

Intellectual Capital Management

Kellogg TECH441-61

Winter Quarter offering 2009. Syllabus version 7.1

Kellogg TECH441 Sec. 61: **Monday, Thursday, 10:30 to Noon, Room 166, Jacobs Center**
Blackboard URL: http://courses.northwestern.edu/bin/common/course.pl?course_id=_224852_1

Course Description: This course covers the broad agenda of using intellectual capital for competitive advantage. With globalization, intangible assets such as human capital, intellectual property, brands and relationships have become the dominant proportion of a firm's market value. Yet most firms do a poor job of managing this intellectual capital strategically. This course adopts a "lifecycle" approach to the management of an intellectual asset, covering the creation of the asset, the codification of the asset in the form of intellectual property (IP), the valuation of the assets, the protection of the assets and leveraging of same into future markets for growth. Case studies examine management challenges in entertainment, finance, pharmaceuticals, health care, consumer electronics, agribusiness, biotechnology, consulting, venture capital, telecommunications, software and other contexts. Additionally, the social implications of intellectual property policy are discussed. THIS COURSE SATISFIES DISTRIBUTION REQUIREMENTS IN MULTIPLE KELLOGG MAJORS INCLUDING ENTR, BIOT, MECN, INTL (affiliate), MMM design track and TECH.

Why take this course? Ideas and commercially successful innovations are the principal drivers of economic growth. In emergent markets and economies populated with start-ups, the agile management of intellectual capital in general and intellectual properties in particular can be the difference that makes a difference in the market place. The growing significance of these assets was a driver for the formation of the World Trade Organization (WTO) and the UN Agency the World Intellectual Property Organization (WIPO). The rise of these assets is manifesting a fundamental change in business practice is best seen in the 700 percent increase in Intellectual asset licensing revenues \$40B to over \$300B that has occurred in the eight years from 1996 to 2004. Markets for the trading of these assets are also forming. In this course we explore how managers can build market advantages based on these fundamental shifts in the foundation of the global economy.

Instructors:

James G. Conley (sections 61 & 71), Center for Research on Technology & Innovation, Kellogg School of Management, Phone 847-491-4814, e-mail: j-conleya@northwestern.edu and

Clinton W. Francis (Section 71 and NULaw 656k) Northwestern University School of Law, Phone 312-503-6484, email: cwfrancis@law.northwestern.edu

Teaching Style: Intellectual capital management methods and practices will be introduced through demonstration and discussion in the first half of each class period. Industry specific examples will be investigated through case studies addressing firms in multiple sectors of the global economy. The class discussions and assignments are designed to help us learn from each other.

Reference Materials: There is no text for this class. There is however a case pack (reader) of materials/case studies. Most all the content of the reader is required to be read as scheduled unless otherwise noted as recommended content. Recommended content is supplemental. Instructors will do their best to make these materials available online.

Course Schedule (subject to change): *Content/order is subject to change. Two 1.5 hour class sessions/ week for sec 61.*

Week #1:

Subjects: Course Introduction.

- Review of Syllabus, Schedule, Deliverables etc.
- From tangible to intangible and the shifting sands of our economic foundations.
- Schumpeter v. Keynes...embracing disruption: The role of innovations and new combinations.
- The role of intangibles in Global trade, WIPO and WTO
- The legal primacy & critical significance of inventors, creators, innovators & entrepreneurs in both developing and developed economies
- Sources of Innovations, dimensions of the business system, the innovation radar tool.
- Strategic differentiation and tactical leveraging of investment in innovation to realize growth.
- The Industrial view of strategy, the five forces and barriers to entry
- The resource based view of strategy, resource heterogeneity and “imperfect imitability”
- The PFI view of strategy and the roles of local policy systems, national vs. international
- The taxonomy: intangibles, intellectual capital, intellectual assets, and intellectual property
- Secure forms of intellectual capital, brief review of the intellectual property regimes
- The Life Cycle of an innovation and or intellectual asset
- Brief introduction to IP portfolio management, value transference, translation, transportation and articulation
- Brief case study examples, inventions to brands (Aspartame and NutraSweet, Monsanto, Dolby) Designs to Brands (Mercedes SMART Car), expressions to brands (Disney and Snow White), secrets to brands (Coca Cola)

Readings/Assignments for Week #1:

1. Review Reader contents #1 through #8
2. Read ttools case and prepare ttools case (reader contents #9-11, assignment online at the Blackboard site) and be prepared to present group result in class in first session of week #2.

