Business Plan Writing Workshop
January 15, 2009
A Little Background on Harbert

*a history of continuous beginnings*© . . .
Overview of Harbert Management Corporation

- HMC is an investment management firm serving hundreds of third party institutional and high net worth investors

- HMC offers a high quality, diversified portfolio of domestic and European alternative investment products to its clients, including real estate, power generation, venture, mezzanine and private equity capital, long/short equity, global macro, distressed debt and convertible arbitrage hedged securities

- HMC has assets under management approaching $10 billion, including investor equity and commitments managed in its various alternative investment funds

- HMC and its affiliates are significant co-investors in all of its products, aligning HMC’s interests with those of its investors

- HMC and its affiliates enjoy a distinguished 50+ year history, providing operating experience, vital finance and business contacts, and a full back office support structure to leverage its investment professionals
First Venture Capital Fund - Harbert Venture Partners, LLC ("HVP I")

- $52 million, final closing in December of 2004
- Invested in thirteen early stage growth companies across the Southeast
- Balanced portfolio of information technology and healthcare companies
- Investments in attractive business sectors
- Strong aggregate revenue growth in portfolio
## HVP I Portfolio

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Sector</th>
<th>Description</th>
<th>Date of Initial Investment</th>
<th>Total $ Invested by HVP</th>
<th>HVP Ownership %</th>
</tr>
</thead>
<tbody>
<tr>
<td>dContact</td>
<td>Morrisville, NC</td>
<td>Healthcare</td>
<td>Cardiovascular medical device company.</td>
<td>Nov-07</td>
<td>$2,500,000</td>
<td>6.5%</td>
</tr>
<tr>
<td>JackBe</td>
<td>Chevy Chase, MD</td>
<td>IT</td>
<td>Web 2.0 enterprise mashup developer.</td>
<td>Oct-07</td>
<td>$3,000,000</td>
<td>13.4%</td>
</tr>
<tr>
<td>Agility</td>
<td>Richmond, VA</td>
<td>IT</td>
<td>Hospital RFID Tracking.</td>
<td>Feb-07</td>
<td>$2,500,000</td>
<td>26.2%</td>
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<tr>
<td>Aldagen</td>
<td>Durham, NC</td>
<td>Healthcare</td>
<td>Stem cell based treatment.</td>
<td>Dec-06</td>
<td>$3,619,546</td>
<td>6.3%</td>
</tr>
<tr>
<td>Richmond, VA</td>
<td>Richmond, VA</td>
<td>Healthcare</td>
<td>Provider of sleep apnea disease management services.</td>
<td>Jun-06</td>
<td>$3,000,000</td>
<td>28.6%</td>
</tr>
<tr>
<td>Optimal Readings</td>
<td>Birmingham, AL</td>
<td>Healthcare</td>
<td>Manages diagnostic images for radiologists to read and diagnose.</td>
<td>Jun-06</td>
<td>$1,537,857</td>
<td>7.9%</td>
</tr>
<tr>
<td>Privaris</td>
<td>Charlottesville, VA</td>
<td>IT</td>
<td>Biometric authentication products and solutions.</td>
<td>Oct-05</td>
<td>$3,507,552</td>
<td>9.6%</td>
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<tr>
<td>Taproot</td>
<td>Morrisville, NC</td>
<td>IT</td>
<td>Embedded software for mobile phone manufacturers.</td>
<td>Aug-05</td>
<td>$2,500,000</td>
<td>13.3%</td>
</tr>
<tr>
<td>College Park, MD</td>
<td>College Park, MD</td>
<td>Healthcare</td>
<td>Portable, rapid pathogen detection systems.</td>
<td>May-05</td>
<td>$3,025,872</td>
<td>18.0%</td>
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<tr>
<td>Unitrends</td>
<td>Columbia, SC</td>
<td>IT</td>
<td>Appliance-based, disk-to-disk backup / disaster recovery solution.</td>
<td>Dec-04</td>
<td>$3,792,340</td>
<td>18.3%</td>
</tr>
<tr>
<td>BroadSource</td>
<td>Atlanta, GA</td>
<td>IT</td>
<td>Enterprise software / telecom cost management.</td>
<td>Jul-04</td>
<td>$1,583,124</td>
<td>11.0%</td>
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<tr>
<td>MaxCyte</td>
<td>Rockville, MD</td>
<td>Healthcare</td>
<td>Clinical stage therapeutic gene transfer.</td>
<td>Mar-04</td>
<td>$3,456,914</td>
<td>12.0%</td>
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<tr>
<td>WindChannel Communications</td>
<td>Atlanta, GA</td>
<td>IT</td>
<td>Wireless broadband service provider.</td>
<td>Jan-04</td>
<td>$4,225,968</td>
<td>41.2%</td>
</tr>
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</table>

