

Abstract

This research introduces **Serendy**, a book recommendation system available in Japanese language that presents book information referred to by friends within Twitter to those who have the desire to read but are not accustomed to reading (“infrequent readers”). **Serendy** relies not on the interests of users nor on the content of books, but on users' social capital within Social Networking Services (SNS).

Who are the target?

Infrequent Readers:

- Have desire to read
- Are not accustomed to reading
- Find it difficult to decide what book to read next
→ **To recommend books will be effective**

Why is Serendy needed?

Infrequent readers are **inspired** to read through **passive exposure** to books in offline environments
But usual web applications for reading do not support infrequent readers
(e.g., Goodreads, Booklog, Bookmeter...)
As people spend a lot of time on online environments, there is a need to support passive exposure to books in online environments

How can we inspire?

Typical case of passive exposure in offline environments

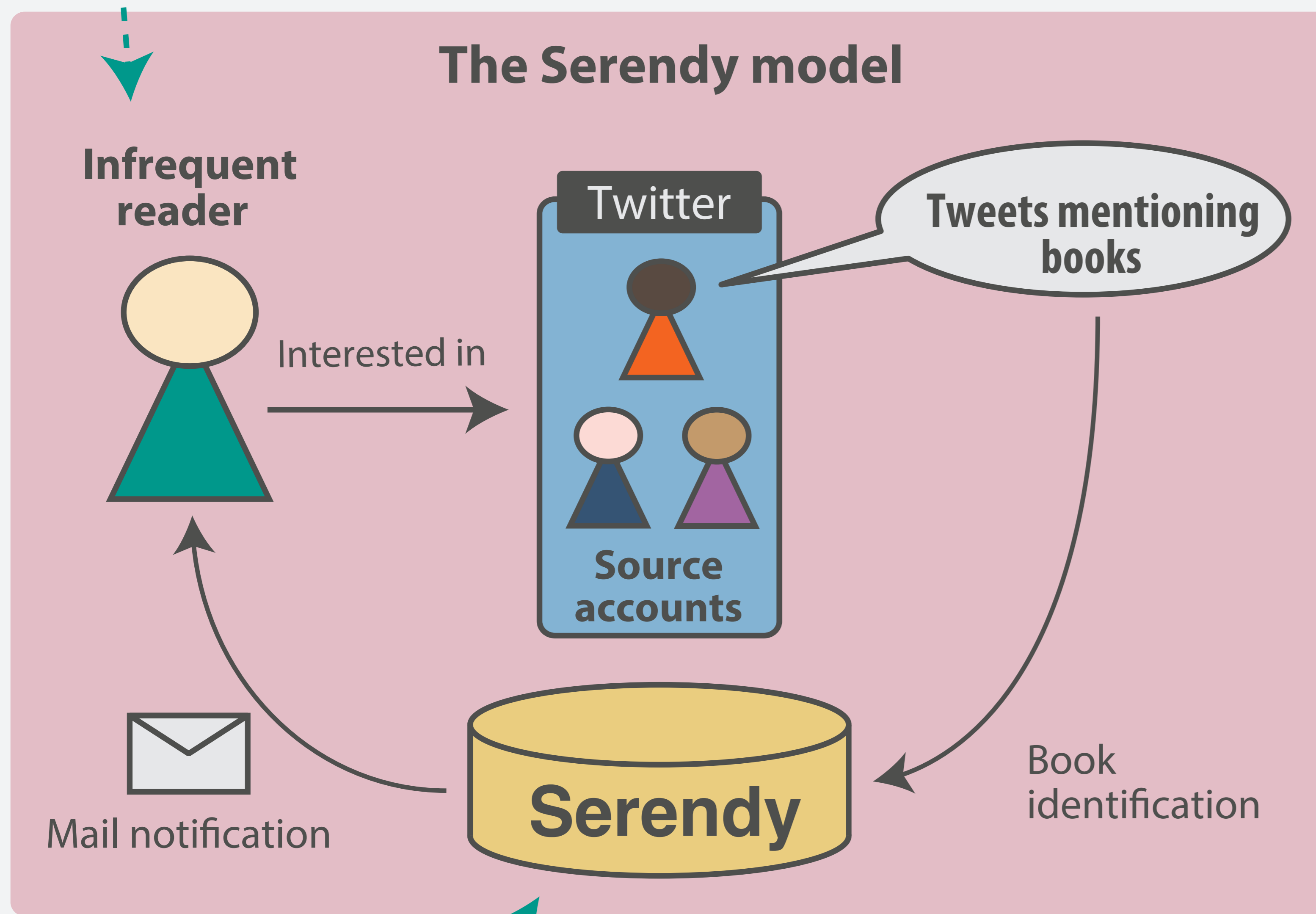
A lunch-time chat with (a) frequent-reader friend(s) in which certain book titles are naturally referred to within the context of the conversation, attracting the attention of the infrequent reader

Daily-ness
Proximity
Considerateness

- To be inspiring, recommendations should be provided...
- based on everyday context
 - following conversations by close people
 - not in an imposing manner

Online version

Within SNS used by an infrequent reader, he/she sees friends' posts which contain book information within a context that may not be explicitly about books



How does Serendy work?

(1) Filters tweets which mention books

- Using regular expressions
- Using keywords related to 'book' or 'reading'

(2) Constructs a query

- Title/Quote ← Any parenthesized text
- Using regular expressions

AND

- Author ← Any person's name
- Using Japanese morpheme analysis engine

(3) Searches on Google Books

- Using free word search
- Regarding top hit as the mentioned book

Next Steps

1. Detailed analysis of how people mention books in Twitter

- Gather tweets which mention books
- Conduct clustering and examine the patterns

2. Refinement of technical components

- Identification of tweets mentioning books
- Query builder + search
- Sentiment analyzer

3. Extension of notification methods

- Text message and SNS
- Mobile application

4. User evaluation

- Run closed/public beta test
- Update Serendy with feedback

Analysis of Experimental Usage

Closed beta test

(May 30th-July 28th, 2014)

- 12 users
- 35 source accounts
- 2 sources/user
- Batch crawl every 12 hours
- Mail notification every day (If any book is found)

Results

All recommended books: **1,586**
Books matched with original mention in tweets: **226 (14.2%)**

Error analysis (grouped by the steps in the algorithm)

(In some cases, multiple reasons apply)

| Step | Case | Count | Ratio |
|------|---|-------|-------|
| (1) | Extracted tweets NOT mentioning books | 915 | 57.7% |
| | Tweets mentioned Web and academic articles | 163 | 10.3% |
| | Tweets mentioned 図書館 (library) only | 133 | 8.4% |
| (2) | Builds unsuitable queries | 123 | 7.8% |
| | Name extracted NOT the author's name | 62 | 3.9% |
| | Title extracted NOT book title | 45 | 2.8% |
| (3) | Failed to search on Google Books | 175 | 11.0% |
| | Books NOT in collection | 67 | 4.2% |
| | Books NOT yet published | 38 | 2.4% |
| - | Tweet mentioned books but system could NOT recognize them as such | 147 | 9.3% |
| | Book title NOT parenthesized | 84 | 5.3% |
| | Several books mentioned in a single tweet | 23 | 1.5% |
| | Mention distributed over sequential tweets | 17 | 1.1% |
| | Abbreviations used or implicit book title | 14 | 0.9% |