

Title: Designing Digital Institutions: Science in Government 2.0

Date: Sep 11, 2008 10:00 AM

URL: <http://pirsa.org/07090081>

Abstract: The current paradigm for decision-making in government is beset by instances of ideological bias and manipulation. The Bush-Cheney Administration, which imposed ideological litmus testing on scientific advisors, eliminated advisory panels, and selectively edited reports on environmental hazards and endangered species, represented the nadir of a slow descent into the abyss of abuse against scientific truth in policymaking that began with Nixon. Some of the consternation about 'science bending' can be discounted to inevitable and perhaps even desirable political disagreement. But there are also genuine problems with the practices by which government gathers, analyzes and distributes scientific expertise that open the door to this kind of political abuse and manipulation. Even in the absence of bad intentions, there is simply a lack of access to good information and useful ways of taking advantage of good science. In this talk, I develop the argument that technology is changing the nature of expertise in public decision-making and might afford new opportunities for the scientific community to inform policy-making. I put forward proposals for how to design a more collaborative culture that involves the scientific community more directly in decision-making.



**AND NOW FOR SOMETHING  
COMPLETELY DIFFERENT**

# From Science 2.0 to Government 2.0

Perimeter Institute September 11, 2008

Beth Simone Noveck, New York Law School/Stanford Univ.



# newassignment.net

Open-Source Reporting Gets Tested



**2:27 Twisted Issues**

This is supposed to be an underground punk film from 1988, but it miserably fails the Google test... suggesting that its fame is doubtful. *JFW* ( *n*gs 15:53, 18 Nov 2004 (UTC) )

- **Delete please** *JFW* ( *n*gs 15:53, 18 Nov 2004 (UTC) )
- **Delete** - Non-notable. *JFW* ( *n*gs 18:29, 18 Nov 2004 (UTC) )
- **Tentative weak keep** - if it's the 1989 Charles Prison film Twisted Issues - a psycho-punk spatter-comedy which *Film Threat* Video Guide named to its list of Twenty Underground Films You Must Save! - its notability is at worst debatable. *Samantha* 19:45, 18 Nov 2004 (UTC)
- **Clean up** - It needs a lot of work, but it's possible. (N.b. - we're going to be in rough shape if we try to replicate the Psychotronic book or *Film Threat*.) *Google* 20:43, 18 Nov 2004 (UTC)
- **Keep, real movie** - <http://www.imdb.com/title/tt0452318/companies> - but cleanup. *RickK* 21:29, Nov 18, 2004 (UTC)
- **Keep and cleanup**. *DCEdwards1966* 03:49, Nov 20, 2004 (UTC)
- **Keep it**. *Rud* *Mass* (talk) 19:31, 20 Nov 2004 (UTC)



**YAHOO! ANSWERS**

**OhmyNews** 모든 시민은 기자다



**IMDb**  
Earth's Biggest Movie Database™

# Web 2.0

- Collaborative
- Visual





TV  
STATION  
#1

TV  
STATION  
#2

TV  
STATION  
#3

AUDIO #1

AUDIO #2

AUDIO #3

GOOGLE MAPS MASHUP

**TWITTER FEED:**

Lorem ipsum and  
some other stuff.

Lorem ipsum and  
some other stuff.

Lorem ipsum and  
some other stuff.

Lorem ipsum and  
some other stuff.

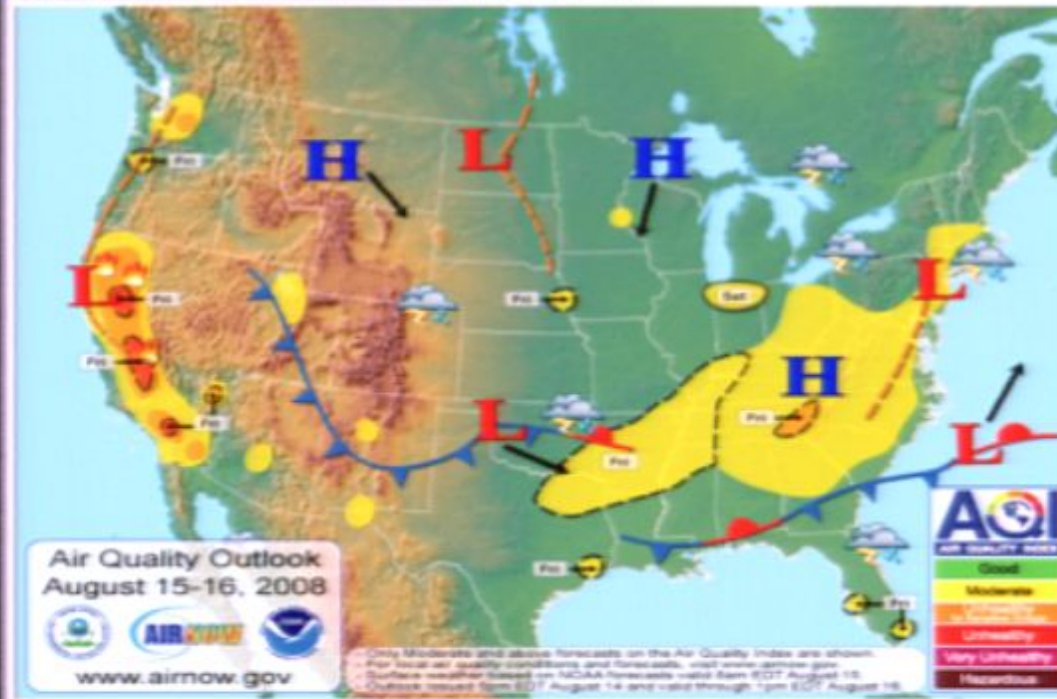
## National Outlook for August 15 - 16

Unhealthy AQI levels in California

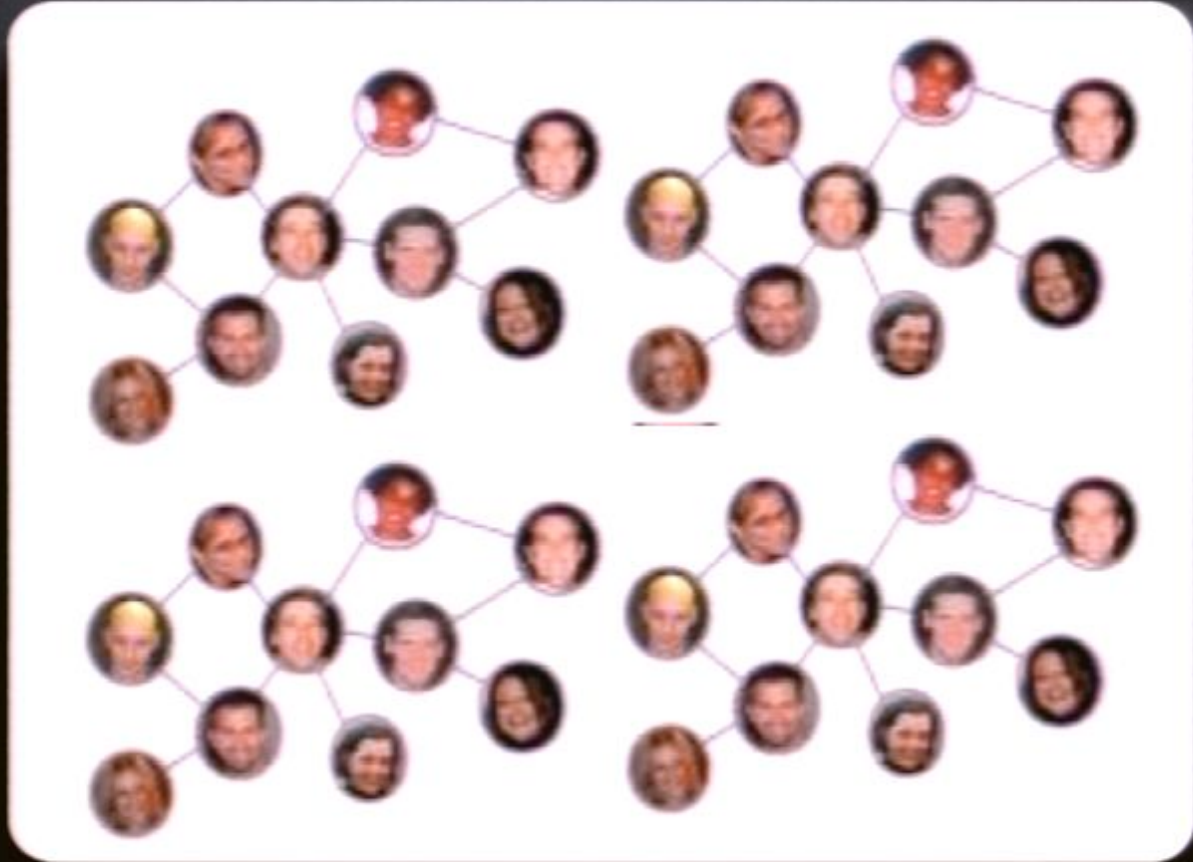
**Friday, August 15 – Saturday, August 16:** Unhealthy for Sensitive Groups to Unhealthy AQI levels for ozone are expected for most of the central and southern California Friday and Saturday as a result of an extended period of sunny skies, hot temperatures, and pollutant carryover from previous days. Similar conditions will lead to Unhealthy for Sensitive Groups AQI levels for areas in Washington as well as the Las Vegas, Nevada region.

Moderate AQI levels for much of the South and East are expected for Friday and Saturday as a surface high-pressure system slowly treks across the region producing light winds, which will limit pollutant dispersion. Furthermore, Unhealthy for Sensitive Groups AQI levels are expected for eastern Tennessee along the western slopes of the Appalachian Mountain Ridge.

[Today's Forecast](#) | [Cities with Action Days](#) (Air Quality Alerts)







# Power of Many

# Changing Nature of Expertise and the Single Point of Failure



# innovation disconnect



“The Internets isn’t a big truck...it’s a series of tubes”

Sen. Stevens, Vice-Chair, Sub-Com on Science and Innovation

# Science Bending

- ~~Energy Advisory Board~~
- The National Coal Council, made up almost exclusively of coal industry representatives, sits on the Department of Energy Federal Advisory Committee on coal policy: the Department has adopted 80% percent of the Coal Council's recommendations.
- Reports on Endangered Species and Climate Change - Highlighted in Black
- In 2008, 889 of nearly 1,600 EPA staff scientists reported that they experienced political interference in their work over the last five years.
- In 2004, 11,000 scientists, including 44 Nobels and 62 Medal of Science winners, signed a statement lambasting the "manipulation of the process through which science enters into the administration's decisions."

# Agency Science

- Peer Review
- Science Advisory Boards/Federal Advisory Committees



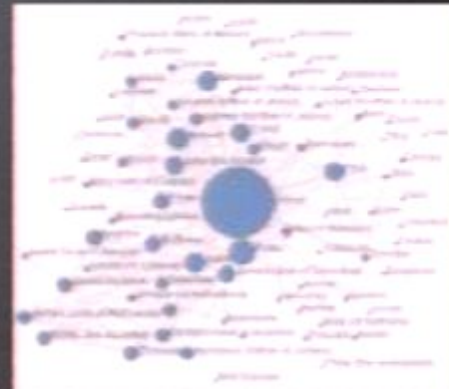


# Routing around v. Re-designing



21st Century  
Governance?

# Institutions and Networks





# Diverse Social Toolbox

We “simply do not have enough genes to program the brain fully in advance,” we must work together, extending and supporting our own intelligence with “social prosthetic” systems that make up for our missing cognitive and emotional capacities: “Evolution has allowed our brains to be configured during development so that we are ‘plug compatible’ with other humans, so that others can help us extend ourselves.”



Harvard “Group Brain Project”  
Stephen Kosslyn  
Richard Hackman

- Collaborative Governance
  - Self-Selection
  - Group-Based Participation
  - Granular Tasks

# Get Involved With Mozilla

We're a global community working together to make the Web a better place for everyone.



So you want to help? Great! You don't have to be a C++ guru (or even know what that means!) and you don't need to spend lots of time.

## Easy Ways You Can Get Involved

- Tell your family, friends and colleagues about Mozilla products
- Help other people on our message boards and support forums
- Join the community marketing team and help with our grassroots campaigns
- Ensure that you're submitting crash data to the development team
- Contact Web sites that don't work properly with Mozilla products

## For the More Technically-Oriented

- Join the quality assurance team and report bugs and other problems that should be fixed
- Help write or edit documentation for developers
- Help write or edit documentation for end users
- Contribute to the richness of the Firefox ecosystem by developing an Add-on
- Fix a bug or contribute code to the project

# PEER TO PATENT PROJECT:

COMMUNITY PEER REVIEW OF PATENTS

Community Patent

Workshops & Events

Prototypes & Proposals

People

Community

FERDINAND SPAT DEPPLEIN  
NAVIGABLE BALLOON.  
Application Dec. Dec. 28, 1897.

