User Recommendation System

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STAT 479

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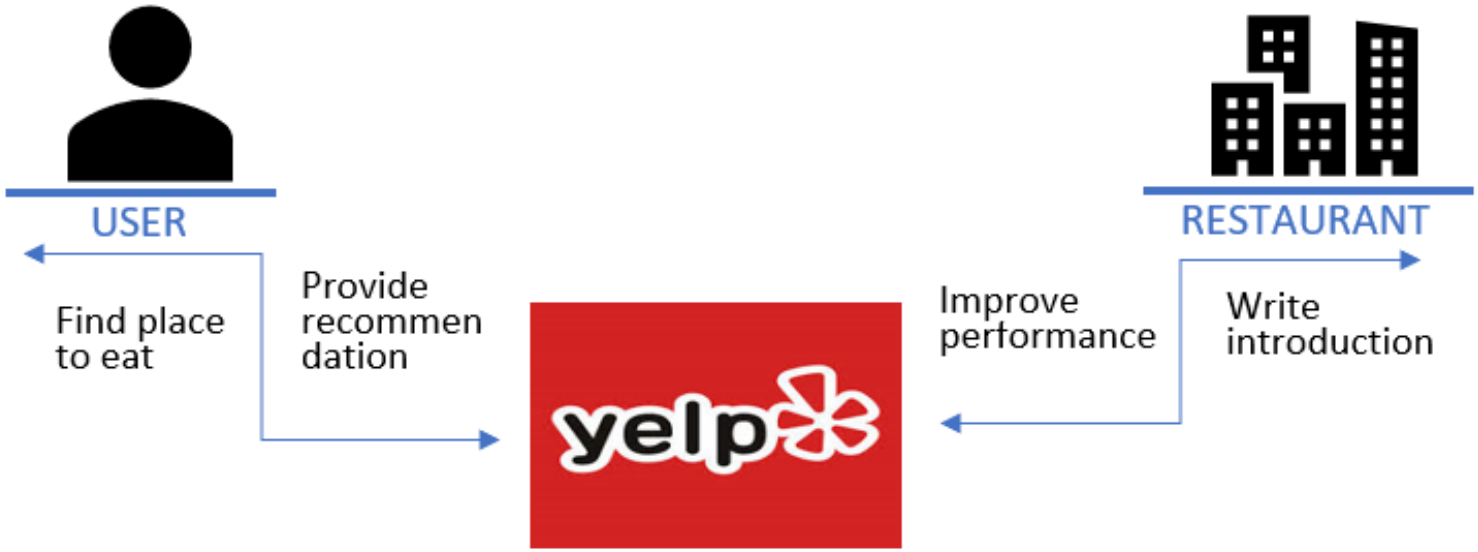
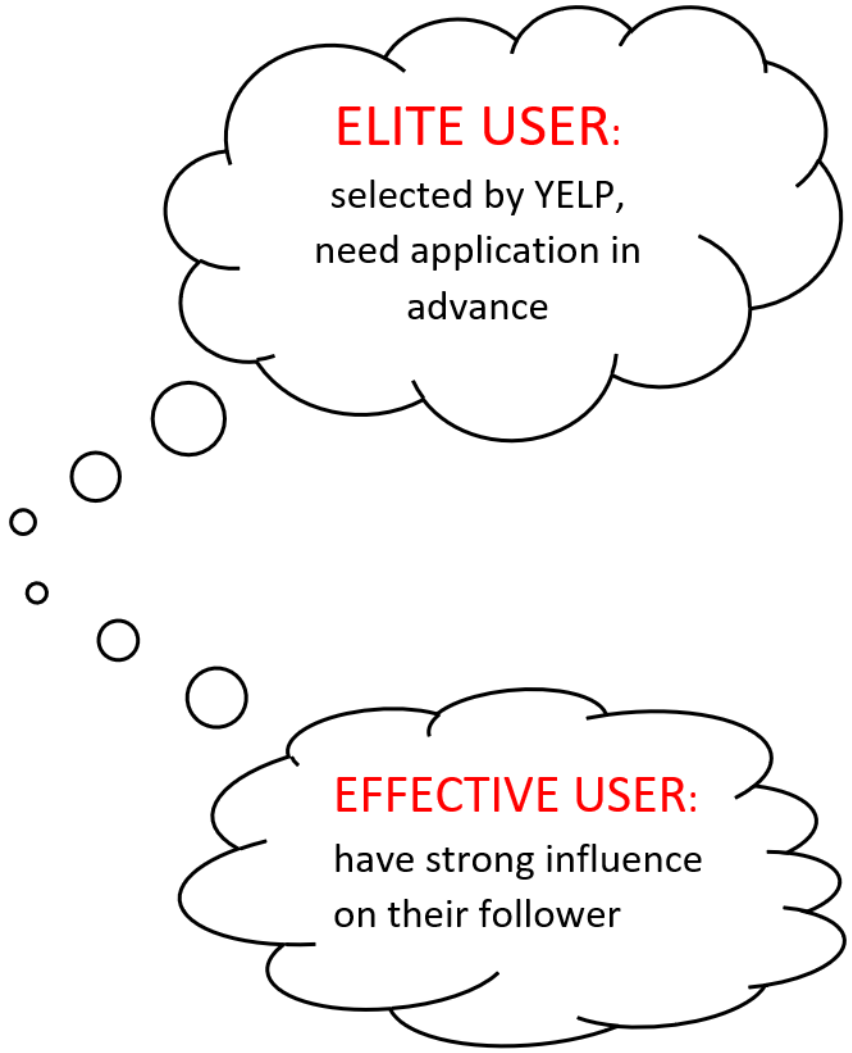
Brief Introduction

