

Turnitin and iThenticate

How Education Now Works At All
Levels

Dr. John Barrie – Turnitin, Creator

My Background

- * Undergraduate: UC Berkeley
Rhetoric & Neurobiology
- * Doctorate: UC Berkeley
Biophysics Multidisciplinary Graduate Group, Neurobiology
- * Dissertation: Theoretical and computational
electro-neurophysiology
Spatiotemporal dynamics of the neocortical EEG
(in other words, the physiology of perception)

Problem

- * Internet has allowed the public to access massive amounts of information

This access has been accompanied by a manifold increase in the theft and misappropriation of digital intellectual property

- * This problem has become especially pronounced in academia where it takes the form of plagiarism

- * Students are using the Internet like a multi-billion page searchable, cut-and-paste(able) encyclopedia

- * The problem jeopardizes the integrity of the entire system and the addressable academic market is in the billions

Problem

- According to one of the largest studies of plagiarism in the world, Donald McCabe found that almost 40% of students surveyed admitted to plagiarizing information **from the Internet** - and that percentage may be low because many students did not consider 'borrowing' from the Internet without attribution plagiarism

Problem - Components

- * Increasingly IT literate student population
(Wikipedia is replacing the library)
- * Emergence and proliferation of cheat sites
- * End justifies the means philosophy towards education
(parents)
- * Lack of enforcement by institution
- * Competitive pressure
- * Bad examples in society (cheaters win)
- * Things on the internet are not like their material counterparts

Social Epidemic

- * Politicians and leaders rarely write their own material
- * Researchers take credit for work done with their grant money
- * Some journalists have research teams write their articles
- * Legal opinions may be written by judicial clerks not judges
- * Plagiarism is rife in professional publications
- * Plagiarism in academia is widespread

Scholarly Research

- * Major science publishers are gearing up to fight plagiarism. The publishers, including Elsevier and Springer, are set to roll out software across their journals that will scan submitted papers for identical or paraphrased chunks of text that appear in previously published articles. The move follows pilot tests of the software that have confirmed high levels of plagiarism in articles submitted to some journals, according to an informal survey by Nature of nine science publishers. Incredibly, one journal reported rejecting 23% of accepted submissions after checking for plagiarism.
- * Over the past two years, many publishers (including Nature Publishing Group) have been trialling CrossCheck, a plagiarism checking service launched in June 2008 by CrossRef, a non-profit collaboration of 3,108 commercial and learned society publishers. The power of the service — which uses the iThenticate plagiarism software produced by iParadigms, a company in Oakland, California — is the size of its database of full-text articles, against which other articles can be compared. Publishers subscribing to CrossCheck must agree to share their own databases of manuscripts with it. So far, 83 publishers have joined the database, which has grown to include 25.5 million articles from 48,517 journals and books.
- * As publishers have expanded their testing of CrossCheck in the past few months, some have discovered staggering levels of plagiarism, from self-plagiarism, to copying of a few paragraphs or the wholesale copying of other articles.
- * "We are using CrossCheck on about a dozen journals, and it has spotted things that we would otherwise have published," says Aldo de Pape, manager of science and business publishing operations at Springer in Rotterdam, the Netherlands. "Some were very blatant unethical cases of plagiarism. It has saved us a lot of embarrassment and trouble."

NSF Plagiarism Cases

- * 2004: 8 cases
- * 2005: 9 cases
- * 2006: 8 cases
- * Subscribed to iThenticate
- * 2007: 19 cases
- * 2008: 14 cases
- * 2009: 25 cases
- * Most of the cases pertain to more than one proposal. For example, one professor submits multiple proposals all of which have some form of research misconduct in them. Another example is when a professor is found suspect of some sort of research misconduct and then his past proposals are reviewed and it is revealed that those were also plagiarized.

Even In China....

- * **Scholars call for immediate investigation in plagiarism case.** Global Times, July 08, 2010.

More than 60 scholars from various universities, research centers and media organizations have jointly issued an open letter urging the [Chinese](#) Academy of Social Sciences (CASS) and Tsinghua University to investigate if a well-known scholar and professor is guilty of plagiarism in his new book.

- * **Plagiarism rocks China's academia again.** [English.news.cn](#), July 09, 2010
- * **Professor Faces Plagiarism Charges.** People's Daily Online, July 12, 2010



Technology is the Key

“Warning students [or journalists or authors or researchers or anyone else] not to plagiarize, even in the strongest terms, appears not to have had any effect whatsoever. Revealing the use of plagiarism-detection software [Turnitin] to the students prior to completion of an assignment, on the other hand, proved to be a remarkably strong deterrent.”

