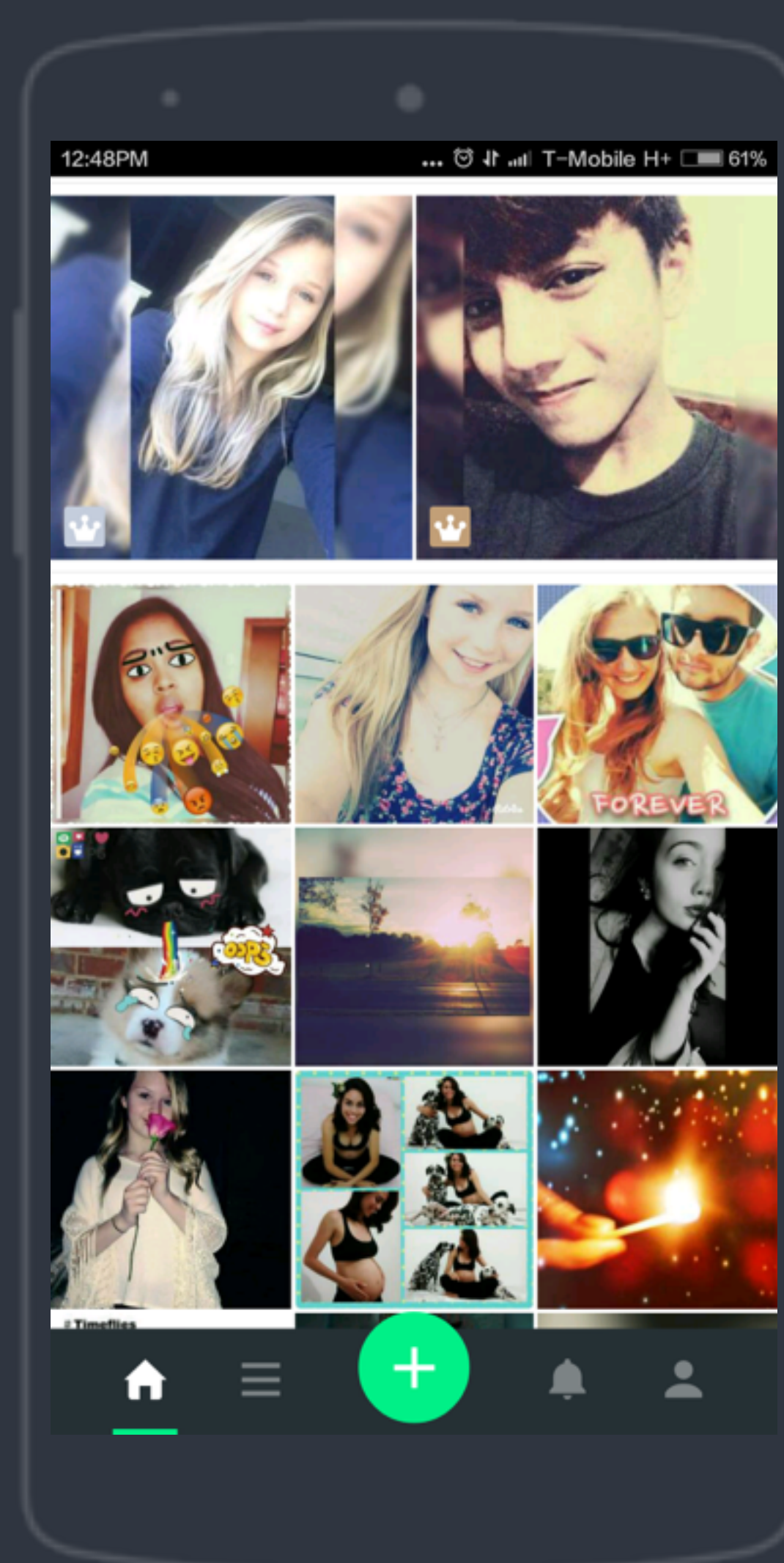




PhotoGrid



Social Media



PhotoGrid  
Community

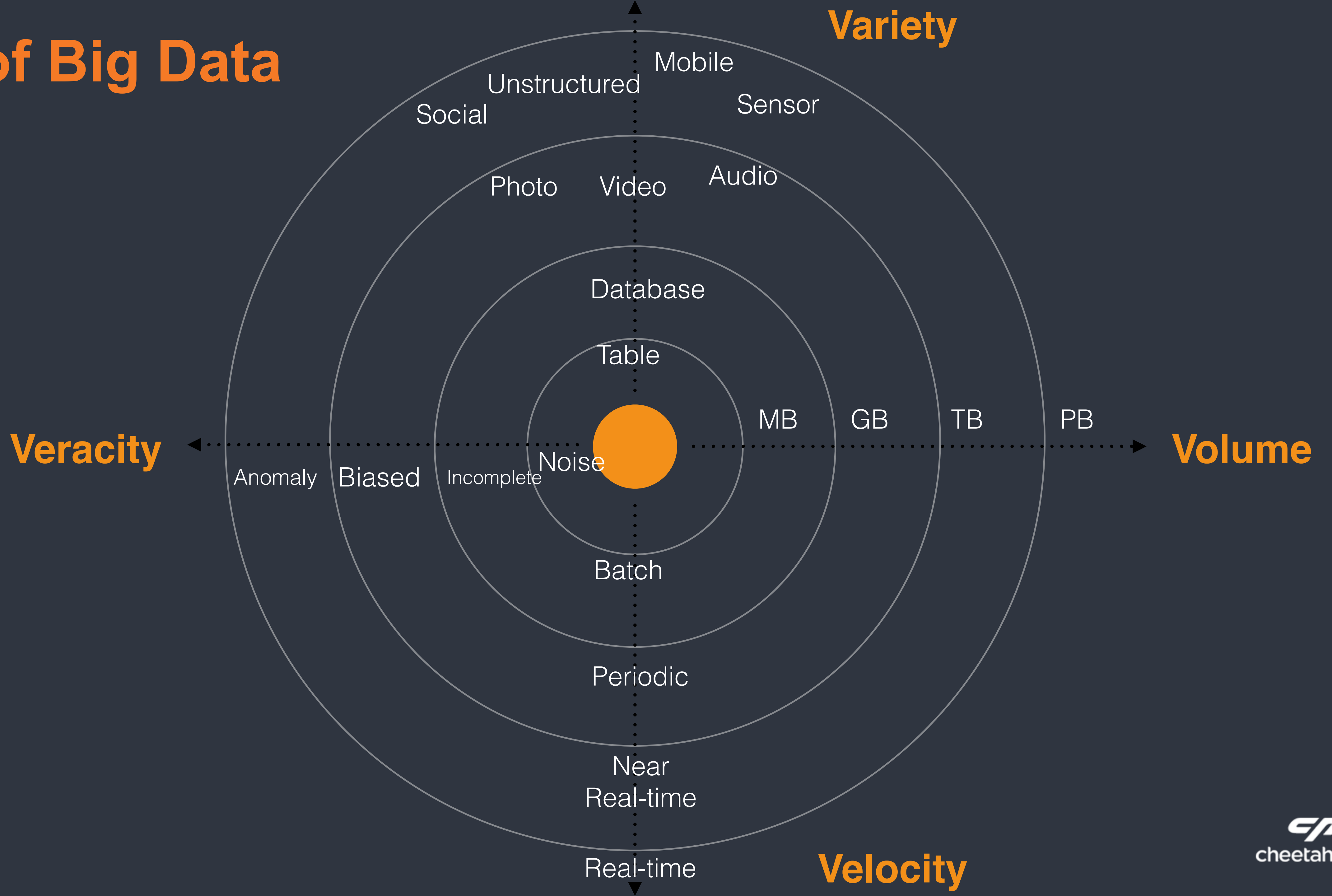


## **Big data is like teenage sex:**

**everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it...**

**- Dan Ariely, a professor of Duke Univ**

# 4V of Big Data





# Big Data plays notable role in Mobile Advertising





Big Data

CM Cloud  
Data



**CPM**  
ad platform

**Demand**

Advertisers  
Ad Network  
Facebook  
Twitter



**Supply**

Cheetah  
Apps



**Advertiser**

**Publisher**





# How to Use Big Data?

## Audience Insights

Raw Data

### Data Mining

Machine Learning  
Many kinds of algorithms



Google Play  
App Category



Interest Tag



Profile



Click Preference

# Big data mining - Algorithms

## Classifier (Supervised Learning)

Logistic Regression

Gradient Boosted Decision Tree

SVM

Neural Network

Naive Bayes

Boosting ...