Week #2:

Subjects: **Building and sustaining competitive advantage through multiple regimes of IP**

- Discussion of the *tools A* Case Study, inventions and the competitive dimensions of IP for the under resourced
- Choosing among the different modes of managing intellectual capital: intellectual property; contract; self protection
- Brief review of Trade Secrets and utility of confidential information
- The Uniform Trade Secrets Act (US) , Confidentiality in EU and BRICS, vulnerability of intangibles vs. tangibles.
- Employment contracts, IP and Trade Secrets
- Moving between equivalent jobs in competing firms and the practical limitations of the theory of inevitable disclosure
- Critical thinking about Trade Secrets in hiring (employer perspective) and career management (employee perspective)
- The continuum of innovation security and intellectual asset protection: from tacit to explicit knowledge
- The boundaries between public and private and among the forms of intellectual property; differing values and property regimes in multiple national contexts.
- Value transference: from one form of intellectual property to another; from one product, or product aspect, to another; from one business to another
- Innovation management in a networked world, proprietary versus open models and the implications for global intellectual capital management

Readings/Assignments for Week #2:

1. Review Reader contents #12 through #16
2. Read and prepare ESPE case (reader contents #22 assignment online at the Blackboard site) and be prepared to present group result in class in first session of week #3.

Week #3:

Subjects: Management of functionally rich innovations with short monopoly lives (inventions, patents)

- Discussion of the *ESPE* case
- Inventions in the context of commercial innovation
- From the Sybarites (BC) to the Venitians (Renaissance) to Adam Smith, Benjamin Franklin, John Adams, Thomas Jefferson, James Madison and the U.S. Constitution, Article 1 Section 8, a system of limited life monopoly rights granted to encourage public disclosure and entrepreneurial risk taking.
- Why patents? The Treaty of Paris and the Paris Convention (patents) and the Hague Convention (registered designs), Alternative forms of invention security for international markets, registered designs and utility models
- Prosecution vs. Litigation
- Patent prosecution at the USPTO, WIPO & other IP entities, transactional efficiencies realized through WIPO and other regional IP offices (Eurasian IP office...)
- Patent Litigation and the courts, US CAFC, USSC, and other global forums for dispute resolution
- Patents vs. Trade Secrets: which, when and why.
- What is patentable?
- Wall Street Patents, Business Process Patents, Software patents
- Strategies for patent prosecution, continuations, CIP's, Divisionals, Reissues etc.
- Prosecution of patents for competitive advantage, B&D Snake Light case.
- The global Perspective on software patents, EPO, USPTO, JPO, PCT, WIPO etc.

Readings/Assignments:

1. Review Reader contents #20, 32, 33, 34
2. Read and prepare Outrage in Cyberspace case (reader contents #23, assignment online at the Blackboard site) and be prepared to present group result in class in first session of week #4.

Week #4:**Subject: Management of the expression of ideas, Advertising, Software, Web Interfaces, Media and artistic works**

- Discussion of the *Compuserve and the GIF Algorithm Case Study*
- Innovation in the expression of ideas in advertising and other mediums
- What is a copyright and what can be copyrighted? The Berne Convention and the international standards and system for copyright security.
- Infringement of copyrighted works, concepts and reality, vicarious liability
- A test: iTunes Floyd and BuyMusic.com
- Derivative works,
- Parity: *The Wind Done Gone* etc.
- Copyright in Media Enterprises
- Disney and IP Management, Copyrights to Character Marks, Transference, Translation and Transportation.
- Fair Use of copyrighted works, the five factor test, and international tests for Fair Use.
- Moral rights of creators in international markets.
- Googles bold stand and The Copy/*left* view of Copyright
- Getting beyond the “fogged” uncertainty of required permissions and Creative Commons
- Logical extensions to science and a science commons?

Readings/Assignments:

1. Review Reader contents #24, 25
2. Read and prepare The Zen Patent: Apple v. Creative case (reader contents #21, assignment online at the Blackboard site) and be prepared to present group result in class in first session of week #5.

