

The *Alice* Effect on 3D Printing

By: Vann Pearce and Chris Higgins



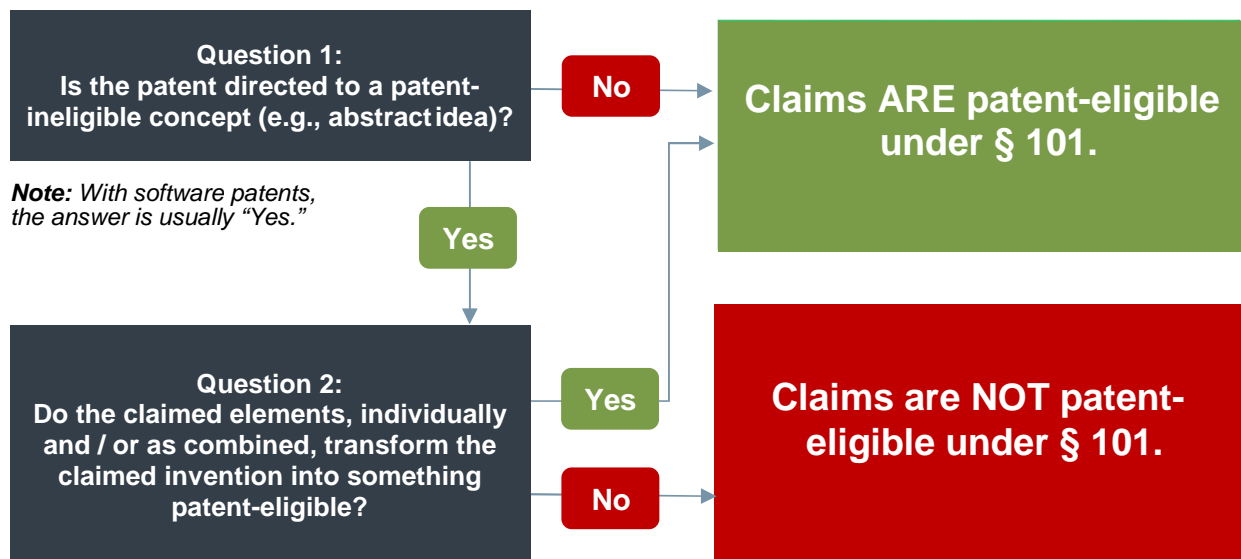
3D printing technology evolves through advances in software, hardware, and materials. Inventions in 3D printing hardware and materials are eligible for U.S. patent protection. Software is a different story. The U.S. Supreme Court's 2014 *Alice* decision sets a tough-to-meet standard for patenting software-implemented inventions. Under *Alice*, if an invention is directed to an "abstract idea"—and most software-implemented inventions are—then to be patent-eligible the invention must contain an "inventive concept" that transcends mere computer implementation of code.

Many in the patent world feared that *Alice* sounded the death knell for software patents. While *Alice*'s consequences have not been quite that dire, software patents are in trouble. The Federal Circuit Court of Appeals has invalidated most software-implemented patents it has examined under *Alice*'s "inventive concept" test.

In 3D printing, *Alice* and its progeny have far-reaching implications. If software is at the heart of a 3D printing process, then it may be difficult to acquire patent protection. Even if parts of the software are patentable, unprotected elements may create a loophole for duplication. But *Alice* did not extinguish all hope. 3D printing software that works to improve existing printing processes and solve current printing problems could be found to pass *Alice*'s "inventive concept" test, and would therefore be patent eligible.

Two years after *Alice*, the state of software patenting remains unsettled. Mistakes in describing and claiming an invention may doom a meritorious patent application. Inventors should consult experienced patent counsel who understand both *Alice* and 3D printing technology when planning and executing their intellectual property strategy.

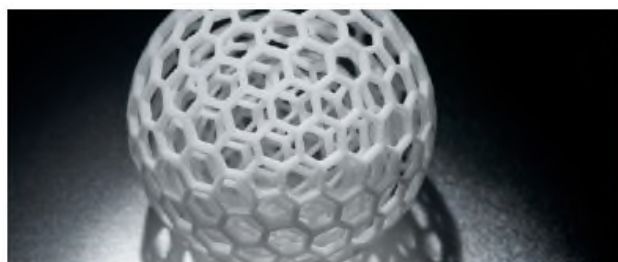
The *Alice* Test:



Analysis of Federal Circuit Decisions Applying *Alice*

Case	Claimed Invention	Result
<i>Alice Corp. v. CLS Bank</i> (June 19, 2014)	Method of computerized risk mitigation in financial settlements	NOT Patent Eligible. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✖ Step 2 </div> Why? Risk mitigation is a long-standing "fundamental economic practice" (step 1) and the claims merely required generic computer implementation (step 2)
<i>Digitech</i> (July 11, 2014)	Method of digital image processing; used "device profiles" to organize spatial and color properties	NOT Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✖ Step 2 </div> Why? Organizing data through mathematical corrections is abstract.
<i>DDR Holdings v. Hotels.com</i> (Dec. 5, 2014)	Method of retaining website visitors	Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ? Step 1 ✓ Step 2 </div> Note: The court proceeded as though the claims did not pass Step 1. Why? Claims provided a specific solution to a specific internet problem.
<i>Content Extraction v. Wells Fargo</i> (Dec. 23, 2014)	Method for organizing data in a computer	NOT Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✖ Step 2 </div> Why? "Data collection, recognition, and storage is undisputedly well-known" and "humans have always performed these functions."
<i>Enfish v. Microsoft</i> (May 12, 2016)	Improvement to database system's memory configuration	Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✓ Step 1 </div> Why? Specific improvements to computer functionality are patentable.
<i>In re TLI Communications Patent Litigation</i> (May 17, 2016)	Method for taking, transmitting and organizing digital images	NOT Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✖ Step 2 </div> Why? The claims were directed to the use of conventional technology in a well-known environment, and did not set forth an inventive solution to any problem by combining the two.
<i>Bascom</i> (June 27, 2016)	Method for filtering content on the internet through an ISP server	Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✓ Step 2 </div> Why? The arrangement of the filtering tool recited in the claims was unconventional, and the patent specification discussed how this particular arrangement was an improvement over the prior art.
<i>Electric Power Group v. Alstom</i> (Aug. 1, 2016)	Method of analyzing data to determine power grid stability, and displaying that data in a human-readable format	NOT Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✖ Step 2 </div> Why? Claims that merely require the selection and manipulation of information do not render patent-eligible the abstract processes of information collection and analysis.
<i>McRO v. Sony</i> (Sept. 13, 2016)	Methods for automatically animating 3D characters' lip synchronization and facial expressions	Patent Eligible under Alice. <div style="border: 1px solid black; padding: 2px; display: inline-block;"> ✖ Step 1 ✓ Step 2 </div> Why? Claims are patent-eligible when they provide a specific method of improving computer technology, and rely upon their particular technologies to make those improvements.

<p><i>Affinity Labs v. DirecTV</i> (Sept. 23, 2016)</p>	<p>Method for streaming regional broadcast signals to faraway cell phones</p>	<p>NOT Patent Eligible under <i>Alice</i>.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>✘ Step 1 ✘ Step 2</p> </div> <p>Why? Implementing an abstract idea on a generic computer will not transform it into something patent-eligible, even if that idea is limited to a technical field of use.</p>
<p><i>Affinity Labs v. Amazon</i> (Sept. 23, 2016)</p>	<p>Method for targeted advertising that selects an advertisement based on a piece of demographic information about the user</p>	<p>NOT Patent Eligible under <i>Alice</i>.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>✘ Step 1 ✘ Step 2</p> </div> <p>Why? The claims did not provide a concrete solution to the patent's proposed problem; they simply claimed an abstract idea with no inventive concept to transform the patent.</p>
<p><i>Intellectual Ventures v. Symantec</i> (Sept. 30, 2016)</p>	<p>Method for detecting a computer virus in communications, and inhibiting the infected communication</p>	<p>NOT Patent Eligible under <i>Alice</i>.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>✘ Step 1 ✘ Step 2</p> </div> <p>Why? Implementing an abstract idea on an internet network or generic computer will not transform it into something patent-eligible.</p>
<p><i>FairWarning IP v. Iatric Systems</i> (Oct. 11, 2016)</p>	<p>Method for fraud detection that scans for unusual patterns in users' accessing sensitive data</p>	<p>NOT Patent Eligible under <i>Alice</i>.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>✘ Step 1 ✘ Step 2</p> </div> <p>Why? Claims did not solve a problem specifically arising in computer technology; they were directed to the broad concept of monitoring audit log data.</p>
<p><i>Amdocs v. Openet Telecom</i> (Nov. 4, 2016)</p>	<p>Method for helping ISPs track customer usage and generate bills without congesting the network or limiting data accessibility</p>	<p>Patent Eligible under <i>Alice</i>.</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>? Step 1 ✓ Step 2</p> </div> <p>Note: The court assumed without deciding that Step 1 was not met.</p> <p>Why? The claims did not combine the components in a generic manner, and most of the claims included sufficient structural limitations to render them patent eligible.</p>



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