IN CONCLUSION:

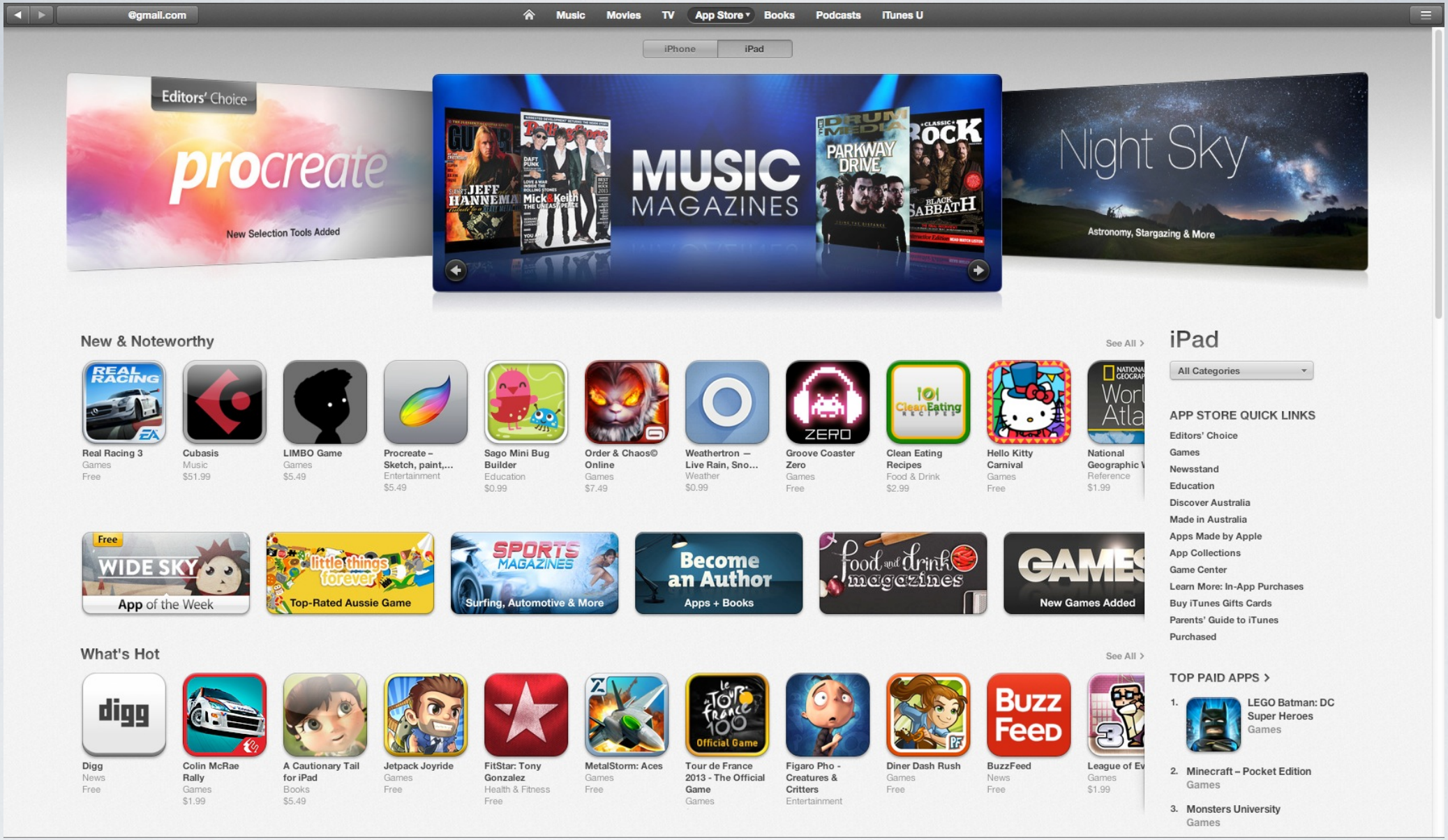
Most reviews do not contain actionable insight.

In 2008, Apple launched The App Store, opening up mobile app development to third parties. In addition to being a single point distribution system, it offers a public review system for users to rate apps they have purchased and used.