**Total** $38,249,172
# HVP II Portfolio

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Sector</th>
<th>Description</th>
<th>Date of Initial Investment</th>
<th>Total $ Invested by HVP</th>
<th>HVP Ownership %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NovaMin</td>
<td>Alachua, FL</td>
<td>Healthcare</td>
<td>Active ingredient in oral health care and dental products.</td>
<td>Sep-08</td>
<td>$2,500,000</td>
<td>17.9%</td>
</tr>
<tr>
<td>ClaraBridge</td>
<td>Reston, VA</td>
<td>IT</td>
<td>Software as a Service provider of customer experience analytics software.</td>
<td>Jul-08</td>
<td>$2,250,000</td>
<td>4.4%</td>
</tr>
<tr>
<td>Yap</td>
<td>Charlotte, NC</td>
<td>IT</td>
<td>Voice-enabled mobile software converts speech into text.</td>
<td>Jun-08</td>
<td>$2,500,000</td>
<td>14.4%</td>
</tr>
<tr>
<td>Agility</td>
<td>Richmond, VA</td>
<td>IT</td>
<td>Hospital RFID Tracking.</td>
<td>Aug-08</td>
<td>$800,000</td>
<td>N/A</td>
</tr>
<tr>
<td>Intelliject</td>
<td>Richmond, VA</td>
<td>Healthcare</td>
<td>Develops prescription pharmaceutical drug delivery devices.</td>
<td></td>
<td>$3,000,000</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

**Total**  
$11,050,000
Investment Pitch Tips

Essential Elements of a Successful Pitch
“Show dedication to the project by demonstrating financial commitment to-date and personal commitment in time and effort.”

Never say, “We have no competition.”

“Be able to tell your story succinctly. If you can’t define your business opportunity in a few sentences you’re off to a bad start.”

“Share what comparable company valuations so that the investor knows what kind of return to expect.”

“Clearly portray the customer value proposition and the ROI a customer can expect.”

“Do you have a succinct elevator pitch?”
Essential Elements

In Order Of Importance

1. Management Team
2. Large and Measured Market Opportunity
3. Sustainable Competitive Advantage
4. Exit Strategy (i.e. Liquidity Event)
5. Comprehensive Competitive Analysis
6. Go-To-Market Strategy
Management Team

Team MUST be proven and accomplished.
Ideal if led by serial entrepreneurs

1. Deep functional / industry experience
2. Domain expertise
3. Early stage
   • CEO, CTO/Scientist, Marketing
4. Later stage
   • CEO, COO, CTO/VP, Sales, Marketing, CFO, MFG
Market Opportunity

Large and Measurable

1. “Addressable” market size (show intimate knowledge of the specific opportunity your company is pursuing).

2. Industry research reports are important, but be sure to avoid spewing out numbers. Intelligent investment professionals will eat you for lunch!

3. Purchase orders (i.e. customers) are very powerful.

4. Be wary of your audience appetite for customer size. Most investors prefer the middle road = lots of paying customers. 5 customers at $1MM a piece is not so good for most, 500 customers at $50,000 a piece is golden. 10,000,000 at $1 a piece is too labor intensive.
Suggestion

To show market opportunity consider using the pyramid or inverted pyramid approach.
Competitive Advantage

Sustainable Competitive Advantage

1. Intellectual Property
   • Patents, Trademarks, Trade Secrets

2. People

3. Strategic Exclusive Alliances

4. First-To-Market
   • Second-to-Market, o.k. if market size is large enough

5. Brand Recognition, Reputation, Superior Product
Exit Strategy

1. Initial Public Offering
   - Difficult. Requires 5 years (+/-) and $100MM or more in revenues

2. Merger / Acquisition
   - Identify potential acquirers
   - Be able to explain the fit and rationale

3. Stay Private
   - How to get liquid?
Go To Market Strategy

1. Bad – “We have no competition”
2. Good – “Here’s our competition. Here’s how we win.”
3. Use the six points in this presentation to compare and contrast (preferably in table format)
   • Management, Market Opportunity, Competitive Advantage, etc.
4. Be specific with who your target market is, how you are going to exploit it.
5. Identify customers (specifically)
   1. How do your customers buy?
      • Length of sales cycle? Key decision makers?
1. When attempting to get the attention of VCs, be **PATIENT**.