Week #5:**Subject: Management of Brands and Source identifiers, Marks and Cognitive Touchpoints of the user Experience**

- Discussion of The Zen Patent Case
- The Treaty of Madrid and the Madrid Protocol
- The Evolving nature of brands and source identity communication in a “home” market and multiple international markets.
- Trade Marks, Service Marks Trade Dress, Trade Names in the context of a Brand
- Innovations in marketing and how we establish Brand identity through sound, smell, sight, and even taste
- Cognitive touch points of the user experience
- Trademarks and the USPTO, Registration, Madrid system, European TM system.
- The continuum of Trademark Strength and strategies for leveraging same
- Life cycle costs of enforcing a descriptive mark versus a fanciful mark,
- The Descriptive-Distinctive dichotomy in mark selection
- Brands, Identity, Meaning and Semiotics, the IP Ecosystem and brand meaning
- Digital age challenges in TM and Brand Management
- Cyber squatters and Trade name/Trademark-Domain Name Disputes, meta tabs

Readings/Assignments

1. Read and prepare the AstraZeneca, Prilosec and Nexium case case (reader contents #26, 27, assignment online at the Blackboard site) and be prepared to discuss your individual solution in class in first session of week #6.

Week #6:**Subject: Innovation and Intellectual Capital Management in the regulated Pharmaceuticals Industry.**

- Discussion of *Astrazeneca and the Purple Pill Case*
- The domestic and international markets for therapeutics, the Ranbaxy's, Teva's and Sandors take on the big Pharma
- The research and development process for innovative therapeutics, from discovery to market entry
- Costs, Risks, and rates of failure
- Regulators (FDA and international equivalents etc) and their role in governing market entry by innovators and imitators (generics)
- The role of Patents for compositions, method of manufacture, method of delivery and other inventions
- Hatch Waxman act in the US, Patent term restoration act due to FDA approval delays
- Impact of Direct to Consumer advertising, market effects and FDA regulation thereof
- The Intermediaries: Physicians and the Insurance Companies
- Off label prescriptions
- Orphan Drug Status, Pharmacogenomics: Genzyme and Gauchier's Disease, Pediatric Studies
- Going over the counter: Case of Zantac
- Cornering the markets for key ingredients
- Introducing own generic to create 1st Mover Advantage in Generics market: Novartis
- Suing the Generics to complicate/delay market entry, Paying the Generics not to produce: Barr Laboratories and BAYER Cipro
- The Indian Generic view of global market opportunities and how IP is used in a global context to attack Big Pharma continuously.
- Do all these "management options" have unintended consequences for consumers?
- Generics availability and public welfare
- Sandwich pricing and public welfare
- The Global debate w.r.t. intellectual property and agribusiness technologies
- Biopiracy and trips.

Readings/Assignments:

1. Read and prepare the Geneology case case (reader contents #28, assignment online at the Blackboard site) and be prepared to discuss your individual solution in class in first session of week #7.

Week #7**Subject: Open Innovation, Value Chain Management in Biotechnology, and new markets for IP**

- Discussion of *Geneology, Inc. Case*
- Managing the corporate value chain
- Locating partners and convergence of disparate technologies
- Technology transfer and information management in early- and mid-stage development
- Capitalizing of complex, multi-stage R&D and FDA testing
- Open innovation models and arbitraging across multiple international markets.
- Evaluating the adequacy of the “big pharma” business and intellectual capital management model
- Intellectual Capital and Intellectual Property as “asset” classes
- Market places for the buying and selling of intangible assets such as IP
- A comparison of markets for mature financial assets (stocks, bonds, equities) and immature forms of value such as intellectual properties
- Challenges associated with lack of liquidity
- IP investment and the “pursuit of alpha” amongst hedge fund managers.
- The licensing mechanism
- Options in licensing mechanisms
- Examples of IP licensing business models and organizational forms to support such models.
- University/Basic Research Laboratories government funded IP licensing via Bayh-Dole and emulations from around the world
- The Northwestern Pfizer Lyrica deal and economic royalties auction of patent rights December 2007.

Readings/Assignments:

1. No case assignment. Use the time to work on your projects to forge completion in your team meetings this week. Interesting policy proposal put forward by a law student in item #29 of the reader
2. All groups need to prepare a 15 minute ppt presentation on their projects and deposit in the blackboard digital dropbox by 0600 of first session in week 9.