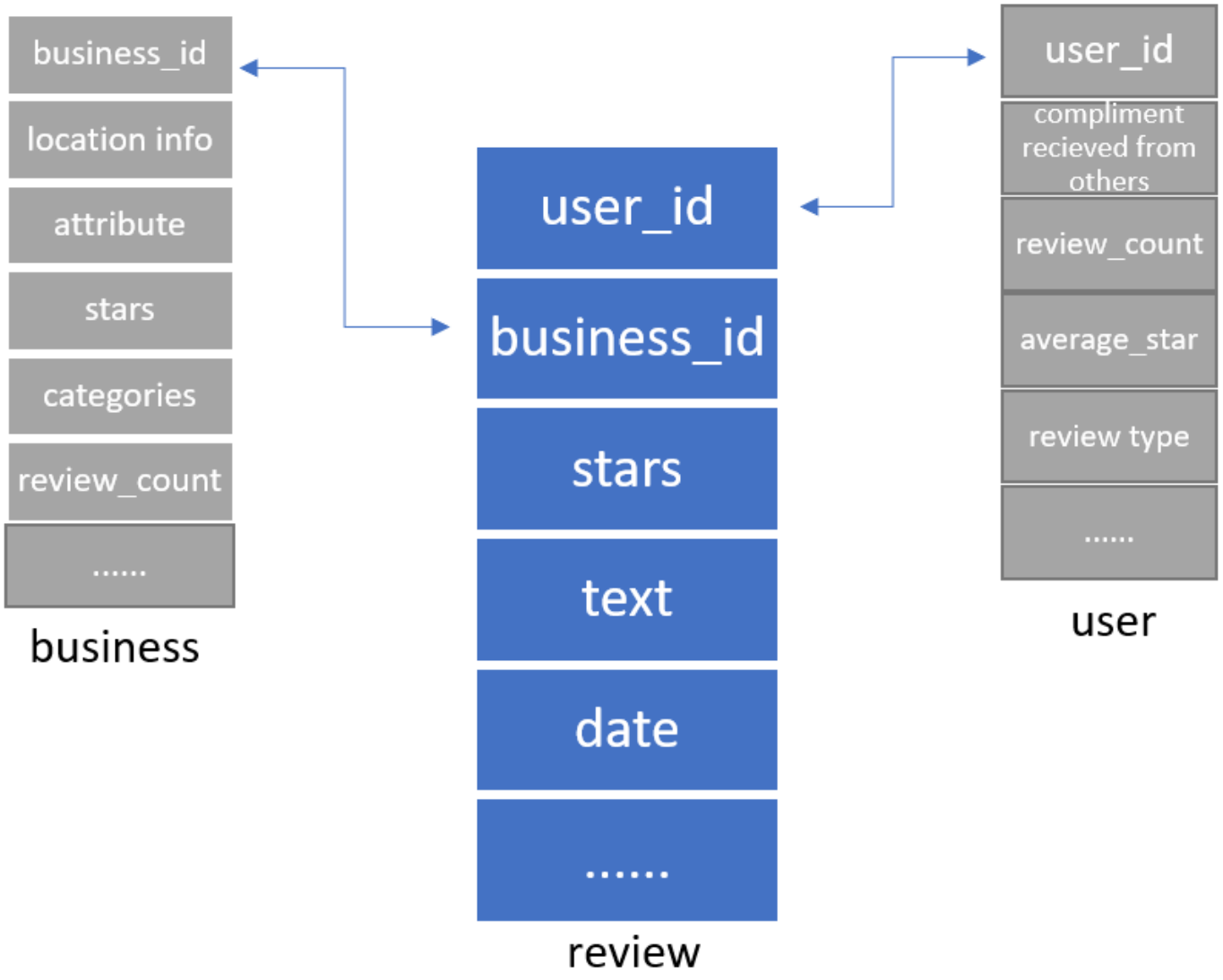


Brief Introduction