–*Actions Do Speak Louder than Words: Deterring Plagiarism with the Use of Plagiarism-Detection Software*
by Bear F. Braumoeller, Harvard University and Brian J. Gaines, University of Illinois at Urbana-Champaign

Technology is the Key

THIS IS A DIGITAL PROBLEM, AND IT MUST
BE ADDRESSED WITH A DIGITAL SOLUTION.
THE STATUS QUO IS NOT WORKING
BIG TIME

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Plagiarism Detection

- * An internet based service (no software)
- * Accepts student papers
- * Produces originality reports
- * Identifies content copied from:
 - * The internet
 - * ...and the archived internet **EXCLUSIV
E**
 - * Nearly 200 million submitted student works from nearly 10,000 institutions around the world **EXCLUSIV
E**
 - * GALE OneFile **EXCLUSIV
E**
 - * The COMPLETE EBSCO database **EXCLUSIV
E**
 - * ALL of the content from the world's STM and academic publishers **EXCLUSIV
E**
 - * All Yahoo web and current news content **EXCLUSIV
E**
 - * Content from over 31 languages **EXCLUSIV
E**

New Content - Partnerships

- * JISC Collections and e-Book project **EXCLUSIV
E**
- * British Library EThOS project **EXCLUSIV
E**
- * EBSCO **EXCLUSIV
E**
- * Pearson **EXCLUSIV
E**
- * McGraw Hill **EXCLUSIV
E**
- * PubMed Central **EXCLUSIV
E**
- * Open Archives
- * arXiv.org
- * University content (e.g., University of Malaysia; CHE, Thailand)

New Content - CrossRef

- ✱ 28+ million journal articles already 
ACM, BMJ Publishing Group, Elsevier, IEEE, Nature Publishing Group, Oxford University Press, Sage, Informa UK (Taylor & Francis), Wiley Blackwell, Springer, Sage, Am. Institute of Physics, Am. Physical Society, Am. Psychological Society, AAAS
- ✱ Publisher participation is growing quickly

Key Turnitin Metrics

- * 150+ million student papers submitted to Turnitin — projected to grow to over 200 million by the end of 2010
- * 180,000-250,000 new student papers daily
- * 108 countries
- * Integrations with major LMS's
- * Full support for 30+ languages
Arabic, Catalan, Chinese (simplified and traditional), Croatian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Malay Norwegian (Bokmal, Nynorsk), Farsi, Polish, Portuguese, Romanian, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish

Largest Online Academic Community

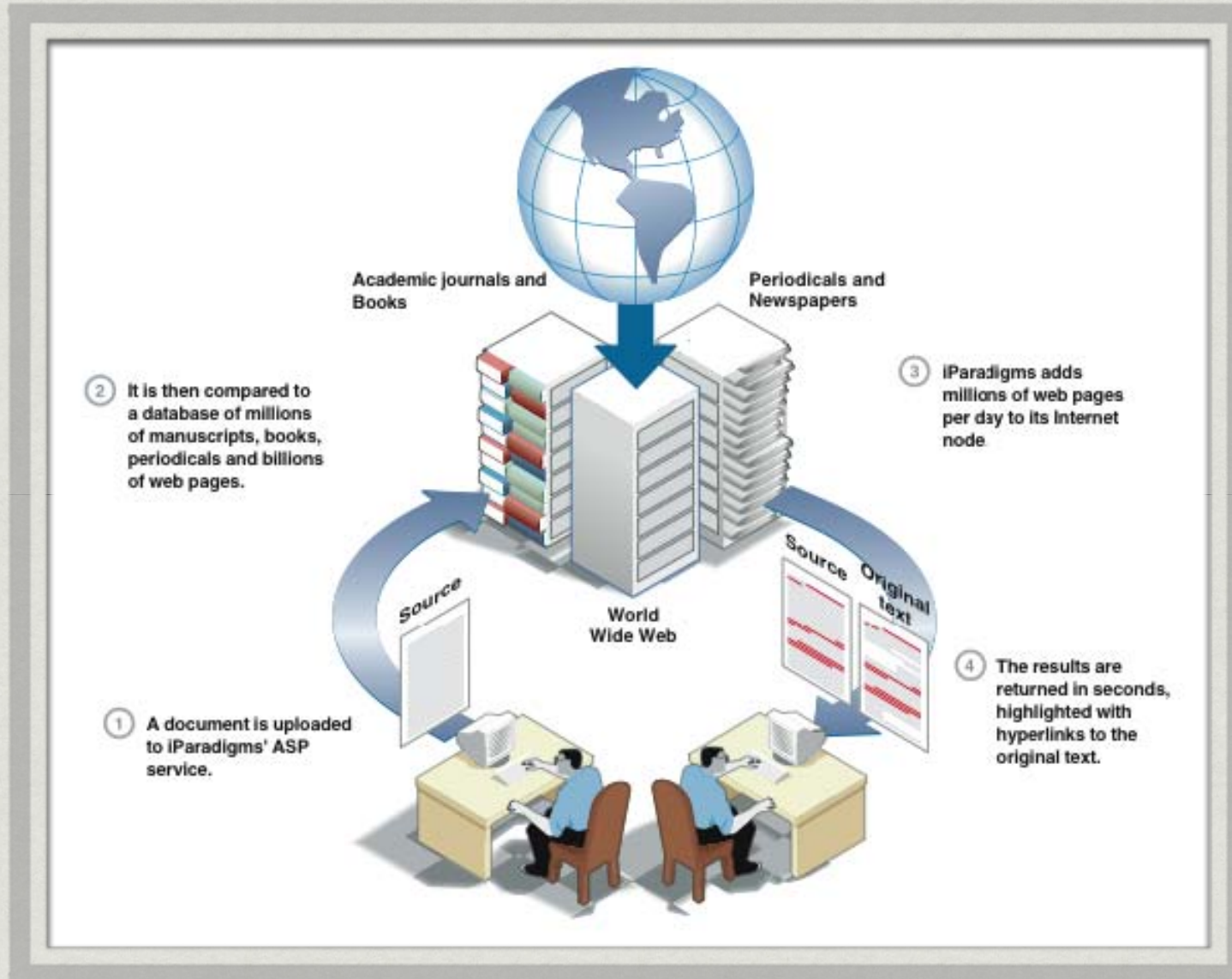
- * Nearly 10,000 institutional clients in 108+ countries
- * In the UK:
 - * Over 99% of Universities
 - * Every high stakes awarding body
 - * Over 100 schools and colleges
 - * 2007 NCC Group Report ranked Turnitin #1 in the world
- * We process 250,000 student papers a day at peaks

Largest Online Academic Community

THE POWER OF TURNITIN
AND ITHENTICATE IS IN THE
NETWORK EFFECT

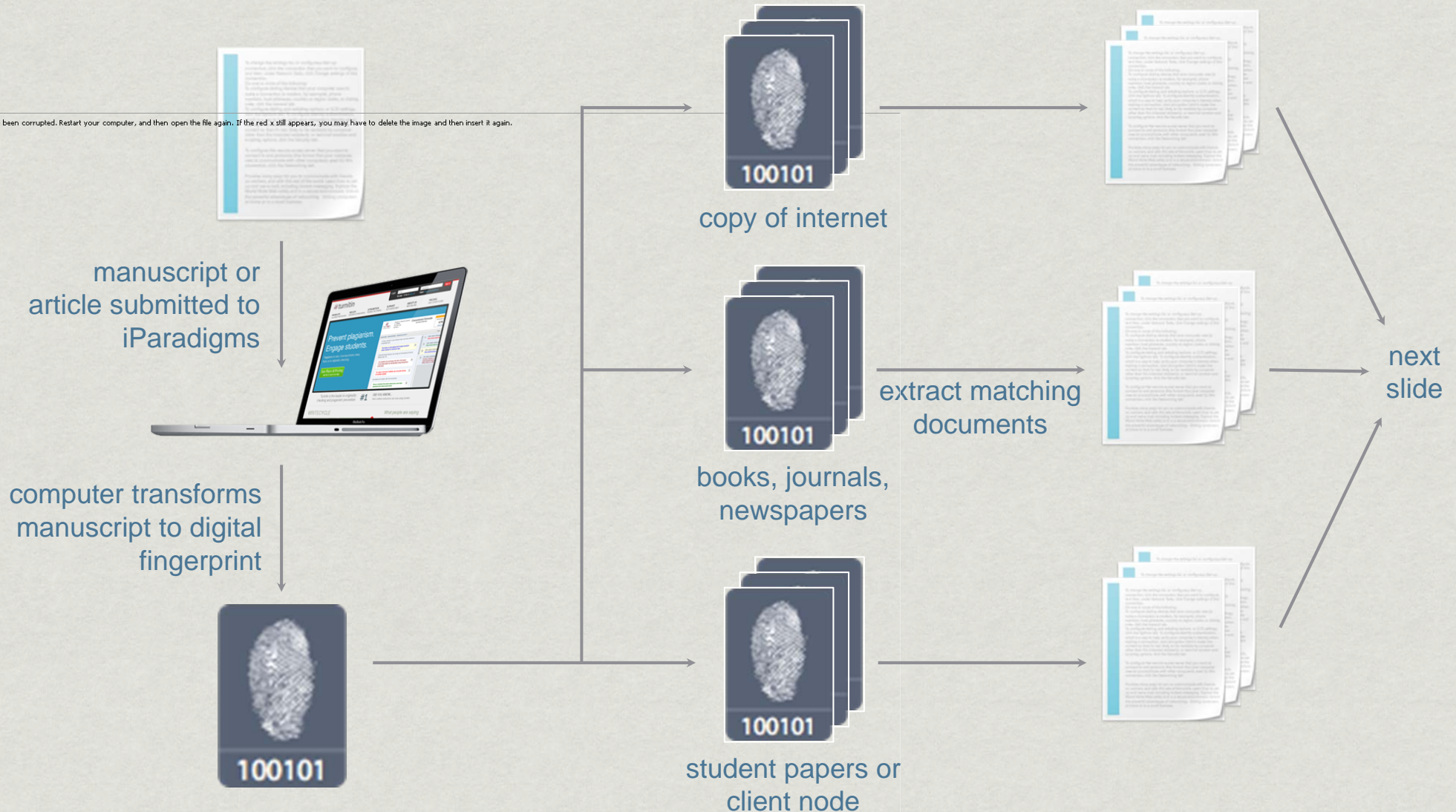
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Core Technology

