Your Prediction

Reading Recommendations at the Saint Paul Public Library
Recommender systems

Chances are you have seen these in action:
Recommender systems

Chances are you have seen these in action:
Recommender systems

Chances are you have seen these in action:
Critically-acclaimed Biographical Documentaries

Your taste preferences created this row.

As well as your interest in...

BEING ELMO
A PUPPETEER'S JOURNEY

Our best guess for John: 4 stars
Average of 32,904 ratings: 4.4 stars
Customers Who Bought This Item Also Bought

- **The Hunger Games** by Suzanne Collins
  - Rating: ★★★★★ (4.926)
  - Price: $5.39

- **Water for Elephants: A Novel** by Sara Gruen
  - Rating: ★★★★★ (3.604)
  - Price: $9.37

- **Extremely Loud and Incredibly Close (Movie Tie-in Edition)** by Jonathan Safran Foer
  - Rating: ★★★☆☆ (600)
  - Price: $8.97

- **Mockingjay (The Hunger Games, Book 3)** by Suzanne Collins
  - Rating: ★★★★★ (2.462)
  - Price: $9.95

- **Eat, Pray, Love: One Woman's Search for Everything** by Elizabeth Gilbert
  - Rating: ★★★★★ (2.797)
  - Price: $10.20

Customer Reviews

*5,299 Reviews*

- **5 star:** (4,177)
- **4 star:** (622)
- **3 star:** (208)
- **2 star:** (117)
- **1 star:** (175)

**Average Customer Review**

★★★★☆ (5,299 customer reviews)

Most Helpful Customer Reviews

2,833 of 2,992 people found the following review helpful:

★★★★★ **The Best Book in Years! An Instant Classic!**, January 28, 2009

By [JK8](Salem, NJ) - [See all my reviews](#)

[This review is from: The Help (Hardcover)](#)
Drive (2011)

Movie Information (edit info) (flag)

Starring: Ryan Gosling, Carey Mulligan, Bryan Cranston, Albert Brooks, Oscar Isaac, Christina Hendricks, Ron Perlman
Directed By: Nicolas Winding Refn
Genres: Crime, Drama, Thriller
Language: English

Average rating: ★★★★★ (3.88 stars)
Your Prediction: ★★★★★ (4.5 stars)
Rated by: 750 users
Links: IMDb, Rotten Tomatoes

Drive
A Hollywood stuntman who moonlights as a getaway driver is lured from his isolated life by a lovely neighbor and her young son. His newfound peace is shattered, however, when her violent husband is released from prison.
GroupLens

About GroupLens

GroupLens is a research lab in the Department of Computer Science and Engineering at the University of Minnesota. We conduct research in several areas, including:

- recommender systems
- online communities
- mobile and ubiquitous technologies
- digital libraries
- local geographic information systems

![GroupLens Team](image-url)
MovieLens is...

- A community of 100,000+ movie enthusiasts.
- Using MovieLens since 1997 to:
  - Rate
  - Discuss
  - Tag
  - Maintain
  - Discover
MovieLens is...

- A research platform:
  - Surveys
  - HCI experiments
- Accumulated data used in 238+ academic publications
Where to go next?

- MovieLens users kept asking for a "BookLens"
- "When will you recommend books to us?"
Books weren't really done before

- **MovieLens**
  - 20,000,000 ratings
  - 15,000 movies

- **Netflix**
  - > 2,000,000,000 ratings
  - > 75,000 movies

- **BookCrossing**
  - Only available book data set
  - 1,000,000 ratings
  - 200,000 books
Lots of book communities

A home for your books.
Enter what you’re reading or your whole library. It’s an easy, library-quality catalog.

A community of 1,500,000 book lovers.
LibraryThing connects you to people who read what you do.

CHECK IT OUT
- Take the tour.
- Sign up. It’s more fun than the tour.
- See what bloggers and the media say about LibraryThing.

WHAT’S GOOD?
- Join the world’s largest book club.
- Catalog your books from Amazon, the Library of Congress and 690 other world libraries. Import from anywhere.
- Find people with eerily similar tastes.
- Find new books to read.
- Free Early Reviews of books from publishers and authors.