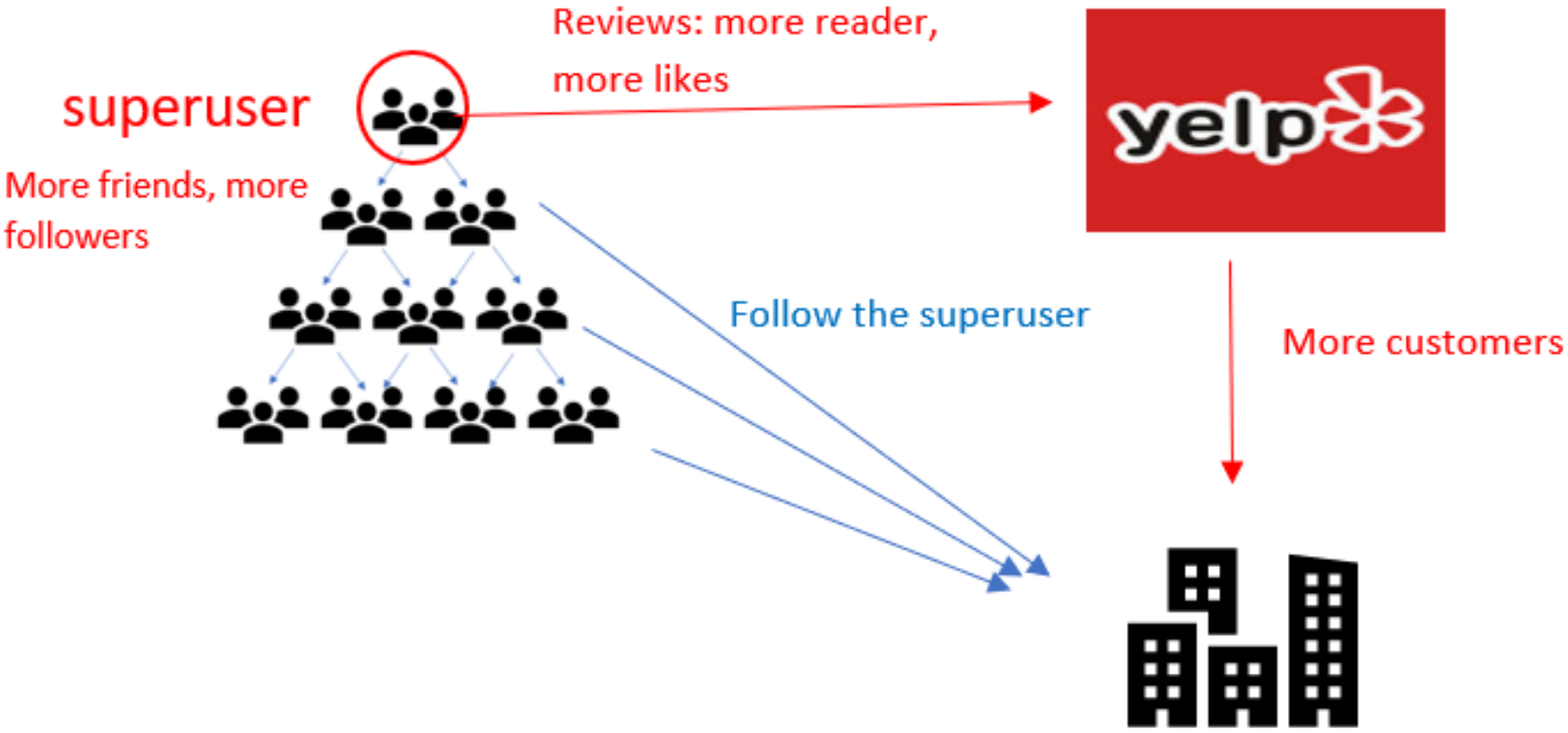
Who is superuser?