## Clustering (Un-supervised Learning)

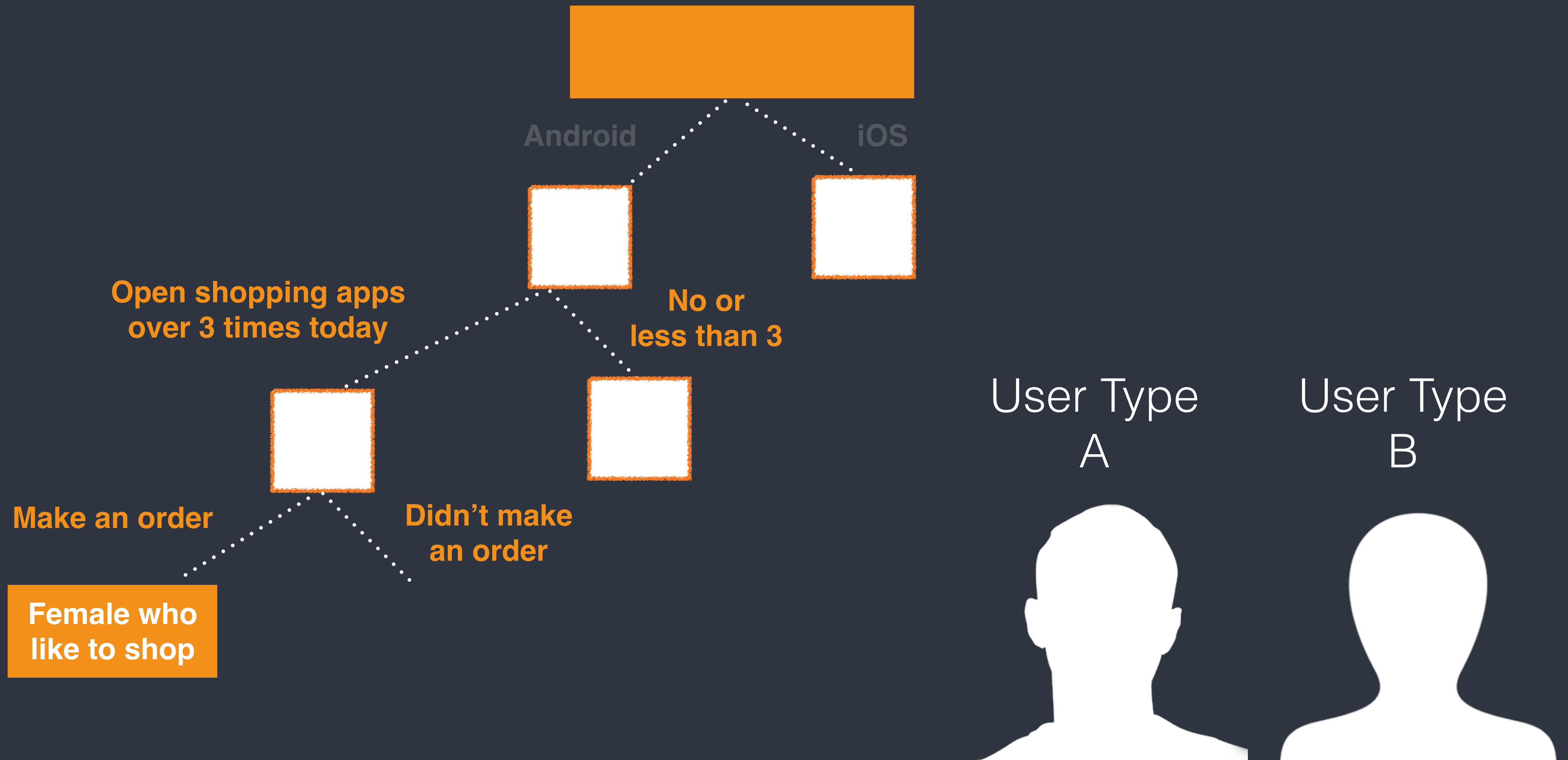
Gaussian Mixture Model

K-Nearest Neighbour

LDA ...