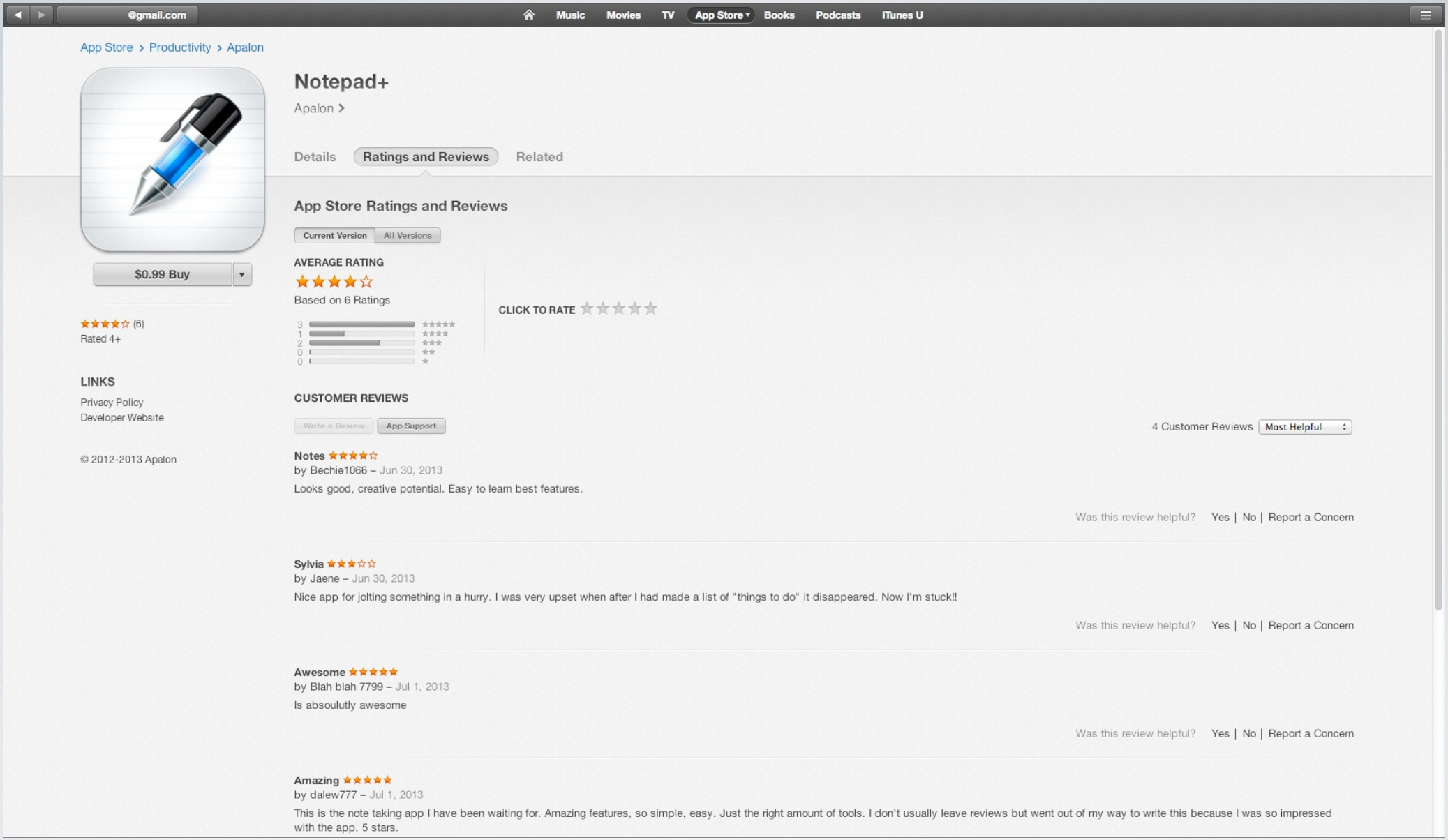
EXTRACTING SIGNAL FROM THE NOISE OF USER REVIEWS

Leonard Hoon

Faculty of Science, Engineering and Technology,
Swinburne University of Technology,
Melbourne, Australia.



THE APP STORE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Developer Website
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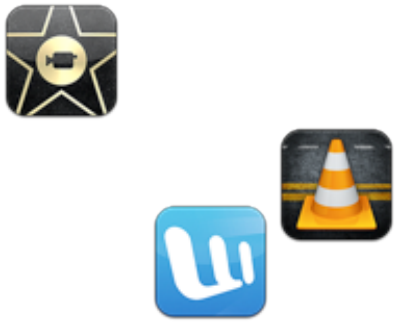
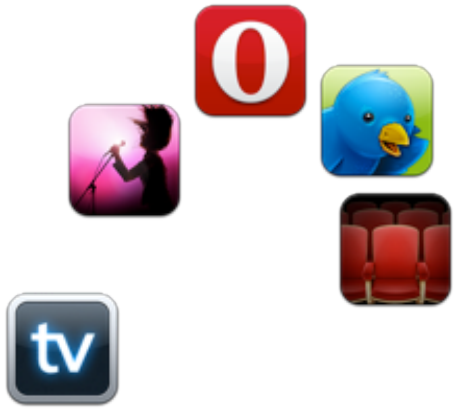
CUSTOMER REVIEWS
Write a Review
App Support
4 Customer Reviews
Most Helpful
Notes
by Bechie1066 – Jun 30, 2013
Looks good, creative potential. Easy to learn best features.
Was this review helpful? Yes | No | Report a Concern
Sylvia
by Jaene – Jun 30, 2013
Nice app for jolting something in a hurry. I was very upset when after I had made a list of "things to do" it disappeared. Now I'm stuck!!
Was this review helpful? Yes | No | Report a Concern
Awesome
by Blah blah 7799 – Jul 1, 2013
Is absoulutly awesome
Was this review helpful? Yes | No | Report a Concern
Amazing
by dalew777 – Jul 1, 2013
This is the note taking app I have been waiting for. Amazing features, so simple, easy. Just the right amount of tools. I don't usually leave reviews but went out of my way to write this because I was so impressed with the app. 5 stars.

