

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:



Netflix

Critically-acclaimed Biographical Documentaries

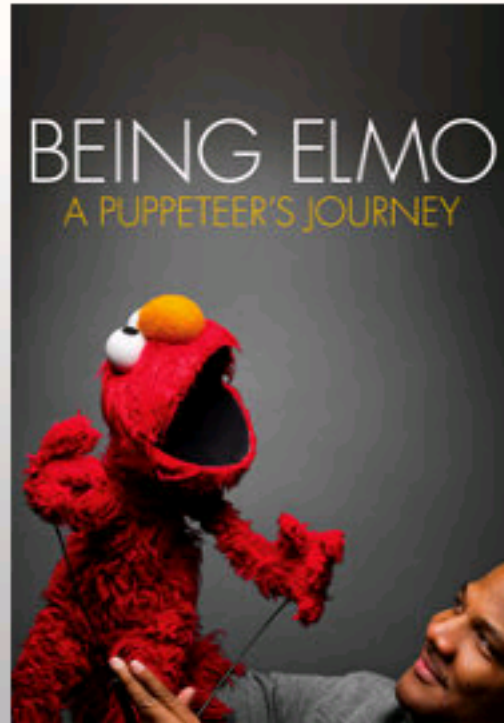
Your taste preferences created this row.

Critically-acclaimed Documentaries

As well as your interest in...



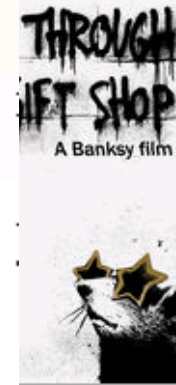
Top F



Not Interested

Our best guess for John: **4 stars**

Average of 32,904 ratings: **4.4 stars**

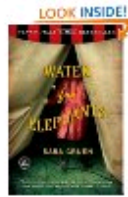


Amazon

Customers Who Bought This Item Also Bought



The Hunger Games by Suzanne Collins
★★★★☆ (4,926)
\$5.39



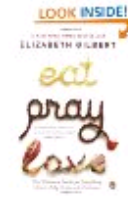
Water for Elephants: A Novel by Sara Gruen
★★★★☆ (3,604)
\$9.37



Extremely Loud and Incredibly Close (Movi... by Jonathan Safran Foer
★★★★☆ (600)
\$8.97



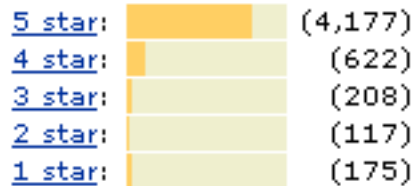
Mockingjay (The Hunger Games, Book 3) by Suzanne Collins
★★★★☆ (2,462)
\$9.95



Eat, Pray, Love: One Woman's Search for... by Elizabeth Gilbert
★★★★☆ (2,797)
\$10.20

Customer Reviews

5,299 Reviews



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](#)

VINE™ VOICE TOP 1000 REVIEWER

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

MovieLens

Drive (2011)

Your Prediction: ★★★★★

Rate This Movie: 4.5 stars

Wish List:

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.

[Report Wrong Movie](#)

[Delivered by Netflix](#) [\(add to queue\)](#)

GroupLens

GroupLens Research

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 Information

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- [Data Sets](#)
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GroupLens Blog

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Recent blog posts

- [On Critical Mass](#)
- [Netbeans + Subversion + Windows XP](#)
- [An Exciting Time for Cyclopath](#)
- [Datasets and availability](#)
- [Getting Good Grades](#)
- [Don't bore me](#)
- [Survey writing woes](#)
- [Stack Overflow *](#)
- [Designers as Activitists?](#)
- [The Netflix Prize and the MovieLens Data Sets](#)

[more](#)

Links

- [Cyclopath](#)
- [MovieLens](#)
- [TechLens](#)
- [Wikipedia](#)

MovieLens is...

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

m o v i e l e n s

helping you find the *right* movies

MovieLens is...

- A research platform:
 - Surveys
 - HCI experiments
- Accumulated data used in 238+ academic publications

m o v i e l e n s

helping you find the *right* movies

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.

Become a Member?

[JOIN NOW](#)

Already a member?

name

password

[SIGN IN](#)

or sign in with... [f](#) [t](#)

[forgot](#) / [organizations](#) / [terms](#)

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 Reviewer books from publishers and authors.