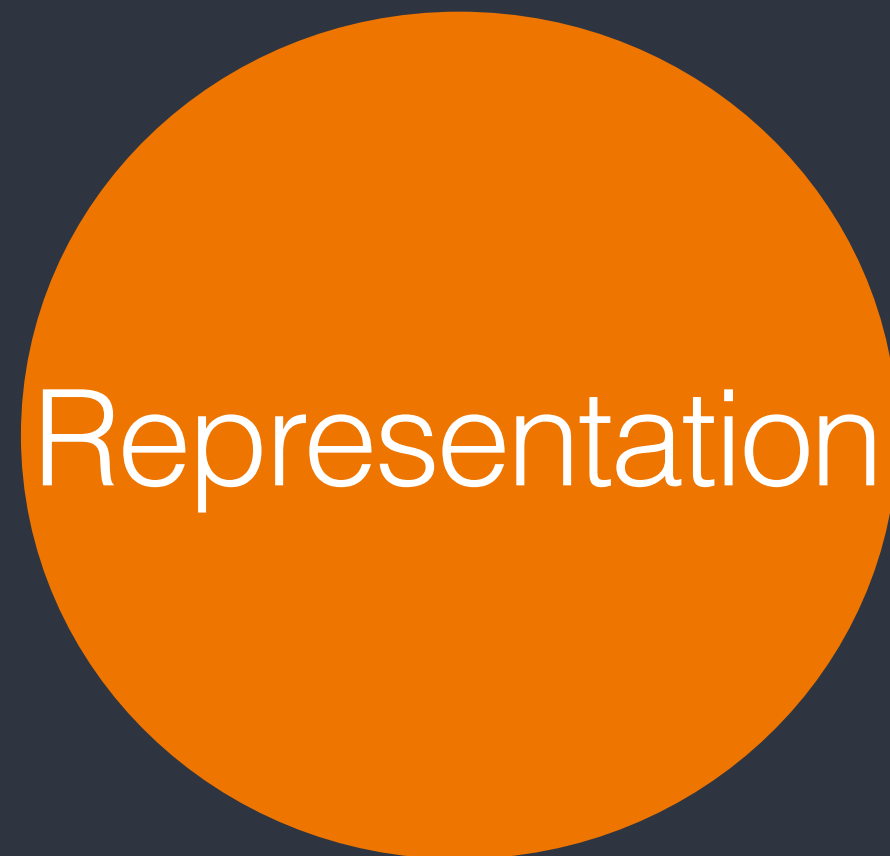


# One of algorithms: Gradient Boosting Regression Trees, GBRT



# What is Machine Learning?

Learning =



Profile



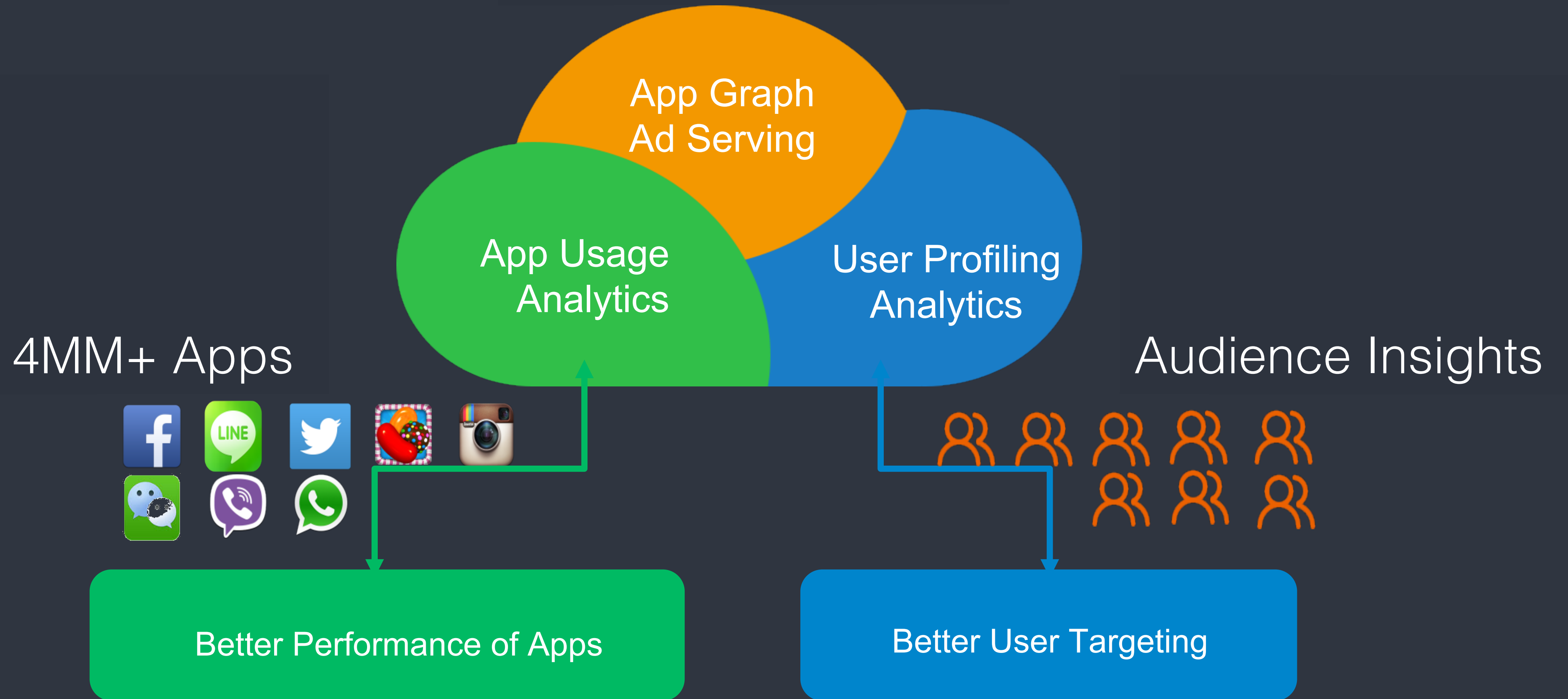
Ad Performance



A/B Testing

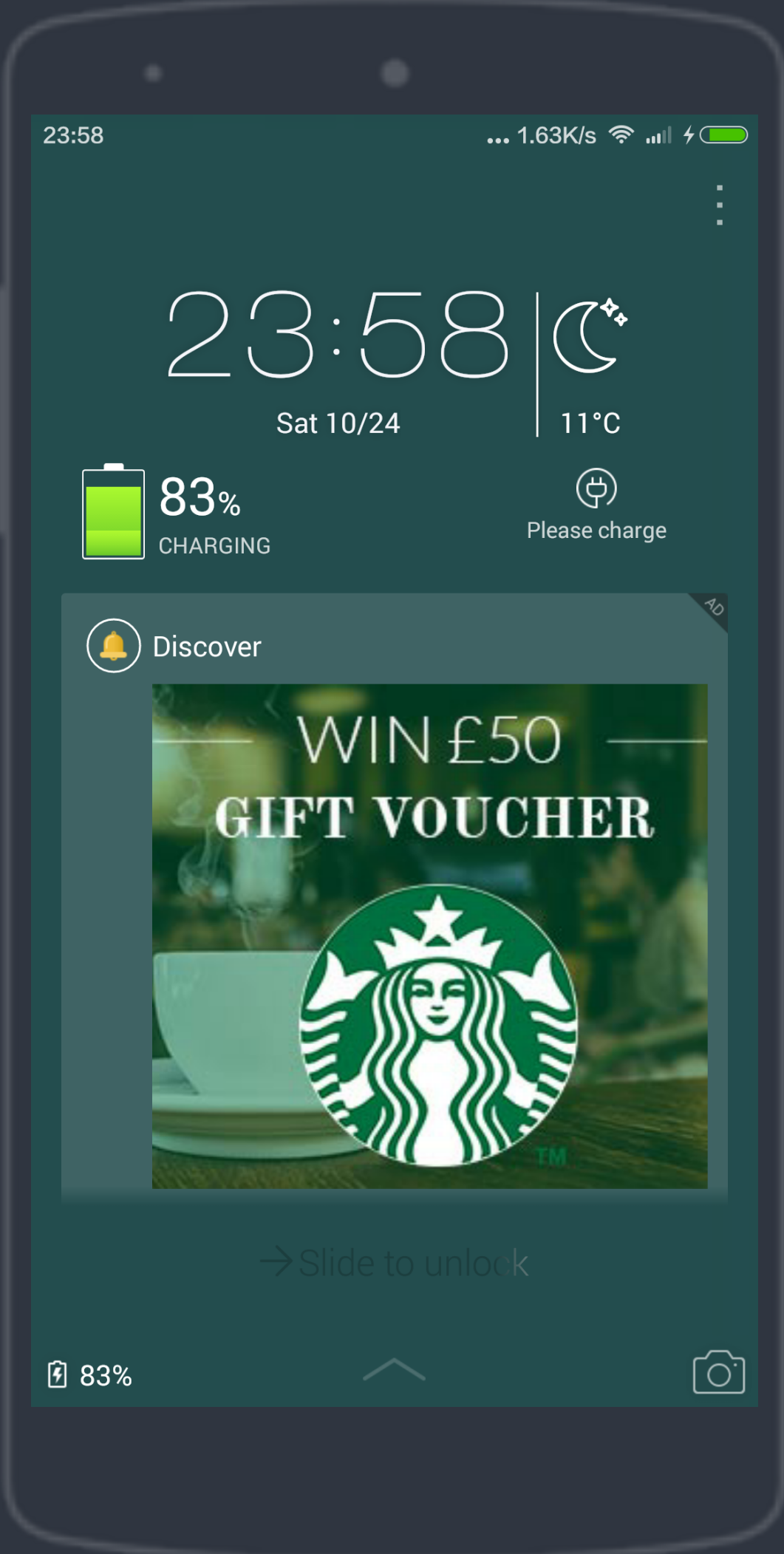


# Cheetah App Cloud





# App Graph Ad Serving - Showroom



An advertisement for Starbucks breakfast. On the left is a menu titled 'Sam' with options: Sausage &amp; Cheddar, Bacon &amp; Gouda, Turkey Bacon, Smoked Bacon, and Spinach and Feta Wrap. The 'Smoked Bacon' option is checked. In the center, a 'New Double Smoked Bacon' sandwich is shown. Text reads 'Find your breakfast at Starbucks. Served all day.' The Starbucks logo is in the bottom right corner.