APP REVIEWS

A (NEW) HOPE

The App Store affords a Feedback Loop

USER FEEDBACK

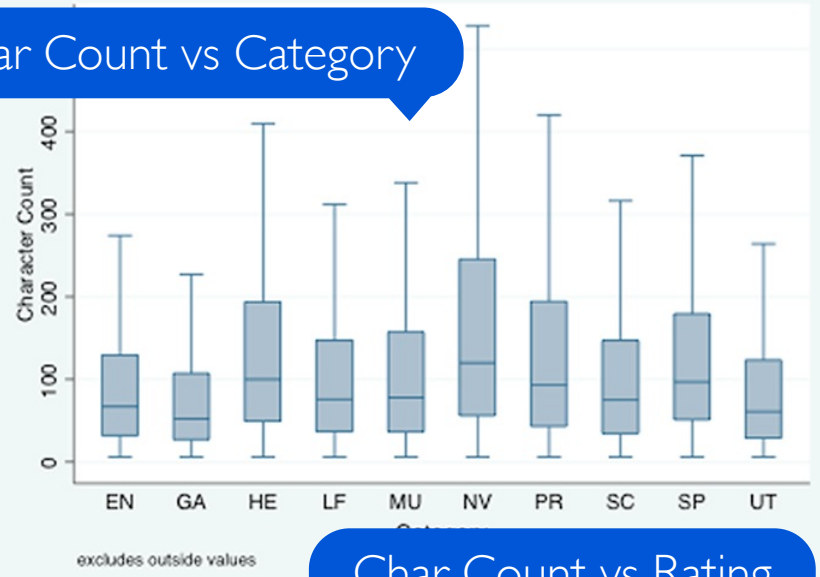
	Functionality	Quality	Affect
Positive			
Negative			

CAN WE CLASSIFY REVIEWS?

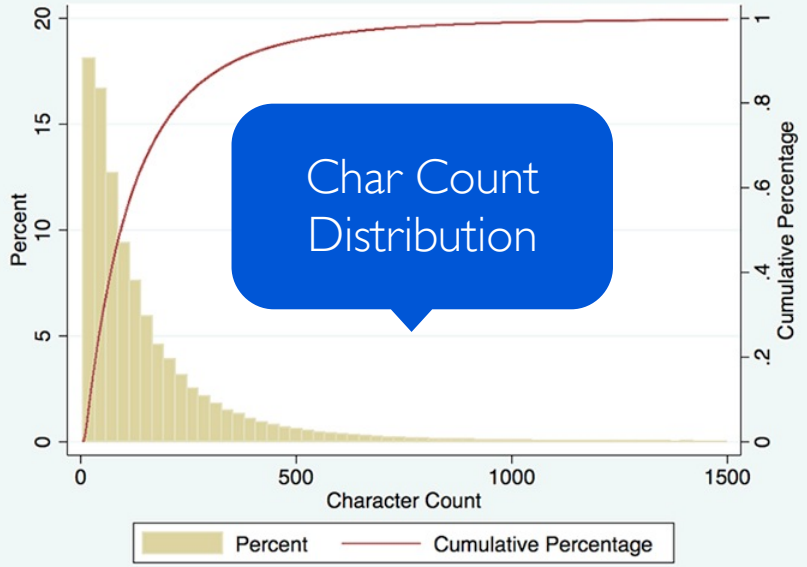
DATASET

- 22 Categories
- 8.7 million reviews
- 5.25 million unique users
- 17,330 apps
  - Top 400 from Free & Paid