RECENT ACTIVITY



adaniel11 reviewed, rated:
Curious George and the Birthday
Surprise by H. A. Rey ★★★★★
(read review)



cindysprocket rated:
No Mark upon Her: A Novel by Deborah
Crombie ★★★★★



nbmars reviewed, added, rated:
The Fault in Our Stars by John Green
★★★★★ (read review)



PitcherBooks rated:
Smith (CA Brett Helquist) by Leon
Garfield ★★★★★



jenbojkov added, reviewed:
The Breakup Bible by Melissa Kantor
(read review)



RebeccaMichelet rated:
Berlioz the Bear by Jan Brett ★★★★★



ChandraGay reviewed:



youthfulzombie rated:
Timeless by Gail Carriger ★★★½

Lots of book communities

goodreads

Email Password Sign in

Remember me [Forgot it?](#)

Meet your next favorite book.

New here? Create a free account!

Name

Email

Password

Sign up

or sign in using [facebook](#) [twitter](#) [Google](#)

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.](#)


Readers online now



What will you discover?

Because Meagan liked...

She discovered:



Historical Fiction, Book Club

sponsored links



The Singapore Werewolf
Jacky 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

CATALOG | INTERNET | BIRTH TO SIX | KIDS | TEENS | JOBS & CAREERS [Ask Us](#) [My Account](#)

Hennepin County Library [Reference & Research](#) [BookSpace](#) [Library Information](#) [Events & Classes](#) [Go](#)

Library Catalog
Subject Guides
Databases A-Z

eBooks & More
Audiobooks
eBooks
Music
Video

New Immigrants
Español
Hmoob
Soomaali

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 Pillsburys 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.

Libraries and Hours
My Library Ridgedale

How do I...

Ask Us
[Text](#) | [IM](#) | [Email](#) | [Phone](#)

Support Your Library
[Join the Friends of HCL](#)
[Donate](#)
[Volunteer](#)

Newsroom
Building Projects

Browse our book lists: [adults](#) [teens](#) [kids](#) [birth to six](#)

THE FIBBY TYCOON by CONNELLUS VANHORN
JULIUS - THE BABY OF THE WORLD by KEVIN HINKES
SHIP BREAKER by PATRICIA MCGAGHER
TERRY BROOKS by SHANNARA
Katie Loves the Kittens by John Kowalski
DC COMICS SUPERMAN
CATHERINE COULTER by THE PENWYTH CURSE
LARINE HALSE ANDERSON
FREEDOM A NOVEL BY JONATHAN FRANZ
Cupcake by Chris Madden

Lots of book communities



A A A

Main Site | Kids | Teens

[Ask a Librarian](#) | [Contact Us](#)

HOME CATALOG BOOKS MOVIES MUSIC EVENTS + CLASSES SERVICES RESEARCH ABOUT MY ACCOUNT

Enter Keywords to search library catalog or website



SEARCH CATALOG SEARCH SITE

▶ Hours and Locations

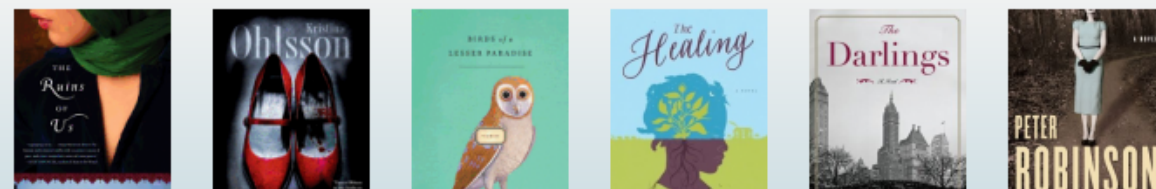
▶ How Do I ...?

An advertisement for "Z Puppets Rosenschnoz". It features a cartoon puppet character with a red eye and a red 'Z' on its chest. The background is white with a repeating pattern of red 'Z's. The text reads: "Z PUPPETS ROSENSCHNOZ" and "The amazing Z Puppets Rosenschnoz are coming to a library near you. Kids, don't miss this wild show!".

