

Insights for livelier libraries

Exploring the potential of public libraries through user reviews

1. Introduction

➤ Background

- Declining number of libraries
- More volunteer based operation
- Due to the budget cuts of local authorities

➤ Problem Definition

- The fundamental problem is set not on the budget cut
- But the undefined role and value of libraries in the changing society

➤ Objective

- Rediscover the value and the roles of libraries from the user-centered point of view

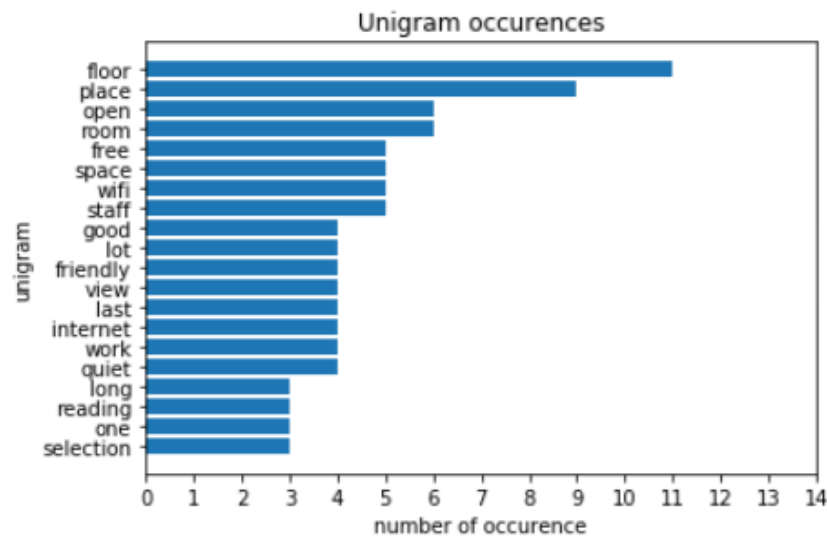
2.Data

➤ Acquisition: Foursquare API

- A total of 182 libraries across 6 biggest cities in UK (London, Manchester, Birmingham, Leeds, Glasgow, Liverpool)
- 64 comments

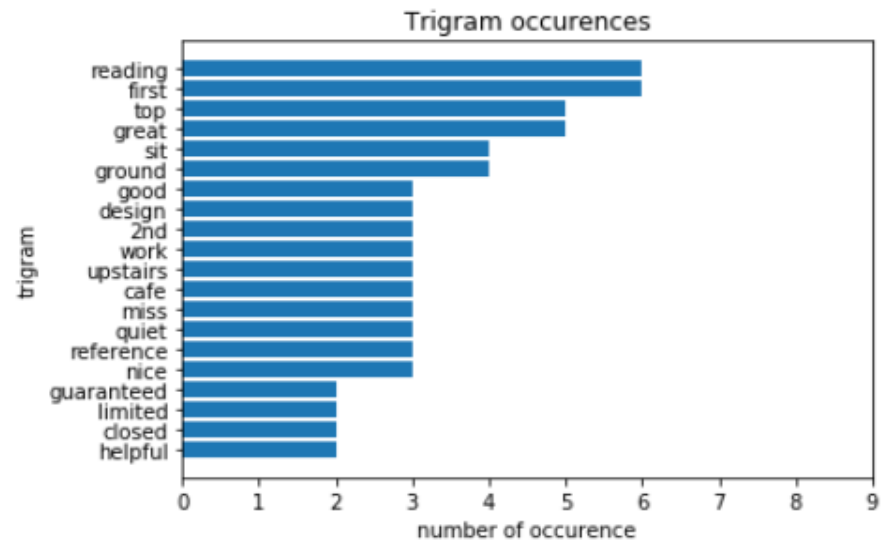
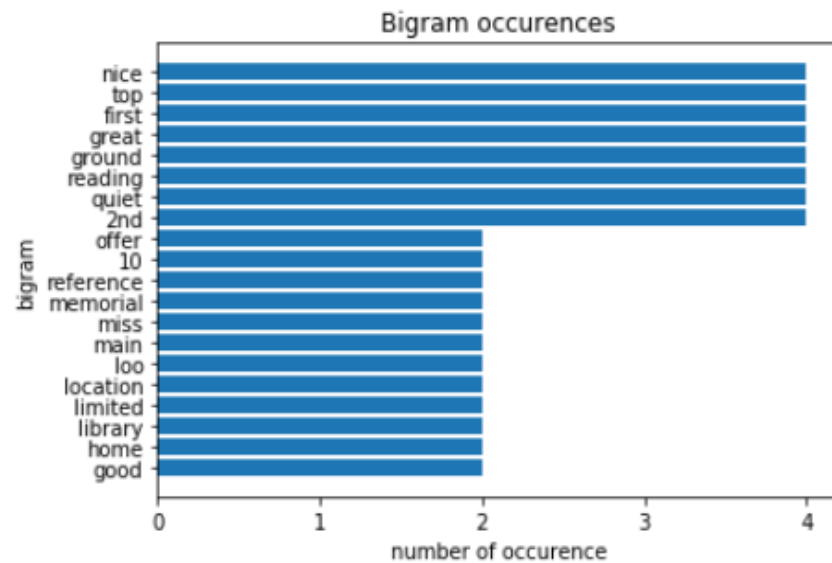
➤ Cleaning

- To deal with Text data in the comments, NLP technique was applied as preprocesses:
 - ✓ Converting to lower case
 - ✓ Removing punctuation
 - ✓ Removing stop Words (commonly occurring words plus 'library')
 - ✓ Correcting spelling
 - ✓ Tokenising (dividing the text into a sequence of words or sentences)
 - ✓ Lemmatising (converting the word into its root word)



3. Analysis WordCloud and Unigram

The words: 'floor', 'place', 'room', 'space' stand out.



3. Analysis N-grams

The combination of multiple words used together

Bigram : in combination with 'floor', 'place', 'room', 'space'

Trigram: in combination with 'floor', 'place', 'room', 'space'

4. Key results

- Key words: "floor", "space", "room", "place"
- Adjectives: "nice", "great", "quiet"
- Verbs: "reading", "work"
→ implying the activities of the users in the library.
- Others: "free", "wifi", "staff", "friendly"
→ indicating some important facilities that users value about libraries.

5. Conclusion

- Discovery of library's quality other than books
- Key words: Space, Reading, Working, Wifi, Start-up
- Future direction:
 - more data: Google map, twitter, in-house data collection
 - Further NLP technique to optimise words clustering and analysis