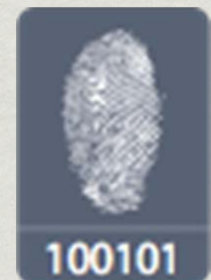
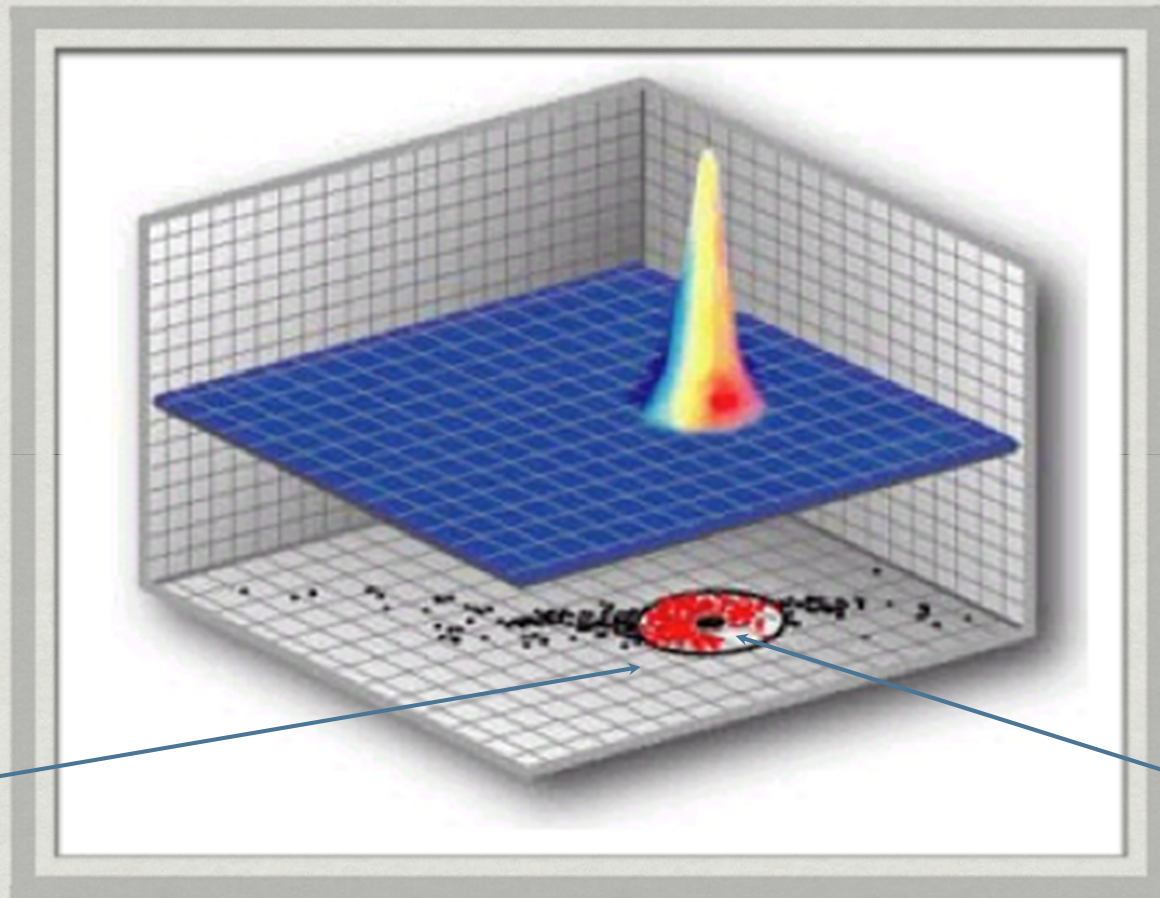


