



# The Insights of the Popular Game Apps from the Reviews Analytic



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## Introduction

This research aims to investigate the review analytics of Android games using a proposed text analysis A heuristic n-phrase rule technique to extract user's reviews of game apps according to reviewer's **gender**, **star ratings**, **game types** (arcade & action, casual, brain & puzzle, cards & casino, sports, racing), and **game attributes** (gameplay, aesthetics, musicality, stability, developer).

## The Method



## Heuristic N-Phrase Rule

A heuristic n-phrase rule is proposed to identify the opinion polarity of an attribute in review sentences. An n-phrase is a contiguous slice of n words or phrases of a longer sentence. An n-phrase of size 2 is referred to as a bi-phrase; size 3 is a tri-phrase; size 4 is a four-phrase, and so on.

Table 1. Descriptive Statistics of the Data

Game Type	No. Of Apps	No. Of Developers	No. Of Reviews	Gender				Opinion	
				Men	Women	Un-known	M/W	Positive	Negative
Arcade & Action	1,159	519	78,501	55,616	16,853	6,032	3.3	62,486	16,015
Casual	1,235	557	77,578	37,986	32,444	7,148	1.2	55,984	21,594
Brain & Puzzle	852	472	28,432	13,472	12,715	2,245	1.1	18,024	10,408
Cards & Casino	428	224	9,891	5,979	3,339	573	1.8	7,229	2,662
Sports	268	177	8,190	6,711	938	541	7.2	6,554	1,636
Racing	326	232	4,456	3,472	610	374	5.7	2,261	2,195
Total	4,268	2,181	207,048	123,236	66,899	16,913	1.8	152,538	54,510

## The Findings and Discussions

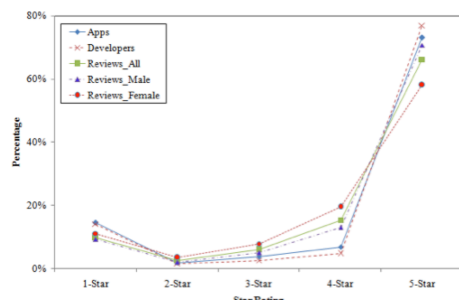


Fig2. Distribution of Star Rating Reviews by Game, Developer, and Gender

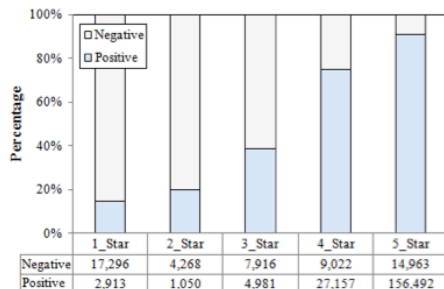


Figure 3. Distribution of Sentiments among the Ratings

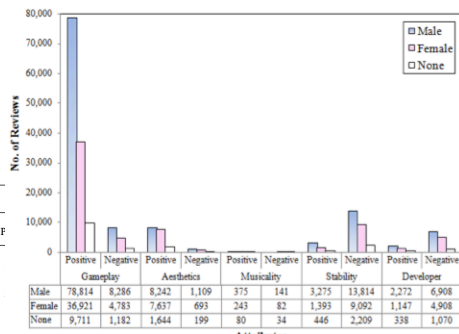


Figure 4. Distribution of Reviews among the Game Attributes

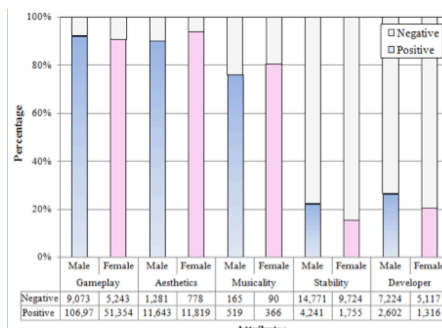


Figure 5. Distribution of Sentiments among the Game Attributes

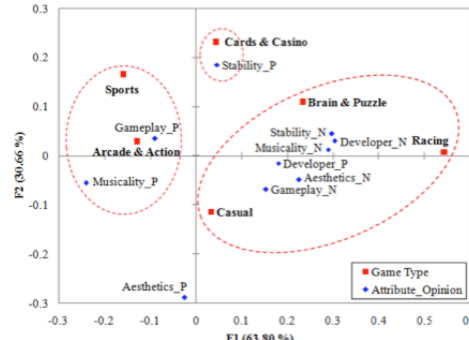


Figure 6. Perceptual Map for Game Type and Attribute

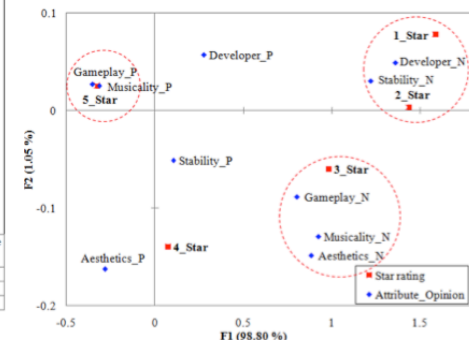


Figure 7. Perceptual Map for Star Rating and Attribute

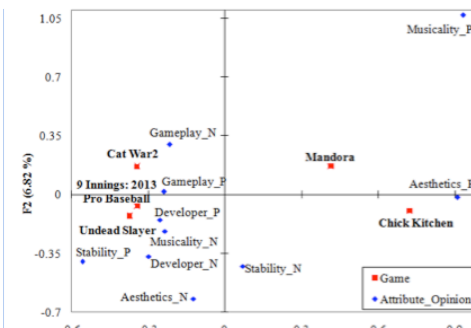


Fig8. Perceptual Map for Top 5 Games among All Respondents

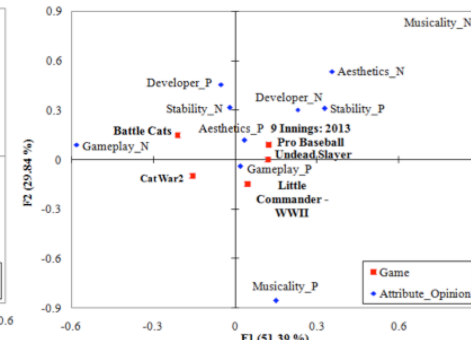


Figure 9. Perceptual Map for Top 5 Games among Males

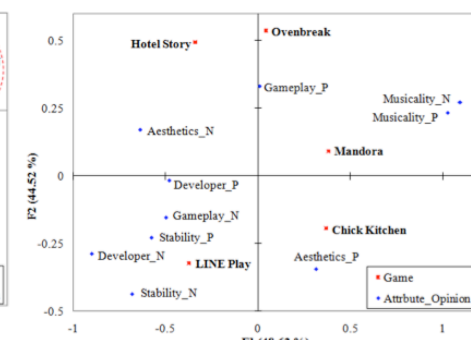


Figure 10. Perceptual Map for Top 5 Games among Females