

# Pinar Google ANDROID Yue Harris



# Google ANDROID

Pinar Yue Harris

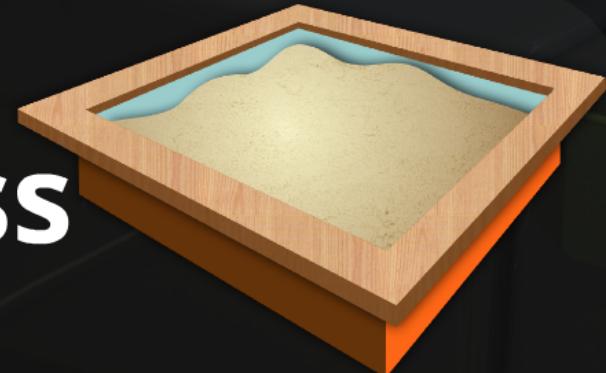


# Agenda

- Sentiment Analysis of Mobile OS
- Analysis of Competitors
- Comparison of Source & Sentiment
- Targeted User Groups
- Lead Users
- Suggestions
- Limitations & Next Steps



# Data Collection Process



Collection of a  
Training Dataset  
~ 1,500 Tweets

Collection of  
Main Dataset  
14,869 Tweets

Collection of  
Second Dataset  
15,529 Tweets

Source & Topic of  
Tweets  
Categorization

Sentiment  
Analysis

~~Results  
Confirmation~~

# Technologies Used



python Data Collection



Data Analysis & Classification



Natural Language Processing

# OS Considered in Data Collection

Android OS

iOS

Blackberry OS

Windows Phone



# Data Collected From Tweets

Tweet Content

Source of the Tweet

User ID

# of Followers  
(& More...)



# Source of Data Collected

Source of Tweet:

Android 4,894

iPhone 4,348

BlackBerry 3,393

Windows Phone 102

Mobile (Unknown) 1,516

30,398 tweets collected

Web Source 9,767

Business Suites 3,433

Mac 366

Ufos 307

Japansource 72

Not Identified 2,238 (7.4%)

# Topic of Tweets Collected

Android	10,100
Android & iOS	2,602
Android & iOS & BlackBerry	408
Android & BlackBerry	136
Android & iOS & Windows Phone	66
All Operating Systems	28
Android & Windows Phone	20
Android & Blackberry & Windows Phone	4
Blackberry	10,297
iOS	5,110
iOS_BB	926
Windows Phone	18
iOS & Windows Phone	10
BlackBerry & Windows Phone	6
iOS & BlackBerry & Windows Phone	4
NoTweetKeywords	0(562)



# Sample of Tweets Collected

User	Tweet	# Followers	Source	Topic	Sentiment Class
Afeeqnzwani	So many typo when I'm using android. Damn.	510	BlackBerry	Android	negative
maisassygirl	Apologies for my shitty blackberry photos..new iphone tomorrow! Can't wait!!	3859	BlackBerry	iOS_BB	positive
sidlowe	Blackberry: the world's best advert for iphone	107855	BlackBerry	iOS_BB	positive
RaxTheDJ	@Fina_is4u I'm dedicated to Apple... Android annoys me...	242	iOS	Android	negative
erikdavidjensen	@Kay_Fin forreals. I miss my android :(	292	iOS	Android	positive

# Sentiment Analysis Metric

Create a Unified Metric to Compare  
Users Perceptions

$$OS\ Satisfaction\ Score = \frac{\sum_{k=0}^n Positive\ Tweets}{\sum_{j=0}^m Negative\ Tweets}$$

Satisfaction Score = 0; People hate it!

Satisfaction Score = 1; People are indifferent

Satisfaction Score > 1; People like it!