Needle in the Haystack

Searching the Entire Document



Needle in a Haystack



Digital fingerprint of the manuscript/article
is remapped into a high dimensional
space and test for clustering

Originality Report

Matching passages from 12+ billion Internet web pages: updated at a rate of 60-240 million pages/day



Matching passages compared to original manuscript/article



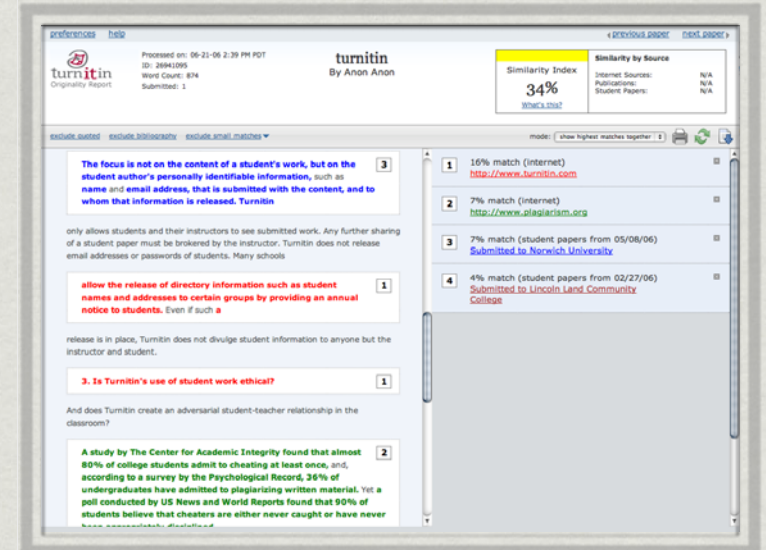
Matching passages from millions of Books, Journals, Newspapers