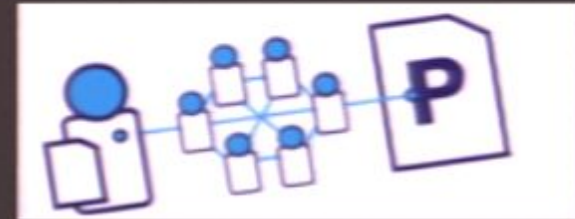
*Fig. 1.*

**THE PEER TO PATENT PROJECT:**  
Community Peer Review of Patents

The image is a collage of patent-related content. On the left, there is a technical drawing of a balloon with a window, labeled 'Fig. 1.' and 'NAVIGABLE BALLOON'. In the center, there is a snippet of a patent document for 'FERDINAND SPAT DEPPLEIN NAVIGABLE BALLOON' with the application date 'Dec. Dec. 28, 1897'. On the right, there is a lightbulb with a smartphone inside it, emitting concentric circles representing a signal or light. The background is a grid with various handwritten notes and sketches.

Improving Patent Quality with Self-Selecting, Open,  
Public Participation

## Peer-to-Patent: What is It?



- Pilot program to test the effectiveness of open, public participation in the patent examination process
- Applications not granted patents
- Technology Center 2100 - computer and software inventions (includes some business method applications)
- 250 applications with inventor consent
- [www.peertopatent.org](http://www.peertopatent.org) -- current applications
- CA, General Electric, HP, IBM, Intel, Microsoft, Oracle, Red Hat, Sun Microsystems, Yahoo!
- Funded by MacArthur Foundation, Omidyar Network and CA, General Electric, HP, IBM, Microsoft, Red Hat
- UK and European Patent Office pilots
- New York Law School's "Do Tank" with USPTO

# Information Deficit

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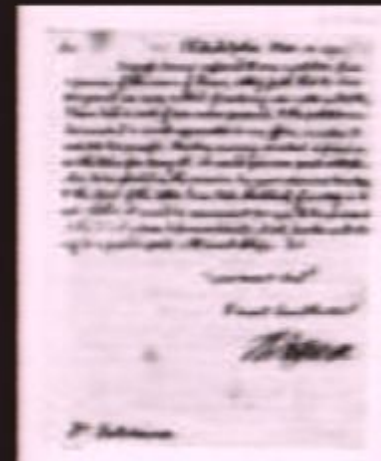
Philadelphia, Mar. 12, 1791.

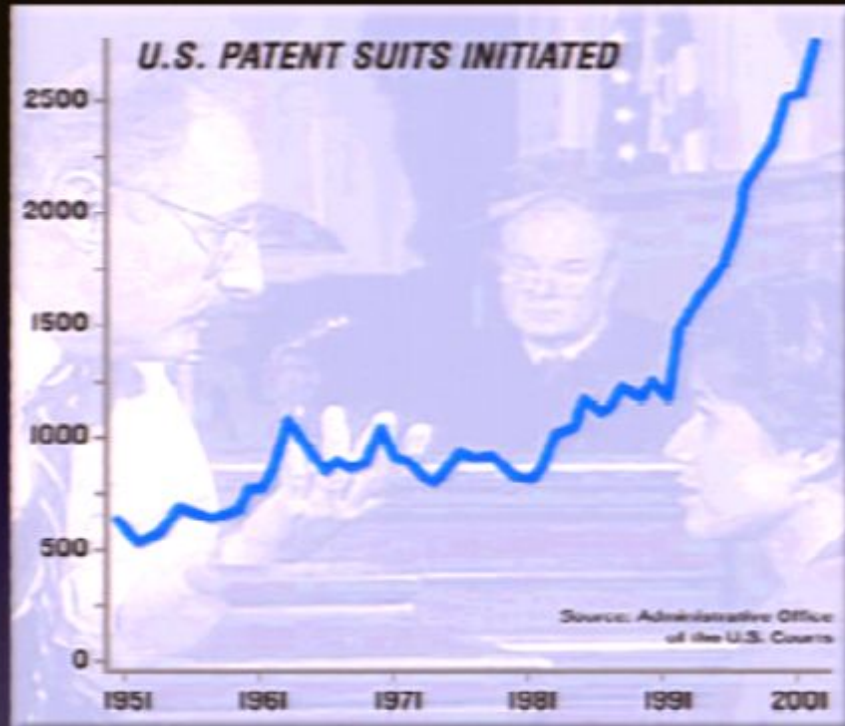
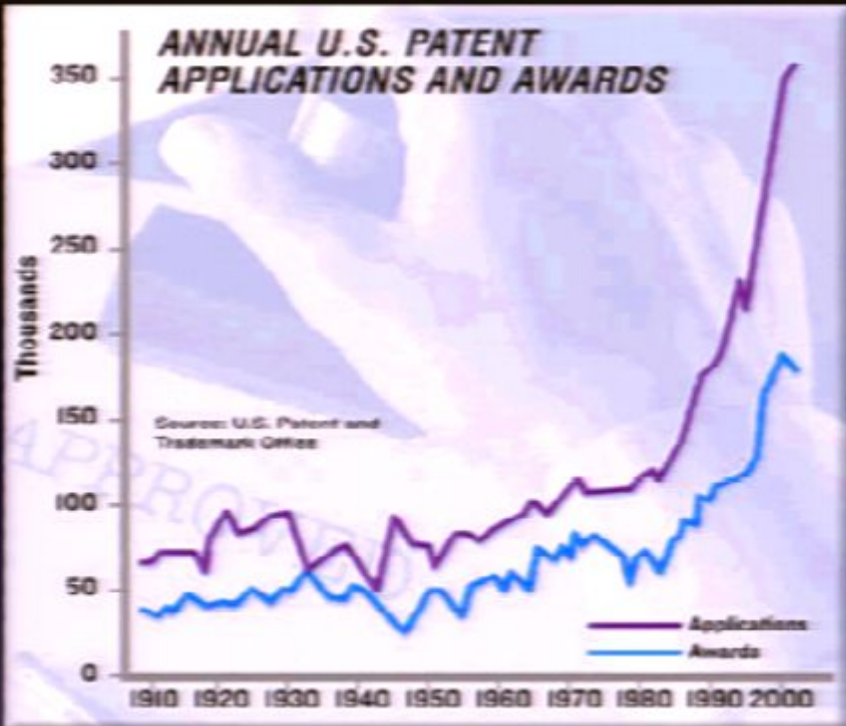
Sir,

Congress having referred to me a petition from a person of the name of Isaacs, setting forth that he has discovered an easy method of rendering sea-water potable, I have had a cask of sea-water procured, & the petitioners have created a small apparatus in my office, in order to exhibit his process. Monday morning 10 a'clock is fixed on as the time for doing it. it would give me great satisfaction to be assisted on the occasion by your chemical knowledge, & the object of the letter I have taken the liberty of writing is to ask whether it would be convenient for you to be present at the time & place before mentioned, which, besides contributing to a public good, will much oblige.

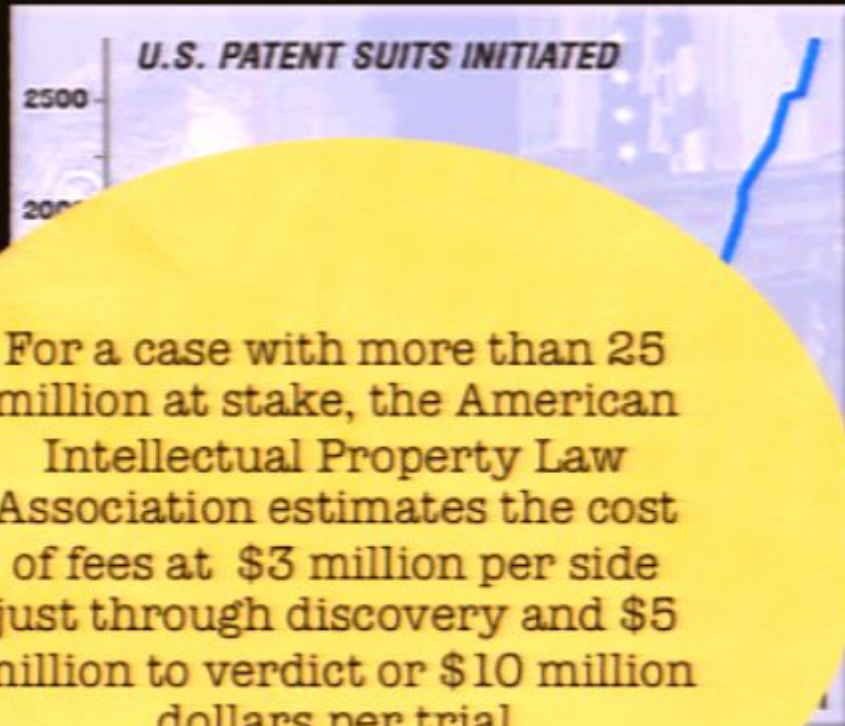
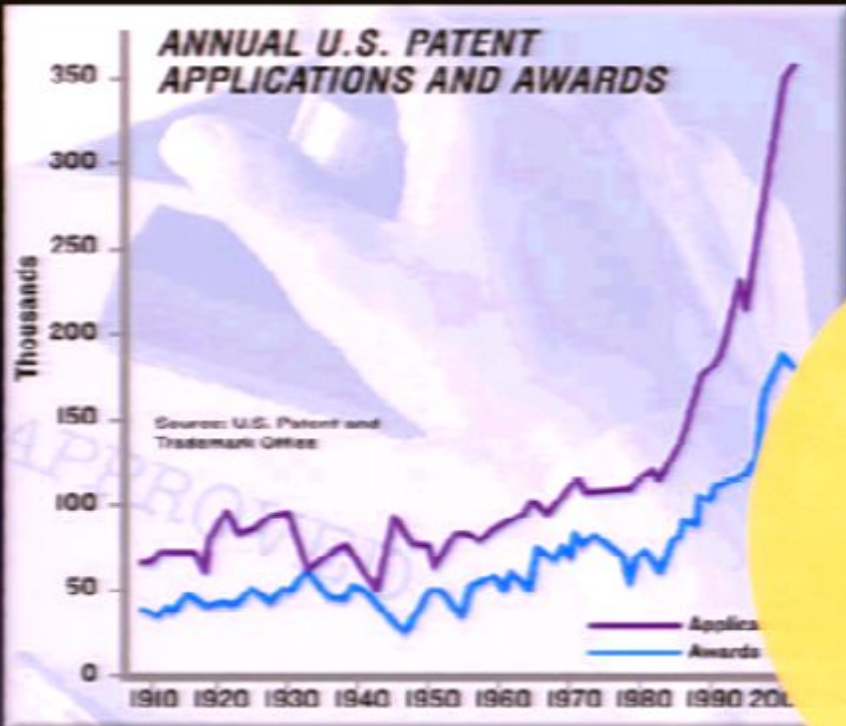
Sir,

Your most obedt  
& most humble servt





# Costs of Litigation



For a case with more than 25 million at stake, the American Intellectual Property Law Association estimates the cost of fees at \$3 million per side just through discovery and \$5 million to verdict or \$10 million dollars per trial

# Costs of Litigation



Economists tentatively estimate that the cost to the economy of misallocated resources from the grant of substandard patents can reach \$21 billion per year from money diverted from legitimate research activities or 7% of annual R&D spending in the US. When litigation is factored in that number rises to \$25.5 billion.

--Phoenix Policy Report



Patent Examination

Finding prior art in the  
informational haystack

## Why Peer to Patent? Information Deficit in Decision-Making

- Backlog will eventually approach 1,000,000
- 18-20 hours for review
- Limited time for science training
- Limited access to prior art in computer software and business methods
- Poorly drafted applications with broad claims
- No public communication
- Restricted public Internet searching. n.b. Way Back Machine
- Person Having Ordinary Skill in the Art (“PHOSITA”)



In a June 15th show on Federal News Radio, Commissioner Doll comments on the non-uniform databases, inconsistent search protocols and absence of date stamps when searching software prior art

12 **Rick McLeod** (about 1 month ago)

Hello all,

Based on my initial review of the claims and discussion, I participated in building such a system for NASA in 1989. It was called the Partial Payload Checkout Unit, the first implementation of the Generic Check System.

Architecture

SGI workstations as clients to display the sensor data

HP servers to house the primary data processing and archiving

Custom built data acquisition modules (generally single board VME unix cards)

TCP/IP connectivity. Clients housed in different buildings at KSC.