1 2 3 4 5 6

WHAT'S NEW

FICTION NONFICTION MUSIC MOVIES



Lots of book communities

The screenshot shows the Ramsey County Library website. At the top left is the logo for Ramsey County LIBRARY, which includes a stylized figure of a person reading. To the right of the logo are three 'A' icons and a navigation menu with links for 'Main Site', 'Kids', and 'Teens'. Below this is another navigation menu with links for 'HOME', 'CATALOG', 'BOOKS', 'MOVIES', 'MUSIC', 'EVENTS & CLASSES', 'SERVICES', 'RESEARCH', 'ABOUT', and 'MY ACCOUNT'. A search bar is located below the navigation menu, with the text 'Enter Keywords' and a magnifying glass icon. To the right of the search bar are two radio buttons: 'SEARCH CATALOG' (selected) and 'SEARCH SITE'. Below the search bar are two buttons: 'Hours and Locations' and 'How Do I'. To the right of these buttons is a large advertisement for 'byki' language learning. The advertisement features the text '70+ languages', 'native speakers', 'video/audio instruction', and 'Learn a language today!' in a large, blue, stylized font. Below the advertisement are five numbered buttons: '1', '2', '3', '4', and '5'. Below the advertisement is a section titled 'WHAT'S NEW' with four sub-sections: 'FICTION', 'NONFICTION', 'MUSIC', and 'MOVIES'. Below these sub-sections are six book covers: 'DEBORAH CROMBIE NO MARK', 'SARAH PEKKANEN SKIPPING A BEAT', 'OATH OF OFFICE MICHAEL', 'JOAN HESS', 'PRESTON & CHILD GIDEON'S COORCE', and 'LISA GARDNER CATCH ME'. At the bottom left of the page is a button for 'TEENS LIBRARY'.

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](#)

[My Library](#) [Search Help](#) [Library Info](#) [Research](#) [Other Libraries](#) [Interlibrary Loan | MnLINK](#) [Popular Searches](#) [AquaBrowser](#)

[Request](#) [Add to Bag](#) [Return to Browse](#) [Limit/Sort Search](#)

TITLE [View Entire Collection](#) Limit search to available items

 [Reviews & More](#)

Author [Martin, George R. R.](#)
Title [A game of thrones / by George R.R. Martin.](#)
Publication Data [New York : Bantam Books, 1996.](#)
Rating ★★★★★
19 holds on first copy returned of 13 copies

Copies	LOCATION	CALL NUMBER	STATUS
	Central	SCIENCE FICTION (PAPER)	DUE 03-24-12
	Arlington Hills	SCIENCE FICTION (PAPER)	DUE 03-13-12
	Dayton's Bluff	SCIENCE FICTION (PAPER)	DUE 03-14-12

Ratings in the Classic Catalog

My Ratings (240)		
Mark	Title	Ratings
<input type="checkbox"/>	3:10 to Yuma [videorecording] / Lionsgate presents ; a Tree Line Film production ; in association with Relativity Media ; screenplay by Halsted Welles and Michael Brandt & Derek Haas ; produced by Cathy Konrad ; directed by James Mangold.	★★★★☆
<input type="checkbox"/>	12 monkeys [videorecording] / Universal Pictures and Atlas/Classico present an Atlas Entertainment production ; a Terry Gilliam film ; produced by Charles Roven ; screenplay by David Peoples & Janet Peoples ; directed by Terry Gilliam.	★★★★☆
<input type="checkbox"/>	28 weeks later [videorecording] / Fox Atomic and DNA Films present in association with The UK Film Council a Figment, Sogecine and Koan Films ; produced by Enrique López Lavigne, Andrew Macdonald, Allon Reich ; screenplay by Rowan Joffe and Juan Carlos Fresnadillo & Jesús Olmo, E.L. Lavigne ; directed by Juan Carlos Fresnadillo.	★★★★☆
<input type="checkbox"/>	300 / story & art, Frank Miller ; color, Lynn Varley.	★★★★☆
<input type="checkbox"/>	300 [videorecording] / Warner Bros. Pictures presents in association with Legendary Pictures and Virtual Studios ; produced by Mark Canton, Bernie Goldmann, Gianni Nunnari, Jeffrey Silver ; screenplay by Zack Snyder & Kurt Johnstad and Michael B. Gordon ; directed by Zack Snyder.	★★★★☆
<input type="checkbox"/>	2001 [videorecording] : a space odyssey / Metro-Goldwyn- Mayer presents a Stanley Kubrick production ; directed and produced by Stanley Kubrick ; screenplay by Stanley Kubrick and Arthur C. Clarke.	★★★★☆
<input type="checkbox"/>	A.I. Artificial intelligence [videorecording] / Dreamworks Pictures and Warner Bros. Pictures present an Amblin/Stamley Kubrick production, a film by Steven Spielberg ; producers, Kathleen Kennedy, Steven Spielberg, Bonnie Curtis ; screenplay writer, Steven Spielberg ;	★☆☆☆☆