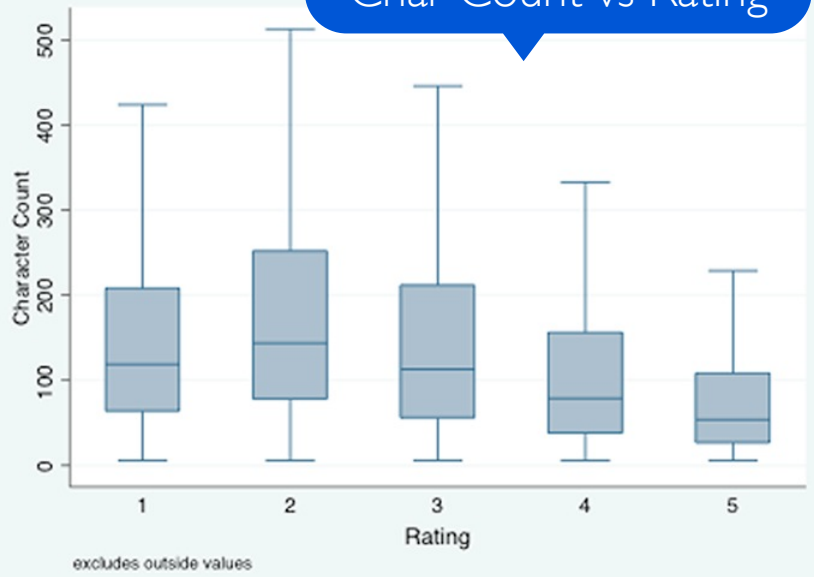
Char Count vs Category



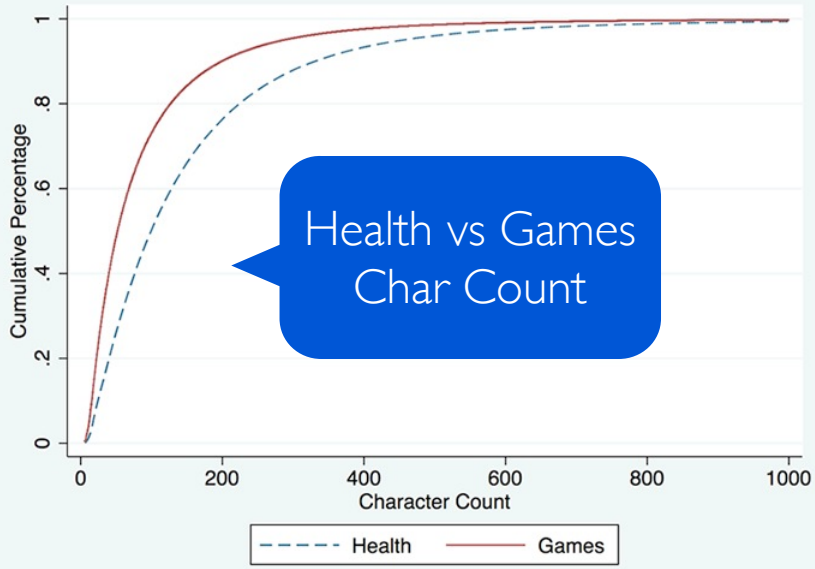
Char Count Distribution



Char Count vs Rating



Health vs Games Char Count



REVIEW SIZE & RATING

THE REVIEWS STRIKE BACK

Non-content Reviews

Ahahaha!!;))

Typos

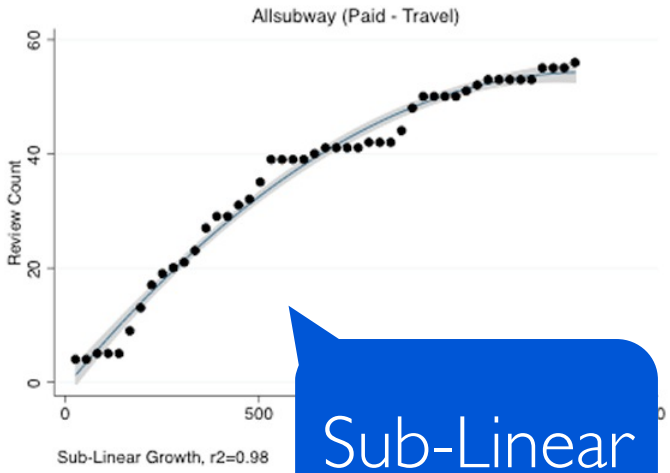
Superrrr funnnyy! Greeat info! Things I reallly didn't even knoww. :]

Dreamy man!!!

