# Goodreads Recommender Systems

## The RS Analysis

### Introduction

Goodreads (http://goodreads.com) is a service that helps to 'meet your next favorite book'. That is, the service itself is aimed to provide recommendation and discovery of books. Below is a brief overview of recommender systems used in the service, characterised according the RS Analysis Framework proposed in the "Introduction to Recommender Systems" class by J. Konstan and M. Eckstrand at Coursera.

The main goal of the service is to grow community around the books - this allows for monetisation through promoting book titles and ads. However, as the service may have referral earning from online stores (e.g. Amazon), the purpose of book recommendations is twofold: grow community and have users buy book.

Beyond everything written below, the service also facilitates Active Collaborative Filtering, enabling users to recommend books to other users.

## Non-Personalized Recommendations

For non-logged visitors, Goodreads provide a number of tools for non-personalized recommendation.

### Readers online

Information on readers online serves as a way to discover and follow new people (growing the community) and later to discover books through those new friends.

| Where | Main page, right column |
|---|---|
| Domain | Matchmaking (people) |
| Purpose | Build a community around books |
| Context | Visitor browsing the site |
| Whose opinions | Actions of the users, browsing the website. |
| Personalization | Not personalized |
| Privacy | Logged users of the website are exposed to all visitors |
| Interfaces | Inputs: implicit data (browsing & login actions)<br>Output: explicit list of users |
| Algorithms | Non-personalized, mostly likely top-N users ordered by the timestamp of the last action. However, some quality control may be applied (e.g. users with a lot of books in a library etc). |

### Book lists

One of the main tools of discovery at Goodreads are "Reading Lists": collaboratively managed sets of books.

| Where | Main page, right column (widget) + Listopia section |
|---|---|
| Domain | Unordered lists of books |
| Purpose | Build a community, populate service with data, make users read books |
| Context | Visitor browsing the site, looking what to read, marking read books |
| Whose opinions | Featured lists: experts, |

| | Lists My Friends Have Voten On: friends, Popular, Recent, Best, New: all users |
|---|---|
| Personalization | Not personalized (except that about friends) |
| Privacy | Activity in lists exposed to all other users |
| Interfaces | Inputs: explicit data (rating of the books in lists), implicit data (behavior of people building the lists)<br>Output: explicit set of recommended book lists over various criteria |
| Algorithms | Mostly non-personalized summary: featured by experts, popular, recent, best (top-rated) |

## Book trivia

The service provides simple trivia games around books and recommends them, trying to lead users to leave data for the website and build community. Some of the trivia are recommended via the widget on the mainpage.

| Where | Main page, left column (widget) |
|---|---|
| Domain | Questions from trivia games |
| Purpose | Build a community |
| Context | Visitor browsing the site, marking read books |
| Whose opinions | Unclear, probably the trivia to display is selected based on actions of all users. |
| Personalization | Not personalized |
| Privacy | Nothing is exposured |
| Interfaces | Inputs: probably implicit data (users creating and answering trivia)<br>Output: a single trivia game to play |
| Algorithms | Non-personalized summary (not explained) |

## Book quizzes

Similar to trivias but with slightly more recommending options, the service provides and recommends quizzes around books.

| Where | Main page, left column (widget) + Quizzes section |
|---|---|
| Domain | Quizzes to answer |
| Purpose | Build a community |
| Context | Visitor browsing the site, marking read books |
| Whose opinions | Main page widget: unclear, may be combination of all + experts<br>Featured: experts<br>Popular, Recent, New: all users |
| Personalization | Not personalized |
| Privacy | User activity on quizzes is aggregated and thus anonymized |
| Interfaces | Inputs: implicit data (creating and answering quizzes), explicit data (quiz ratings, maybe rating of the books quizzes about are also used)<br>Output: a single quiz (main page), lists of quizzes (other parts) |
| Algorithms | Non-personalized summary |

## Quotes

Quotes serve as a small leads to books, hence recommending quotes may help people who aren't ready to start reading unknown book eventually end up reading it.

| Where | Main page, left column (widget) + Quotes section |
|---|---|
| Domain | Quotes to read and like |
| Purpose | Build a community, make people read books |
| Context | Visitor browsing the site, marking read books, looking what to read next |
| Whose opinions | all users, friends, me ("my authors"), experts ("quote of the day") |
| Personalization | Most aren't personalized except "my authors" and "friends" |
| Privacy | User activity on quotes is aggregated and thus anonymized |
| Interfaces | Inputs: implicit data (creating and answering quizzes), explicit data (liked quotes)<br>Output: a single quote (main page), lists of quotes (other parts) |
| Algorithms | Non-personalized summary (popular, recent, new), trust-based CF |

| | (friends), content-based information filtering ('my authors') |
|---|---|

### Best books

Goodreads conducts annual Goodreads Choice Awards, providing recommendations of the awarded books.