Matching passages from millions of Student Papers or Client Node



Create Originality Report **Entire process: seconds-minutes**

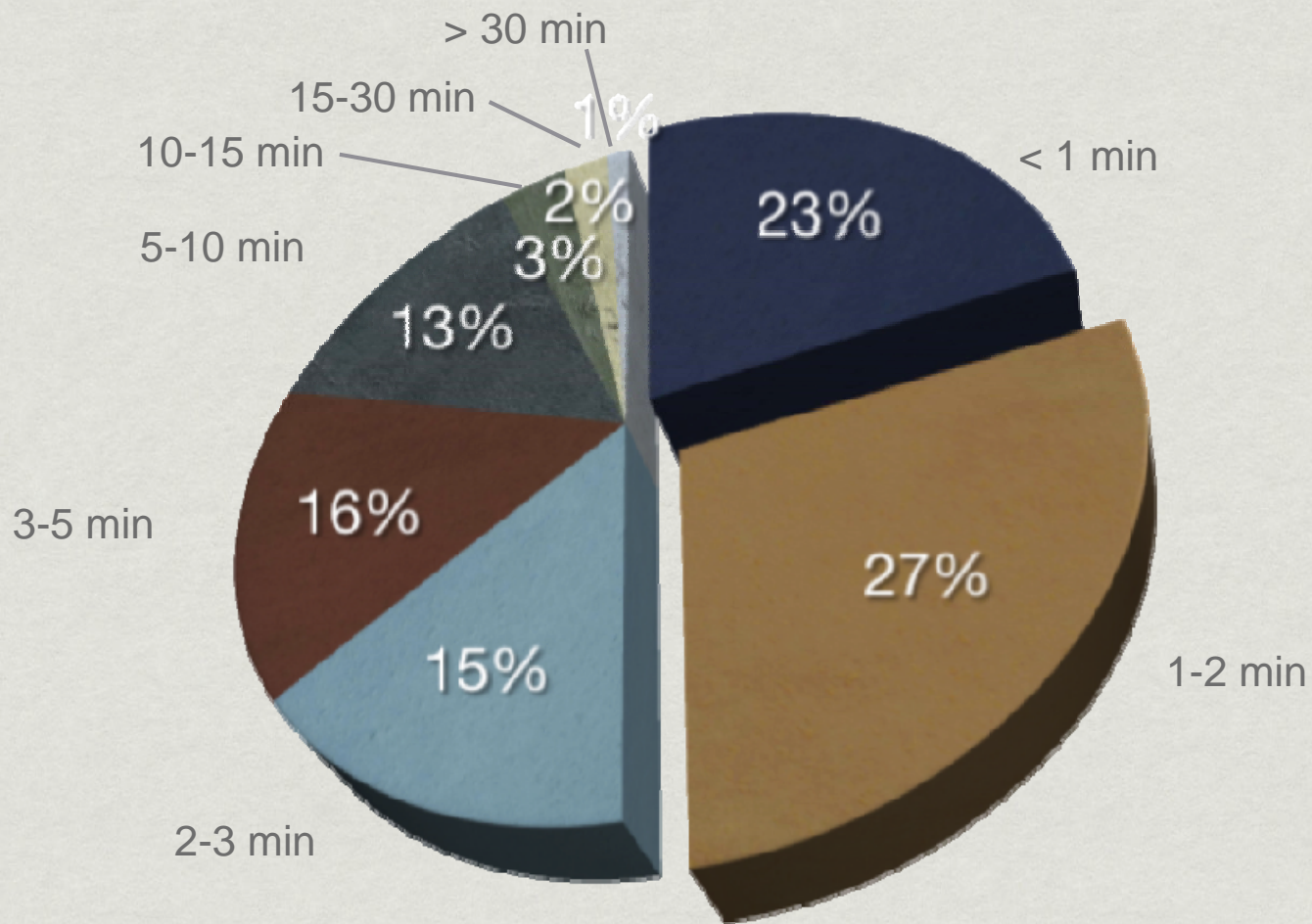


The screenshot shows the Turnitin Originality Report interface. At the top, it displays the Turnitin logo and 'By Anon Anon'. The 'Similarity Index' is highlighted in yellow and shows a score of 34%. Below this, there are several sections of text and a list of matches. The matches list includes:

- 1 16% match (internet) <http://www.turnitin.com>
- 2 7% match (internet) <http://www.plagiarism.org>
- 3 7% match (student papers from 05/06/06) Submitted to Norwich University
- 4 4% match (student papers from 02/27/06) Submitted to Lincoln Land Community College

The interface also includes various settings and options like 'exclude quoted', 'exclude bibliography', and 'exclude email matches'. There are also several informational boxes with red and green text providing details about the report and Turnitin's policies.

Performance Metrics



Turnitin Originality Report

[← previous](#) [next →](#)

Plagiarism and the Internet by Smithson Terry

Processed on 09-19-05 at 6:56 PM

ID: 43672

Word Count: 26545

[print report](#)[refresh report](#)[help](#)

Investigate suspect sources either all together or one at a time



Overall Similarity Index: 94%

[exclude quoted](#)[exclude bibliography](#)mode:

Plagiarism has never been as easy as it is today. Potentially, anyone can find appropriate works nearby library, and copy them by hand. Since these resources were almost always professionally written, the risk of detection was very high.

Similarity Index shows percentage of total matching content to outside sources

View results without including quoted material or the student's bibliography

1 75% match (live internet)

<http://www.craigslist.org>

The Direct Source Comparison window appears whenever you click on a matching passage in the paper body

2 12% match (live internet)

<http://www.craigslist.org>

1 75% match (live internet)

<http://www.craigslist.org>[close](#)[show in web page](#)next match:

The internet now makes it easy to find thousands of relevant sources in seconds, and just a short time period plagiarists can find, copy, and paste together an entire term paper or essay. Because a good deal of of the material online is produced by other students,

1

nearby library, and copy them by hand. Since these resources were almost always professionally written, the risk of detection was very high.