Week #8**Subject: Systems, Standards and Methods for measuring IP value, markets for IP assets.**

- Brief introduction to financial valuation of intangible assets
- Life of Intangibles
- Valuation Approaches
 - Market comparables approach
 - Cost approach
 - Income approach
- Litigation Valuation methods
 - Reasonable royalty
 - Royalty rate determinants
 - Georgia Pacific Factors
 - Lost profits basis
- Examples of modern intangibles that need to be valued
 - Contract based
 - Customer related
 - Marketing related
 - Technology based
 - Artistic related

Emergent marketplaces for IP

- Ocean Tomo Auctions
- Patent Board
- IP ratings mechanisms
- IP Valuation and regular assessments of business risk in a post Sarbanes Oxley business environment
- The Role of GAP, FASB, IFRS 3 and other international accounting and securities regulations

Readings/Assignment:

- No case assignment. Use the time to work on your projects.
- All groups need to prepare a 15 minute ppt presentation on their projects and deposit in the blackboard digital dropbox by 0600 of first session in week 9

Week #9:**Subject: Student presentations of project research****Readings/Assignment:**

1. Final project manuscripts for the course due as discrete deliverable in MSWord format deposited to Blackboard dropbox at 11:30 p.m. on 3/12
2. Each registered student should execute the class participation self assessment and peer group evaluation form specified for course and available on the Blackboard site as a FINAL ASSIGNMENT deposited to Blackboard dropbox before 11:59 p.m. on 3/12.

Week #10**Subject: Student presentations of project research (cont.)**

- The Mystery of Capitalism, Desoto Theory and property infrastructures
- Emerging primacy of innovators and those who invest in innovation
- Challenges of the “fast follower” from emerging economies
- Intellectual Capital and Intellectual Property in a Global Marketplace
- Market forces and the rule of law ala Greenspan
- WIPO and Intergovernmental organizations of the UN, WTO and forums for proactively managing the competitive playing fields of trade based on intangibles
- Course Review and Summary
- Course Evaluation

Readings for Future Interest:

1. See reader items 30,31,33, 34,35 and 36

Grading (Below weighting is subject to change):

Grade Component	Individual / Group	Weight
Class Participation	Individual	20 %
Case Write-ups/Assignments	Study Group	15 %
Midterm Exam Case study	Individual	30 %
Final project write-up	Study Group	35 %

Classroom Etiquette and Class Participation

All students are expected to fully comply with the *Code of Classroom Etiquette* (http://www.kellogg.northwestern.edu/stu_aff/policies/etiquette.htm) in addition to the classroom code of conduct applicable at other schools of Northwestern University where respective student has been admitted.

Additionally, please adhere to the instructors Electronic device Policy, no use of the internet or networked communications of ANY KIND during class. LapTops may be used for taking notes but not from the front row of the class room. Please stay in the back rows if you elect to do this.

Please leave your name card/tent up for the entire duration of each class and keep the same seat for the duration of the quarter.

You are expected to attend all classes. Please e-mail instructors in advance if you will not be present at any given class. Your attendance is an important element of our collective learning experience and hence the Class Participation Grade.

Much of the learning in this course comes from class discussion. Your classroom participation grade will be based on attendance, preparation, familiarity with the reading materials, and the quality of your contribution. Some of the key characteristics of **valuable contributions** are as follows:

- Relevance: Are your comments timely and linked to the comments of others?
- Advancement: Do your comments take the discussion farther or deeper than previous comments?
- Fact-based: Have you used specific data from the case, from readings, or from personal experience to support the assertions that you are making?
- Logic: Is your reasoning consistent and logical? Do you use concepts from the readings or lectures correctly?
- Originality: Do your comments merely restate the facts or do they provide new insights?

Generally, an important criterion is your contribution to the creation of a positive learning environment. For example, correcting me when I make a mistake or asking what appear to be "dumb questions" about what is being covered both *do* help. In the case of "dumb questions", very often half the students will have the same question in mind and are relieved that someone has posed it.

To increase opportunities for effective participation, I will occasionally cold call students either to open the class or during the course of a discussion. If you feel that you are preparing well but that I am not

calling on you often enough, please let me know so that instructors can adjust.