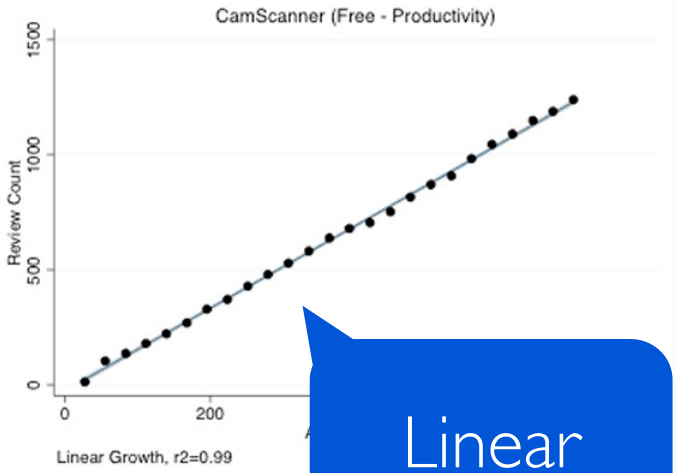
Inconsistent Sentiments

😪zzZzzZzzZ I love this app ❤❤❤

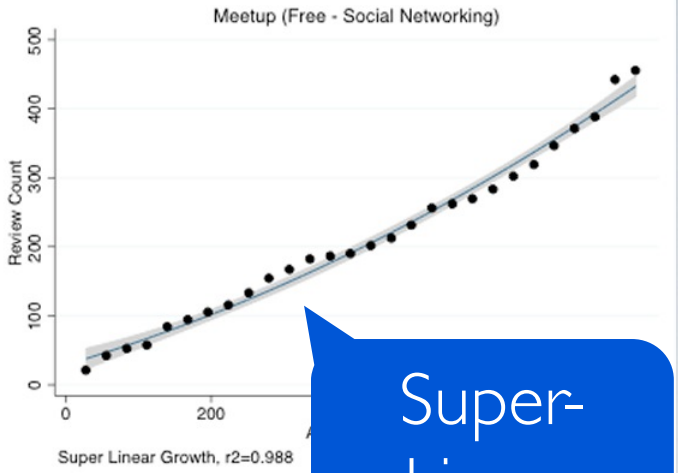
CONTENT ISSUES



Sub-Linear

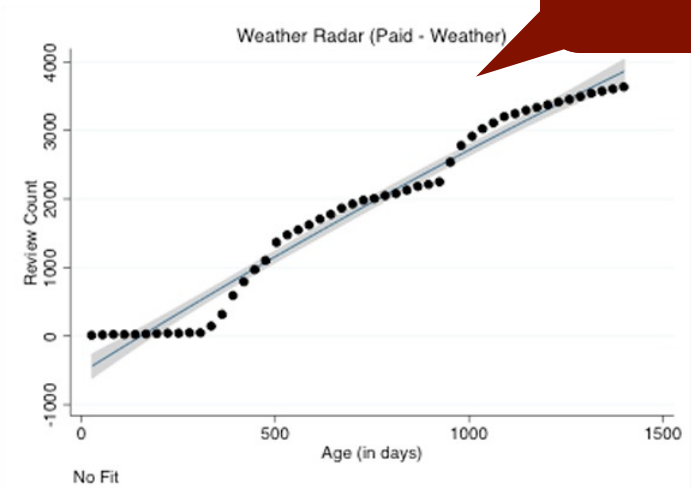


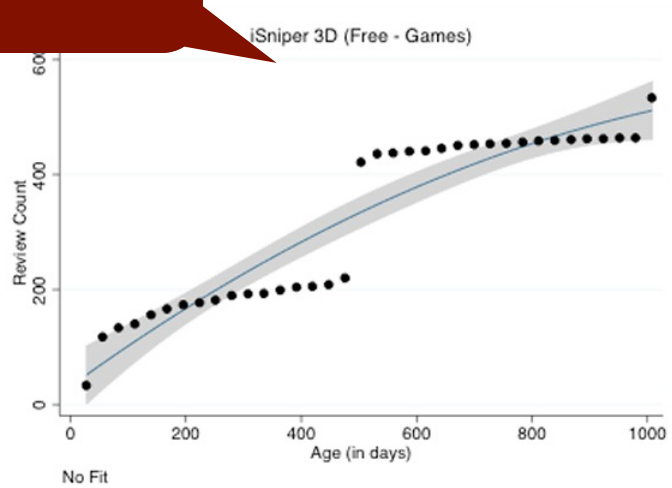
Linear



Super-Linear

Non-Fit



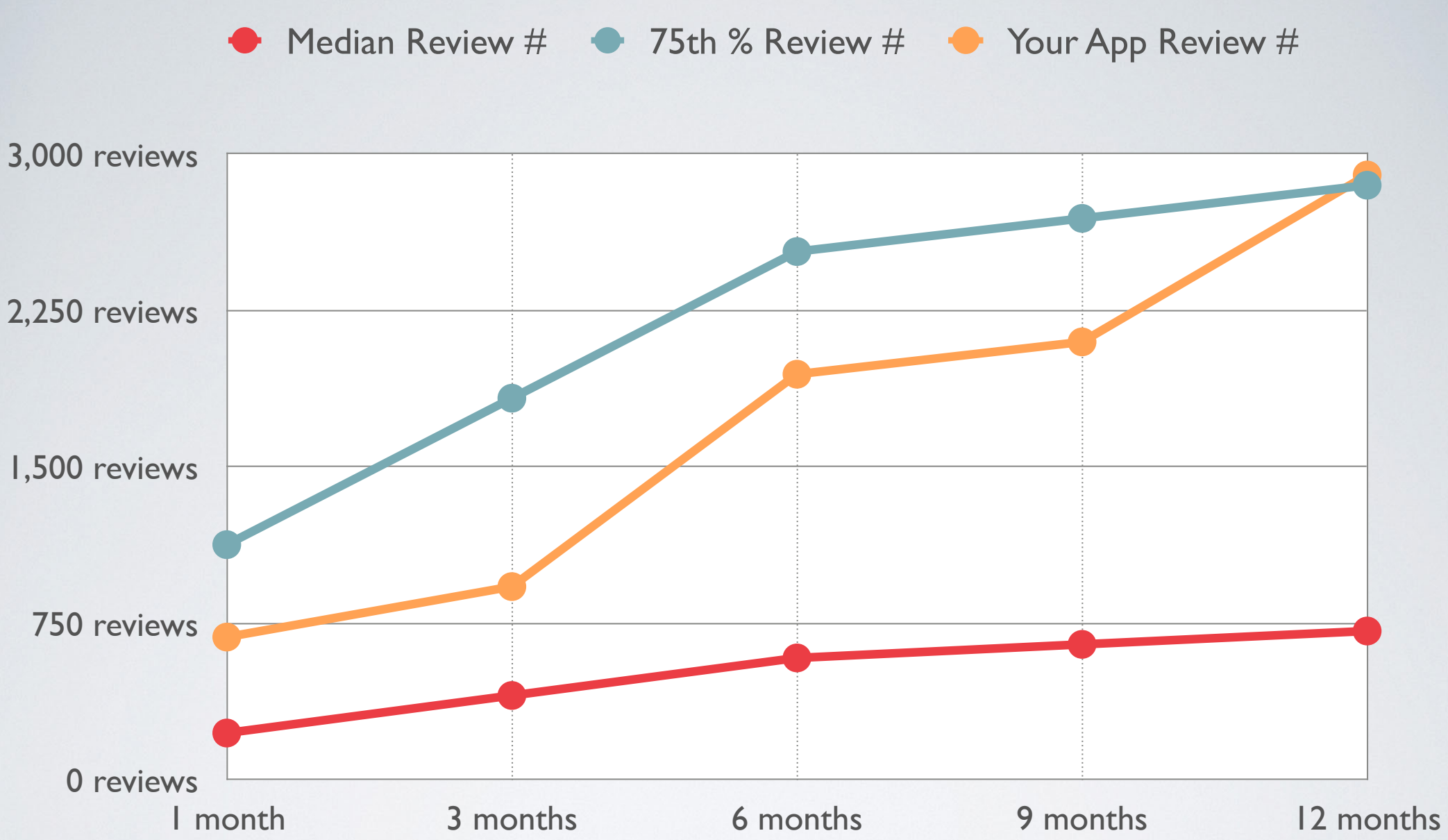


GROWTH MODELLING

Review Counts per Category

Benchmark for:	Free Apps					
	50%			75%		
Category	1 mth	6 mth	12 mth	1 mth	6 mth	12 mth
Books	4	15	28	9	41	72
Business	5	18.5	33	12.5	39.5	76
Education	5	18	40	14	54	94
Entertainment	32	173	302	151	608	739.5
Finance	9	28	40.5	25	74	119
Games	225	585	714	1128	2851	2533
Health & Fitness	6	28	52	15	75	158
Lifestyle	13	52	110	34	152	269
Medical	3	9	14	6	21	35
Music	12	43	75	43	150	226
Navigation	4	13	23	9	28	53
News	13	63	165.5	41	234.5	624
Photo & Video	8	24	41	21	75	107
Productivity	12	48	96	32	139	384

