How do you protect software?

- Copyrights
- Patents
- Trademarks
- Trade Secrets
- Contract
- Technology (encryption)
U.S. Constitution, Art. I, § 8

Congress shall have power ... to promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.

What is a Patent?

• A grant by the government of a right to exclude others from practicing (i.e., making, using, selling, offering to sell, and importing) a particular invention for a set period of time.
• It does not assure that the patentee can practice the invention himself.
• Patents = personal property. Can be assigned, sold, given away, inherited, mortgaged, and licensed.
Purpose of the Patent System

• Incentive to help promote progress of the useful arts.
• *Quid Pro Quo* (between the inventor and the U.S. Government)
• Legal pseudo-monopoly in exchange for complete disclosure
• A patent does not take anything away from the public, but actually contributes something that the public did not previously have.

What’s Patentable?

• 35 U.S.C. 101:
  – Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
What's Not Patentable?

- Laws of nature
- Discoveries
- Natural phenomena
- Abstract ideas

Types of Patents

- Utility Patents
  - protect utilitarian inventions, both animate and inanimate
- Design Patents
  - protect new, original and ornamental designs for manufactured goods
- Plant Patents
  - protect new and distinct plant varieties that have been reproduced by asexual means
Utility Patent

1. A method for generating a mosaic image with an appearance that approximates a target image by utilizing a plurality of source images and a computer, comprising the steps of:

- loading the target image into the computer;
- dividing the target image into a plurality of tile regions, each tile region representing a distinct locus of the target image, and for each tile region:
  - dividing the tile region into distinct sub-regions;
  - comparing generally complex source images to the tile region to enhance a representation of visual similarity; and
- selecting the source image with the highest measure of visual similarity to represent the tile region;
- positioning the selected source image in the mosaic image at a locus corresponding to the locus of the tile region; and
- combining the selected source image with other source images to form the mosaic image.
Design Patent

- U.S. Pat. No. D474,769 for an Electronic Mouse

Term of a Utility Patent

- 20 years from the filing date
- Enforcability begins when patent issues
- Terms typically average about 16-18 years
Utility Patent Requirements

- A written application, filed in the name of the inventors, including:
  - Enabling disclosure so that one skilled in the art can make and use the invention.
  - Best mode contemplated by the inventor of carrying out his invention. Not typically reviewed in the Patent Office.
  - At least one claim. The claims define the metes and bounds of the invention.
- Government filing fee

Claim Requirements

- **Utility**: Minimum amount of usefulness.
- **Novelty**: Must be new.
- **Nonobviousness**: If it would have been obvious to one of ordinary skill in the art to modify a prior device (or software) and arrive at the claimed invention, then the claim is not patentable. (Can consider other evidence of nonobviousness).
Utility Patent Publication

- Published at 18 months unless opt out under certain circumstances
- Damages can accrue from date of publication if claim issued is substantially similar to published claim.

Design Patents
How do they differ from Utility patents?

- Protects original and ornamental designs for articles of manufacture
- Term = 14 years from date of issuance
- Designs can be in the shape of the object, surface ornamentation, or both
I’m just an idea…
Now what do I do?

• Patent Application
• Persuade USPTO it’s new, useful, and nonobvious
• Patent Issued
• Litigate in Court

Patent Examination Process

• Preparation and filing of application.
• Patent examiners examine for clarity, utility, novelty, nonobviousness, enablement, and other requirements.
• Amendments of claims, requests for reconsideration, and appeals of final rejections are permitted.
• Once all of the claims are declared allowable, an issue fee may be paid and the patent will be officially granted.
Enforcement of Patents

- Marking the products covered by the patent with the patent number (U.S. Pat. No. *, ***, ***) provides constructive notice.
- A patentee can SUE for infringement of the patent, and receive an injunction to prevent infringement and also can receive damages (i.e., MONEY!)
- Suit for infringement must be brought within 6 years of the alleged infringement.

Utility Patent Infringement

- literal infringement: correspondence to each element or step in the claim.
- doctrine of equivalents: if it includes elements or steps which are substantially similar to the missing elements or steps.
- Improved products do not avoid infringement if they still include all of the claimed elements or steps.
Remedies for Infringement

- Injunctions
- Damages adequate to compensate for infringement, but in no event less than a reasonable royalty
- Lost Profits
- Infringer’s profits (design patent infringement only)
- Increase damages up to 3 times for willful infringement
- Attorneys fees to the prevailing party in exceptional cases

Preserving Patent Rights

- Watch out for pitfalls:
  - On sale bar
  - Public use bar
  - Printed publications
- Keep detailed records
  - Dates of conception and reduction-to-practice
  - Enabling disclosures
- Foreign Patents?
  - Avoid public disclosures
  - Use non-disclosure agreements
On-Sale Bar

• Must file no later than 1 year after the invention is offered for sale in the United States.
  – Single offer for sale is enough.
  – Acceptance NOT required.
• Sale must be:
  – Commercial Offer for Sale
  – Invention ready for patenting (RTP or enabling disclosure)
• Article sold or offered for sale can be used as prior art against you.

On Sale Bar Example

• Improvements to the sold article might still be patentable.
• Example 1:
  – September 22, 2003: Offer for sale for A, B, & C
  – September 23, 2004: Application for A, B, & C
  – Not OK
• Example 2
  – September 22, 2003: Offer for sale for A, B, & C
  – September 23, 2004: Application for A, B, C, & D
  – OK (but A, B, & C is prior art)
Public Use

- Must file no later than 1 year after the invention is publicly used in the United States.
- Public use by anyone, including the inventor.
- Secret uses for commercial benefit by anyone
  - E.g., a secret method in a factory producing toys
- Use by anyone other than the inventor w/o obligation of confidentiality, even if not for commercial benefit
  - E.g., wearing a corset under a dress
- Private, noncommercial use by inventor: OK
- Limited exception: Experimental Use

Printed Publications

- Must file within 1 year of date of publication of a printed publication anywhere in the world.
- Adequate description (i.e., enabling).
- Available to public in tangible form.
- Obvious Examples
  - Patents, Books, Newspapers, Magazines
- Not so obvious examples
  - Web sites, Conference papers, White Papers
  - Single copy of thesis available from 1 remote library!
Conception/RTP

• Conception
  – Date on which the inventor originally conceived of the inventive idea
  – First to conceive gets patent rights in U.S. as long as s/he was diligent to…

• Reduction to Practice
  – Actual reduction to practice (prototype)
  – Constructive reduction to practice (patent application)

Enabling Disclosure

• Drawings or other descriptions of the invention that are sufficiently specific to enable a person of ordinary skill in the art to practice the invention
• If you have an enabling disclosure, you are subject to on sale bars and printed publication bars.
• Be safe… File A Patent Application!
Provisional Applications

• Serve as a 1-year date holder
• Same legal requirements
• Less formal administrative requirements
• Lower filing fee
• *Use only in case of an emergency!*

Foreign Patent Rights

• Can be lost as a result of ANY public disclosure prior to filing patent application
• Must file within 1 year of earliest U.S. filing date (provisional or non-provisional application)
• Patent Cooperation Treaty (PCT) application can protect in multiple countries
Cases

- *In re Buchner*, 929 F.2d 660 (Fed. Cir. 1991)
- *In re Hall*, 781 F.2d 897 (Fed. Cir. 1986).