Finding influencial users

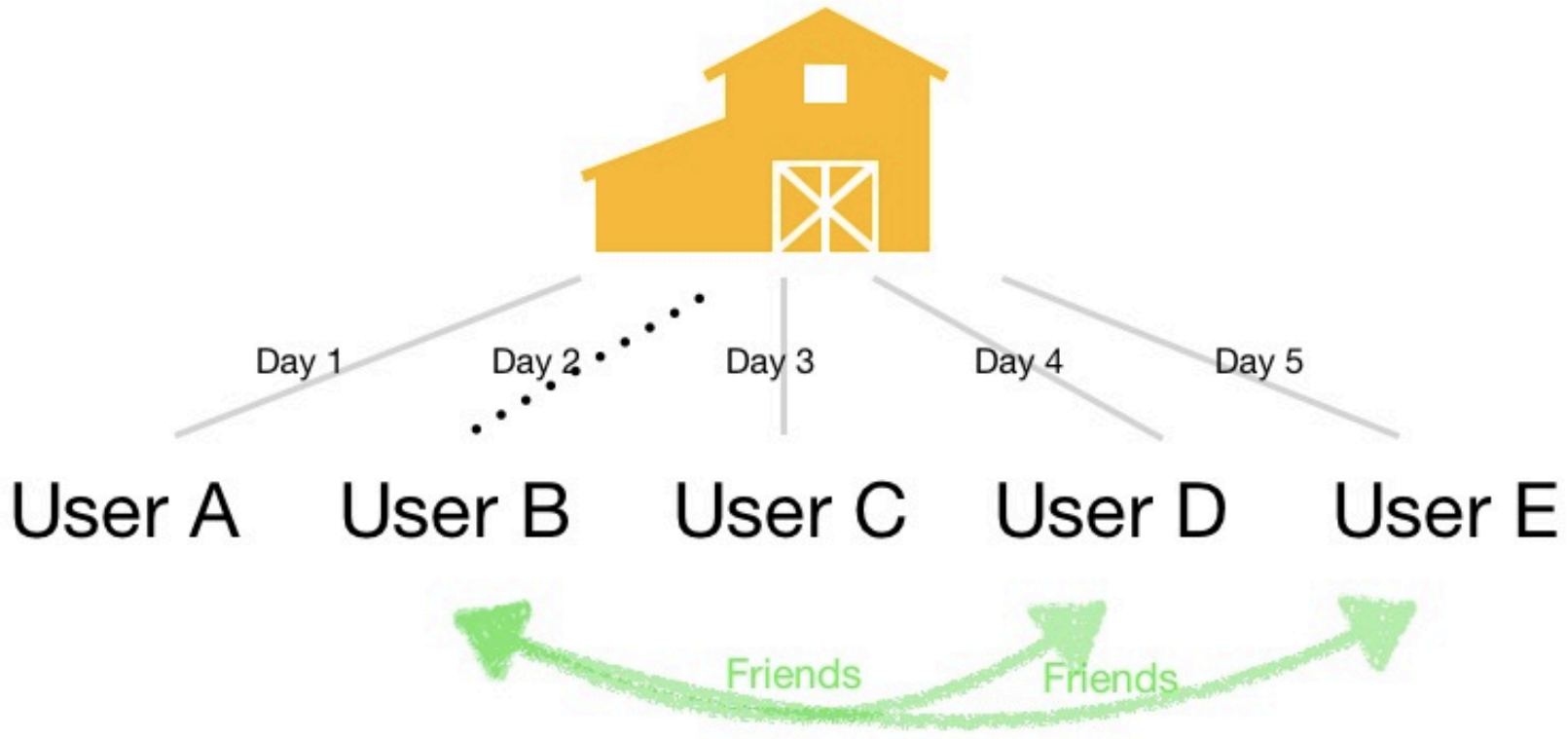


Finding influencial users



Finding influencial users

Influencial users: have influence on their friends.