2. You may or may not hear back on the first attempt or two, so be **PERSISTENT** and **PERSEVERE**.

3. If steps one and two don’t work, you can always resort to **PRAYER!**
What is an Entrepreneur?
**Historical Definition**

**French term:** People who provide men and materials to feudal lords.

“Entrepreneurs are society’s rejects, instead of becoming hobos, criminals or professors, the start their own business.” Thoreau
The entrepreneur is the innovator who implements change within markets through the carrying out of new combinations.”
Schumpeter(1934)

Later he calls it “creative destruction”. What does he mean?
A Definition

Entrepreneurship seeks to understand how opportunities to create *something new* arise and are discovered or created by *specific persons or entities* who then use various means to *exploit or develop* them, thus producing a wide range of *effects*.
What is a Business Plan?
The Timmons Model: OER

Opportunity

Entrepreneur

Business Case
Fits & Gaps

Resources

Uncertainty

Uncertainty

Uncertainty

Uncertainty
Key Elements of the Launchpad Plan?
Executive Summary

• Overview of Idea
• Mission/Objectives
• Keys to Success
Products/Services and Key Problem to Solve

- Product/Service Overview
- Relevant Technology or Expertise
- Key Opportunity
Market Analysis

- Market Overview
- Target Market
- Main Competitors
- Distribution Strategy
- Market Entry
- Pricing Strategy
- Scalibility / Ramp Up
Niche Thyself

The Art of Positioning

- Ability to provide unique product
- Dotcom
- Value to customer

X

From Guy Kawasaki “The Art of the Start”
Market Analysis

LAUNCHPAD TIP

Teams should address the current and potential size of the whole market and their target market (if different). Teams should also provide details regarding how they intend to enter the market and production ramp-up.
Management Summary

• Organizational Structure
• Current Management Team – Infected People
• Future Management Team - Contagion
• Board of Directors – Puzzle Pieces
• Personnel Plan
Management Summary

LAUNCHPAD TIP

In the Management Summary section, teams should list a proposed Board of Directors and should outline the current management team and future needs.
Intellectual Property and/or “Know How”

- Patents (if applicable)
- Expert Knowledge/Trade Secrets
- Competitive Advantage and Defensibility
TIP

Be sure to address your company’s competitive advantage and how it is defendable from current and future competitors and imitators.
Financial Information

• Current Sources of Funding
• Funding Needs
• Use of prize money if granted
• Breakeven Analysis
• Proposed Milestones
• Exit Strategy for Investors (if applicable)
Financial Information

LAUNCHPAD TIP

Teams should address how they will use the prize money if awarded. This is very important. For teams that expect to need additional funding, the future funding sources should be addressed.
Competition Constraints

• 10 Page Limit

• Must list name of the proposed company and team number. Teams can identify themselves and their institutions

• Team name and page number in the upper right-hand corner of the page header
Competition Constraints

• 8.5 X 11 paper with 1 Inch Margins, not including header and footer

• Due Date: Friday February 8\textsuperscript{th} at 5:00 pm, central time
The Pitch

- Know Thy Audience
- 10/20/30 Rule
- Don’t be Discouraged
  - “I have not failed. I've just found 10,000 ways that won't work.” – Attributed to Edison
Intellectual Property and Prior Art Searches

Richard P. Swatloski

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January 15, 2009
Forms and Types of Intellectual Property

Intellectual Property = Asset

- Patent—new, useful inventions/designs
- Copyright—original expressions secured in a concrete means
- Trademark—distinguish source of goods
- Servicemark—distinguish source of services
- Trade Secret—company secrets
Patent Outline

• What is a patent
• Types of patents
• What can I patent
• Value of a patent
• Anatomy of a patent
• Can I get a patent
• Filing strategies
  ➢ Provisional
  ➢ Utility
What is a Patent?

• A patent is a form of contract

• Inventor agrees to disclose “fully” the invention to the public and meets certain “patentability tests”

• In exchange, the Government grants a “limited monopoly” on the invention to the inventor for a “limited time”
What is a Patent?

Patents grant their owner the right to “exclude others” from:

• Making the invention

• Using the invention

• Selling the invention

• Offering the invention for sale

• Importing the invention
Types of Patents?

- Provisional—“Place Holder”
- Utility—Novel technology, products, or methods
- Design—Protects the way an article looks
- Plant—Protects asexually reproduced plants
What Can Be Patented?