An advertisement for Airwatch by VMware. The background is blue. The text reads 'airwatch by vmware' and 'The digital workspace is here.' A 'Learn More' button is at the bottom.

An advertisement for an Electrolux event. It features a cordless stick vacuum cleaner. Text includes 'Electrolux', 'NEW 일렉트로룩스 파워 무선 청소기 증정', '파워업이벤트', and '30% 파워업'. A button at the bottom says '이벤트 참여하기'.

An advertisement for the BMW X1. It shows a white SUV parked by a waterfront. Text reads 'THE ALL-NEW BMW X1.' and 'Find out more'. The BMW logo and 'BMW Malaysia' are also visible.

An advertisement for KFC's Popping Candy Krushers. The background is red. Text reads 'Get it popping with Popping Candy Krushers' and 'Find out more'. The KFC logo and 'KFC sogood' are at the bottom. A Krusher drink is shown on the right.

An advertisement for McDelivery. It features icons for fries, a burger, and a drink, each connected to a computer keyboard and mouse. Text reads 'CLICK. ENJOY.' and 'McDelivery.ae'. The McDonald's logo and 'McDelivery' are at the bottom.



# Audience Insights from Mobile Behavior and Consumption



Social Data Model



Mobile Usage Derived Model



# Converting Data into Audience Insight



**Profile Targeting:**  
Ad Display Based on **App Usage Graph**



**In-App Tracking:**  
In-app events like purchases and sign-ups are attributed to the media source