Finding influential users

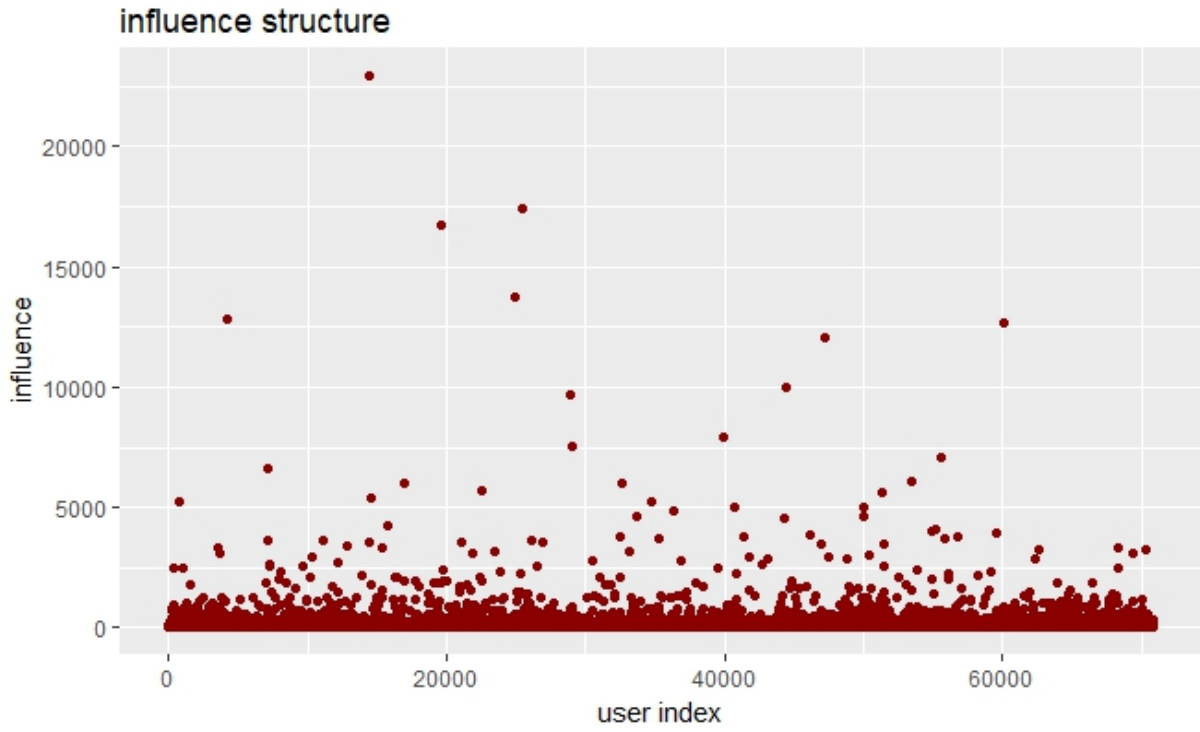
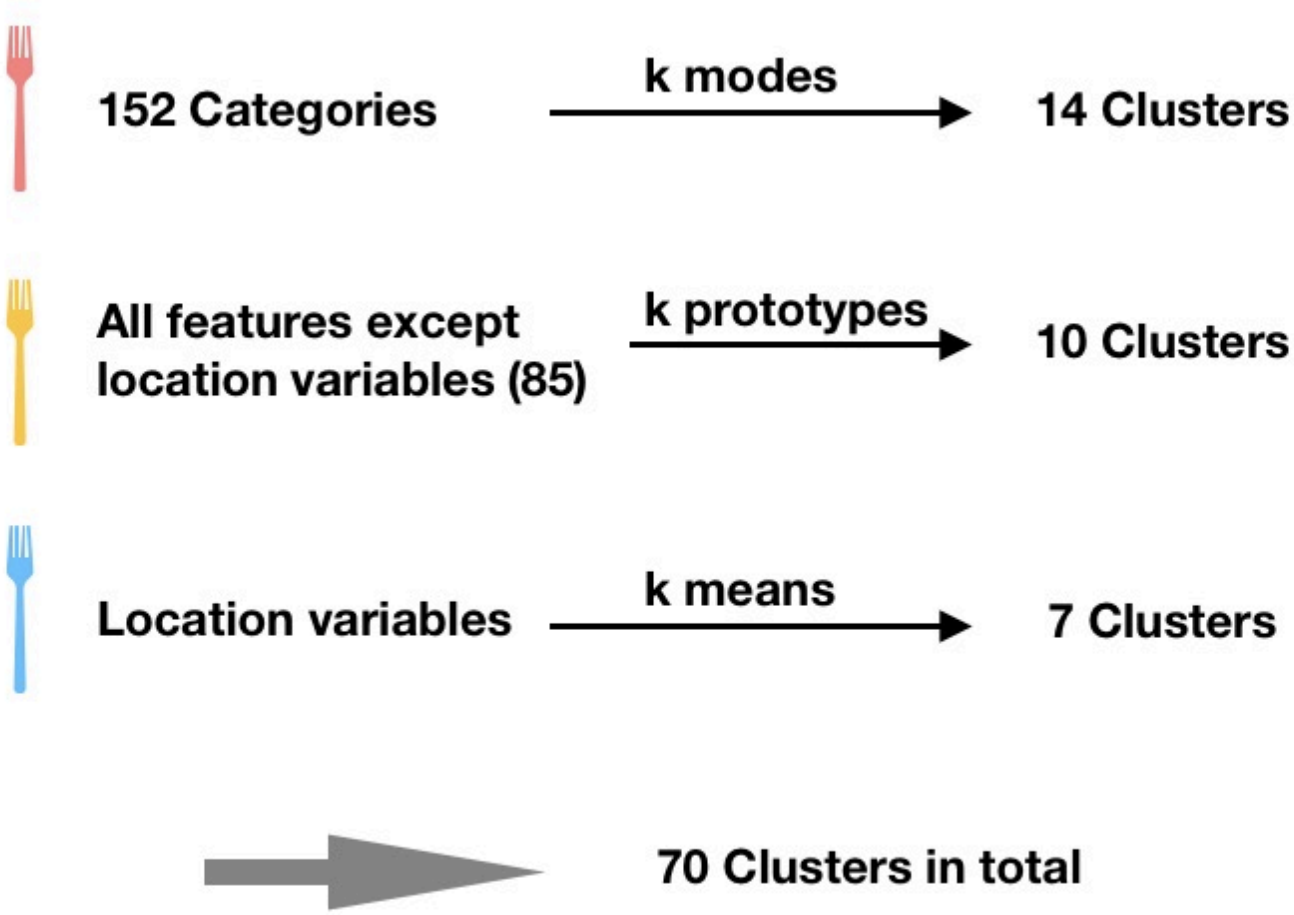