Each client could display the very near real time value of any sensor in the orbiter or a payload. The display screen of each client was built using a template that specified the sensor data, display time (digital, bar graph, dial, etc.), units of display, color (e.g., red for critical values, etc.)

In 1997, the group left McDonnell Douglas and formed CCT.

<http://www.cctcorp.com/AboutCct.htm>

<http://www.cctcorp.com/gde.htm>

Pete Sim

[Reply](#) | [Flag this post](#) | [Take Down Comment](#)

1 **Brian Densmore** (12 days ago)

How is a method of "making a sale" and "recording that sale" innovative? Every cash register in WalMart does this now. You buy a 4 pack of Energize "D" batteries, at a Walmart register, and this sale is recorded securely off-line into a Walmart database, and inventory is then updated. How could anyone consider this non-obvious?

[Reply](#) | [Flag this post](#) | [Take Down Comment](#)

1 **Stephen Johnson** (25 days ago)

We've implemented this sort of feature on products dating back to 2002. We've implemented features within the open source u-boot ([www.denx.de](http://www.denx.de)) which allow different images (operating systems) to be loaded based on specific inputs which are asserted/deasserted based on geographic address lines per PICMG 2.x specifications.

I could upload the source and user's manuals as prior art.

[Reply](#) | [Flag this post](#) | [Take Down Comment](#)

Premise: Ordinary People Possess Expertise about Complex Subjects

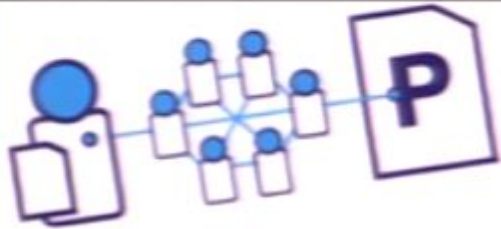
- MSFT\_and\_co."form govt data alliance" - Authored by: Anonymous on Tuesday, July 10 2007 @ 01:18 AM EDT
- Newsicks Kernel news.7 - Authored by: Anonymous on Tuesday, July 10 2007 @ 01:51 AM EDT
  - To remind SCO... - Authored by: Anonymous on Tuesday, July 10 2007 @ 03:48 AM EDT
    - And... - Authored by: tiger99 on Tuesday, July 10 2007 @ 08:18 AM EDT
  - It was news to me - Authored by: Altair\_IV on Tuesday, July 10 2007 @ 03:52 PM EDT
- Patents galore - Authored by: @idicus on Tuesday, July 10 2007 @ 02:06 AM EDT
  - Patents galore - Authored by: Anonymous on Tuesday, July 10 2007 @ 03:31 AM EDT
    - Patents galore - Authored by: RPN on Tuesday, July 10 2007 @ 06:08 AM EDT
      - Patents galore - Authored by: Anonymous on Tuesday, July 10 2007 @ 06:25 AM EDT
        - Patents galore - Authored by: txbushman on Tuesday, July 10 2007 @ 12:24 PM EDT
        - Patents galore - Authored by: Anonymous on Tuesday, July 10 2007 @ 09:14 PM EDT
          - Patents galore - Authored by: Anonymous on Wednesday, July 11 2007 @ 09:05 AM EDT
      - Patents galore - Authored by: Steve Martin on Tuesday, July 10 2007 @ 07:37 AM EDT
        - Patents galore - Authored by: RPN on Tuesday, July 10 2007 @ 10:11 AM EDT
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            - Patents galore - Authored by: wxhillbilly on Tuesday, July 10 2007 @ 01:47 PM EDT
          - Patents galore - Authored by: Steve Martin on Tuesday, July 10 2007 @ 05:36 PM EDT
      - Patents galore - Authored by: JamesK on Tuesday, July 10 2007 @ 09:34 AM EDT
        - No, They haul in the farmers. See: "Mexican yellow bean patent." - Authored by: Anonymous on Tuesday, July 10 2007 @ 10:04 AM EDT
          - No, They haul in the farmers. See: "Mexican yellow bean patent." - Authored by: wxhillbilly on Tuesday, July 10 2007 @ 02:07 PM EDT
    - Don't worry - Authored by: marcosdumay on Tuesday, July 10 2007 @ 09:59 AM EDT
      - Don't worry - Authored by: Anonymous on Tuesday, July 10 2007 @ 10:33 AM EDT
    - Agricultural Patent Nonsense - Authored by: arto on Tuesday, July 10 2007 @ 03:40 PM EDT
  - Samba going GPLv3 - Authored by: DL on Tuesday, July 10 2007 @ 10:22 AM EDT
    - Samba going GPLv3 - status fat.22 - Authored by: Anonymous on Tuesday, July 10 2007 @ 11:55 AM EDT
      - Samba going GPLv3 - status fat.22 - Authored by: wxhillbilly on Tuesday, July 10 2007 @ 02:14 PM EDT
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        - Samba going GPLv3 - Authored by: FJ on Tuesday, July 10 2007 @ 04:11 PM EDT
          - Samba going GPLv3 - Authored by: Anonymous on Wednesday, July 11 2007 @ 12:03 PM EDT
        - "The Linux computers can not access most third party Microsoft type files." - Authored by: tiger99 on Tuesday, July 10 2007 @ 04:13 PM EDT
          - "The Linux computers can not access most third party Microsoft type files." - Authored by: Anonymous on Wednesday, July 11 2007 @ 10:11 AM EDT
        - Samba going GPLv3 - Authored by: Anonymous on Tuesday, July 10 2007 @ 04:30 PM EDT
        - The secret is central to the network - Authored by: Anonymous on Tuesday, July 10 2007 @ 05:46 PM EDT
        - Samba - you don't need Windows at all - Authored by: SpaceLifeform on Tuesday, July 10 2007 @ 05:54 PM EDT
          - NFS also works. - Authored by: Ed L. on Tuesday, July 10 2007 @ 06:06 PM EDT
        - Samba going GPLv3 - Authored by: DarkPhoenix on Tuesday, July 10 2007 @ 08:20 PM EDT
        - Samba going GPLv3 - Authored by: Steve Martin on Tuesday, July 10 2007 @ 09:08 PM EDT
          - Office 2007 files, DirectX10, and Media Player 11 files - p.1 - Authored by: Anonymous on Tuesday, July 10 2007 @ 09:29 PM EDT

And They Will Contribute It If Asked and If Relevant

- MSFT and co. "form govt data alliance" - Authored by: Anonymous on Tuesday, July 10 2007 @ 01:18 AM EDT
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    - Samba going GPLv3 - status fat 32 - Authored by: Anonymous on Tuesday, July 10 2007 @ 10:22 AM EDT
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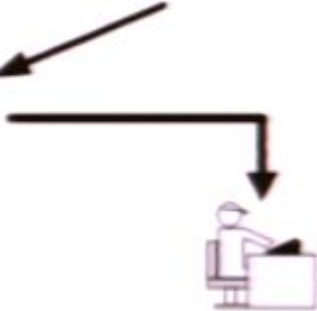


Reviewers build knowledge base of comments and prior art

Reviewers evaluate and/or rank prior art references for patent applications



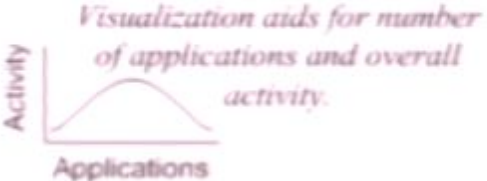
Patent applicant requests participation in Community Patent Review