Case Assignments/Study Groups:

Case assignments typically pose a number of questions that should be efficiently addressed in a format specified on the assignment page. You are expected to form study groups of 2-3 students (exact size to be determined in class #1) for discussion of the cases and notify the instructor of your grouping by the end session 1 or as soon as possible by e-mail. We request that you stay in the same study group throughout the course

Midterm Examination

The midterm for this course will be a straight forward exam/Case analysis covering materials discussed in class and addressed in the assigned readings.

Final Project:

This assignment is to be carried out with the members of your study group.

Objectives:

The final project offers an opportunity for student groups to exercise and or integrate the learnings of the course into an in-depth analysis of state-of-the art intellectual capital management processes within a specific firm or industry (healthcare, pharmaceuticals, power generation, automotive, retail, consumer durables, etc.) or technology application domain (electro-optics, etc.). The manuscript can take the form of either a white paper or a case study. Examples of past deliverables are available on the courseinfo web site and will be discussed in depth during the first day of class.

Deadlines & Deliverables:

- Deliverables include a final manuscript and a 10-15 minute powerpoint presentation to be delivered to the class during week #9 or #10. Powerpoint files must be delivered to the courseinfo website by 0600 hours on the first class day of week #9.
- All final project manuscript deliverables are due in MSWord document format deposited in the digital drop box on the courseinfo site by 3/12/08 at 11:30 p.m. To deliver the final manuscript in any other format requires explicit permission of the instructor.

Grading of Final Projects:

Your grade will be determined based on the quality of your written report and presentation.

A high quality written deliverable is characterized as follows:

- Sound structure, based on a relevant conceptual framework.

- Comprehensive coverage of the relevant issues.
- Consistency and depth of analysis; specific rather than vague.
- Informative and thought provoking figures and table. In short, the tables and figures should tell the story of your paper.
- Good balance between description, analysis and recommendations. When you draw on other sources, it is important that you not merely 'cut and paste' them into your text, but carefully integrate the underlying reasoning into your analysis.
- Clearly written and well organized.
- Reference and or Footnote EVERYTHING in your paper. Exhaustive and thorough referencing of all information sources with appropriate bibliographic detail and dates accessed for WWW information. Unsupported inferences will be viewed as speculation. See the NJTIP articles in the case pack for reference formatting detail.
- All prepared in MSWord Format

A high quality presentation (Presented evenings of Week #9 or #10) will be clear, informative and balanced in the allocation of time to content. Your objective is to brief your classmates efficiently on your findings. All presentations should be prepared in powerpoint format. Please plan no more than 10-15 minutes total for presentation and questions.

Feedback on your Performance in this Course

I am very willing to help each student group develop and polish the course deliverables. I welcome the opportunity to comment and edit drafts of student work, provided that I am given ample time. Teams or individual students can arrange meetings with me, schedule permitting. Note that for the downtown section 71, I will be in my office at Wieboldt Hall Each week at least 1 hour before class begins.

If time permits, we will discuss a proposed schedule of final project interim (ungraded) deliverables to help students prepare and manage their time during the quarter.

Honor Code

All students are expected to abide by the *Kellogg Honor Code and ANY OTHER RELATED NU Honor Codes* in undertaking and completing deliverables for the assignments in this course. See Below URL for link to the Kellogg Honor Code:

http://www.kellogg.northwestern.edu/stu_aff/honor/hcode12.htm

Acknowledgements

Some of the ideas for this course have come from many past students (see the case study researchers) and other individuals, including Mohan Sawhney, Holger Ernst, Klaus Brockoff, David Teece, David Orozco and others. The author acknowledges all contributions and appreciates solicited/unsolicited suggestions for improvement.

Intellectual Capital/Property Resources on the Web:

United States Patent and Trademark Office Information site: <http://www.uspto.gov/>

United States Copyright Office: <http://www.loc.gov/copyright/>

Foreign Patent Offices link page: <http://www.uspto.gov/web/menu/other.html>

WIPO site with helpful tutorials: <http://wipo.int/sme/en/multimedia/>

WIPO Small Medium Enterprise resources page: <http://wipo.int/sme/en/>

WIPO Global Directory of Intellectual Property Offices: <http://www.wipo.int/directory/en/urls.jsp>

European Patent Office: <http://www.epo.co.at/epo/>

European Trademark and Designs Office: <http://oami.eu.int/en/default.htm>

German Patent and Trademark Office: <http://www.dpma.de/index.htm>

Canadian Intellectual Property Office: <http://patents1.ic.gc.ca/>

Intellectual Property Mall Franklin Pierce Law Center: <http://www.ipmall.fplc.edu/>