Ratings in the Classic Catalog

<input type="checkbox"/>	Information unavailable	★★★★★
<input type="checkbox"/>	Information unavailable	★★★★☆
<input type="checkbox"/>	Information unavailable	★★★★☆
<input type="checkbox"/>	Information unavailable	★★★★★
<input type="checkbox"/>	Information unavailable	★★★★☆
<input type="checkbox"/>	Information unavailable	★★★★☆
<input type="checkbox"/>	Information unavailable	★★★★☆
<input type="checkbox"/>	Information unavailable	★★★★☆
<input type="checkbox"/>	The Joshua tree [sound recording] / U2.	★★★★★
<input type="checkbox"/>	Juno [videorecording] / Fox Searchlight Pictures ; Mandate Pictures ; Mr. Mudd ; produced by Lianne Halfon, John Malkovich, Mason Novick, Russell Smith ; written by Diablo Cody ; directed by Jason Reitman.	★★★★★
<input type="checkbox"/>	K blows top : a Cold War comic interlude starring Nikita Khrushchev, America's most unlikely tourist / Peter Carlson.	★★★★☆
<input type="checkbox"/>	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.	★★★☆☆

My Discoveries

My Discoveries Help Log out Close X

[Lists](#) [Tags](#) [Ratings](#) [Reviews](#) [Profile](#)

Rated items	Rating
Snow crash / by Stephenson, Neal.	★★★★★
Otters / by Miller, Sara Swan. in Columbus Metropolitan Library	★★★★☆
Say you're one of them / by Akpan, Uwem.	★★★★☆
It / by King, Stephen, in Ramsey County Library	★☆☆☆☆

My Discoveries

Rating: ★★★★★ They loved it

TAGS [fantasy](#), [a song of ice and fire](#), [epic](#), [epic fantasy](#), [sff](#), [high f](#)
[intrigue](#), [science fiction](#), [medieval](#), [knights](#), [martin](#), [specula](#)
[american](#), [historical fantasy](#), [fantasy series](#), [green dragon](#),

BookLens - Library User

Average rating if not logged in:

Average rating:



[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:

Your rating:



Logged in as jclarson([log out](#))

BookLens - Library User

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

Your prediction:




Logged in as `jclarson` ([log out](#))

BookLens - Library User

Recommended, similar books

game of thrones > Advanced Search > Book Cart > Help > Print My Discoveries

[Return to result list](#) [Next >](#)







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

Authors: [Martin, George R. R.](#)
Published: New York : Bantam Books, 1996.
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.](#)
Url for this record:
<http://aquabrowser.sppl.org/?hrciid=%7clibrary%2fm%2fस्पpl-iii%7cb1379388>


13 holds on first copy returned of 14 copies


LOCATION	CALL NUMBER	STATUS
Arlington Hills	SCIENCE FICTION (PAPER)	IN TRANSIT +1 HOLD


Average rating:

BookLens gives you personalized predictions for books while browsing the library's catalog.
[Login](#) to see your predictions.

Your recommendations





 Book


powered by Aquabrowser Library[®]

BookLens - Library User

Recommended, similar books


game of thrones > Advanced Search > Book Cart > Help > Print My Discoveries




◀ Return to result list Next >








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

Authors: Martin, George R. R.
Published: New York : Bantam Books, 1996.
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.
Url for this record: <http://aquabrowser.spl.org/?hrciid=%7clibrary%2fm%2fspl-...>


Average rating:

BookLens gives you personalized predictions for books while browsing the library's catalog.
[Login](#) to see your predictions.