# Source & Topic of Tweet

Topic

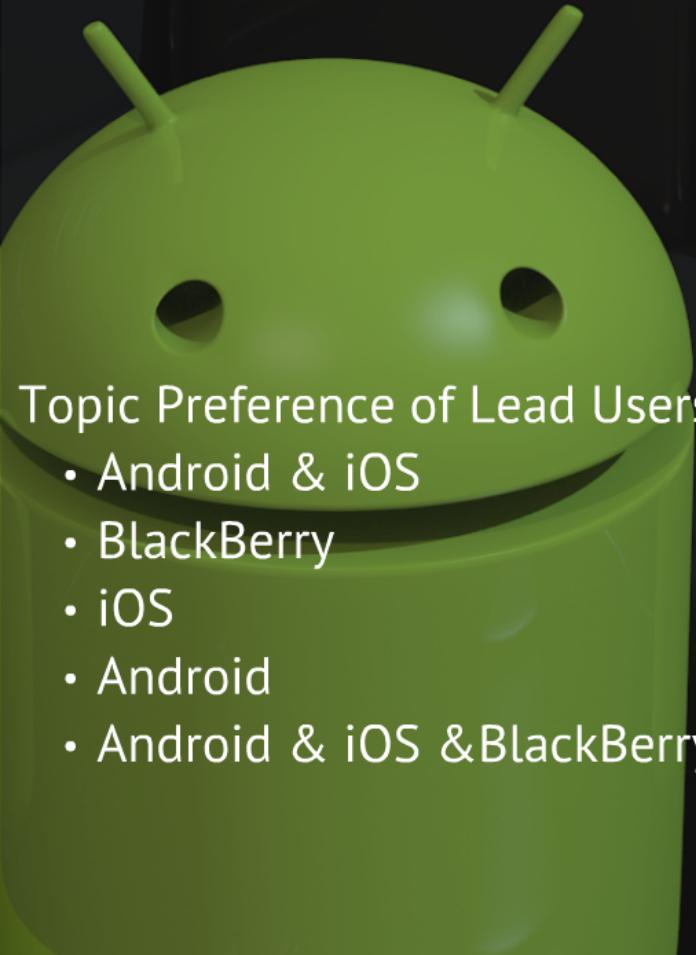
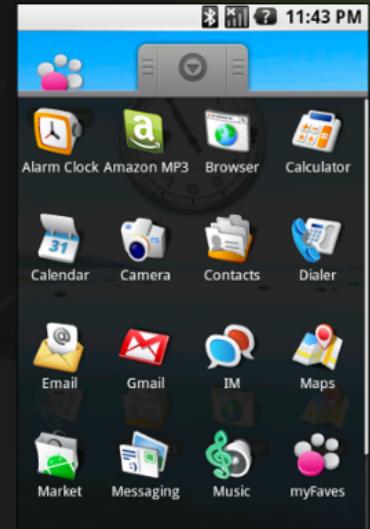
Source

	Android	iOS	BlackBerry
Android	1.25	0.77	0.97
iOS	0.81	2.21	0.28
BlackBerry	3.88	3.87	0.16

Satisfaction Score = 0; People hate it!  
Satisfaction Score = 1; People are indifferent  
Satisfaction Score > 1; People like it!

# Lead Users

	Min	1 <sup>st</sup> Qu.	Median	Mean	3 <sup>rd</sup> Qu.	Max
All	0	86	266	5,114	854	4,546,000
Lead Users	42,340	59,470	78,110	394,400	180,200	4,546,000



Source	# of Lead Users
Web	125
Business Suites	72
Not Identified	46
iOS	19
Mac	12
BlackBerry	10
Android	9
Japanese Source	1

# Suggestions for ANDROID

- Focus on BlackBerry Customers
- Create Services that Might Attract Lead Users
- Create an Android-Based Business Suite