Free patents online (full pdf of US/EU documents) <http://www.freepatentsonline.com>

Information about Trademarks: <http://www.ladas.com/Trademarks/tminfo.html>

Greg Aharonian and Bust Patents dot com: www.bustpatents.com

Table of IP related fees/damages/settlements : <http://www.bustpatents.com/awards.htm>

Patent Café, Web Based IP Resources: <http://www.patentcafe.com/>

Munich Intellectual Property Law Center: <http://www.miplc.de/>

Patent Board and Patent Analytics: <http://www.ipiq.com/home/index.asp>

Ocean Tomo and the emerging markets for IP: <http://www.oceantomo.com/>

ICM Course Reader Contents

Winter Quarter Offering 2009

(R) = Required Reading... (S) = Suggested Reading

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|--|------------|
| 1. Initial Course Syllabus | |
| 2. Schumpeter Keynes cover story 1983 | (R) |
| 3. Creating Value from intellectual Assets | (R) |
| 4. Snow White shows the way | (R) |
| 5. The Shape of things to come.. | (R) |
| 6. 12 ways to Innovate, Sawhney et al article | (R) |
| 7. Profiting from Tech Innovation: Implications for policy | (R) |
| 8. Intellectual Property: The Ground Rules | (R) |
| 9. ttools faces a formidable foe part A | (R) |
| 10. US Patent 5,913,629 to ttools | (S) |
| 11. US Design Patent D431,598 to IDEO | (S) |
| 12. A Profile of Dolby Laboratories | (S) |
| 13. Comments regarding competition and IP | (S) |
| 14. Innovation and Invention: Guide to US patents | (R) |
| 15. European Patents Guide | (R) |
| 16. US Patent 5,978,807 to Sony | (R) |
| 17. WIPO PCT Application by AstraZeneca | (S) |
| 18. EPO Patent 0652872B1 to AstraZeneca | (S) |
| 19. US Patent to AstraZeneca 5,714,504 | (S) |
| 20. IAM Metrics from Kimberly-Clark | (R) |
| 21. The Zen Patent: Apple vs. Creative | (R) |
| 22. 3M ESPE A | (R) |
| 23. Outrage in Cyberspace: Compuserve and GIF | (R) |
| 24. The Competitive Edge | (R) |
| 25. Opportunities at the Nexus of Semiotics and IP | (R) |
| 26. AZ, Prilosec and Nexium | (R) |
| 27. AZ, Prilosec and Nexium case supplement | (R) |
| 28. Geneology Inc. | (R) |
| 29. Trolls and Patent Investment Trusts by E. Ferrill | (S) |
| 30. Long Walk from Gobi to River Styx by Hosteny | (S) |
| 31. The "Longer Walk" after eBay v. Merc Exchange | (S) |
| 32. Game Over: Emulation and the Video Game Industry | (S) |
| 33. Sony Patent Re-examination document | (S) |
| 34. US Patent 6,050,735 to ttools | (S) |
| 35. Greenspan comments on IP Management | (S) |
| 36. It's no time to forget about Innovation | (S) |
- | |
|------------------------------|
| Forbes Magazine |
| OECD Policy Brief 2007 |
| MIP Article |
| WSJ article May 08 |
| SMR publication 2006 |
| Research Policy Article 1986 |
| Kellogg Teaching Note |
| KSM Case IP&Entrepreneur |
| USPTO Publication |
| USPTO Publication |
| NJTIP Article |
| IEEE testimony to US FTC |
| Kellogg Teaching Note |
| EU IPR Helpdesk Note |
| USPTO Publication |
| WIPO Publication |
| EPO Publication |
| USPTO Publication |
| IAM Magazine Feature |
| Kellogg Case Study |
| Kellogg Case Study |
| Teaching Case Study |
| Innovation Journal Article |
| DMI Review article Spring 08 |
| Kellogg Case Study |
| Kellogg Case Supplement |
| NU Law Case Study |
| NC JOLT Article |
| IP Today |
| Les Nouvelles Article |
| NJTIP Article |
| USPTO Publication |
| USPTO Publication |
| SRI speech |
| NYTimes piece |