• Processes
  ➢ Do not need to know why the process works

• Products
  ➢ An assembly of parts that are put together
  ➢ Anything man-made

• Compositions of matter

• New uses of any of the above
What Cannot Be Patented?

- Laws of nature
- Physical phenomena
- Abstract ideas
When Can a Patent Be Valuable?

- Barrier to entry—market advantage
- Licensing Revenue
- Security for investors
- Security for loans
Anatomy of a Patent?

• Specification

➢ Describes the invention
➢ Discloses how to make it and use it
➢ Reveals the best way known to the inventor of practicing the invention
Anatomy of a Patent?

- Claims
  - Points out and distinctly describe what the applicant regards as the invention

- Drawings
  - Can be schematics, flow charts, sequence listings, etc.
Usefulness/Utility (35 USC § 101)

Does the invention really do anything and, if so, does it solve the problem it was designed to solve?
Patentability Tests and Statutory Bars

Novelty (35 USC § 102)

“A person shall be entitled to a patent unless:”

The claimed invention was disclosed in the prior art.

Prior Art:

• Prior patent/publications
• Prior public use
• Prior commercial offers to sell
• Prior sales
• Prior conversations
Patentability Tests and Statutory Bars

Non-obviousness (35 USC § 103)

Even if new and novel, would the claimed invention have been obvious to one skilled in the art at the time of the invention?
Patentability Tests and Statutory Bars

Written Description, Enablement, and Best Mode (35 USC § 112)

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most clearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out the invention.
How to Obtain a Patent

First step: file the patent application

Types of Patents

- Provisional patent
- Utility patent
- Design patent
- Plant patent
Provisional Patent Applications

- Place holder
- Is not examined
  - Informal drawings
  - Multiple inventions
  - Does not require claims
- Expires one year from the filing date
- Minimal filing fee
Provisional Patent Applications

Advantages:

• Inexpensive to file

• Gives the inventor(s) one year to determine commercial viability of the invention

• Pushes patent expiration date by one year
Provisional Patent Applications

Disadvantages:

• Provisionals require the same amount and type of information as non-provisionals. An incomplete application may give a false sense of security.

• Add to the overall cost of patent procurement

• Delays issuance of patent
Utility Applications

• Can result in a U.S. patent

• Examined for compliance with U.S. patent law

• Examination takes ~2-4 years (can be expedited in some cases)

• Published 18 months after the earliest filing date

• Filing fees: $165 + (small entity), $330 + (large entity)
How to Perform a Prior Art Search
Benefits for Performing a Prior Art Search

• Avoid infringement of existing patents

• Helps track the research and development of other companies

• Identify potential merger or acquisition opportunities

• Gain access to a wealth of technical information not publicized anywhere else
What is Prior Art?

Prior art consists of information disclosed to the public which includes:

- US patents and published patent applications;
- Foreign patents and published patent applications;
- Journal and magazine articles;
- Books, manuals, and catalogs;
- Websites and databases;
- Conference proceedings;
- Scientific papers;
- Among other things.
Keyword Searching Problems

• Vague or inconsistent terminology:
  ➢ Generally Spherical Object with Floppy Filaments to Promote Sure Capture (Patent 4,756,529)
• Obsolete names and terms:
  ➢ “LP”…”hi-fi”…”laser disc”
• Different meaning in different fields:
  ➢ “mouse” the animal vs. the computer mouse
• Synonyms
  ➢ Rodent Extermination Device (Patent 5,185,953)
The United States Patent Classification system (USPC) contains over 460 classes and 150,000 subclasses.

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>002</td>
<td>Apparel</td>
</tr>
<tr>
<td>004</td>
<td>Baths, Closets, sinks, and spittoons</td>
</tr>
<tr>
<td>005</td>
<td>Beds</td>
</tr>
<tr>
<td>007</td>
<td>Compound tools</td>
</tr>
<tr>
<td>012</td>
<td>Boot and shoe making</td>
</tr>
<tr>
<td>015</td>
<td>Brushing, scrubbing, and general cleaning</td>
</tr>
<tr>
<td>002/171</td>
<td>Head Coverings</td>
</tr>
<tr>
<td>015/167.1</td>
<td>Tooth or nail brush</td>
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</tbody>
</table>
Patent Search Overview

1. Brainstorm Keywords to describe the invention
2. Use keywords to find initial class/subclass (index to the USPC)
3. Verify the relevancy of class/subclasses using the classification schedule
4. Confirm scope of the subclass using classification definitions
5. Access complete patent documents and published application by classification
6. Review the claims, specifications, and drawings of the retrieved documents
7. Retrieve and review cited references
Step 1: Keywords