RECENT ACTIVITY
- adaniel11 reviewed, rated: Curious George and the Birthday Surprise by H. A. Rey ★★★★★ (read review)
- nbmars reviewed, added, rated: The Fault in Our Stars by John Green ★★★★★ (read review)
- jenbojkov added, reviewed: The Breakup Bible by Melissa Kantor (read review)
- cindyspocket rated: No Mark upon Her: A Novel by Deborah Crombie ★★★★★
- PitcherBooks rated: Smith (CA Brett Helquist) by Leon Garfield ★★★★★
- RebeccaMichelet rated: Berlioz the Bear by Jan Brett ★★★★★
- youthfulzombie rated: Timeless by Cail Carriger ★★★★½
Lots of book communities

Meet your next favorite book.

Deciding what to read next?
You're in the right place. Tell us what titles or genres you've enjoyed in the past, and we'll give you surprisingly insightful recommendations.

What are your friends reading?
Chances are, your friends are discussing their favorite (and least favorite) books on Goodreads. Want to learn more? Take the tour.

What will you discover?
Because ♥Meagan♥ liked...

Readers online now

Historical Fiction, Book Club

sponsored links

The Singapore Werewolf
Jaclyn is bitten by a feral dog while in Australia, the incident occurs at 'The Pinnacles' under a full moon, many lives are about to change.

www.amazon.co.uk
Lots of book communities

Minnesota Book Awards
Before the 2012 winners are announced on April 14, hear nominees William Kent Krueger ("Northwest Angle"), Lori Sturdevant and George S. Pillsbury ("The Pillsbrys of Minnesota"), Danielle Sosin ("The Long-Shining Waters"), and Brett Laidlaw ("Trout Caviar") discuss their books. Library events. Readers’ Choice Vote.

Teen Job Fair
Teens ages 14–19 can meet employers from businesses and organizations, find out about jobs, internships, and volunteer opportunities, pick up job applications, and attend workshops at the sixth annual Teen Job Fair on March 24, noon–3 p.m. at Minneapolis Central Library. Free admission. Employers still needed.

14 Writers to Honor Author Emily Meier
Fourteen writers will honor St. Paul author Emily Meier by reading from Meier’s six newly-published works of fiction at an “Edina Reads” library event on March 31 sponsored by seven community organizations.

‘Snow White’ Display and Program
A display of “Snow White” and Brothers Grimm materials and a theater program for children will be presented at Minneapolis Central Library in collaboration with and sponsored by the University of Minnesota’s Northrop Concerts and Lectures.
Lots of book communities
Lots of book communities
What if everyone worked together?

- The goal of BookLens
- People can create a BookLens account
  - They can view their ratings and predictions with every web site or community
  - Not tied to a single community
- Sharing ratings gives better predictions
What if everyone worked together?

- Foster a sense of larger community
- Create relationships
- A great fit for the Twin Cities libraries
  - Patron cross-over
  - Work with local resources
Ratings in the Classic Catalog

New Library Hours

Title: Game of Thrones
Author: George R.R. Martin
Publication Date: 1996

Rating: ★★★★★

19 holds on first copy returned of 13 copies

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>CALL NUMBER</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>SCIENCE FICTION (PAPER)</td>
<td>DUE 03-24-12</td>
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<tr>
<td>Arlington Hills</td>
<td>SCIENCE FICTION (PAPER)</td>
<td>DUE 03-13-12</td>
</tr>
<tr>
<td>Dayton's Bluff</td>
<td>SCIENCE FICTION (PAPER)</td>
<td>DUE 03-14-12</td>
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</table>
# Ratings in the Classic Catalog

<table>
<thead>
<tr>
<th>My Ratings (240)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mark</strong></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>□</td>
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<td>□</td>
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<td>□</td>
</tr>
</tbody>
</table>
Ratings in the Classic Catalog

- Information unavailable
- Information unavailable
- Information unavailable
- Information unavailable
- Information unavailable
- Information unavailable
- Information unavailable
- Information unavailable
- Information unavailable

  Juno [videorecording] / Fox Searchlight Pictures ; Mandate Pictures ;
  Mr. Mudd ; produced by Lianne Hafson, John Malkovich, Mason Novick,
  Russell Smith ; written by Diablo Cody ; directed by Jason Reitman.

- K blows top : a Cold War comic interlude starring Nikita Khrushchev,
  America's most unlikely tourist / Peter Carlson.