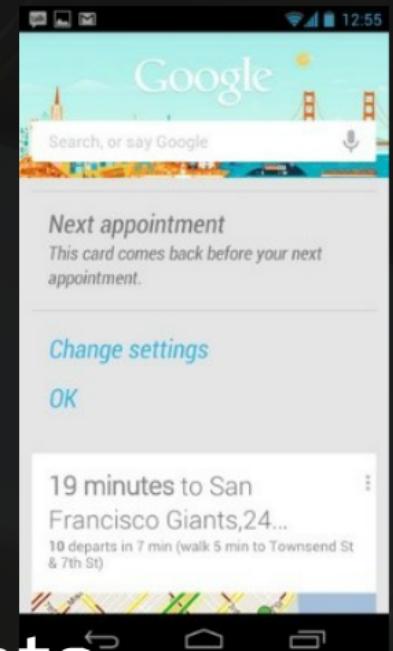


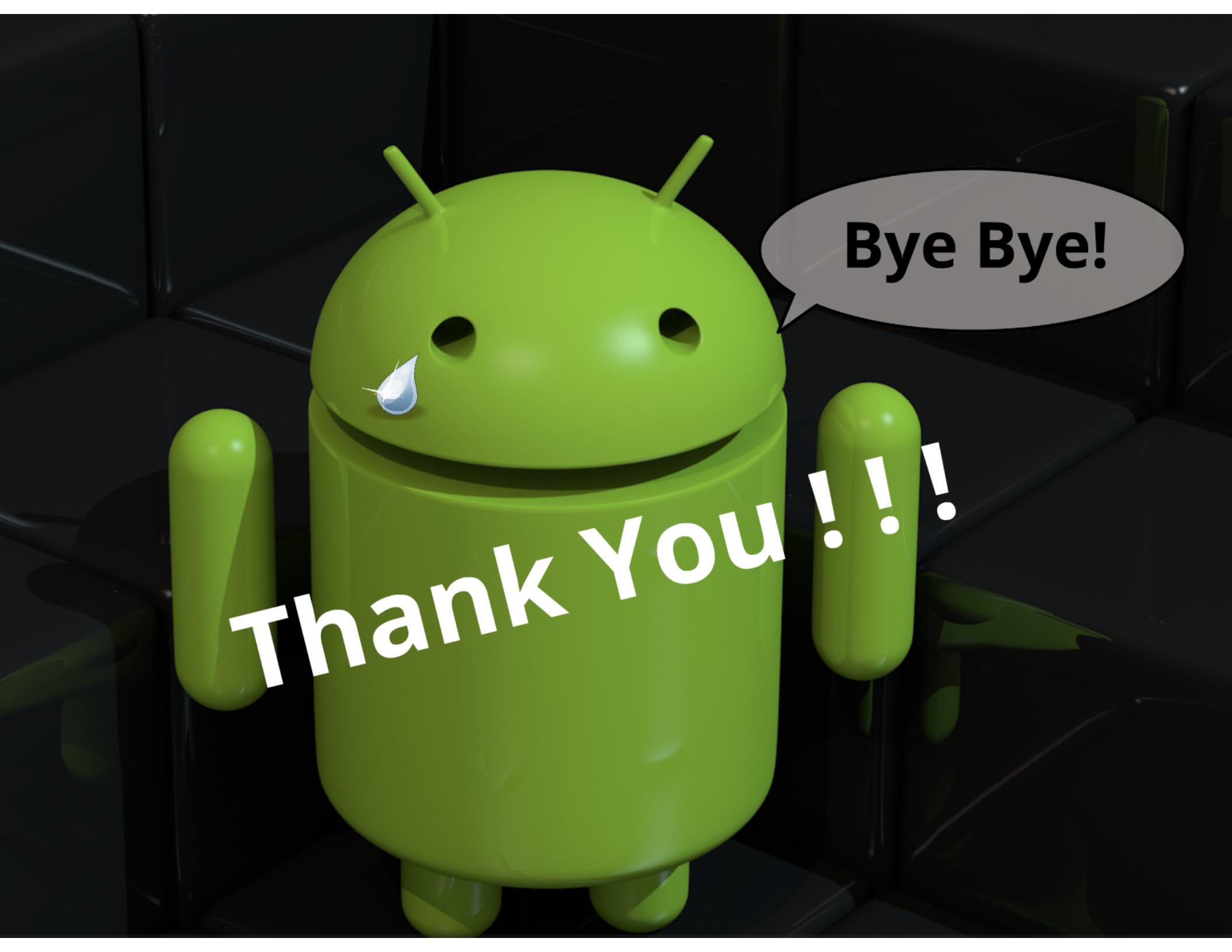
# Limitations of Study

- Random Sampling (2 sets \* 8 Hours)
- Further Cleaning of Tweet Content
- Natural Language Processing Limitations

## Next Steps

- Network Analysis of User Groups
- More Popularity Metrics
- Identification of Automated Tweets



A 3D rendering of the Android robot, a green humanoid figure with a simple face and two antennae. It has a single blue teardrop falling from its left eye. A large, semi-transparent white speech bubble originates from its mouth. Inside the bubble, the text "Bye Bye!" is written in a bold, black, sans-serif font.

**Bye Bye!**

**Thank You !!!**