Results of prior art search are sent to patent examiner and inventor



Application published online; open comments for 4 months



Reviewers invite more expert reviewers to participate

Examiner considers community prior art submissions to determine patentability



Electronic notifications go to interested reviewers

Reviewers identify applications of interest

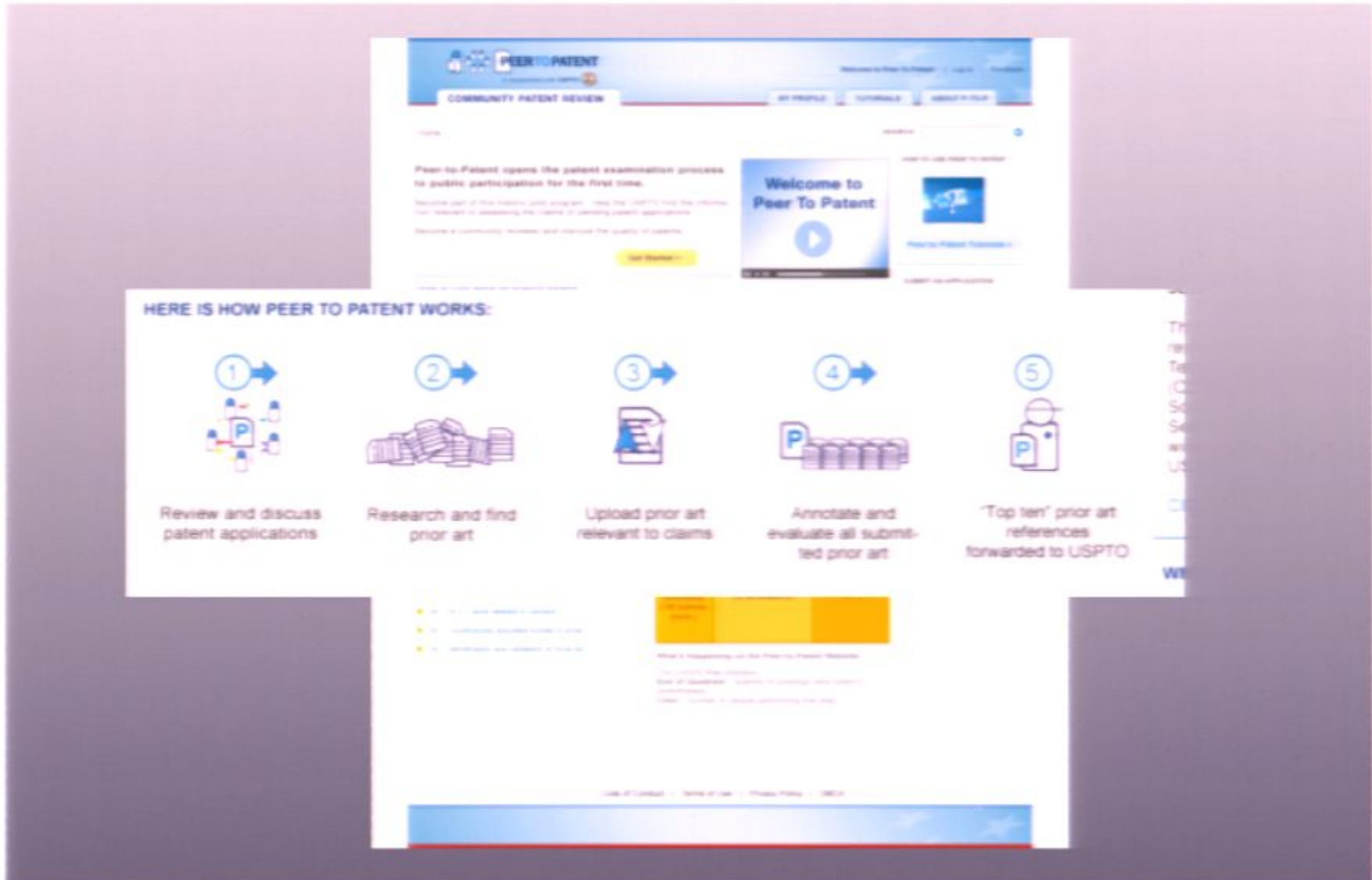


Excellent reviewers are recognized



**Public Participation Works If Structured Targeted Group-Based**





**Public Participation Works If Structured Targeted Group-Based**

The Washington Post

Economist.com

Forbes  
.com

FORTUNE

**Open Call From the Patent Office  
Agency Web Site Will Solicit Advice**

By Alan Sipress

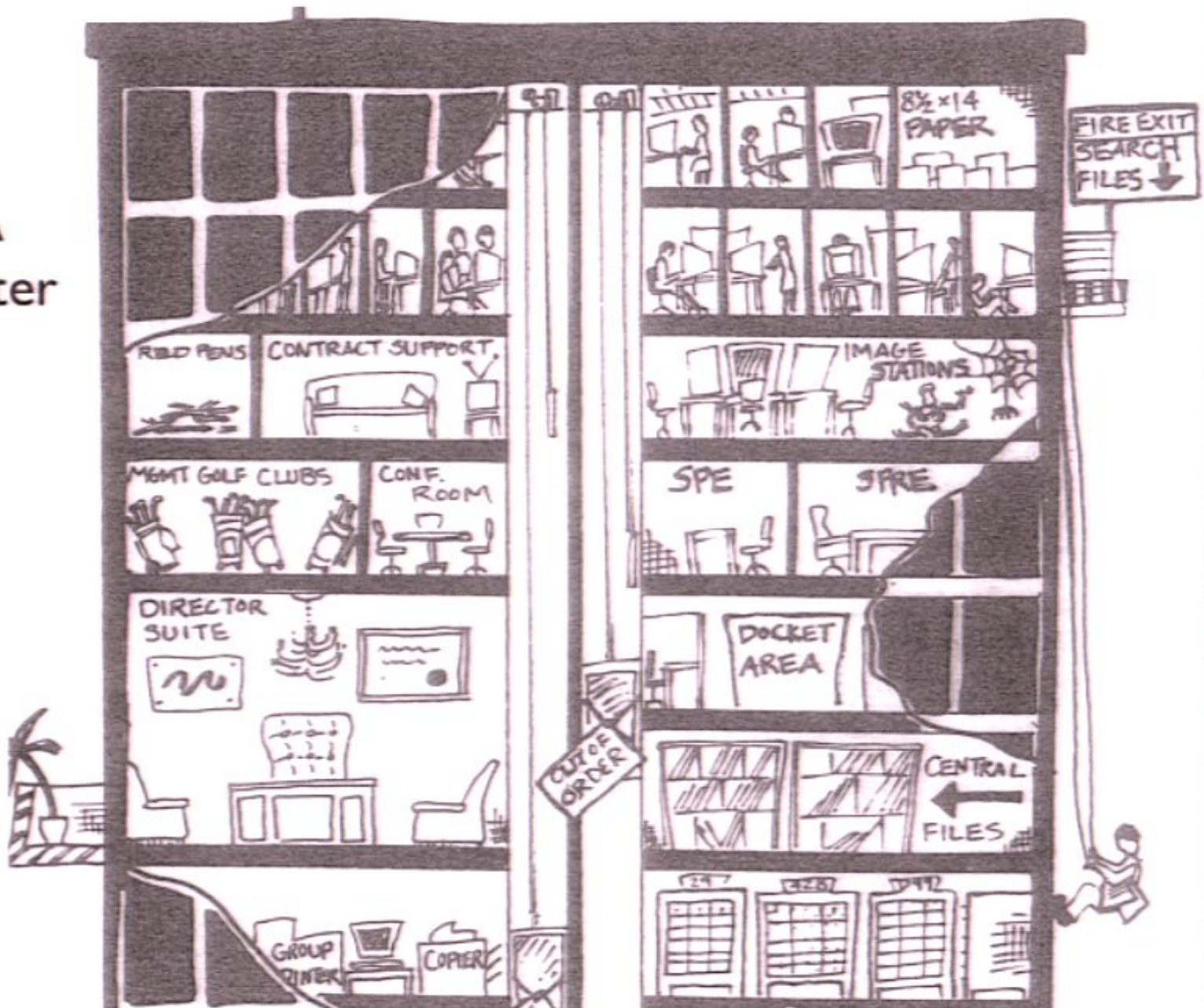
Washington Post Staff Writer

Monday, March 5, 2007; A01

"For the first time in history, it allows the patent-office examiners to open up their cubicles and get access to a whole world of technical experts," said David J. Kappos, vice president and assistant general counsel at IBM."

Bringing Better Information to  
Government

# POPA newsletter



**PEER-TO-PATENT**  
COMMUNITY PATENT REVIEW

Welcome to Peer-to-Patent | Log In | Facebook

BY PROFILE | TUTORIALS | ABOUT A GROUP

Home | Search

Peer-to-Patent opens the patent examination process to public participation for the first time.  
Become part of this historic pilot program - help the USPTO find the information you need to assessing the claims of pending patent applications.  
Become a community reviewer and improve the quality of patents.  
[Get Started!](#)

**WELCOME TO PEER TO PATENT**

Peer-to-Patent Tutorial

**HOW IS NOW PEER-TO-PATENT WORKING?**

1. Think and discuss patent applications
2. Research and find prior art
3. Collaborate and research patents
4. Analyze and evaluate all research
5. "Tag out" prior art submitted to USPTO

**WHAT KIND OF PATENTS CAN I HELP TO REVIEW?**

Submit an application

The Peer-to-Patent pilot will review 170 applications in Technology Classes 2700 (Computer Architecture, Software and Information Security). Selected applications will be reviewed earlier by the USPTO.

**WHAT IS HAPPENING ON THE PEER-TO-PATENT WEBSITE?**

The website helps members:
 

- **Rate of Goodness** - number of reviews, who rates a submission
- **Quality** - number of people performing that step

Code of Conduct | Terms of Use | Privacy Policy | DMCA

The Peer to Patent Site - [www.peertopatent.org](http://www.peertopatent.org)

PEER-TO-PATENT  
COMMUNITY PATENT REVIEW

Welcome to Peer to Patent

72 days left

Peer-to-Patent opens the patent examination process to public participation for the first time.

Second part of this history-rich program - help the USPTO find the information you request in assessing the claims of pending patent applications.

Second a community resource and improve the quality of patents.

Get Started

WELCOME TO PEER TO PATENT

HERE IS HOW PEER-TO-PATENT WORKS

1. Think and discuss patent applications

2. Research and find prior art

3. Upload prior art relevant to claims

4. Evaluate and indicate if relevant (or not)

5. The USPTO will use all information forwarded to USPTO

MOST ACTIVE TEAMS

- 1. [American Chemical Society's Patent](#)
- 2. [Patent Foundation and Patent Foundation](#)
- 3. [USPTO Patent Law and Practice](#)
- 4. [Patent Foundation](#)
- 5. [The Patent Foundation](#)
- 6. [Patent Foundation](#)
- 7. [Patent Foundation](#)
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- 20. [Patent Foundation](#)

PEER-TO-PATENT ACTIVITY

<p><b>Upload Patent Applications</b> Review open patent applications 1000 1000 (pending)</p>	<p><b>Research Prior Art</b> The community resource to research relevant prior art for patent applications 1000 1000 (pending)</p>
<p><b>Upload Prior Art</b> Upload prior art relevant to patent applications 1000 1000 (pending)</p>	<p><b>Evaluate or Indicate</b> Evaluate or indicate if relevant to patent applications 1000 1000 (pending)</p>
<p><b>Forward to USPTO</b> Forward information to USPTO 1000 1000 (pending)</p>	

What's Happening on the Peer-to-Patent Website

The community, help, feedback  
Size of Squares: Number of postings, also color of background  
Color: Number of users performing that task

Code of Conduct · Terms of Use · Privacy Policy · DMCA

Activity

Application

Abstract

Description

Claims (20)

Illustrations (13)

Discussion (49)

Prior Art (11)

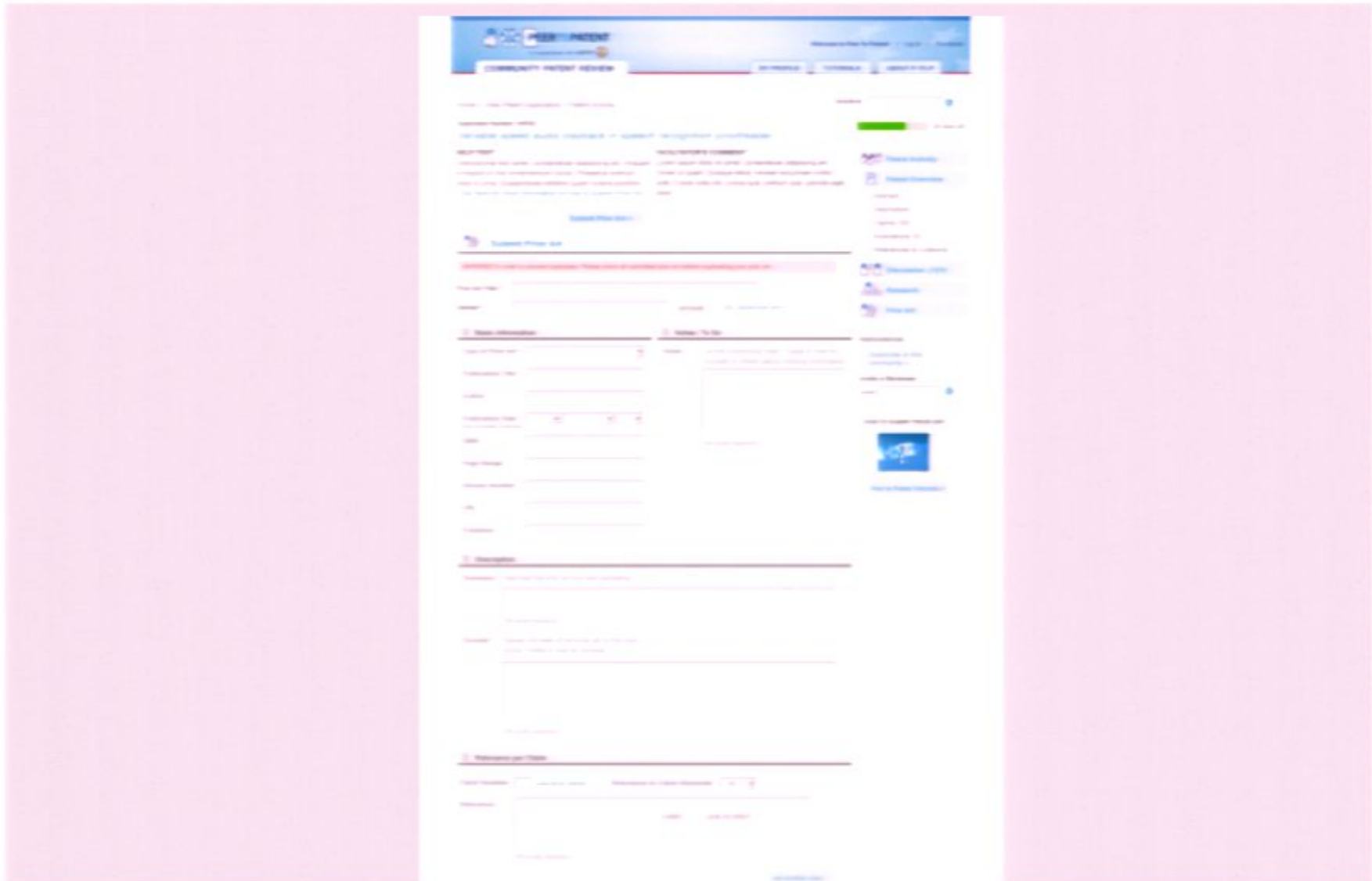
Research (1)

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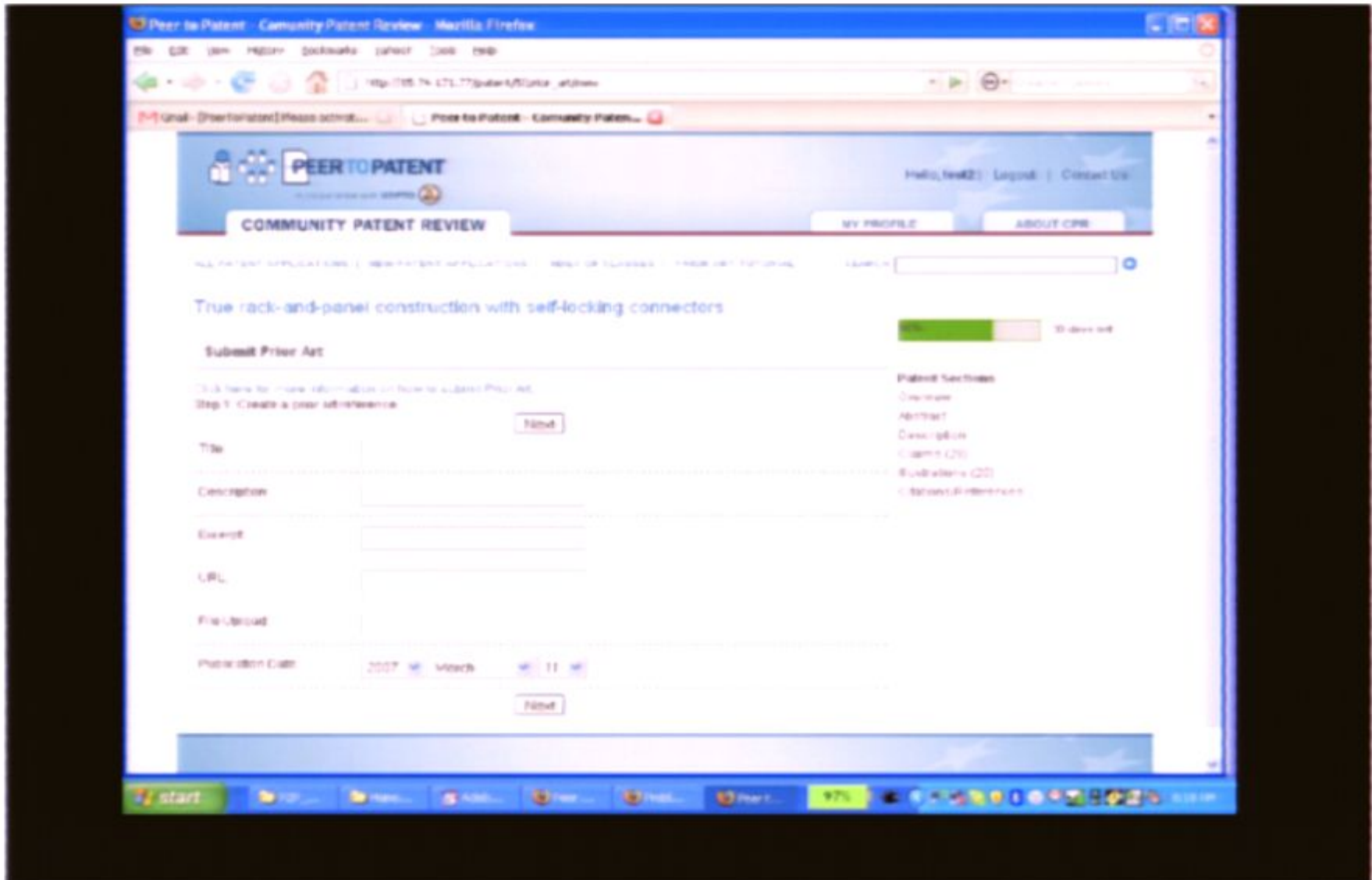
Invite a Reviewer