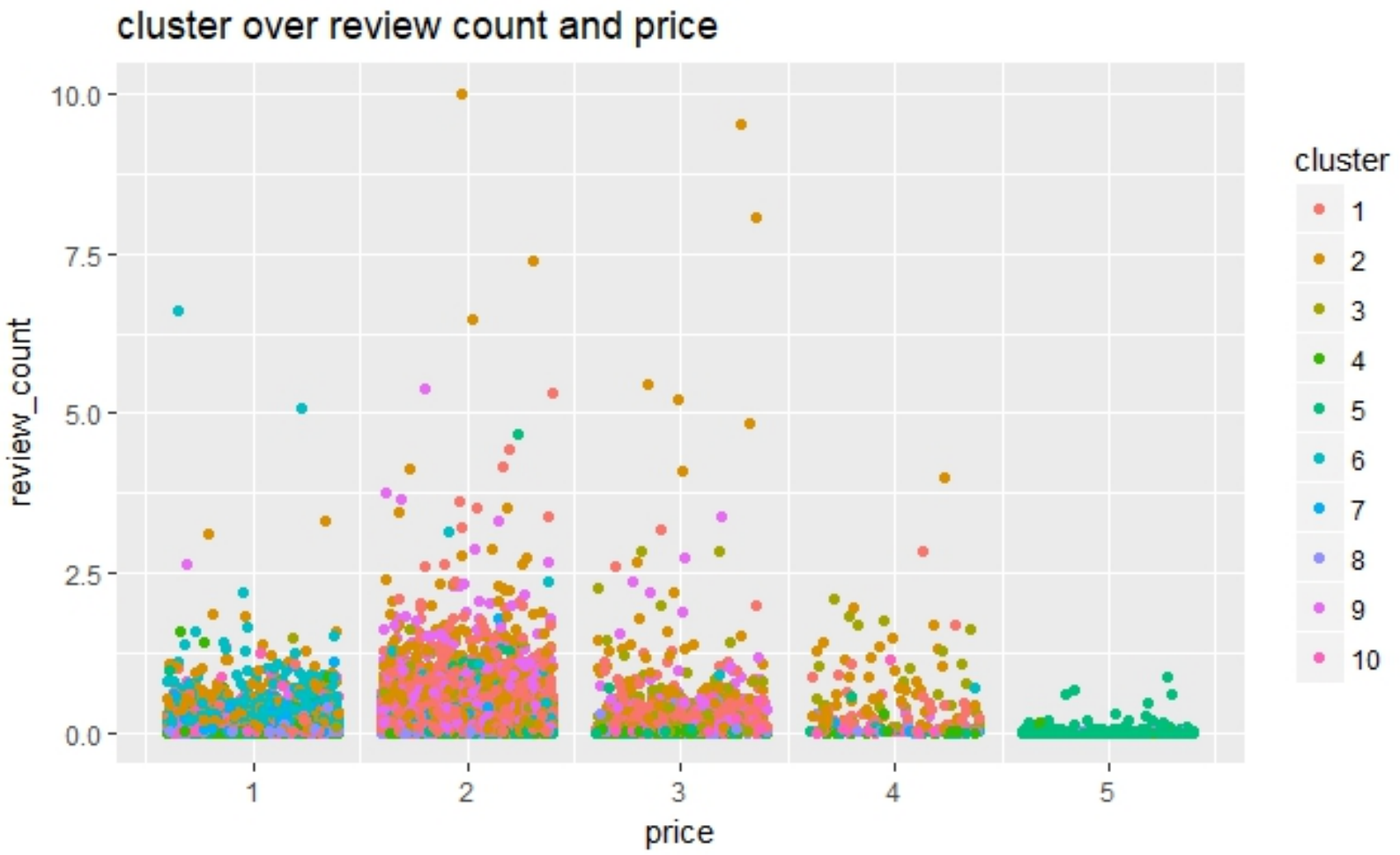
Table: The effection of influential users

Min.	1st Quantile	Median	Mean	3rd Quantile	Max
1.00	1.00	2.00	23.48	5.00	22984.00