Live internet pages can easily be viewed in their original context

Easily scroll through all matching passages within a source

it is often difficult for educators to identify plagiarism based on a student's level work.

Click on any matching passage to open the Direct Source Comparison window to the right, where the match is shown in context within the suspect source

All matching sources are listed in order of percentage match and referenced to matching passages in the paper body

Even when you suspect plagiarism, the sheer size of the internet seems to work in the plagiarist's favor.

Search engines can be useful for tracking down suspect passages, but even they have their limitations, given the number, variety, and password-protected nature of many websites. Even where search engines do prove useful, manually searching the internet for matches of hundreds of

2

or impossible to track down suspect passages, but even they have their limitations, given the number, variety, and password-protected nature of many websites. Even where search engines do prove useful, manually searching the internet for

Matching text is blocked-out and highlighted for easy identification. Short, non-matching sections are easily identifiable within larger passages

Originality

Gradermark

Peermark

To Speak or Sign: Choosing Cochlear Implants

BY JOHN SMITH

TURNITIN
WRITECYCLESIMILARITY
65
% INDEXGRADE
9
OUT OF 10

To Speak or Sign

The Parental Pressure to Choose between Cochlear Implants, Sign Language, or Both

On the **1**ise

Sign language is a beautifully expressive, visual language using hand, body and facial expressions to convey words and meaning, however, as more and more parents are learning even as early as birth that their **1** child may be deaf, more children are getting cochlear implants then ever before and **2** there is fear that fewer and fewer children will learn to sign. In fact, as of May 2002, 69

percent of babies born in the United States had been screened for hearing loss as part of universal newborn hearing screening programs. Such early identification of infant hearing loss represents a dramatic change from the situation that existed only six

with hearing loss were not identified until they were 2-1/2 years of age (Sorkin 2003). **3** It is likely that the implementation of these early screenings have lead to the growth of



4 Cochlear implants within the United States to 20 percent or more per year (Sorkin 2003). **5** Many parents view deafness as a disability that with cochlear implants can be cured. They desire that their child learn language and function "normally" in society.

Cluster View

1	cochleartoday.com Internet source	36%
2	Lincoln Land Community Colle Student paper (from 2/27/06)	22%
3	Norwich University Student paper (from 12/24/09)	18%
4	JAMA Publication	13%
5	about.com Internet source	10%
6	Medical Examiner Publication	8%
7	Diablo Valley College Student paper (from 12/17/04)	5%

To Speak or Sign

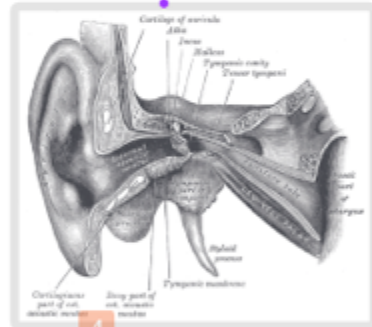
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On the Rise

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Norwich University
Student paper →
Supplemented by sign language, the cochlear implant has been around for 25 years. It is likely that the implementation of these early screenings have caused a demand for more implants in North American and in Asia....

(Sorkin 2003). It is likely that the implementation of these early screenings have lead to the growth of



Cochlear implants within the United States to 20 percent or more per year (Sorkin 2003). Many parents view deafness as a disability that with cochlear implants can be cured. They desire that their child learn language and function "normally" in society.

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Originality

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The Parental Pressure to Choose between Cochlear Implants, Sign Language, or Both

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1	cochleartoday.com Internet source	View 6 matches
2	Lincoln Land Community College Student paper (from 2/27/06)	22%
3	Norwich University Student paper (from 12/24/09)	18%
4	JAMA Publication	13%
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Originality

Gradermark

Peermark

Chinese Culinary Arts

BY JOHN SMITH

TURNITIN
WRITECYCLESIMILARITY
65
% INDEXGRADE
9
OUT OF 10

Cluster View

Rank	Source	Similarity
1	culinaryculture.com Internet source	36%
2	Lincoln Land Community College Student paper (from 2/27/06)	22%
3	Norwich University Student paper (from 12/24/09)	18%
4	JAMA Publication	13%
5	about.com Internet source	10%
6	Medical Examiner Publication	8%
7	Diablo Valley College Student paper (from 12/17/04)	5%

culinaryculture.com

Internet source →

Unbeknownst to many Westerners, dishes and chopsticks are part of China's unique culinary culture during Chinese New Year and various other holidays.