• What does it do?
  ➢ Essential function of the invention

• What is the end result?
  ➢ Essential effect or basic product resulting from the invention

• What is it made of?
  ➢ Physical structure of the invention

• What is it used for?
  ➢ Intended use for the invention
Step 2: Index to the USPC

- Use the index to find potential class(es) and subclass(es)

- Look up each term that describes the invention from the keywords identified from Step 1

- Note class and subclass numbers from each term

- A plus sign “+” following a subclass indicates that additional subclasses may be relevant
Step 2: USPTO Website

www.uspto.gov
Step 2: USPTO Website

Welcome to the only official Website of the

UNITED STATES PATENT AND TRADEMARK OFFICE
An Agency Of The United States Department Of Commerce

Text Only | Site index | FAQ | Glossary | How To Guides | eBusiness | eBiz Alerts | News | Help | How To Search | Resources

TOP NEWS

Closing of the United States Patent and Trademark Office on Monday, January 19, 2009, and Tuesday, January 20, 2009,

Monday, January 19, 2009, and Tuesday, January 20, 2009, are each a "Federal holiday within the District of Columbia." See MPEP 710.05 and TMEP 308. Thus, any action or fee due on these days will be considered timely if the action is taken, or the fee paid, on the next succeeding day on which the USPTO is open, that is, Wednesday, January 21, 2009.

>> Full Story

USPTO 2008 Fiscal Year-End Results Demonstrate Commitment to Sustaining High Performance

The U.S. Department of Commerce's United States Patent and Trademark Office (USPTO) has released fiscal year-end numbers that demonstrate the agency's commitment to sustaining high performance in the quality and timely examination of patent and trademark applications. For the first time the USPTO met 100 percent of its Government Performance and Results Act (GPRA) goals. The results are contained in the USPTO's FY 2008 Annual Report.
Step 2: Patent Search Page

PATFT: Issued Patents
Published since 1870. Full-page images since 1940

Quick Search
Advanced Search
Patent Number Search

View Patent Full-Page Images

Status and Event History
Database Contents
Help Files

AppFT: Patent Applications
Published since March, 2001

Quick Search
Advanced Search
Publication Number Search

View Publication Full-Page Images

Status and Event History
Help Files

Information Applicable to Both Databases

Important Notices and Policies -- Please Read!
How to Access and View Full-Page Images
Problems Using the Databases?
Report Errors in Data Content

Related USPTO Resources

Searching by Patent Classification
Patent Application Information Retrieval (PAIR)
Patent Assignment Database
Patent Attorneys and Agents
Published Sequence Listings
Step 2: Patent Classification Page

A. Access Classification Info by Class/Subclass HELP

1. Enter a US Patent Classification...

   /  

   Class (required)/Subclass (optional)

   e.g., 704/1 or 482/1

2. Select what you want...

   - Class Schedule (HTML)
   - Printable Version of Class Schedule (PDF)
   - Class Definition (HTML)
   - Printable Version of Class Definition (PDF)
   - US-to-IPC8 Concordance (HTML)
   - US-to-IPC8 Concordance (PDF)
   - US-to-Locarno Concordance

3.  [Submit]  [Reset]
### Step 2: Index to USPC Page

Select the format and section (by letter) ...

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<thead>
<tr>
<th>Index in HTML</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<th>I</th>
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<tbody>
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<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
</tr>
</tbody>
</table>

**KEY:** 🌐=online business system $=fees 📄=forms

The Inventors Assistance Center is available to help you on patent matters. Send questions about USPTO programs and services to the webmaster@uspto.gov. While we cannot promise to accommodate all requests, your suggestions will be considered and may lead...
Step 2: Animal Example

<table>
<thead>
<tr>
<th>Animal</th>
<th>428 / 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artificial</td>
<td>362 / 124</td>
</tr>
<tr>
<td>Having lights</td>
<td>428 / 907*</td>
</tr>
<tr>
<td>Attack resistant stock</td>
<td>D30 / 118</td>
</tr>
<tr>
<td>Beds</td>
<td>449</td>
</tr>
<tr>
<td>Bee culture</td>
<td>452</td>
</tr>
<tr>
<td>Blocking repelling or chasing</td>
<td>49 / 58+</td>
</tr>
<tr>
<td>Butchering</td>
<td>452 / 71</td>
</tr>
<tr>
<td>Depilating</td>
<td>446 / 397</td>
</tr>
<tr>
<td>Calls and callers</td>
<td>446 / 207+</td>
</tr>
<tr>
<td>With mouthpiece</td>
<td>135 / 90</td>
</tr>
<tr>
<td>Canopy frame supported by</td>
<td>D30</td>
</tr>
<tr>
<td>Care and handling</td>
<td>119 / 801+</td>
</tr>
<tr>
<td>Catching and holding device</td>
<td>119 / 416+</td>
</tr>
<tr>
<td>Confining and housing devices</td>
<td>119 / 428+</td>
</tr>
</tbody>
</table>