| Where | Main page, left column bottom |
|---|---|
| Domain | Books |
| Purpose | Build a community, make people read books |
| Context | Visitor browsing the site, looking what to read next |
| Whose opinions | experts |
| Personalization | None |
| Privacy | N/A |
| Interfaces | Inputs: explicit data (expert voting)<br>Output: various sets of books to read |
| Algorithms | Non-personalized summary (popular among experts) using external community data |

## Ephemeral personalisation

### Book catalog filters

Users can browse Goodreads catalog by genres. On each genre page there's a plenty of recommendations of different content objects filtered by the genre.

| Where | Links from main page, left column middle (e.g. Art) |
|---|---|
| Domain | Books, Tangible Books (giveaways), Lists of books, Articles, Videos, Groups, Quotes, Related genres |
| Purpose | Make people read books (books, giveaways, lists, quotes, related genres), build a community (articles, videos, groups) |
| Context | Visitor browsing the site, looking what to read next, marking read books |
| Whose opinions | Experts/publishers (new releases, giveaways, 'Good minds suggest')<br>all users (popular, lists, etc) |

| Personalization | Ephemeral (filtered by genre) |
|---|---|
| Privacy | User activity is aggregated, however the service gets information on what you're interested in |
| Interfaces | Inputs: explicit data (users voting on books and liking quotes), implicit data (users creating lists etc)<br>Output: Organic filtering (recommendations affect order in widgets), explicit ("good minds suggest") |
| Algorithms | Non-personalized summary over various criteria |

## Personalized Recommendations

In order to get personalized recommendations ('Recommendations' section of the website once logged in), a user need to rate 20 books. Upon doing that, he gets two recommended lists: one for books read/rated, another within the most favorite genre for the user.

| Where | [Recommendations section](#) |
|---|---|
| Domain | Books |
| Purpose | Make people read books, build a community |
| Context | Visitor browsing the site, looking what to read next |
| Whose opinions | all users (however, may be mixed with experts as the recommendations are not explained to this extent) |
| Personalization | Persistent, based on the whole reading history |
| Privacy | User activity is aggregated, however the service gets information on what you're interested in |
| Interfaces | Inputs: explicit data (users marking books read)<br>Output: Explicit recommendations |
| Algorithms | Probably some type of collaborative filtering, mixed with information filtering for the recommendations within the genre. |

Also, signing in provides some additional recommendations. For instance, in Explore -> Listopedia the tab "Lists My Friends Voted On" emerges (mentioned above in Book Lists).

# Appendix I. Screenshots

# Non-Personalized Recommendations

**Readers online**



Readers online now
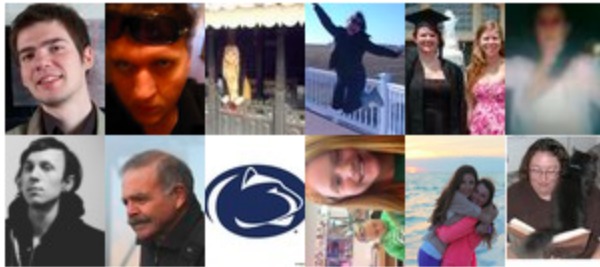
**Book lists**



## Love lists?

**Best Crime & Mystery Books**
3,621 books | 8,471 voters

**Best Books of the 20th Century**
4,905 books | 33,665 voters

**Best for Book Clubs**
2,844 books | 7,852 voters

**More book lists...**

## Featured Lists



**The Arthurian Legend Retold**
332 books — 381 voters

**Books for and About Activists**
221 books — 151 voters

## Lists with Recent Activity

**book options for reading homework**
13 books — 3 voters

**Books you have read more than one time**
1,886 books — 796 voters

**2013 GOTTA HAVE IT**
466 books — 722 voters

**Most Terrifying Short Stories**
191 books — 268 voters

## Popular Lists

**Best Young Adult Books**
8,015 books — 44,110 voters

**Books That Everyone Should Read At Least Once**
9,054 books — 43,738 voters

**Books That Should Be Made Into Movies**
14,069 books — 38,427 voters

**Best Books of the 20th Century**
4,906 books — 33,679 voters

**More popular book lists...**

## "Best of" Lists

**Best Books Ever**
26,824 books | 102,074 voters

**Best Books of the 21st Century**
3,867 books | 10,229 voters

**Best Books of the Decade: 2000s**
4,169 books | 20,944 voters

**Best Books Published 2013**
1,894 books | 4,094 voters

**Best books of September, 2013**
26 books | 48 voters

**More...**

## Brand New Lists

**No More Rakes: Historical Romance**
14 books | 1 voter

**Not a Man-Ho! Paranormal/Fantasy/UF Romance**
11 books | 1 voter

**Not a Man-Ho! Contemporary Romance**
8 books | 2 voters

Book trivia

# Trivia

Which of these books was not written by Charlotte Brontë?