地理上，中国的版图由两个不同国号的国家占据了大部分，故现在中国一般指中国疆域内的各个民族统称为中华民族，亦是中国人口最多，地域分布最广的民族。

有壮、满、回、苗、维吾尔、彝、土家、蒙古和藏等9大民族¹，通用汉语，²少数民族地区往往使用各民族自己的语言。中国人普遍喜好书法、国画、戏曲、象棋、围棋和武术等，茶、酒、菜和筷子等为中国的特色饮食文化，中国新年、清明、端午、中秋等为传统节日。中国传统上是一个儒学思维国家。中国人有强烈的家庭观念，因此将代表家庭的姓氏置于人名之前。中国人还重视教育及对人才的选拔，春秋时期孔子「有教无类，因材施教」开始办私塾培养人才，汉朝时采用察举推选政府官员，隋朝起实行科举在平民中选拔人才。自古以来在文化、科学、技术等方面的成就浩如烟海，明清以来西方的近代科技和民主政治思想传入中国。

中国历来重视编修历史，历朝³代都设有史官，因此保存有十分详尽的历史资料，如《二十四史》、《资治通鉴》等。距今约4000多年前，以中原地区为中心开始出现聚落组织进而成国家和朝代，后历经多次演变和朝代更迭，持续时间较长的朝代有商、周、汉、唐、宋、明和清等，各朝各代也出现过太平盛世，如汉朝文景之治和光武中兴、唐朝贞观之治和开元盛世、明朝万历中兴、清朝康乾盛世等，科学研究显示中国朝代的更替常受气候与粮食生产量影响，会导致处在战乱或分裂时期。中原王朝历史上不断与北方游牧民族交往、征战，如匈奴、突厥、鲜卑、蒙古和女真（满族）等，其中，魏晋时代曾经有五胡乱华，而蒙古和女真甚至入主中原，改变了中国和世界的历史发展进程，众多民族融入中华民族的大家庭。辛亥革命后，中国的帝王国体于1912年退出历史舞台，取而代之的是共和国体的中华民国与中华人民共和国，中国历史步入现代。

4

1949年后，由于国共内战的结果，使得二个继承“中国”的国名但互不隶属的政治实体并存，中华人民共和国和中华民国均声称对整个中国拥有主权。中国是世界上少数最早产生文明并延续至今的国家之一，因其文化传播的广泛性、独特性和成熟性而对周边国家和民族的文化产生深远影响，同时不断吸收各个民族的文明成果而演变为今天的中华文化。

To Speak or Sign: Choosing Cochlear Implants

BY JOHN SMITH

To Speak or Sign

The Parental Pressure to Choose between Cochlear Implants, Sign Language, or Both

On the Rise

Sign language is a beautifully expressive, visual language using hand, body and facial expressions to convey words and meaning, however,

C/S

as more and more parents are learning even as early as birth that their child may be deaf, more children are getting cochlear implants then ever before and there is fear that fewer and fewer children will learn to sign. In fact, as of May 2002, 69

Vague

percent of babies born in the United States had been screened for hearing loss as part of universal newborn hearing screening programs. Such early identification of infant hearing loss represents a dramatic change

Mike Jones

with hearing loss were not identified until they were 2-1/2 years of age (Sorkin 2003). It is likely that the implementation of these early screenings have lead to the growth of

David Smith



Figure 1 Infant Hearing Test

Cite Source

Cochlear implants within the United States to 20 percent or more per year (Sorkin 2003). Many parents view deafness as a disability that with cochlear implants can be cured. They desire that their child learn language and function "normally" in society.

Allen Adams

Good Argument

Search Quickmarks

English 101 Marks Manage Library

Comment Hint: to highlight, select text and click the Comment button

- Sentence Structure
- Great
- Thesis
- Transition
- Affect/Effect
- Vague
- Unnecessary Repetition
- Verb Tense
- Check Your Spelling
- Good Argument
- C/S
- Cite Source
- TN

“...if anything, iParadigms’ use of the students’ works fostered the development of original and creative works ‘by detecting any efforts at plagiarism by other students.’ ”

–Judge Traxler, U.S. 4th Circuit Court of Appeals
April 16th, 2009

Replace ‘students’ with ‘researchers’ and you have the ultimate benefit that iThenticate holds for the STM world:
more originality & more creativity

iThenticate and Turnitin are the next-generation
spell-checkers.

Thank You