The Peer to Patent Site - [www.peertopatent.org](http://www.peertopatent.org)



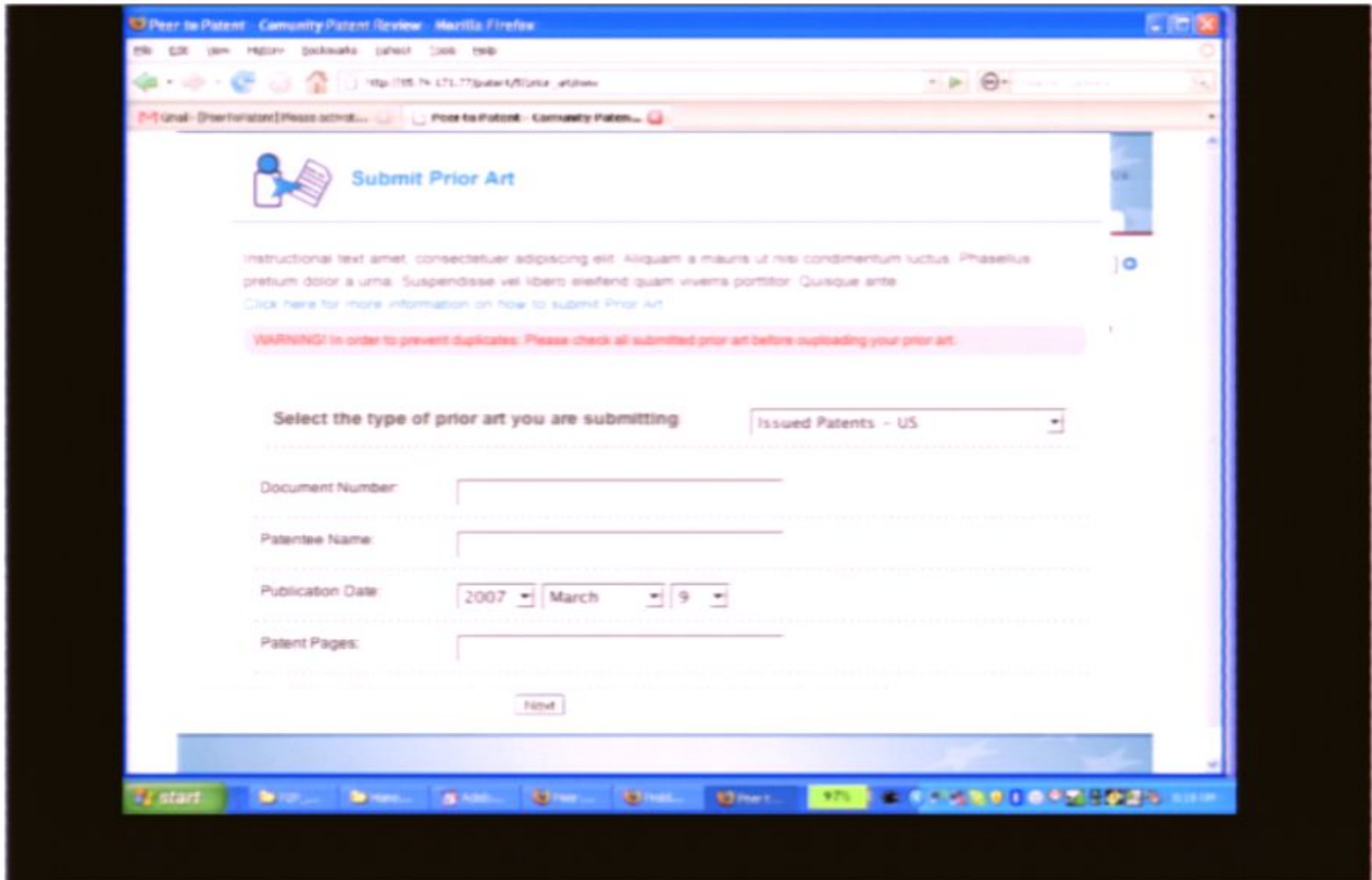


## Site Focuses on Submitting Prior Art Relevant to Claims

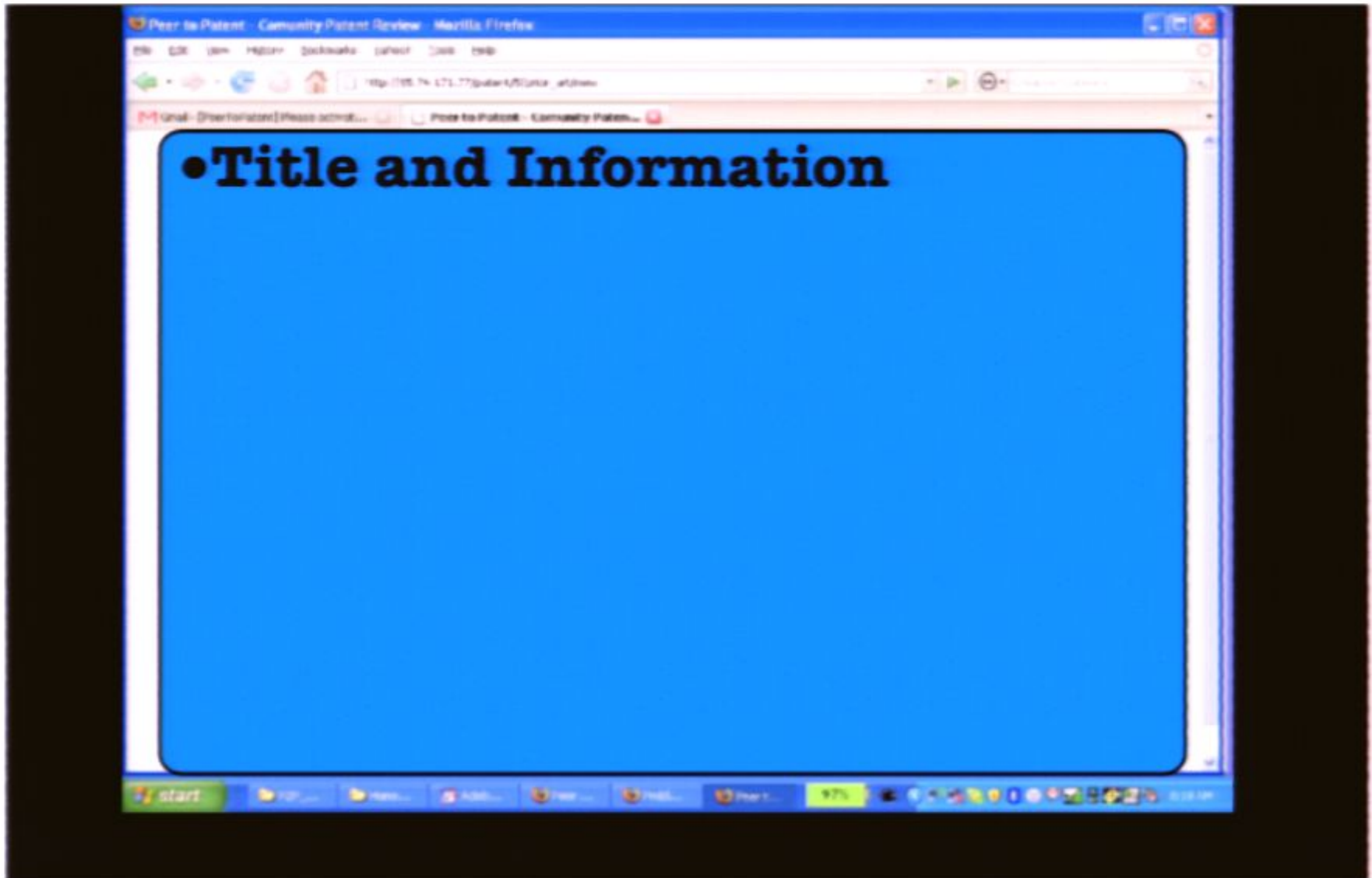


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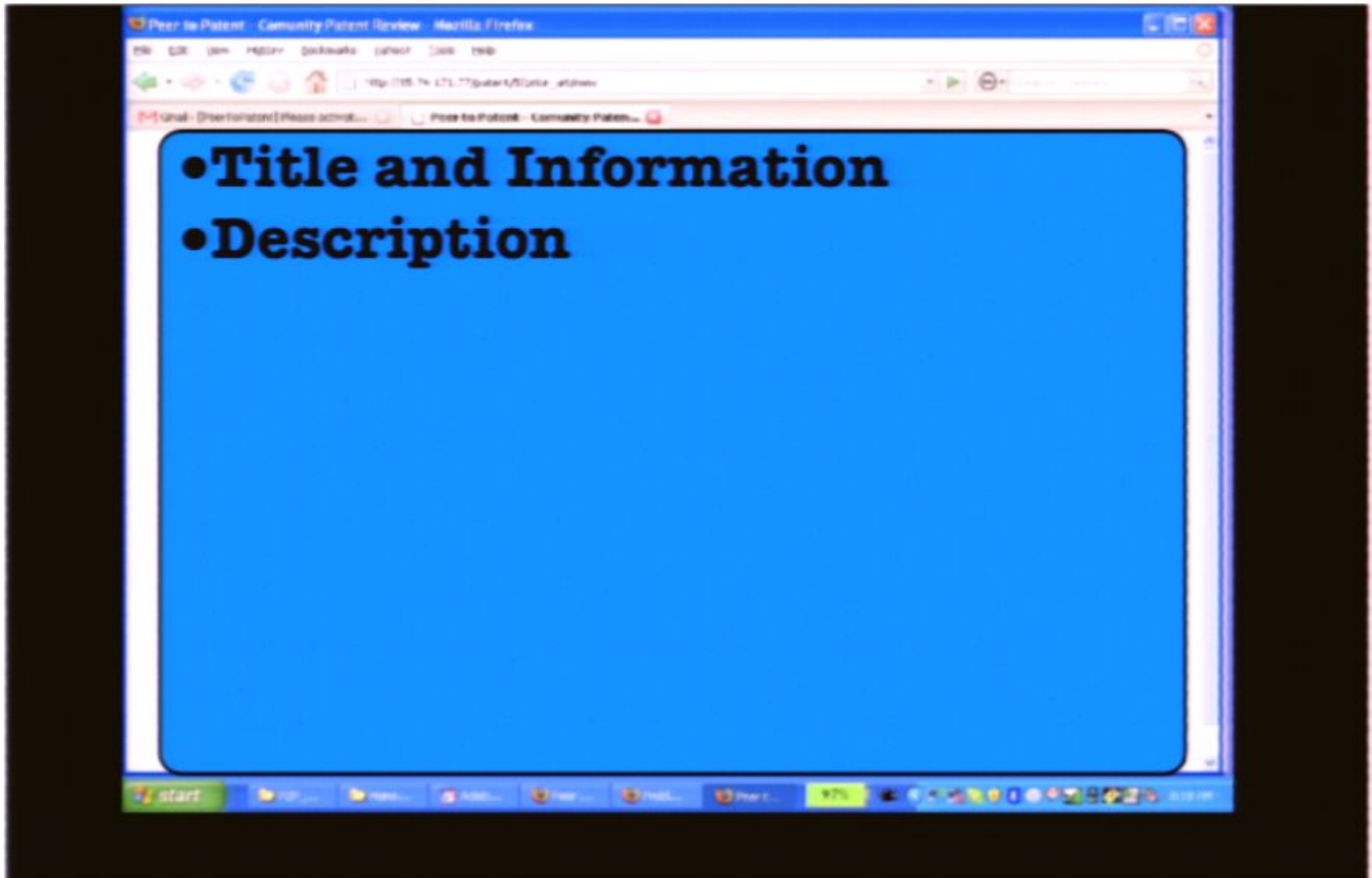