REVIEW GROWTH



REVIEW GROWTH

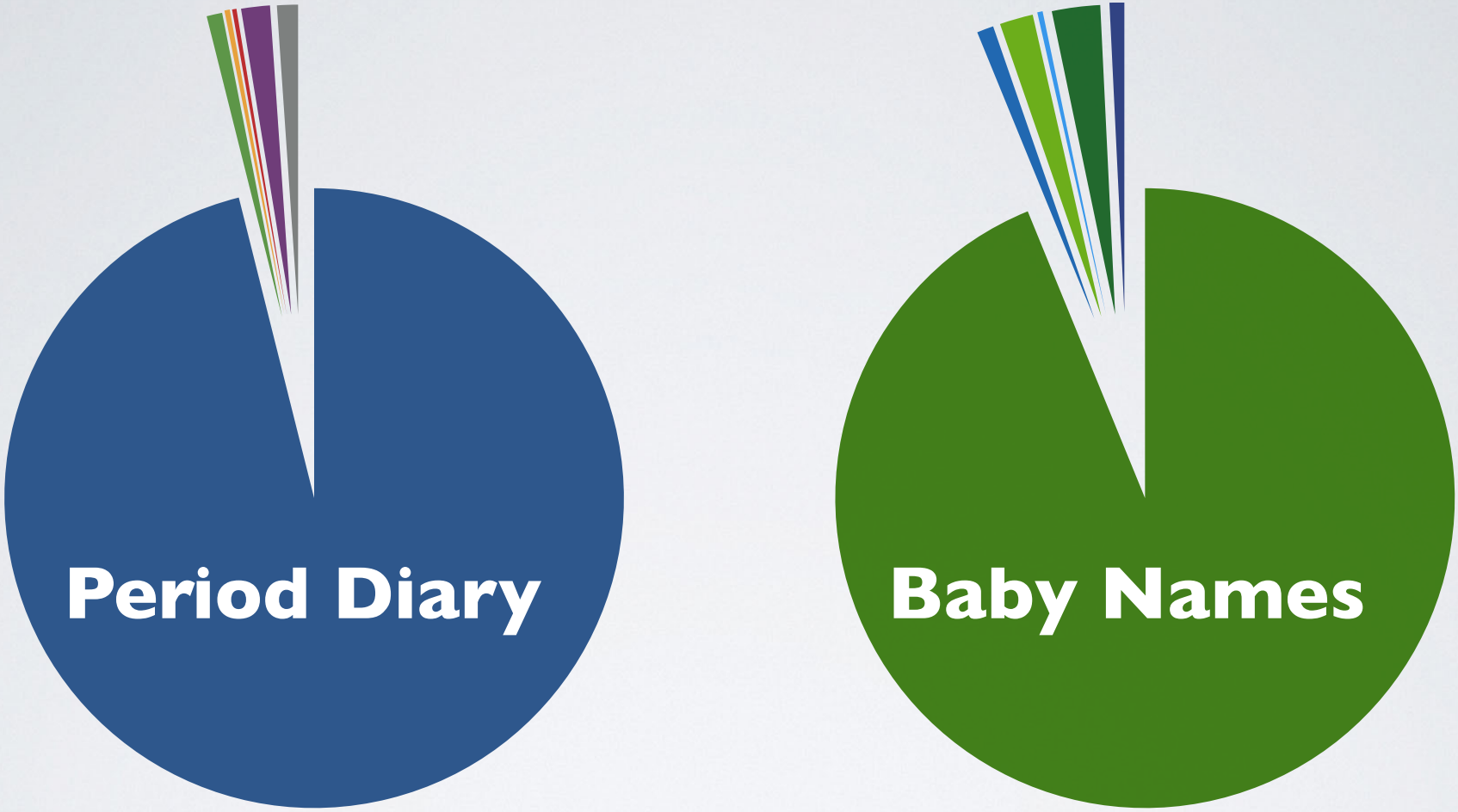
RETURN OF THE CONTENT

Table 2. Proportion of Positive (P), Negative (N), Inconsistent Positive (IP), Inconsistent Negative (IN), Neutral (NT), Spam (S) and the Total number of reviews.

Sentiment Distribution of up to 5 word Reviews							
App Name	**P**	**N**	**IP**	**IN**	**NT**	**S**	**Total**
Period Diary (Period, Fertile & Ovulation Tracker)	3782	32	11	9	59	43	3936
Baby Names	2686	25	50	8	72	22	2863
MapMyRIDE GPS Cycling	2106	6	5	8	53	26	2204
Relax Melodies: A white noise ambience for sleep, meditation & yoga	1814	8	1	4	46	38	1911
My Pregnancy Today	1817	10	1	6	15	23	1872
Horoscope	1502	18	19	11	49	23	1622
US Army APFT-Body Fat Calculator	1540	1	2	0	31	16	1590
BabyBump Pregnancy Free	1321	7	4	7	18	13	1370