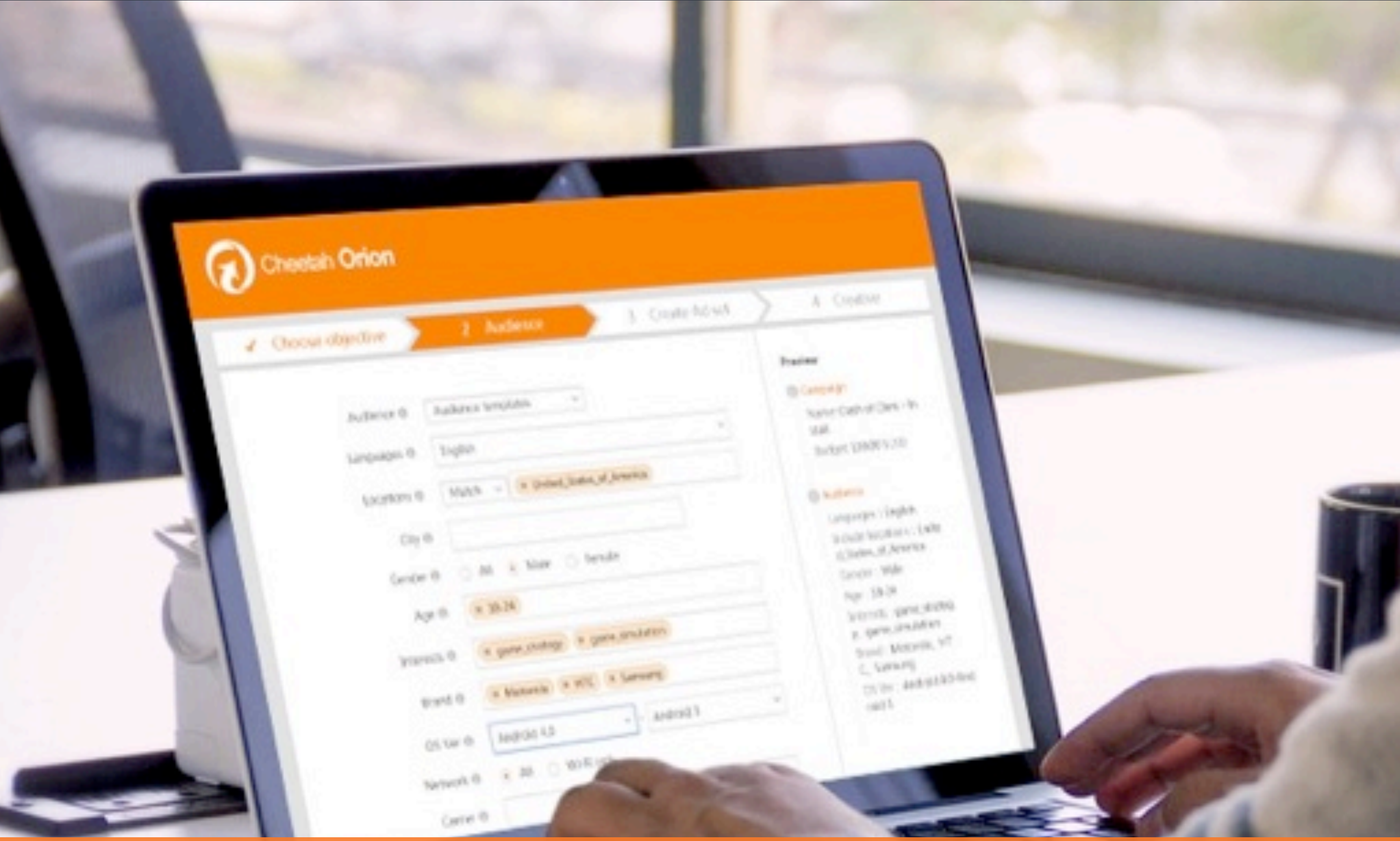


**DataSync Optimization:**  
Campaign data gets smarter by the second to increase ROI



**Retargeting:**  
Re-engage users to return to your app with targeted campaigns





**Leverage Cheetah Orion for Precise Audience Targeting**

## Select the Right Audience



42+ proprietary tags



Psychographics/  
Demographics/Consumer  
Behavior



Device/OS/Carrier



Localization



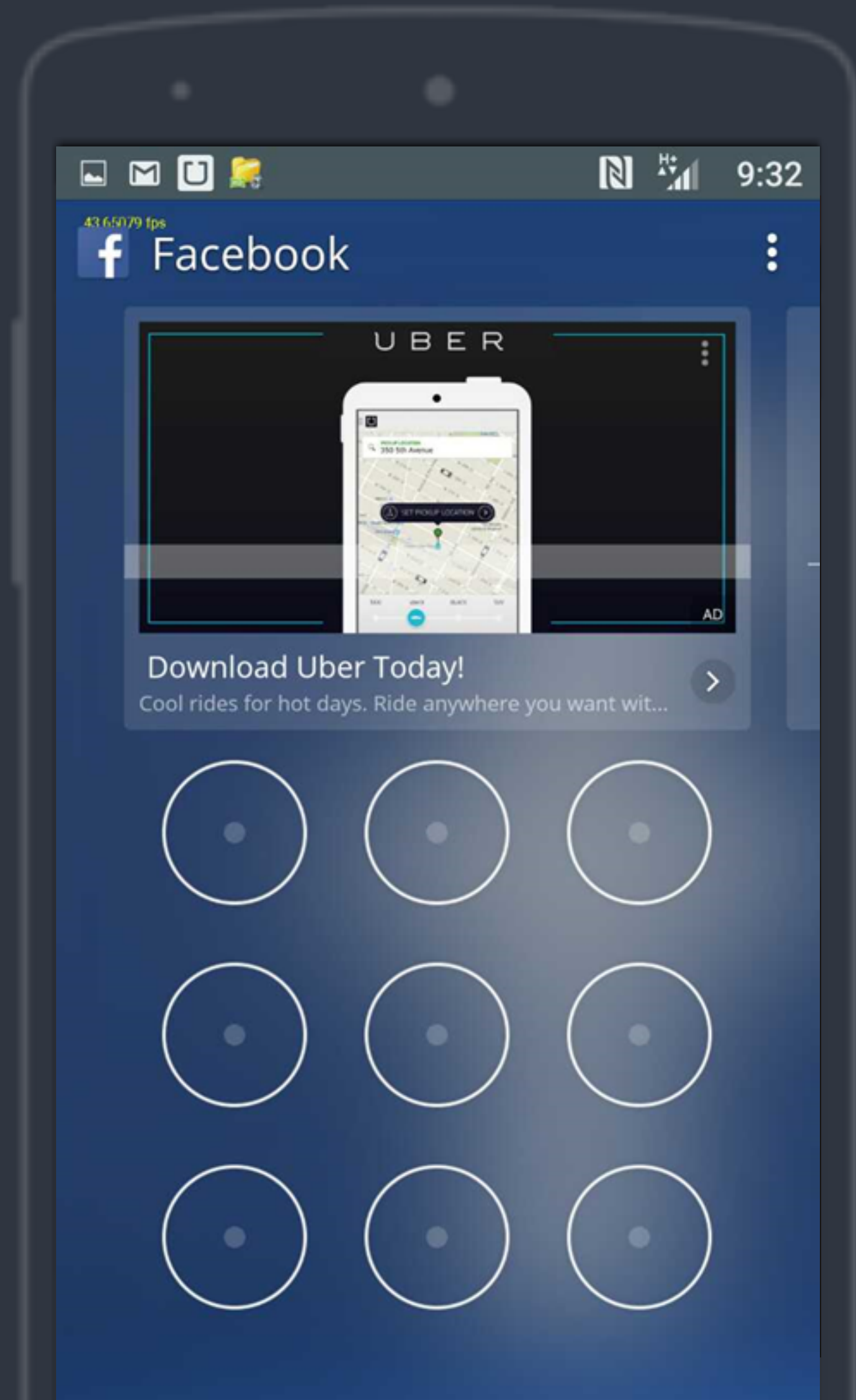
Purchase & Engagement  
Patterns



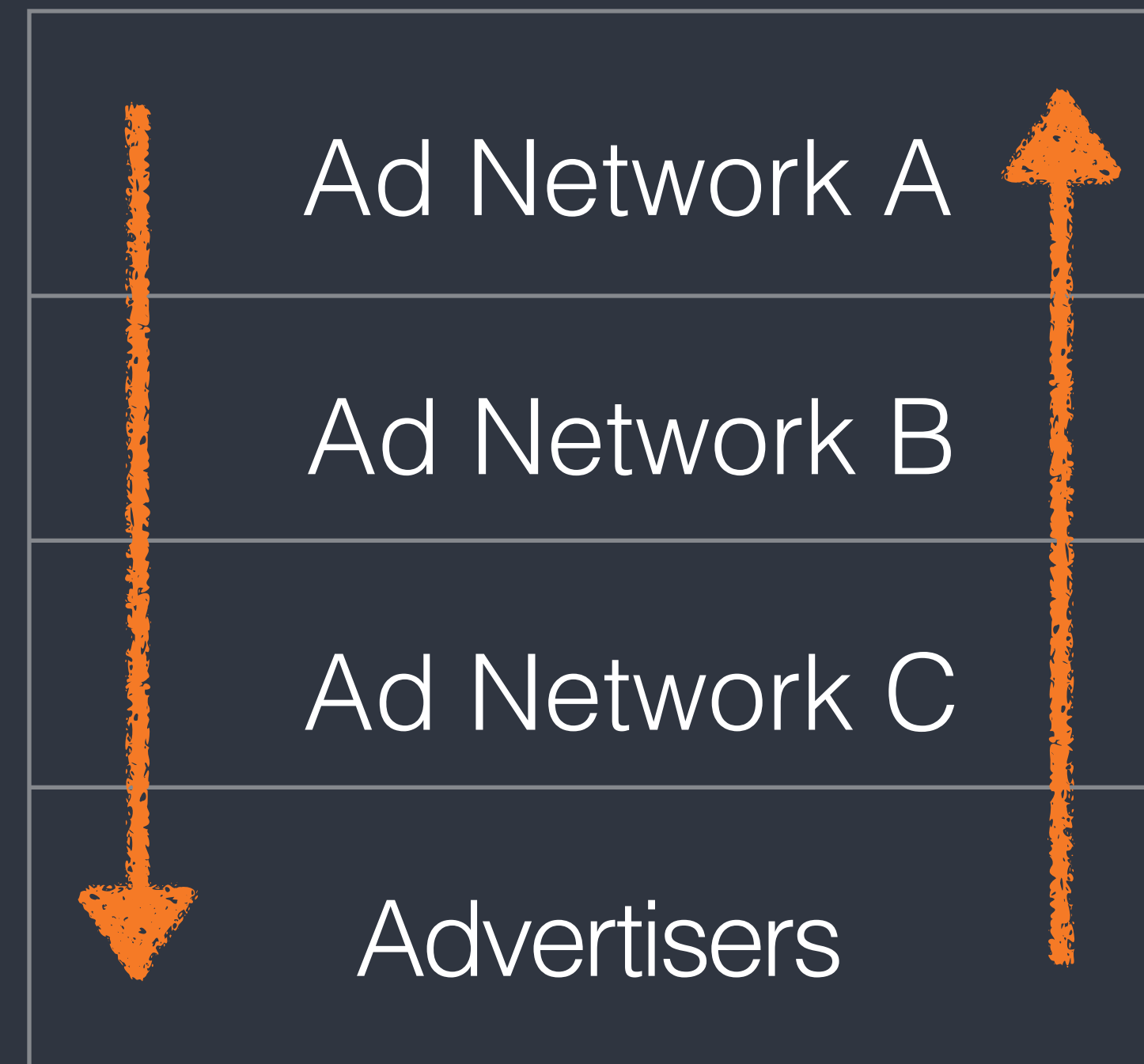
Predictive algorithm



# Yield Optimization - eCPM Comparison



eCPM





Thanks.



[arther@cmcm.com](mailto:arther@cmcm.com)