Your recommendations



13 holds on first copy returned of 14 copies

LOCATION	CALL NUMBER	STATUS	
Arlington Hills	SCIENCE FICTION (PAPER)	IN TRANSIT +1 HOLD	 Book

powered by Aquabrowser Library⁵

Live demonstration

In the SPPL catalog:

<http://aquabrowser.sppl.org>

BookLens site:

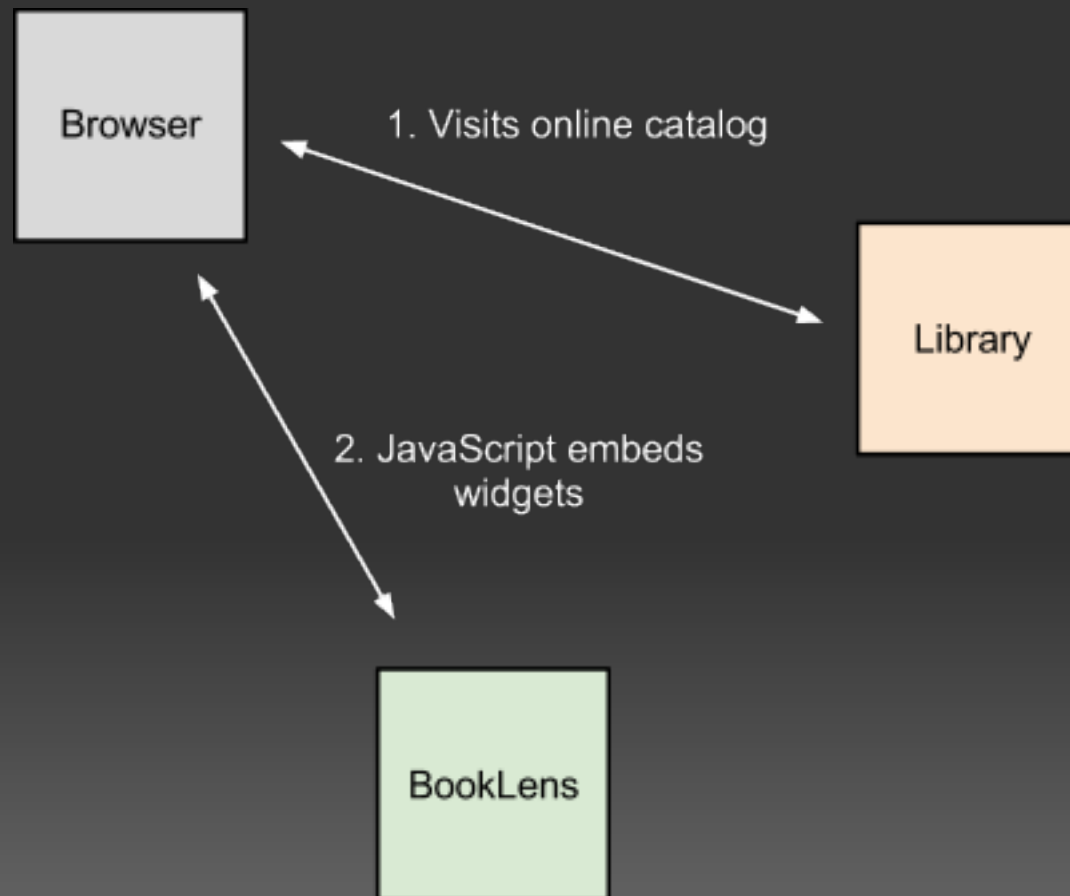
<https://booklens.umn.edu/>

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!