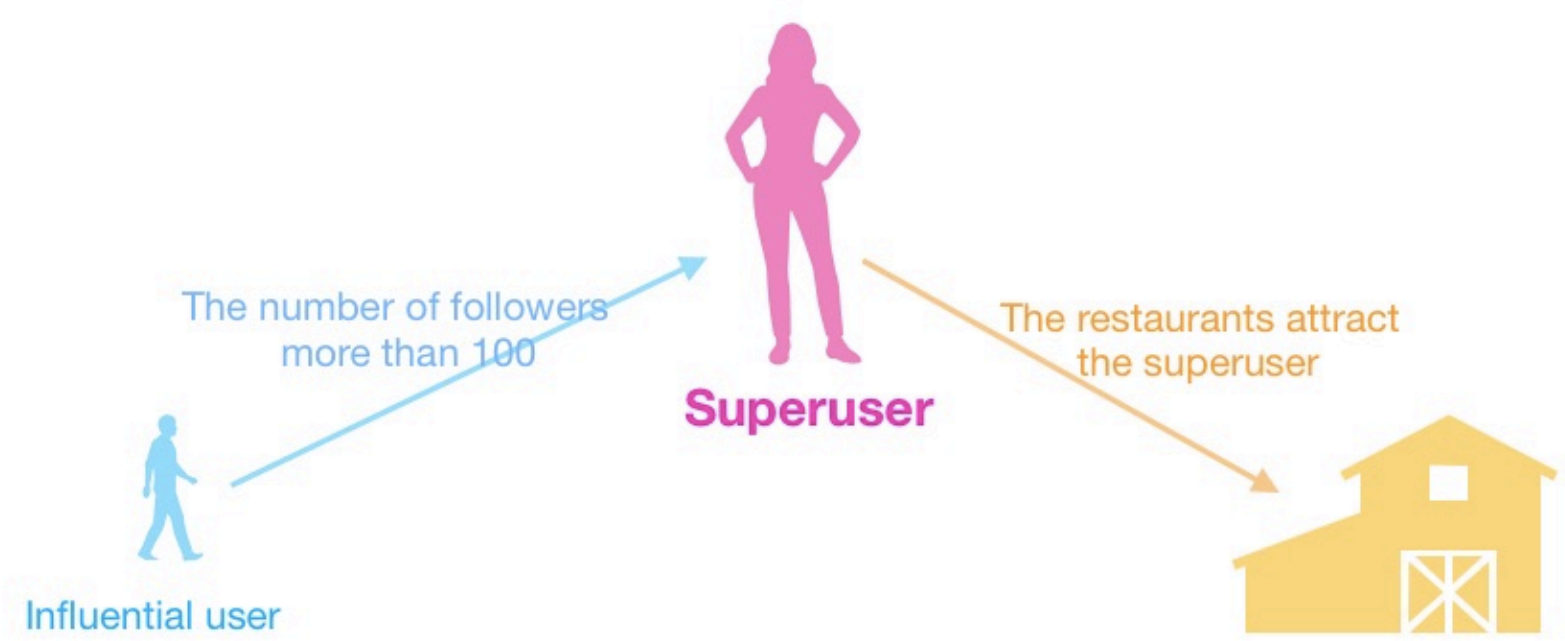
Classify Restaurants



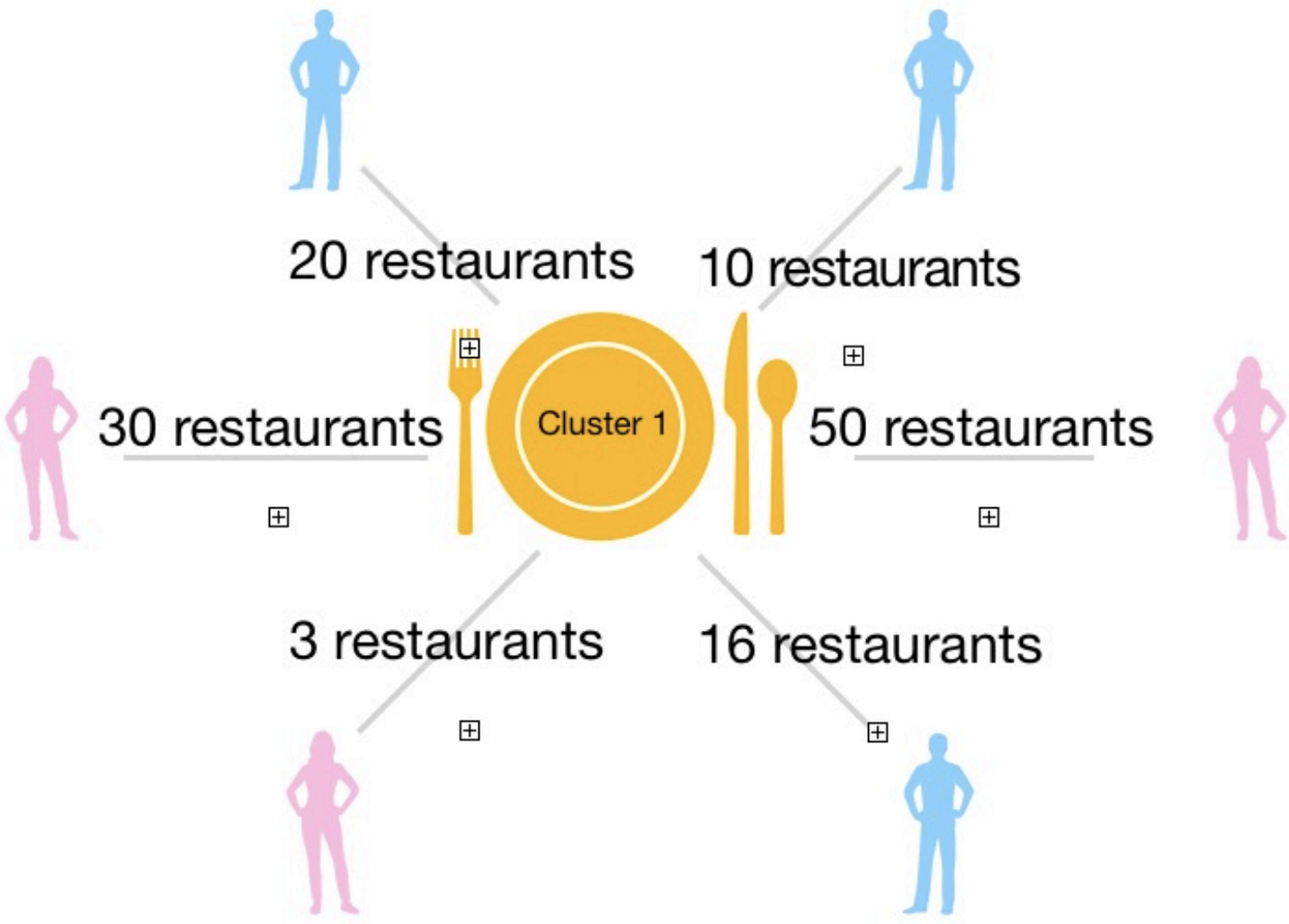
Classify Restaurants



Finding superusers



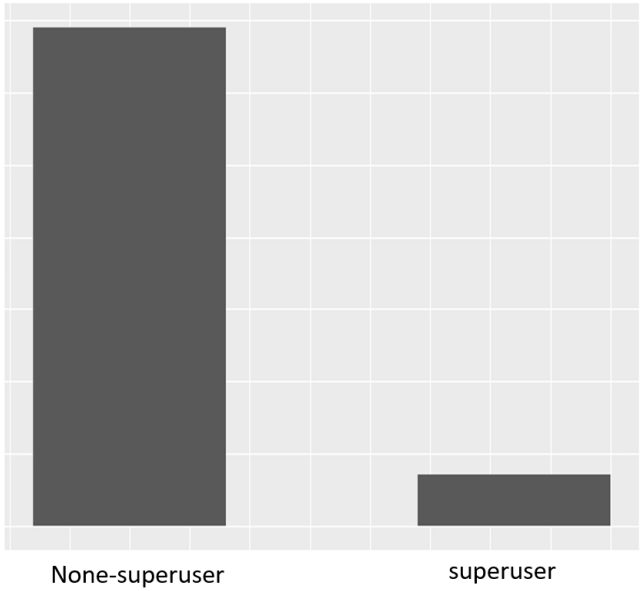
Finding superusers

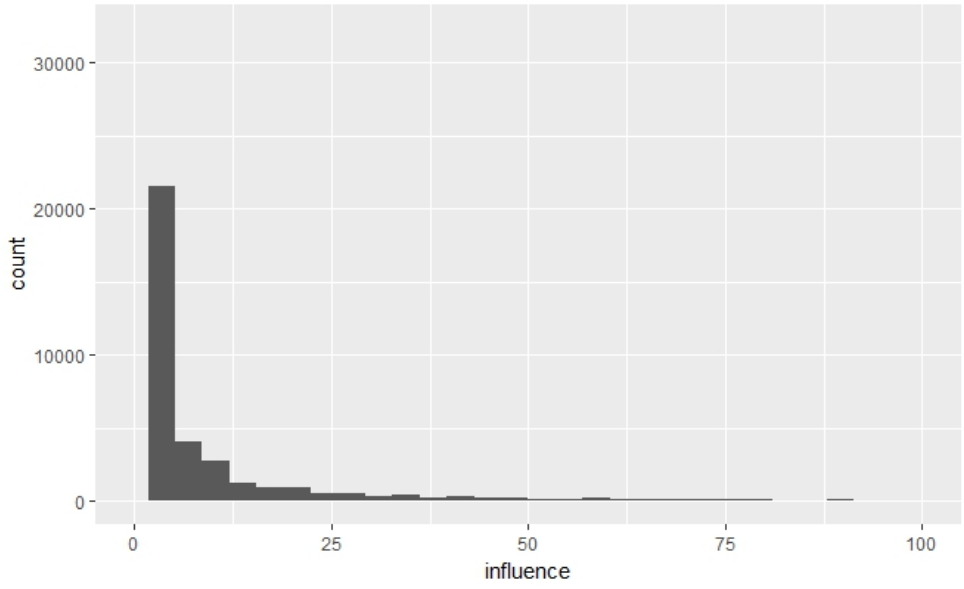


Finding superusers

https://jliu647shiny.shinyapps.io/479proj/

How to become a superuser





How to become a superuser

Table: Logistic Regression Model

(Intercept)	fans	complimet writer
-6.3	-1.2×10^{-3}	2.2×10^{-3}
	compliment profile	compliment funny
	-7.8×10^{-3}	1.4×10^{-3}
	compliment plain	friend number
	-1.9×10^{-3}	1.5×10^{-3}
	review count	
	3.1×10^{-3}	

How to become a superuser

Table: Ordinary Linear Regression Model using Box-cox

(Intercept) -3.2	compliment photos 4.0×10^{-4}	compliment funny 6.3×10^{-4}
compliment hot -4.1×10^{-4}	compliment writer -2.6×10^{-3}	compliment plain -7.7×10^{-4}
compliment list -1.7×10^{-2}	compliment more 1.7×10^{-2}	useful 5.3×10^{-5}
cool -7.0×10^{-5}	fans -3.4×10^{-3}	average stars 1.2×10^{-1}
friend number 2.6×10^{-3}	review count 6.7×10^{-3}	

How to become a superuser

Table: Ordinary Linear Regression Model using Box-cox

(Intercept) 9.4×10^{-4}	compliment list -8.8×10^{-4}	compliment funny 7.6×10^{-4}
compliment plain -6.4×10^{-4}	compliment more 9.9×10^{-4}	compliment hot -1.4×10^{-4}
compliment profile -6.9×10^{-4}	review count 1.7×10^{-3}	friend number 7.7×10^{-4}
fans 6.2×10^{-4}	funny 2.8×10^{-5}	cool -2.5×10^{-5}
average stars 6.6×10^{-3}		

Model Comparison

Coindicence ratio	Logistic Model	v.s.	OLS	: 84%
	OLS	v.s.	NB regression	: 85%
	Logistic Model	v.s.	NB regression	: 82%

Accuracy	Logistic Model	54%
	OLS	50%
	NB regression	45%

QUESTION ?