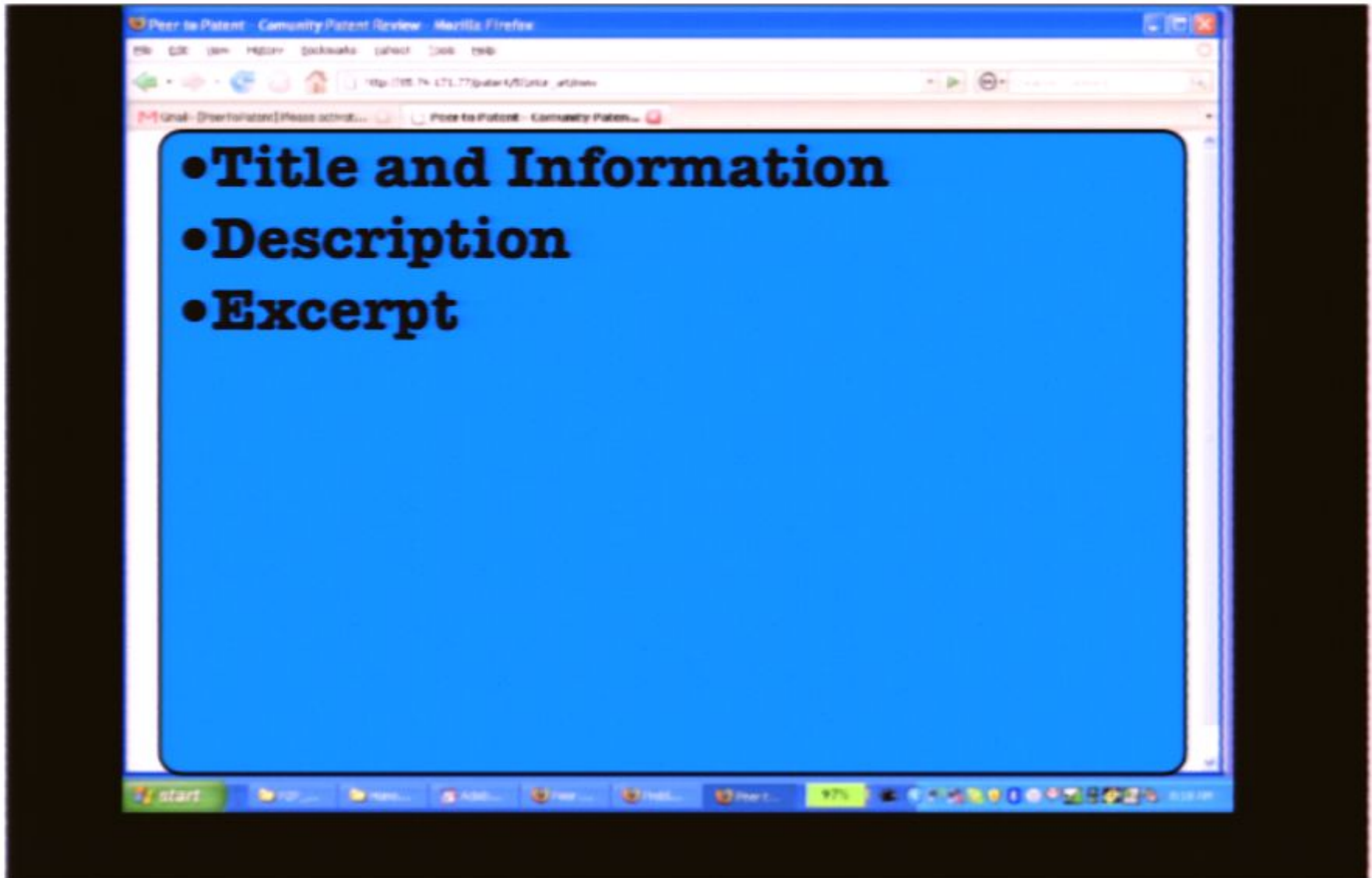
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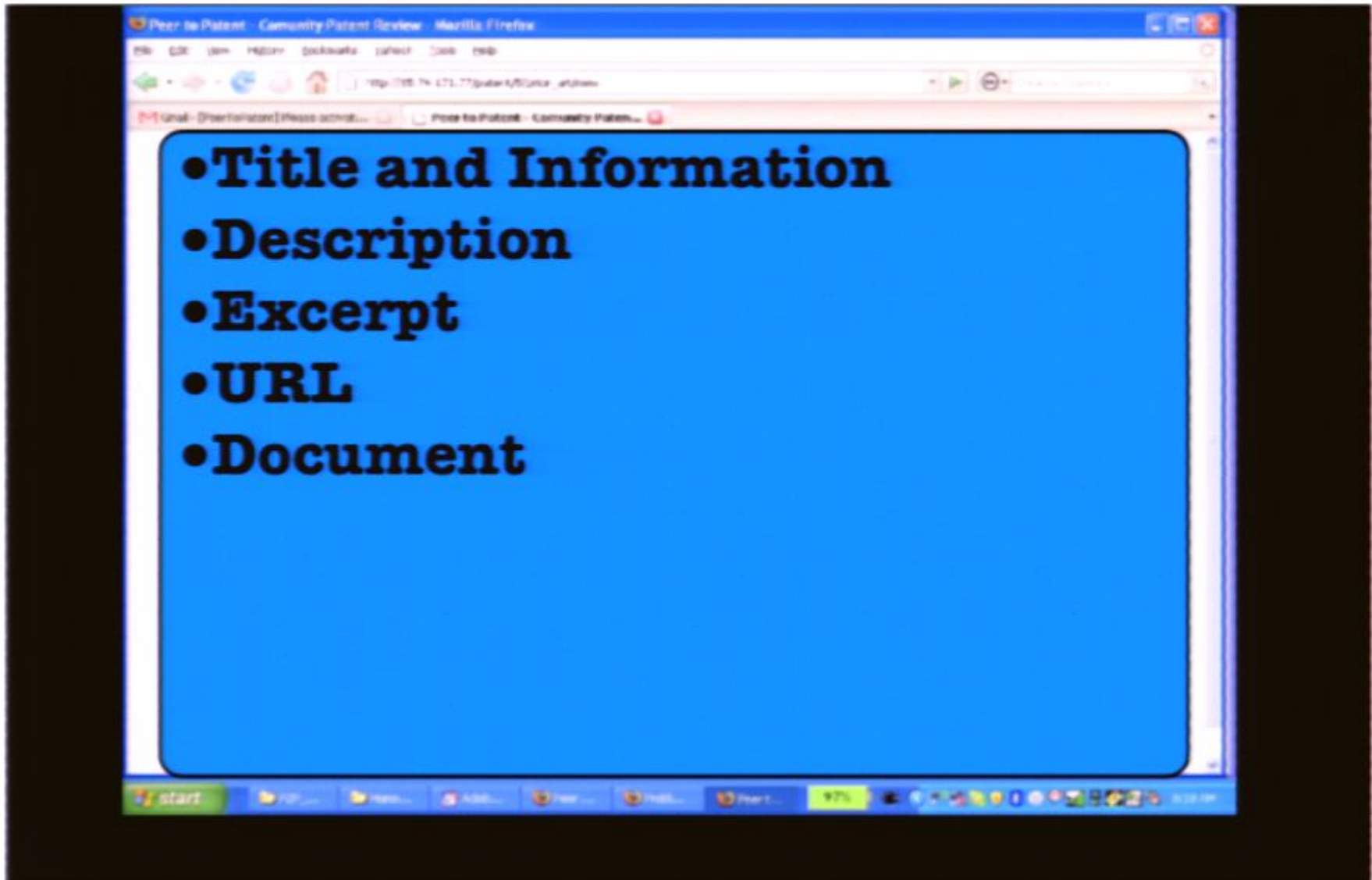
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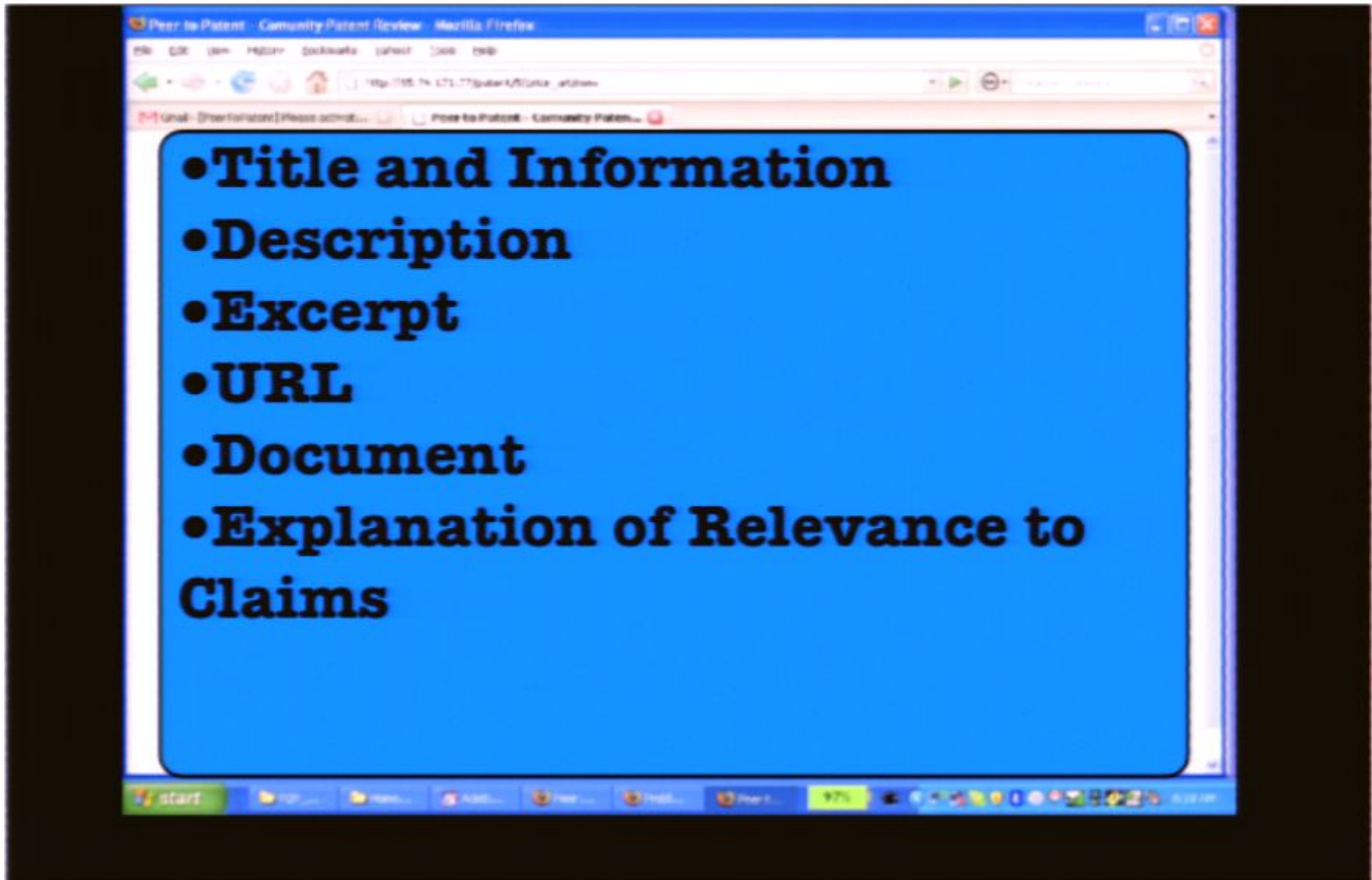
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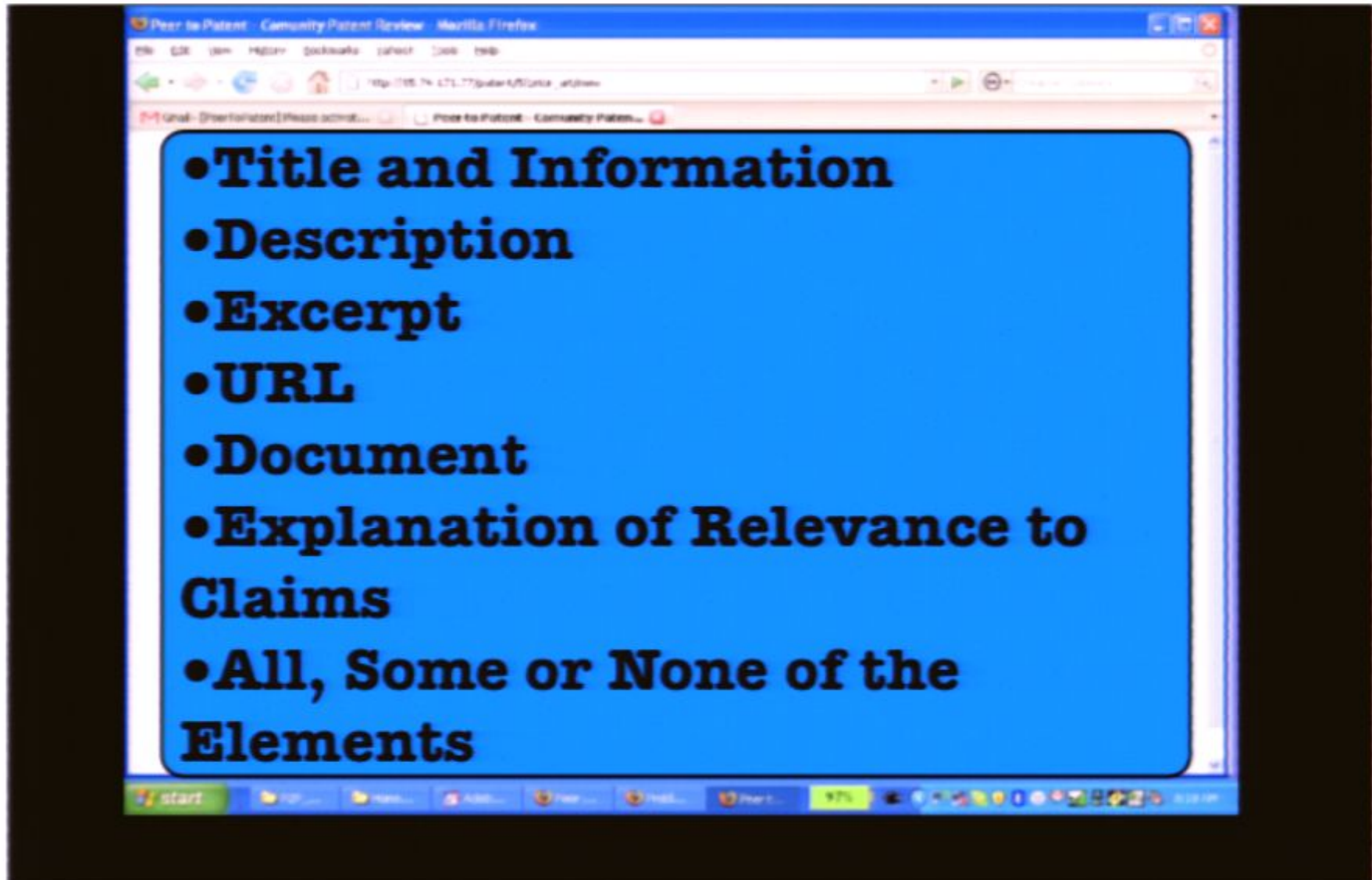
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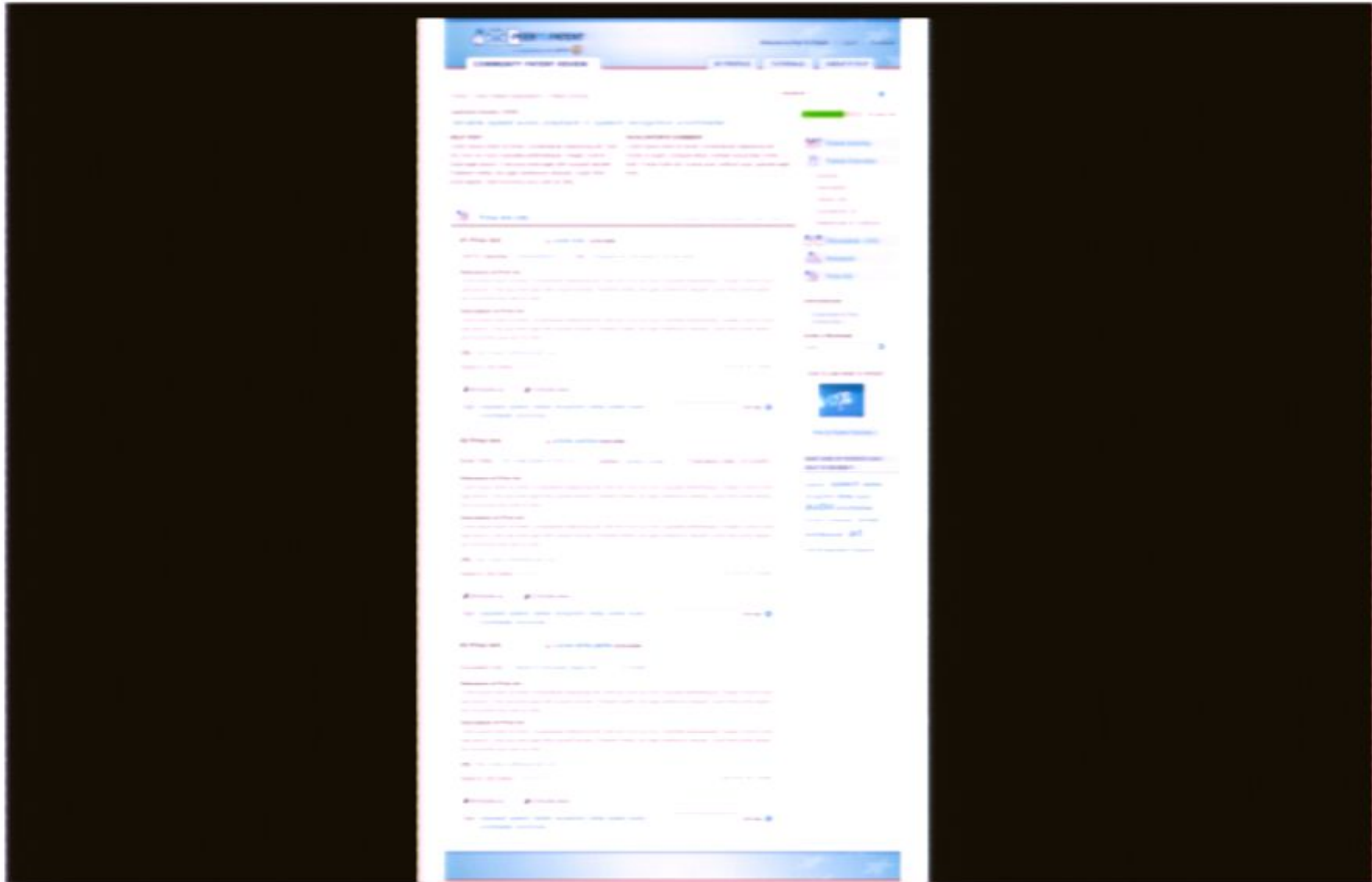
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Uploading Prior Art Demands Structured and Manageable Information