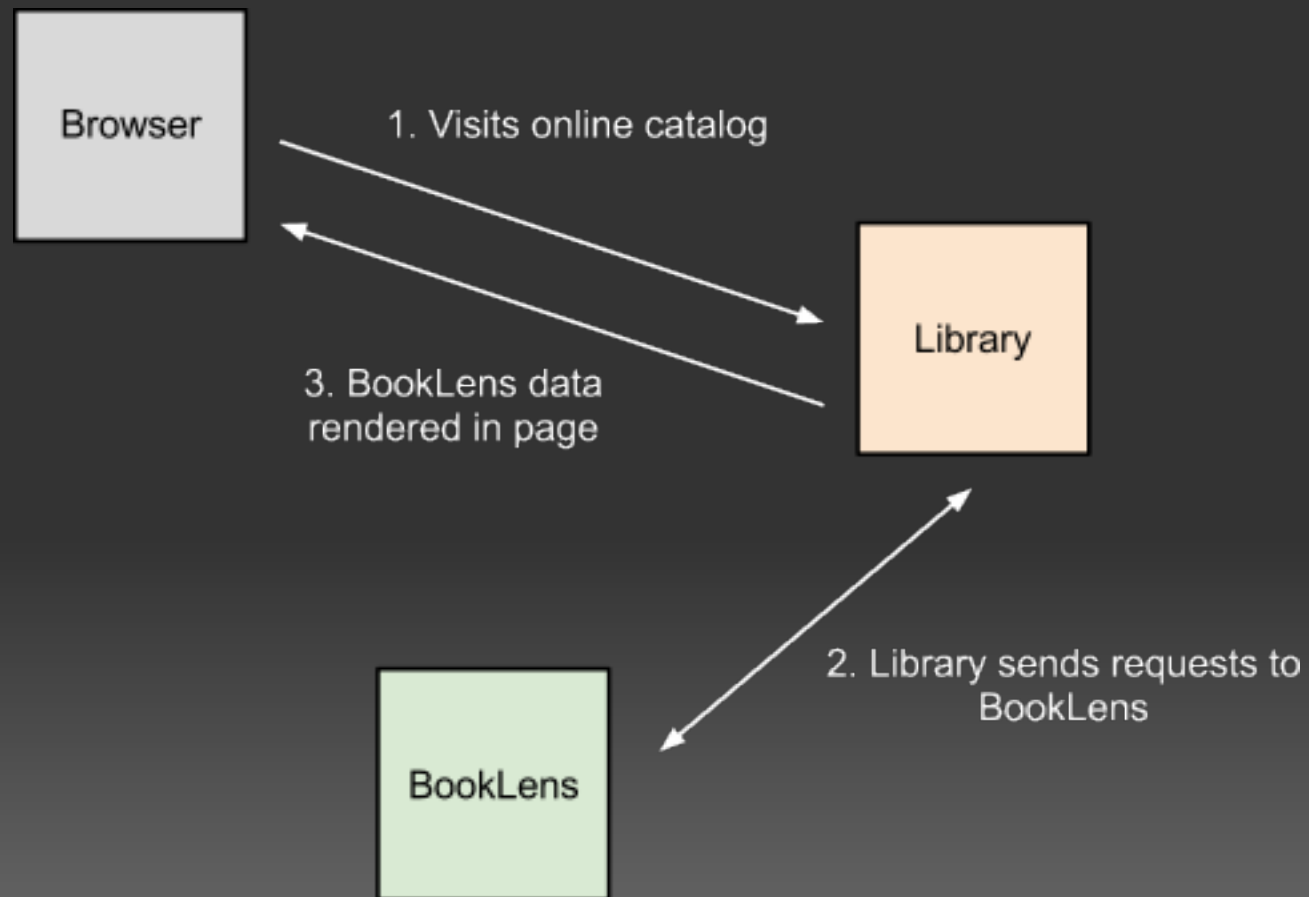
How does it work?

Embed widgets in templates:



How does it work?

BookLens web service:



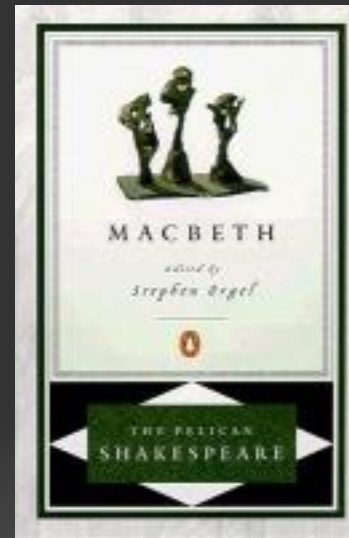
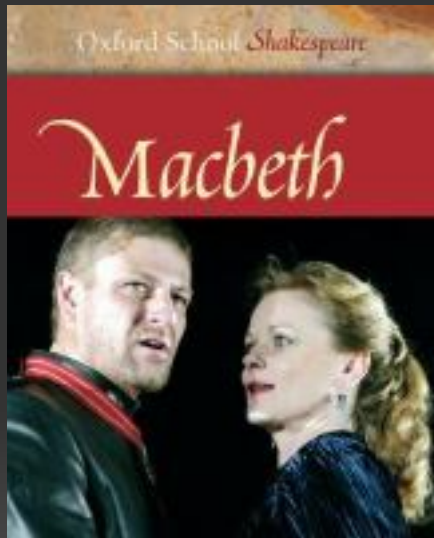
Recommending books