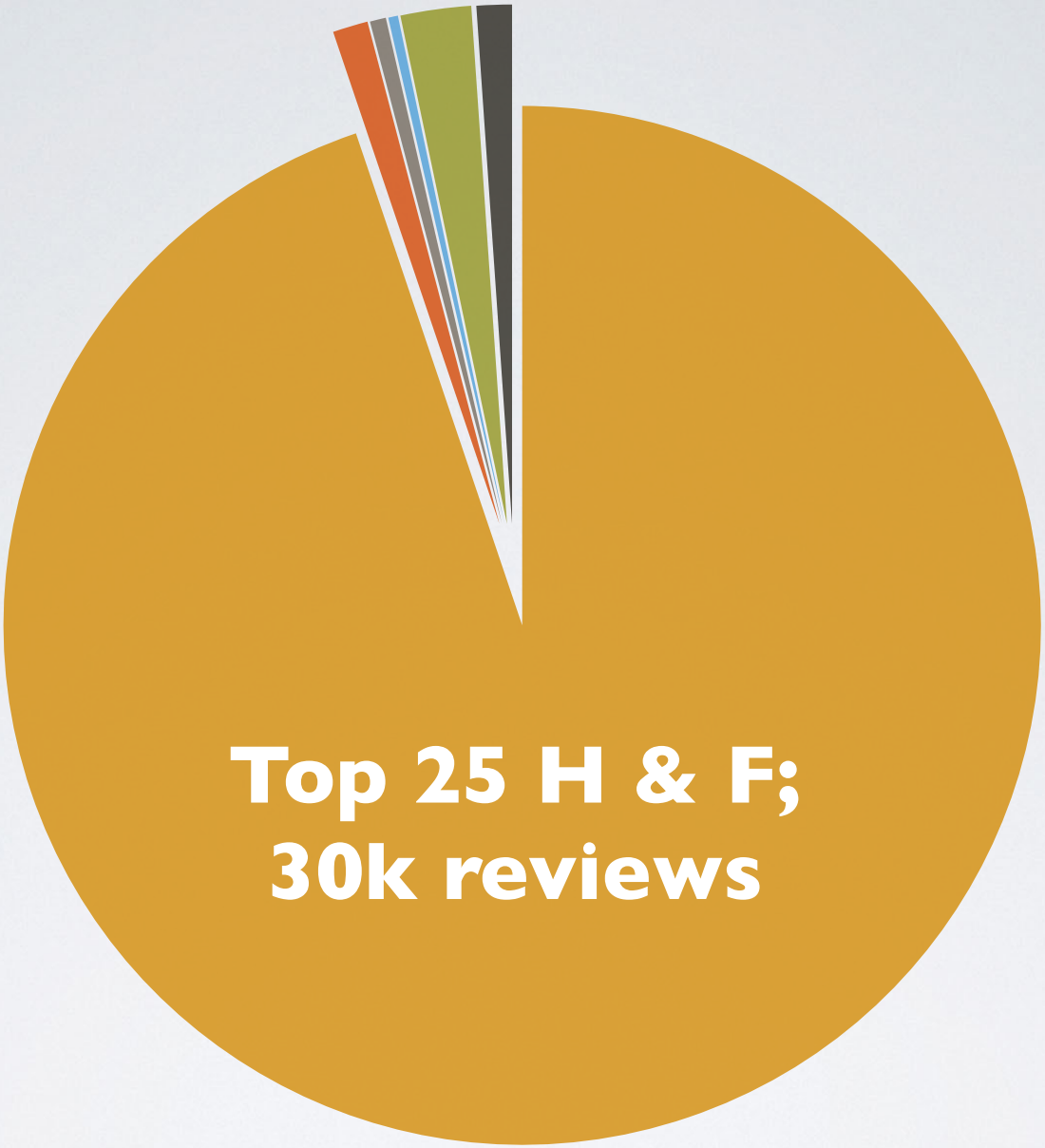
SENTIMENT = RATING

(FOR SHORT REVIEWS)



SENTIMENT = RATING

(FOR SHORT REVIEWS)



SENTIMENT = RATING

(FOR SHORT REVIEWS)

SAD :(

Feedback to consumers

Feedback to both devs and consumers

Jumped through all the hoops to sign up [illegible] o I could get my digital copy of Green Lantern [illegible] hen I COULDN'T download it to iTunes to put [illegible] have to **STREAM it from Flixster ... no hard copy** on your iTunes! So stupid. Since I won't be able to watch anything while traveling (hello! you need internet co[illegible] you can't use internet on planes or in the [illegible] ery disappointed!Any YES ... Flixter needs to **note it on the box** so people can tell where their digital copies are coming from. Since they don't work the way they should I'm not going out of my way to get movies with Flixter digital copy ... I'll look for the iTunes advertised copies that I can put directly on my machine!

Feedback to developers

REVIEW CONTENT

This is an excellent app

Feedback to consumers

Feedback to consumers

"This app is ex o the movies I **use this app before hand.** You can **watch trailers, see user ratings, and even see accurate show times** at local movie theaters. This app makes going to the movies more convenient and helps prevent you from seeing ""bad"" movies by **consolidating user reviews** into one easy accessible location."

Feedback to developers

REVIEW CONTENT

I like bacon.

Bacon Bacon Bacon

1. Socrates Dataset
   - Raw and sanitisation method

2. Landscape model of reviews
   - Growth and Size Profiling

3. Content model of reviews
   - Sentiment and Review relevance

CONTRIBUTIONS

CONCLUSION

1. Most app reviews are short

2. Short reviews only inform us of user sentiment

3. Long reviews occur early in the app's lifecycle

FILTERING THE NOISE

EXTRACTING SIGNAL FROM THE NOISE OF USER REVIEWS

LEONARD HOON

SWINBURNE UNIVERSITY OF TECHNOLOGY
MELBOURNE, AUSTRALIA

Intentional, were the Star Wars references. 😉