Step 3: Verify the relevancy of class(es)
Step 4: Confirm scope of subclass using definitions
## Step 5: Access Patent Documents

**Class 119 ANIMAL HUSBANDRY**

Click here for a printable version of this file

Turn Outline OFF

Select Largest Indent Level to be Displayed  Select Expansion Level:  Submit

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>200</td>
<td>AQUATIC ANIMAL CULTURING</td>
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<tr>
<td>201</td>
<td>Handling and transportation</td>
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<tr>
<td>202</td>
<td>Including vehicle</td>
</tr>
<tr>
<td>203</td>
<td>Fish transportation</td>
</tr>
<tr>
<td>204</td>
<td>Crustacean culturing</td>
</tr>
<tr>
<td>205</td>
<td>Mating, spawning, and hatching</td>
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<tr>
<td>801</td>
<td>Handheld catching and holding tool</td>
</tr>
<tr>
<td>802</td>
<td>Loop</td>
</tr>
<tr>
<td>803</td>
<td>Having loop take-up along associated shaft</td>
</tr>
<tr>
<td>804</td>
<td>Having position holding means</td>
</tr>
<tr>
<td>805</td>
<td>Lariat</td>
</tr>
<tr>
<td>806</td>
<td>Grasping tongs</td>
</tr>
<tr>
<td>807</td>
<td>Cable actuated</td>
</tr>
<tr>
<td>808</td>
<td>Having cooperating latching member</td>
</tr>
</tbody>
</table>
### Step 5: Patents Retrieved

<table>
<thead>
<tr>
<th>PAT. NO.</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,316,621</td>
<td>Police baton</td>
</tr>
<tr>
<td>7,029,397</td>
<td>Nightstick with handcuff</td>
</tr>
<tr>
<td>6,595,161</td>
<td>Heeler rope</td>
</tr>
<tr>
<td>6,408,799</td>
<td>Dog guide harness with multi-position handle assembly</td>
</tr>
<tr>
<td>6,405,684</td>
<td>Turtle harvesting tool</td>
</tr>
<tr>
<td>5,960,747</td>
<td>Animal leg catching device</td>
</tr>
<tr>
<td>5,630,381</td>
<td>Animal retention device</td>
</tr>
<tr>
<td>5,494,283</td>
<td>Crosshandle police baton with hook and arm trap</td>
</tr>
<tr>
<td>5,066,013</td>
<td>Kubotai restraint device having two batons bound together by a cord at points spaced from the ends of the batons</td>
</tr>
<tr>
<td>4,570,376</td>
<td>Safety stunning tip and trap retrieving hook and method of use thereof</td>
</tr>
<tr>
<td>4,559,737</td>
<td>Snare device</td>
</tr>
<tr>
<td>4,426,079</td>
<td>Police restraint device</td>
</tr>
<tr>
<td>4,338,885</td>
<td>Cattle head holder</td>
</tr>
<tr>
<td>4,218,990</td>
<td>Animal prod system</td>
</tr>
<tr>
<td>3,931,796</td>
<td>Hydraulic cow catch-carrier</td>
</tr>
<tr>
<td>3,872,834</td>
<td>Animal capturing and restraining device</td>
</tr>
<tr>
<td>3,863,377</td>
<td>FISHING GAFF</td>
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</tbody>
</table>
Step 6: Review Specification

BACKGROUND ART

Cellulose is the most abundant biorenewable material and cellulose-derived products have been used in all cultures from the most primitive to highly developed modern technological society. Apart from the use of unmodified cellulose-containing materials (for example wood, cotton), modern cellulose technology requires extraction and processing of cellulose from primary sources using techniques that have changed very little since the inception of the modern chemical industry.

BRIEF SUMMARY OF THE INVENTION

A method for dissolving cellulose is contemplated. That method comprises admixing cellulose with a hydrophilic ionic liquid comprised of cations and anions in the substantial absence of water or a nitrogen-containing base to form an admixture. The admixture is agitated until dissolution is complete. The admixture is heated in some embodiments, and that heating is preferably carried out by microwave irradiation. The ionic liquid is molten at a temperature less than about 150°C.