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

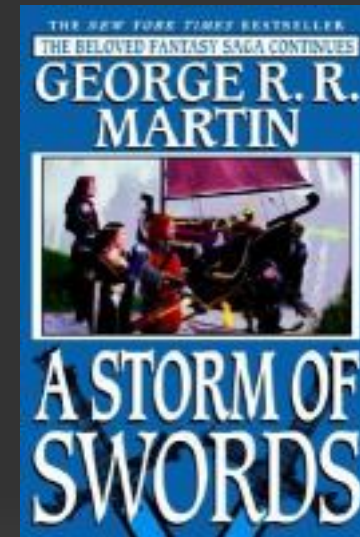
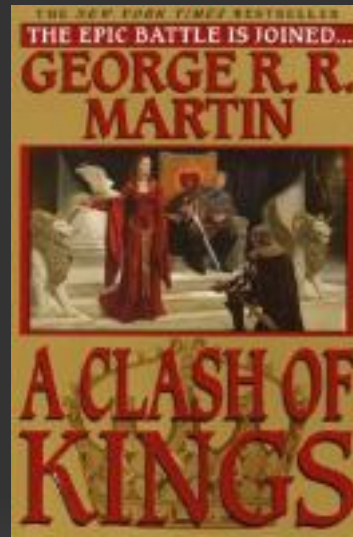
Opuses

- Combines publications of the same work



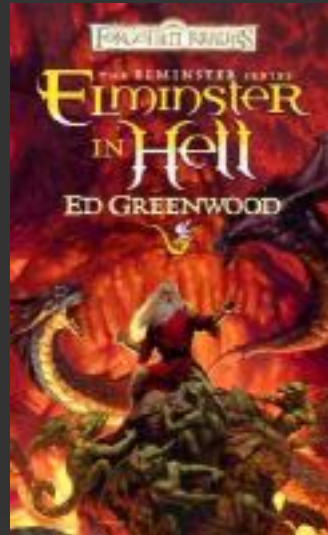
1. Measuring book similarity

Series and genres



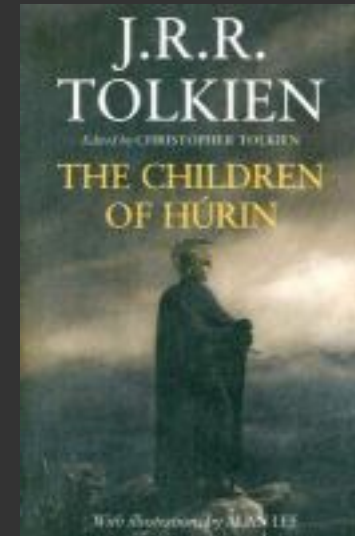
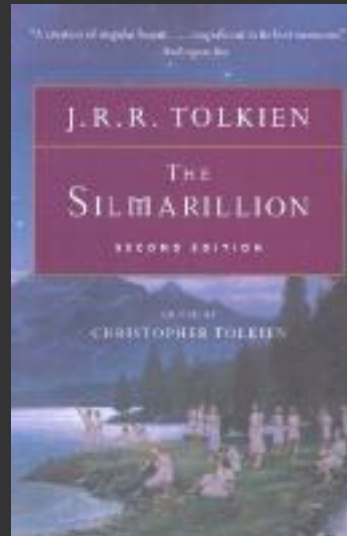
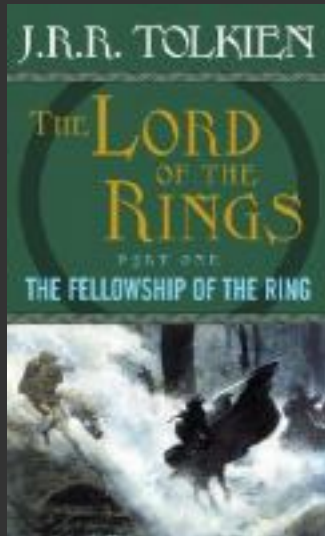
1. Measuring book similarity