a. Jane Eyre
b. The Professor
c. Villette
d. Wuthering Heights

**More trivia…**

## Book quizzes

# Quizzes

**The Hunger Games Quiz!**
12 questions, taken 453,164 times

**Guess the book**
8 questions, taken 198,244 times

**The Spirit of Imaginat…**
6 questions, taken 106,167 times

**More book quizzes…**

## Featured Quizzes

**A Song of Ice and Fire Quiz**
taken 10519 times
50 questions
★★★★★

**How Well Do You Know Superman?**
taken 3134 times
10 questions
★★★☆☆

## Popular Quizzes

**The Hunger Games Quiz!**
taken 453172 times
12 questions
★★★★☆

**Guess the book**
taken 198244 times
8 questions
★★★☆☆

**The Spirit of Imagination**
taken 106167 times
6 questions
★★★★☆

**Guess The First Sentence**
taken 101917 times
22 questions
★★★★☆

**Twilight Saga Quiz**
taken 97973 times
10 questions
★★★☆☆

**How well do you know book chapters?**
taken 82359 times
12 questions
★★☆☆☆

**More popular quizzes...**

## Quizzes With Recent Activity
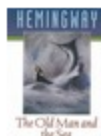
**The Old Man and the Sea**
taken 848 times
10 questions
★★★★☆

**The Throne of Glass Quiz**
taken 6 times
10 questions
★★★★★

**Ten Greatest Books Never Written**
taken 1913 times
10 questions
★★★★☆

**Tales of a Fourth Grade Nothing quiz**
taken 3236 times
10 questions
★★★☆☆

**Dork Diaries Book 3 - Pop Star**
taken 79 times
10 questions
★★★★★

**Dandelion Wine**
taken 250 times
7 questions
★★★★★

**More quizzes with recent activity...**

## New Quizzes

**How well do you know Judge dredd?**
by Joe
10 questions, taken 0 times

**Edwin Drood**
by Tweedledum
15 questions, taken 0 times

**city of glass**
by Cilicia
8 questions, taken 1 time

**floors by patrick caraman**
by Derek
8 questions, taken 1 time

## Quotes

## Quotes

"Be who you are and say what you feel, because those who mind don't matter, and those who matter don't mind."
— Bernard M. Baruch

**More quotes...**

Quotes popular among Goodreads members.

"Don't cry because it's over, smile because it happened."
— Dr. Seuss

like

tags: attributed-no-source, cry, crying, experience, happiness, joy, life, optimism, sadness, smile, smiling

105,595 people liked it

**Quote of the Day**    subscribe

*"History, like love, is so apt to surround her heroes with an atmosphere of imaginary brightness."*

— **James Fenimore Cooper**
From The Last of the Mohicans
like this quote

**Best books**

## Goodreads Choice Awards: The Best Books 2012

goodreads
choice
awards
2012

Best Fiction 2012
Best Mystery & Thriller 2012
Best Historical Fiction 2012
Best Fantasy 2012
Best Paranormal Fantasy 2012
Best Science Fiction 2012
Best Horror 2012
Best Romance 2012
Best Memoir & Autobiography 2012
Best History & Biography 2012

Best Nonfiction 2012
Best Food & Cookbooks 2012
Best Humor 2012
Best Graphic Novels & Comics 2012
Best Poetry 2012
Best Young Adult Fiction 2012
Best Young Adult Fantasy & Science Fiction 2012
Best Middle Grade & Children's 2012
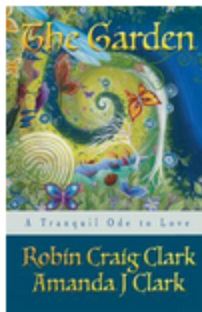Best Picture Books 2012
Best Goodreads Author 2012

**Ephemeral personalization**

**Book catalog filters**

## New Releases Tagged "Art"
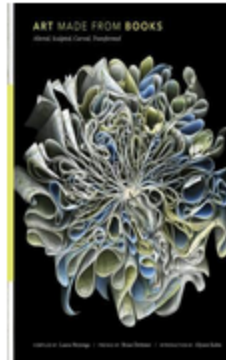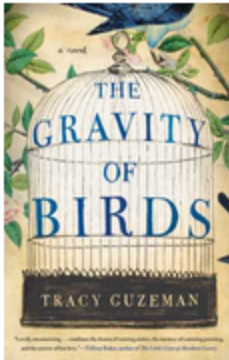
## Giveaways

### The Garden

by **Robin Craig Clark** (Goodreads Author)

THE GARDEN - A Love Story for the Soul. Winner of the Premier's Book Awards. 2013 Signed Edition.