- **Title and Information**
- **Description**
- **Excerpt**
- **URL**
- **Document**
- **Explanation of Relevance to Claims**
- **All, Some or None of the Elements**



## Rating Prior Art



## Why Participate?

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- For Inventors
  - More eyeballs means a stronger application
  - Help searching for prior art
  - Expedited review
  - No fee for participation; no fee for early publication
  - Create a market for your invention
  - Discover knowledgeable experts
  - Improve quality in the patent system

COMMUNITY (208)

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- 45
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- 18
- 12
- 08
- 07

PEER-TO-PARENT

COMMUNITY PATENT REVIEW

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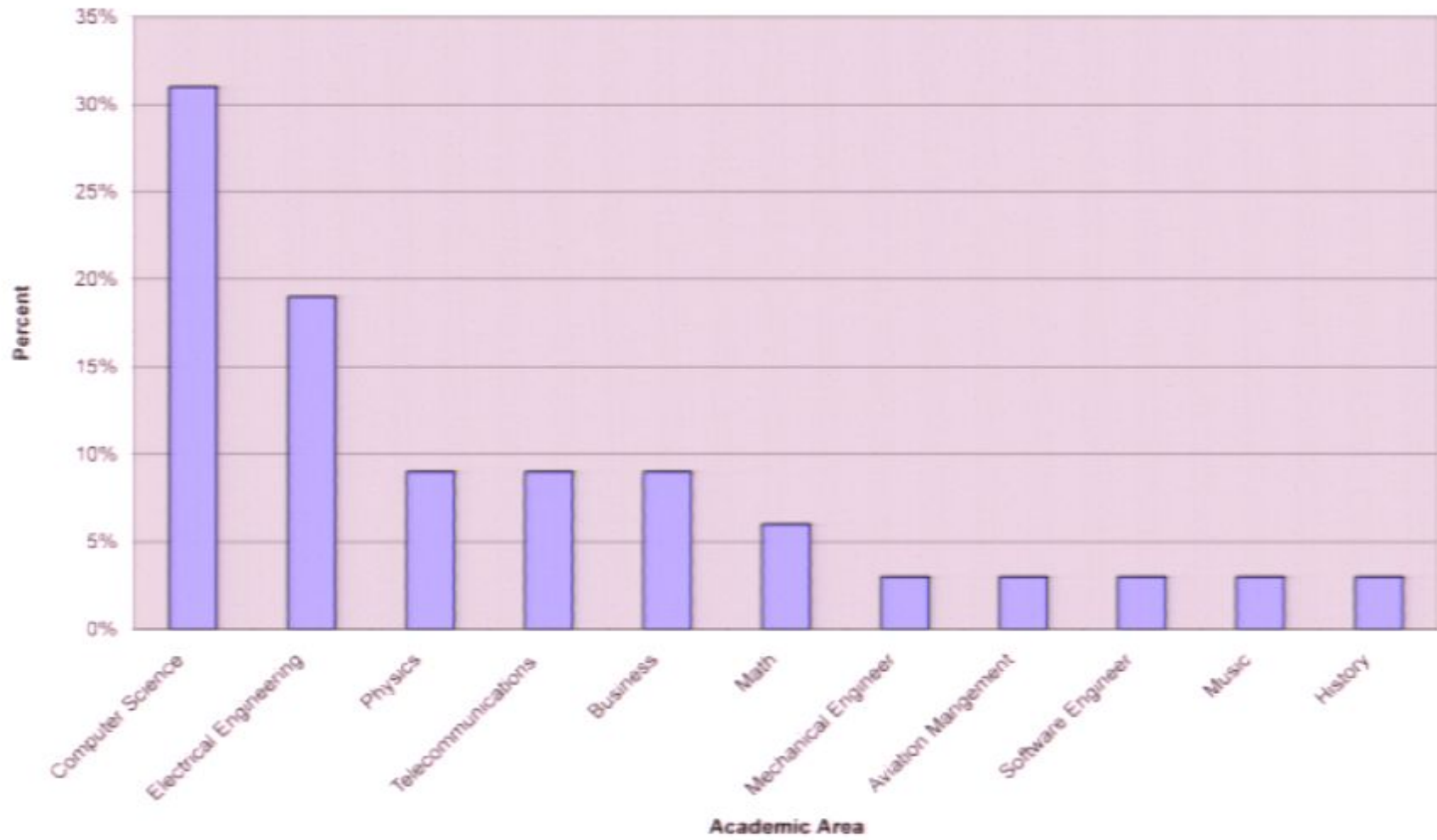
# Why Participate? Self-Selected Reviewers

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- Competitive interest
- Interest in that area of science and ensuring good quality patents
- Desire to distinguish oneself professionally - develop reputation
- Desire to be part of a community of practice/conversation in a particular area of innovation
- Interest in and desire to contribute to patent reform process/improving patent quality
- Interest in (positive or negative) a particular patentee/assignee
- Desire to contribute to open decision-making and encourage more of same
- Desire to strengthen a patent by finding prior art to hone the claims
- Desire to weaken a patent by finding prior art to narrow its claims or defeat the patent
- Academic credit