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to the formation of cellulose solutions in hydrophilic ionic liquids. The solvent is a hydrophilic ionic liquid, comprising an organic cation and an inorganic or organic anion.
Step 6: Review Claims

• Located at the end of the patent document

• Legal boundaries of the intellectual property

What is claimed is:

1. A method for dissolving cellulose that comprises admixing cellulose with a molten ionic liquid that is molten at a temperature of about −10 to about 100° C. and in the substantial absence of water or a nitrogen-containing base to form an admixture, wherein said ionic liquid is comprised of cations and anions, and agitating the a mixture until dissolution is complete.

2. The method according to claim 1 wherein said admixture is irradiated with microwave radiation to assist in dissolution.

3. The method according to claim 1 wherein the cations of said ionic liquid are selected from the group consisting of
Step 6: Review Drawings

**FIG. 1**

**FIG. 2**
### U.S. PATENT DOCUMENTS

<table>
<thead>
<tr>
<th>Patent Number</th>
<th>Date</th>
<th>Inventor</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,563,533 A</td>
<td>8/1951</td>
<td>Knox</td>
<td>119/805</td>
</tr>
<tr>
<td>2,669,221 A</td>
<td>2/1954</td>
<td>Major</td>
<td>119/805</td>
</tr>
<tr>
<td>3,891,257 A</td>
<td>6/1975</td>
<td>Wilson</td>
<td>292/262</td>
</tr>
<tr>
<td>4,140,412 A</td>
<td>2/1979</td>
<td>Vitt</td>
<td>403/28</td>
</tr>
<tr>
<td>4,928,634 A</td>
<td>5/1990</td>
<td>Voigt</td>
<td>119/805</td>
</tr>
<tr>
<td>5,827,069 A</td>
<td>10/1998</td>
<td>Mauricio</td>
<td>434/225</td>
</tr>
<tr>
<td>6,044,801 A</td>
<td>4/2000</td>
<td>Chavez</td>
<td>119/805</td>
</tr>
<tr>
<td>6,142,104 A</td>
<td>11/2000</td>
<td>Sullivan</td>
<td>119/805</td>
</tr>
</tbody>
</table>
1. Brainstorm Keywords to describe the invention
2. Use keywords to find initial class/subclass
3. Verify the relevancy of class/subclasses using the classification schedule
4. Confirm scope of the subclass—using classification definitions
5. Access complete patent documents and published application by classification
6. Review the claims, specifications, and drawings of the retrieved documents
7. Retrieve and review cited references
Finally: Document the Search!

• Note the date and time of the search

• Document the classifications searched

• List the database(s) used

• Keep lists of patent and application numbers reviewed

• Keep complete copies of the most relevant patents and patent applications
Websites for Prior Art Searches

**General Search: United States**

Espace: [www.espacenet.com](http://www.espacenet.com)
Fresh Patents: [www.freshpatents.com](http://www.freshpatents.com)
Patent Fetcher: [http://free.patentfetcher.com](http://free.patentfetcher.com)
CHI Research: [www.chiresearch.com](http://www.chiresearch.com)
Library of Congress: [http://lcweb.loc.gov/z3950/mums.html](http://lcweb.loc.gov/z3950/mums.html)
National Technology Transfer Center: [www.nttc.edu/](http://www.nttc.edu/)
Scientific and Technical InfoNet: [http://info.cas.org/stn.html](http://info.cas.org/stn.html)
How Stuff Works: [www.howstuffworks.com](http://www.howstuffworks.com)
More Websites for Prior Art Searches

General Search: International

IPSearchEngine: www.ipsearchengine.com
Optipat: www.optipat.com
PatentCafe: www.patentcafe.com

General Search: Specific Foreign Countries

Canada: http://patents1.ic.gc.ca/intro-e.html
United Kingdom: www.patent.gov.uk/
Office for Technology Transfer Personal

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Acknowledgment: some searching information taken from the USPTO website
2008-2009 Registration Figures

- 36 team registrations, 35 Phase II entries
- Industry Categories:
  - Info Tech – 6
  - Materials Eng – 5
  - Biotech – 5
  - Medical Devices – 3
  - Consumer Products – 3
  - Pharma/Drug Delivery – 3
  - Auto/Aero Eng – 3
  - Green Tech – 2
  - Ag/Vet – 2
  - Other – 4
Teams from UA

- 7 teams registered
- 7 Phase I submissions
- 7 Phase II submissions
- 6 teams in Top 21
Breakdown of Top 21

- UAH – 6
- UA – 6
- UAB – 3
- UA/UAB Collaborations – 3
- Auburn – 3
Important Dates Coming Up...