This book will touch the very essence of who you are,...more
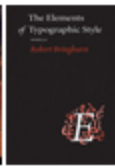
**Enter to win**

Giveaway dates: Aug 19 - Nov 16, 2013
1 copy available, 1575 people requesting
Countries available: US, CA, and GB more
read on goodreads

**View Details »**
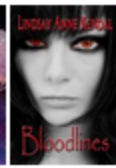
## Most Read This Week

# Lists
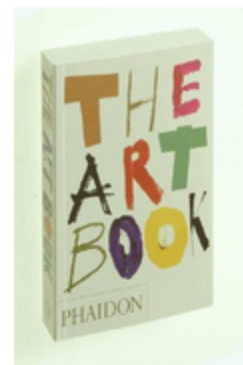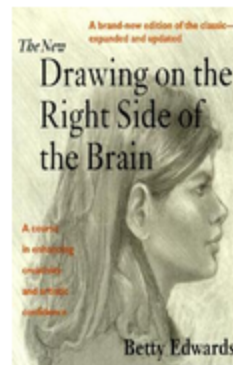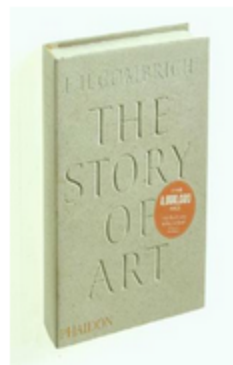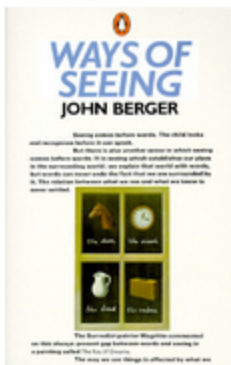


**Best Design Books**
69 books — 38 voters



**Best Cover of All Time**
205 books — 80 voters

# Popular Art Books



# Writing Tagged "Art"

*A Hotel in Paris*
1 chapters — updated Mar 29, 2010 04:34pm — 6 people liked it

*A Foreigner Carrying in the Crook of His Arm a Tiny Bomb*
1 chapters — updated Jun 10, 2010 08:20am — 0 people liked it

## Videos Tagged "Art"



*Productive Member of Society*



*Forsaken Book Trailer*

**More videos...**

## Groups Tagged "Art"

### Contemporary Art Discourse

 Dedicated to the reading and discovering of outstanding literature on contemporary art.

62 members, last active 4 months ago

### ☀Ignite Your Creativity☀

 Welcome! Congratulations - you got here. >In this group, we are all about creativity. If you've...more

731 members, last active 3 days ago

## Quotes Tagged "Art"

 "A life spent making mistakes is not only more honorable, but more useful than a life spent doing nothing."
― George Bernard Shaw

5,462 people liked it

## Good Minds Suggest

### Peter Sís

**His Favorite Illustrated Books**: Take flight into the richly drawn worlds of these recs from the artist behind a new adaptation of *The Conference of the Birds.*

**Read »**

**More Good Minds Suggest…**

## Related Genres

Art Books Monographs          Non Fiction
Art Design                    Photography
Art History                   Street Art
Drawing                       Visual Art
Graffiti

## Personalized Recommendations

## Your interest in **Non Fiction**

updated: 9 minutes ago

| want to read | want to read | want to read | want to read | want to read |
|---|---|---|---|---|
| ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| Not interested | Not interested | Not interested | Not interested | Not interested |

**More for this genre »**

## Based on Your **Read** Shelf

updated: 9 minutes ago

**Business Model Generation**

want to read
☆☆☆☆☆
Not interested

**STEVEN PINKER**
THE BETTER ANGELS OF OUR NATURE
WHY VIOLENCE HAS DECLINED

want to read
☆☆☆☆☆
Not interested

want to read
☆☆☆☆☆
Not interested

**The Four Steps to the Epiphany**
Successful Strategies for Products that Win

Steven Gary Blank

want to read
☆☆☆☆☆
Not interested

The Righteous Mind

Why Good People are Divided by Politics and Religion

Jonathan Haidt

want to read
☆☆☆☆☆
Not interested

**More for this shelf »**

## Lists my Friends Have Voted On

Nina Skalko voted on:

**Best Books Ever**
26,824 books — 102,092 voters

Maxim Balabin voted on:

**Olympics Opening Ceremony Books**
38 books — 289 voters