Steps for Content Based Recommender Systems



What is the content?

- Most CB-recommendation techniques were applied to recommending text documents
 - Like web pages or news articles
 - Basic Assumption: Availability of item description/information
- Content of items is usually represented as text
 - With textual descriptions of their basic characteristics.
 - Structured: Each item is described by the same set of attributes
 - Unstructured: free-text description.

Title	Genre	Author	Туре	Price	Keywords
The Night of the Gun	Memoir	David Carr	Paperback	29.90	Press and journalism, drug addiction, personal memoirs, New York
The Lace Reader	Fiction, Mystery	Brunonia Barry	Hardcover	49.90	American contemporary fiction, detective, historical
Into the Fire	Romance, Suspense	Suzanne Brockmann	Hardcover	45.90	American fiction, murder, neo-Nazism



Item Content Representation

What do we need:

- some information about the available items such as the genre ("content")
- o some sort of user profile describing what the user likes (the preferences)

	Comedy	Adventure	Superhero	Sci-Fi	
B N N S U P E R M A N	0	1	1	0	
THERTING	1	1	1	1	
Caye was	1	0	1	0	

Analytics Vidhya

From Items to User Profiles

	~			•	1	I .	•	
				Comedy	Adventure	Superhero	Sci-Fi	
BATMAN SUPERMAN	1		BACMAN SUPERMAN	0	1	1	0	
GUARDIANS	5		GUARTIANS	1	1	1	1	
EIVE WAR	4		EVEL VARI	1	0	1	0	
Input	User Ratings	-	gan 80 bases	•	Movies	Matrix		nalytics idhya

From Items to User Profiles

	Θ			ı	ı		1		ı		l		•	_
				Comedy	Adventure	Superhero	Sci-Fi			Comedy	Adventure	Superhero	Sci-Fi	
BUPERMAN	1		BACHAN SUPERMAN	0	1	1	0	•	BANN N SUPERMAN	0	1	1	0	
GHATTARI	5	X '	THATTAN	1	1	1	1	= .	SHERTANG	5	5	5	5	
City was	4	_	Cive was	1	0	1	0	•	Give too.	4	0	4	0	
Inpu	t User Rati	ings			Mov	ies Matri	×			Comedy	Adventure	Superhero	Sci-Fi	

User Profile

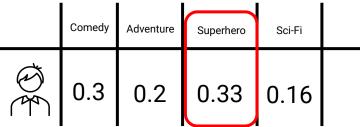
	Comedy	Adventure	Superhero	Sci-Fi	
30	9	6	10	5	



From Items to User Profiles

		_		Comedy	Adventure	Superhero	Sci-Fi			Comedy	Adventure	Superhero	Sci-Fi	
B J N N S U P E R M A N	1	•	BATHAN SUPERMAN	0	1	1	0	•	B P R M A N	0	1	1	0	
and the second	5	х ⁻	THE TANK	1	1	1	1	=	- WELDER	5	5	5	5	
2 Date with	4	•	GITT YOU	1	0	1	0	•	CHAN AMIL	4	0	4	0	
Inpu	ı t User Rati	ings			Mov	ies Matri	X			Comedy	Adventure	Superhero	Sci-Fi	

User Profile





Recommending Items

						1
		Comedy	Adventure	Superhero	Sci-Fi	
		1	1	0	1	
	THE DARK K N I G H T	0	0	1	0	
	BOSEMAN	1	0	1	0	
					, A	nalytics

Movies Matrix



	Comed y	Adventur e	Superher o	Sci-F									
	0.3	0.2	0.33	0.16									
	Х	X	х	x									
	Come dy	Adventu re	Superhe ro	Sci- Fi	_		Come dy	Adventu re	Superhe ro	Sci- Fi			Sur
	1	1	0	1		-Hoth	0.3	0.2	0	0.16		s _	0.6
THE DARK KNIGHT	0	0	1	0	=	THE DARK KNIGHT	0	0	0.33	0		U M	0.3
♦	1	0	1	0	_		0.3	0	0.33	0			0.6
	-	Mov Mat		-			•	Weig	ht Matrix	.	_	\sim	Ana Vidi