Series and genres



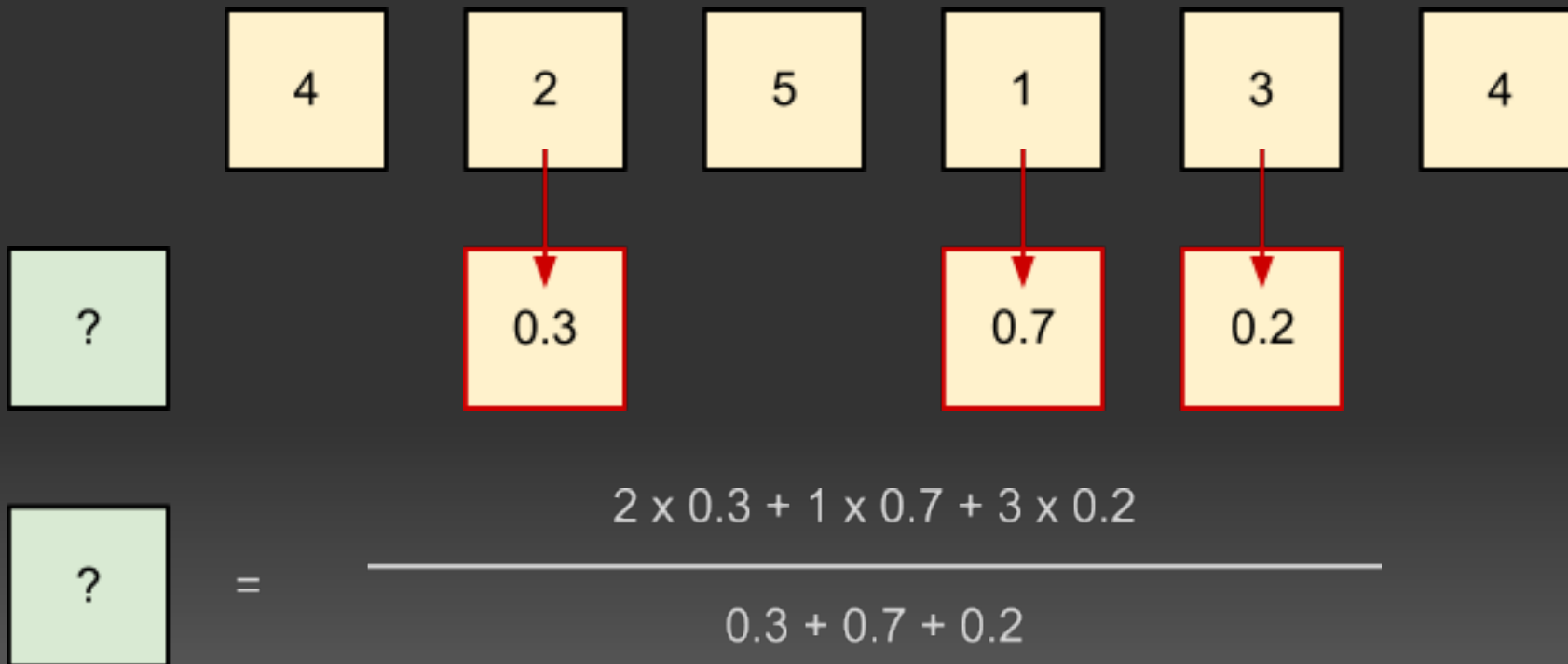
1. Measuring book similarity

Same author



Recommending books

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



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

Suggested book widget


game of thrones > Advanced Search > Book Cart > Help > Print My Discoveries




◀ Return to result list Next >

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




Authors: [Martin, George R. R.](#)
Published: New York : Bantam Books, 1996.
ISBN: 0553593714 (pbk.) :
0553103547 :
9780553381689 (trade pbk.) :
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Url for this record:
<http://aquabrowser.sppl.org/?hrecid=%7clibrary%2fm%2fsppl-...>

Average rating: 
BookLens gives you personalized predictions for books while browsing the library's catalog.
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Your recommendations



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LOCATION	CALL NUMBER	STATUS
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 Book

powered by Aquabrowser Library[®]

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