- King Arthur [videorecording] / Touchstone Pictures and Jerry
  Bruckheimer Films present an Antoine Fuqua film ; produced by Jerry
  Bruckheimer ; written by David Franzoni ; directed by Antoine Fuqua.
<table>
<thead>
<tr>
<th>Rated items</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow crash / by Stephenson, Neal.</td>
<td>★★★★★</td>
</tr>
<tr>
<td>Otters / by Miller, Sara Swan. in Columbus Metropolitan Library</td>
<td>★★★★☆</td>
</tr>
<tr>
<td>Say you're one of them / by Akpan, Uwem.</td>
<td>★★★★☆</td>
</tr>
<tr>
<td>It / by King, Stephen, in Ramsey County Library</td>
<td>★★★★☆</td>
</tr>
</tbody>
</table>
## My Discoveries

<table>
<thead>
<tr>
<th>Rating</th>
<th>★★★★★ They loved it</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAGS</td>
<td>fantasy, a song of ice and fire, epic, epic fantasy, sff, high fantasy, intrigue, science fiction, medieval, knights, martin, speculative fiction, american, historical fantasy, fantasy series, green dragon</td>
</tr>
</tbody>
</table>
BookLens - Library User

Average rating if not logged in:

BookLens gives you personalized predictions for books while browsing the library's catalog.

Login to see your predictions.
BookLens - Library User

Your rating, if logged in:

Logged in as jclarson (log out)
BookLens - Library User

Prediction, if logged in and item not rated by user:

Logged in as jclarson (log out)
BookLens - Library User

Recommended, similar books

A game of thrones / by George R.R. Martin.

Authors: Martin, George R. R.
ISBN: 0553593714 (pbk.)
0553103547
9780553381689 (trade pbk.)
Call number: SCIENCE FICTION (PAPER)
Description: 694 p. ; 25 cm.
Series: Martin, George R. R. Song of ice and fire ; bk. 1.

Your recommendations

[Image: A listing of recommended books]

Average rating:

BookLens gives you personalized predictions for books while browsing the library's catalog.
Login to see your predictions.
BookLens - Library User

Recommended, similar books

A game of thrones / by George R.R. Martin.

Authors: Martin, George R. R.
ISBN: 0553593714 (pbk.)
Call number: SCIENCE FICTION (PAPER)
Series: Martin, George R. R. Song of Ice and Fire ; bk. 1.

Average rating:

BookLens gives you personalized predictions for books while browsing the library's catalog.

Your recommendations

Mockingjay
Mockingjay
By Suzanne Collins

13 holds on first copy returned of 14 copies
LOCATION: Arlington Hills
CALL NUMBER: SCIENCE FICTION (PAPER)
STATUS: IN TRANSIT +1 HOLD
Book
Live demonstration

In the SPPL catalog:
http://aquabrowser.sppl.org

BookLens site:
https://booklens.umn.edu/
Behind the scenes

● How does it work?
  1. Edit templates to add widgets
  2. Use our web service directly
● What do you have to do?
  ○ Not much, hopefully!
How does it work?

Embed widgets in templates:

1. Visits online catalog
2. JavaScript embeds widgets
How does it work?

BookLens web service:

1. Visits online catalog
2. Library sends requests to BookLens
3. BookLens data rendered in page
1. Find every book's similarity to every other book
   ● This takes a while for 500,000 books
   ● Only needs user ratings
   ● Other information can help
1. Measuring book similarity

Opuses

- Combines publications of the same work
1. Measuring book similarity

Series and genres
1. Measuring book similarity

Series and genres
1. Measuring book similarity

Same author
Recommendation books

2. A prediction for a book is a weighted average
   - Combines user's ratings and item similarities

\[
\begin{align*}
? &= \frac{2 \times 0.3 + 1 \times 0.7 + 3 \times 0.2}{0.3 + 0.7 + 0.2} \\
? &= \frac{0.6 + 0.7 + 0.6}{1.2} \\
? &= \frac{1.9}{1.2} \\
? &= 1.583
\end{align*}
\]
Recommending books

3. Combined with "baselines" as needed
   ● Compensates for sparse information
   ● Based on user's average and item's average rating
   ● Depends on number of ratings
What do you have to do?

- Integrate BookLens with your catalog site
  - One time only
  - Difficulty depends on catalog software
- Synchronize our book catalogs
  - Daily
  - Might already be doing it
  - We support MARC files
Future developments

Expert recommendations from librarians

Conan the Librarian
Future developments

Working with other libraries!
Questions and Answers

How to get involved:
- booklens-team@cs.umn.edu
- mludwig@cs.umn.edu
- john.larson@ci.stpaul.mn.us