- Feb. 6th – Educational Seminar
- Feb. 13th – Phase III Deadline
- Feb. 19th – TechBirmingham TechMixer (McWane Center, Bham)
- March 13th – Finalists Announced
- April 3rd (tentative) – Finalist Practice Session
- April 17th and 18th – Finale (UAB)
Educational Event

- February 6th – 2:00 to 4:00 pm
  - Educational seminar via videoconference
  - Location TBD – Hopefully right here in AIME??
  - First Speaker: Dwight Brisendine, CEO of Internal Financial Control
    - “To succeed in today’s economy, businesses need fast, accurate, and affordable financial processing and bookkeeping. This talk deals with the key elements of setting up such a system, keeping it operating correctly, and how the business owner uses the information to effectively manage and plan. The focus is on the internal operation of the financial management system.”
  - Second speaker: Cecil Bostany, Partner at Warren, Averett, Kimbrough and Marino, LLC
Other news and developments

- Alabama Research Alliance will match *dollar for dollar* all funds raised in university and business communities
- Governor’s Office will send out the 2007-2008 Annual Reports with letter of support
- Upcoming website redesign
  - Expand the discussion
  - Become the “go to” site for New Economy topics in Alabama
- Building Blocks of Strategy CD
- EDPA & EPSCoR spearheading “Alabama Technology Roadmap”
Updates on Past Winners... Halo Monitoring

- Received first orders in Nov. ‘08
- Chosen to participate in 2009 WBT Showcase
- Halo Research goes to CES! ►
  - Mentioned in LA Times article
  - Interest from Time Magazine
  - Interview with Science Channel
    - Show will air 1/16
- Received second tranche of investment
Update on Past Winners... SEA Desalination

- Recent article in Tuscaloosa News
- First production run ongoing
- Chosen to participate in 2009 WBT Showcase
- Currently incubated at AIME
- Planning a product launch party
Update on Past Winners... SSS Optical Tech.

- Final stages of due diligence with H’ville Angel Network
- Invited by US Dept. of Agriculture to submit Phase II SBIR grant application ($350K for 2 years)
- Pilot tests with poultry facilities in Arab, AL and Athens, GA
B-Plan Competition Going Forward

- Alabama Launchpad winners have gone on to attract over $2.5 million in follow-on money from the Alabama venture and angel communities.
  - More coming
- Addition of the University of South Alabama
  - True statewide presence
- UAB will be host for 2009 competition finale
Alabama Technology Database

- Online database of Alabama-based technologies available right now for license and commercialization
- [http://www.alabamalaunchpad.com/technologies](http://www.alabamalaunchpad.com/technologies)
- “One-Stop Shop”
- 109 technologies listed (as of 12/1/08)
  - US Army ARMDEC Command
  - Auburn University
  - Southern Research Institute
  - The University of Alabama
  - University of Alabama in Huntsville
  - University of South Alabama
Promoting Alabama-based Technologies

- In October 2008, representatives from Auburn, UA, UAB, USA, and SRI went to the U.S. Licensing Executives Society annual conference
  - Alabama booth at Tech Fair
- Making plans to take this technology list to other national databases
  - Kauffman iBridge
  - SparkIP
Sponsors – Current Year

Platinum Level
($25,000 and up)

Alabama Power Foundation
Alabama Research Alliance (ADECA)
Economic Development Partnership of Alabama
Sponsors – Current Year

Gold Level ($10,000):
Vulcan Materials Company*

Silver Level ($5,000):
Alagasco
Balch & Bingham LLP*
Bradley, Arant, Boult, Cummings, LLP*
EBSCO Industries, Inc.
Harbert Management Corporation*

AT&T
Blue Cross & Blue Shield of Alabama
Burr & Forman LLP
Greer Capital Advisors, LLC
Hudson-Alpha Institute for Biotechnology Research
Sponsors – Current Year

Bronze Level:
City of Auburn
Innovation Depot
Maynard, Cooper & Gale, P.C.
Southern Research Institute
Thomas, Kayden, Horstemeyer & Risley, LLP
The UA Office for Technology Transfer*
UAB Research Foundation
Warren, Averitt, Kimbrough & Marino, LLC*

Contributors:
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New Horizons Computer Learning Center (B’ham)
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