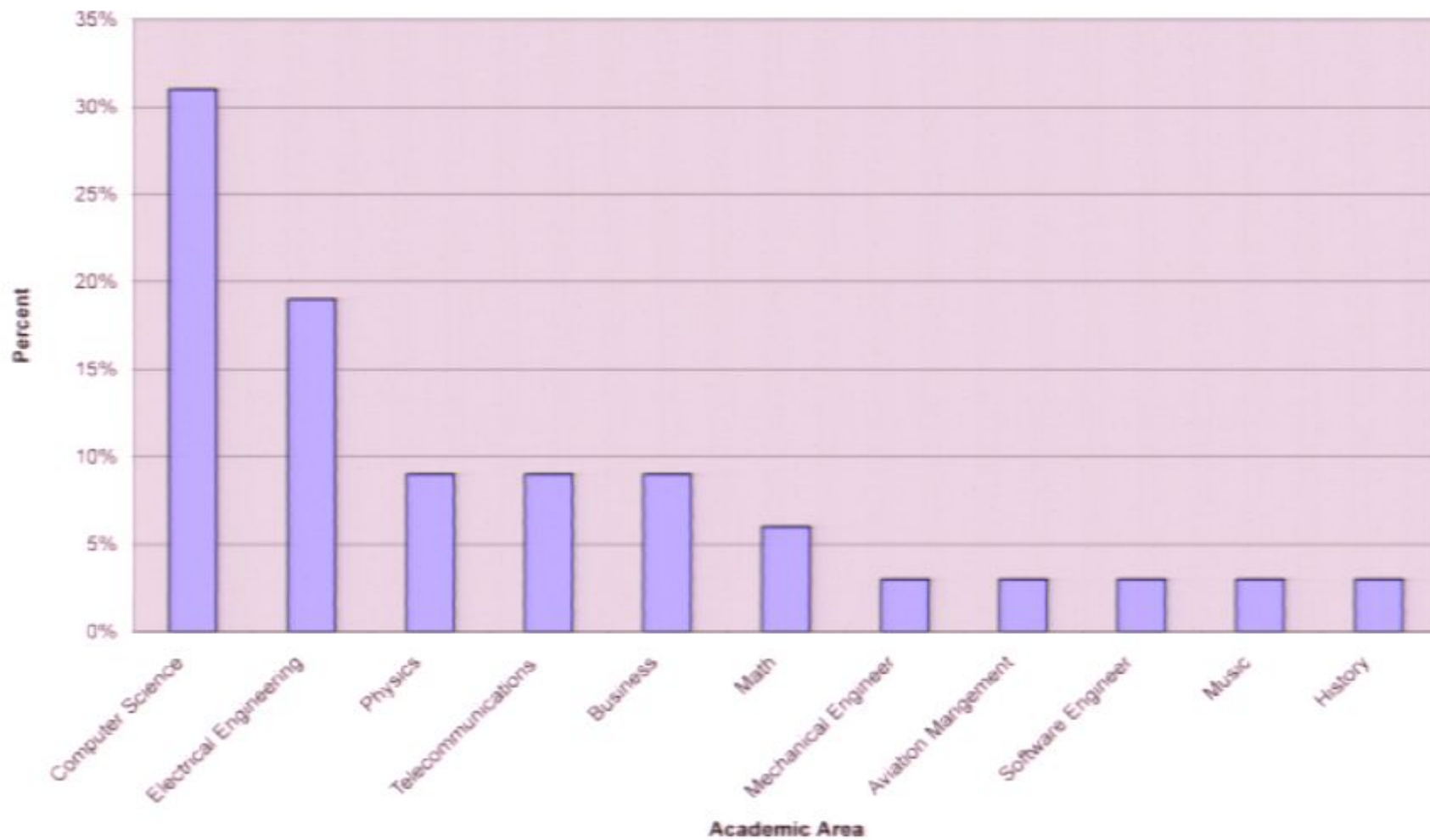
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Academic Concentration



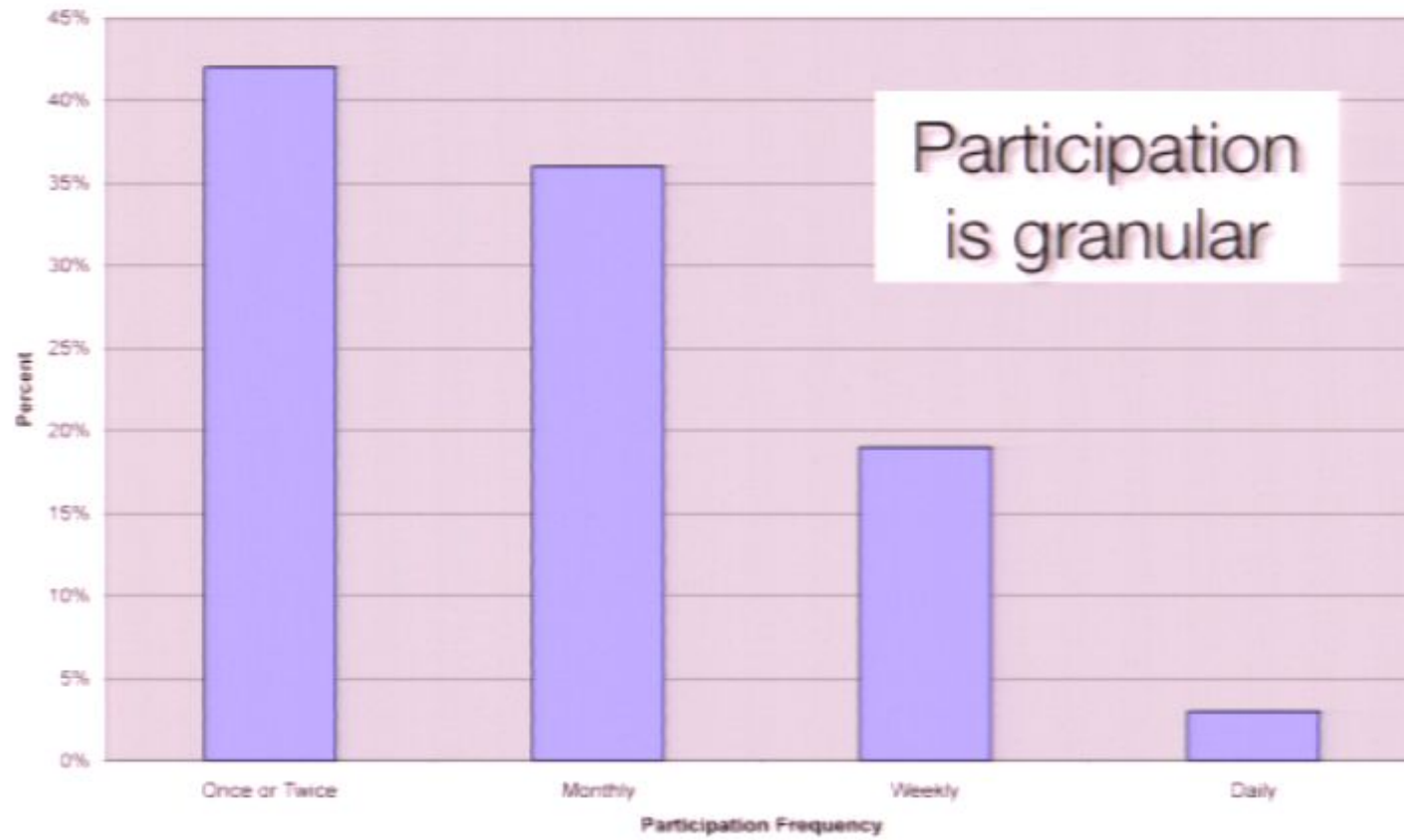
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Academic Concentration





How Often Did You Participate?



# Participating Micro-Elites

- 40 applications
- 401 discussion comments
- 176 pieces of prior art
- 189 prior art ratings
- 55 annotations of prior art posted by others
- 221 tags to describe a patent application
- 39 items of research relating to a specific patent application
- 76 research resources for the site as a whole
- In addition, those active users, in turn, sent out 107 invitations to other users.

# Empirically-Driven Law Reform

- What is the impact of public participation on examiner decision-making?
- What is the level of expertise of public reviewers participating via an open network and how does this group-based, online participation process shape that expertise?
- What is the impact on the resulting quality of the issued patent?

# Feedback

- 55% of initial public submissions referenced non-patent literature (as compared to 14% cited by applicants)
- Examiners more than twice as likely to use P2P reference than applicant reference
- 89% of participating patent examiners found the public materials useful
- 92% indicated they would welcome examining another application with public participation
- 73% want the Peer-to-Patent program implemented as regular office practice.

- How to understand expertise?
- How to create a conversation between law and science?
- How to evolve the structures of decision-making to take account of greater scientific expertise?
- What is the impact of new technology?

**HERE IS HOW PEER TO PATENT WORKS:**

**SUBMIT AN APPLICATION**

The Peer-to-Patent pilot will review 250 applications in Technology Center 2100 (Computer Architecture, Software and Information Security). Selected applications will be reviewed sooner by the USPTO.

[Click to apply](#)

**What kind of patents can I help to review?**

[speech](#) [tables](#)  
[recognition](#) [delay](#) [speed](#)  
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**MOST ACTIVE TEAMS**

- 56 Automated Computer Vulnerability Resolut
- 45 Folate mimetics and folate-receptor bind
- 40 ELECTRICAL BOX EXTENSION
- 22 Epilatory Compositions
- 18 True rack-and-panel construction with s
- 12 Routing call failures in a location-based
- 8 Water Soluble Packages Containing Lid
- 7 Human neuronal attachment factor 1

**PEER TO PATENT ACTIVITY**

<p><b>Discuss Patent Applications</b> Review open patent applications ( 254 discussion postings)</p>	<p><b>Research Prior Art</b> Find resources relevant to examining patent application ( 458 postings)</p>	
<p><b>Upload Prior Art</b> Explain this art to the community (156 submits)</p>	<p><b>Annotate + Evaluate Prior Art</b> Comment on why art relates to patent claims (42 annotations)</p>	<p><b>Prior Art Forwarded to USPTO</b> System selects Top 10</p>

# Group-Based Participation

## Visualizing Participation

When people communicate face to face, they externalize their models so they can be sure they are talking about the same thing. Even such a simple externalized model as a flow diagram or an outline – because it can be seen by all the communicators – serves as a focus for discussion. It changes the nature of communication...Perhaps the reason present-day two-way telecommunication falls so far short of face-to-face communication is simply that it fails to provide facilities for externalizing models.

JCR Licklider

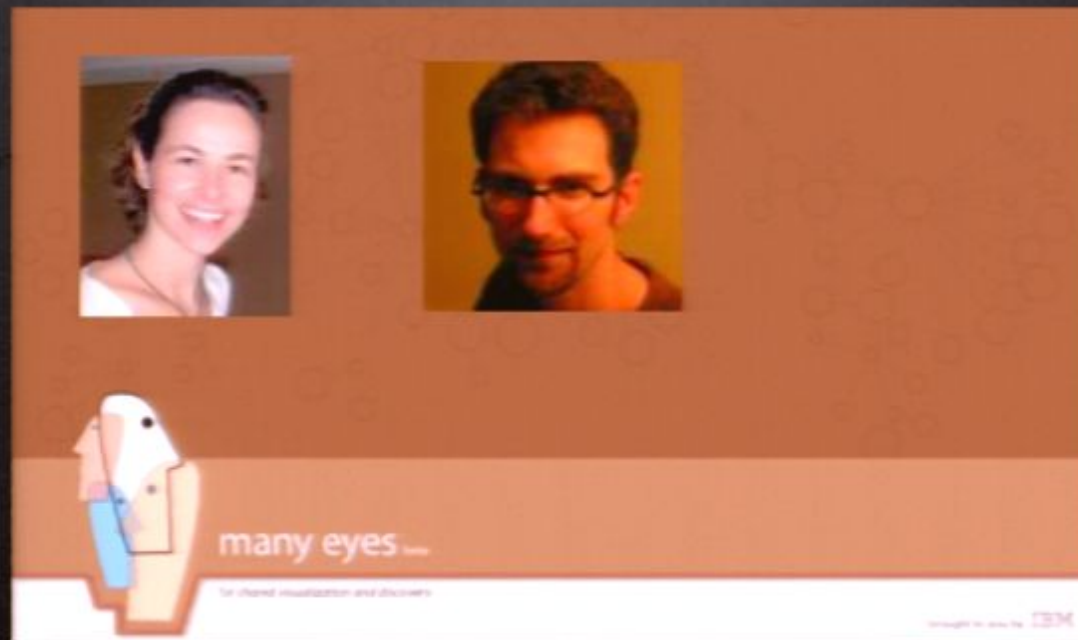




- When we see ourselves in the screen, we change our behavior.



Visualization is a catalyst  
for discussion and collective  
insight.





# Social Translucence





# Some Challenges

- Language of law and the language of science
- Creating a culture of participation
- Values vs. science in decision-making
- “Scaling” change across government
- Measuring the impact of science participation on policy
- How much openness is too much

No Signal

VGA-1

No Signal  
VGA-1

No Signal

VGA-1