What Schulhauser Means For Conditional Claim Limitations

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For the first time since 2013, the U.S. Patent and Trademark Office's Patent Trial and Appeal Board designated a decision on an ex parte appeal as precedential. Ex parte Schulhauser[1] involves the board's broadest reasonable interpretation of system and method claims with conditional limitations and how the scope of such system and method claims differ. In short, the board gives patentable weight to conditional limitations in system claims but not similar limitations in method claims where a condition precedent is not required to occur.

In Schulhauser, the appellant[2] challenged the examiner's findings that claims 1-11 were properly rejected under § 103 and argued for patentability for the independent claims together. Claim 1 was directed toward a method for monitoring cardiac systems, and claim 11 was directed toward a system for monitoring of cardiac systems. As shown in the chart below, the system claim included limitations substantially identical to the claimed method steps, with the system claims including means-plus-function limitations that mirrored certain method claim steps — including those with conditional limitations. Despite the similarities between the claims, the board distinguished between the scope of the method claims and the system claims under the broadest reasonable interpretation construct.

Claim 1	Claim 11
A method for monitoring of cardiac conditions incorporating an implantable medical device in a subject, the method comprising the steps of:	A system for monitoring of cardiac conditions incorporating an implantable medical device in a subject, comprising:
collecting physiological data associated with the subject from the implantable device at preset time intervals, wherein the collected data includes real-time electrocardiac signal data, heart sound data, activity level data and tissue perfusion data;	means for collecting physiological data associated with the subject from the implantable device at preset time intervals, wherein the collected data includes real-time electrocardiac signal data, heart sound data, activity level data and tissue perfusion data;
comparing the electrocardiac signal data with a threshold electrocardiac criteria for indicating a strong likelihood of a cardiac event;	means for comparing the electrocardiac signal data with a threshold electrocardiac criteria for indicating a strong likelihood of a cardiac event;
triggering an alarm state if the electrocardiac signal data is not within the threshold electrocardiac criteria;	*means for triggering an alarm state if the electro cardiac signal data is not within the threshold electrocardiac criteria;*
determining the current activity level of the subject from the activity level data if the electrocardiac signal data is within the threshold electrocardiac criteria;	*means for determining the current activity level of the subject from the activity level data if the electro cardiac signal data is within the threshold electrocardiac criteria;*
determining whether the current activity level is below a threshold activity level;	means for determining whether the current activity level is below a threshold activity level;
comparing the tissue perfusion data with a threshold tissue perfusion criteria for indicating a strong likelihood of a cardiac event if the current activity level is determined to be below a threshold activity level;	means for comparing the tissue perfusion data with a threshold tissue perfusion criteria for indicating a strong likelihood of a cardiac event if the current activity level is determined to be below a threshold activity level;
determining whether the current activity level is below a threshold activity level;	
comparing the tissue perfusion data with a threshold tissue perfusion criteria for indicating a strong likelihood of a cardiac event if the current activity level is determined to be below a threshold activity level;	
triggering an alarm state if the threshold tissue perfusion data is not within the threshold tissue perfusion criteria; and	means for triggering an alarm state if the threshold tissue perfusion data is not within the threshold tissue perfusion criteria; and
triggering an alarm state if the threshold tissue perfusion data is within the threshold tissue perfusion criteria and the heart sound data indicates that S3 and S4 heart sounds are detected,	means for triggering an alarm state if the threshold tissue perfusion data is within the threshold tissue perfusion criteria and the heart sound data indicates that S3 and S4 heart sounds are detected,
wherein if an alarm state is not triggered, the physiological data associated with the subject is collected at the expiration of the preset time interval.	wherein if an alarm state is not triggered, means for collecting the physiological data associated with the subject is at the expiration of the preset time interval.

Method Claims

The board held that — under the broadest reasonable interpretation — the method claims recited claim limitations that may not necessarily be performed. In particular, some of the steps recited in the methods claims were to be carried out only upon on a condition precedent occurring. For example, for claim 1, the board noted that "in the event that the electrocardiac signal data is not within the threshold electrocardiac

criteria and an alarm is triggered, the remaining steps of claim 1 need not be performed in the method as recited."[3]

As such, the board interpreted claim 1 as reciting two methods: one performed if "the electrocardiac signal data is within the threshold electrocardiac criteria and an alarm is triggered" and another performed if "the electrocardiac signal data is not within the threshold electrocardiac criteria." Because the claim encompassed an instance in which "the method ends when the alarm is triggered in response to the cardiac signal data not being within the threshold electrocardiac criteria," the board held that remaining steps need not be reached and therefore were not given patentable weight.[4]

In effect, the board found that the examiner need only show that one of the two "paths" of the method claim is anticipated or obvious over the prior art because the method claims encompassed situations where the prerequisite condition for certain steps did not occur.[5] Because the appellant did not traverse the examiner's findings with respect to one of the two methods in claim 1, the board affirmed the examiner's finding of obviousness. The board designated their affirmance as a new ground of rejection because the examiner had not interpreted the conditional limitations in the method claims in the same manner as the board.

System Claim

Although the system claim recited similar conditional limitations as the method claims, the board gave patentable weight to all the limitations recited in the system claim. Under the broadest reasonable interpretation, the board explained that the system claim required structure that performed both claimed functions. Further, the "interpretation of the system claim differs from the method claim because the structure (i.e., a processor programmed to perform an algorithm for carrying out the recited function should the recited condition be met) is present in the system regardless of whether the condition is met and the function is actually performed."[6] In particular, the "means for" language was found to specifically tie the recited functional

limitations to structure disclosed in the specification.

Unlike the method claims, the system claim recited "structure capable of performing all the recited functions."[7] Because the examiner had not identified prior art that was capable of all the recited functions, the board reversed the finding of obviousness for the system claims.

Practice Pointers

In view of Schulhauser, method claims should be drafted such that any condition precedent required for later-occurring steps actually occurs. The appellant in Schulhauser, upon reopening prosecution, provides one example of how claims can be drafted to avoid ambiguity about whether a condition precedent is met. After the board decision, the appellant amended the method claims to require performance of the steps that the board had identified as being optional. Specifically, the method claims were amended to require the step of "determining whether the electrocardiac signal is within the threshold electrocardiac criteria." The appellant further clarified that subsequent steps were to be taken "in response to" the determining step occurring rather than "if" the determining step occurred. The amended claims were allowed by the examiner.

Since the board's precedential designation in late 2016 and through the end of the 2016 calendar year, over 20 board decisions cited Schulhauser. Like Schulhauser, these decisions involve the board giving no patentable weight to limitations in method claims that rely on a condition precedent that is not required to be performed. These decisions provide further insight into the types of method-claim limitations that will not be given patentable weight by the board under Schulhauser. For example, several of the post-Schulhauser decisions involve carrying out a step upon a threshold being exceeded (e.g., "if the threshold is exceeded, perform steps X, Y, and Z"). Instead of reciting breach of the "threshold" as being optional, draft the limitations such that the threshold is actually exceeded to remove ambiguity about whether the condition precedent is required to occur. Other post-Schulhauser decisions involve method claims that recite conditions precedent that are to occur only "upon," "whether," or

"when," another, unrequired condition occurs.

Fortunately for applicants, the post-Schulhauser decisions also involve the board giving patentable weight to conditional limitations in system, machine and apparatus claims. Importantly, these decisions extend Schulhauser's holding to system, machine, and apparatus claims without means-plus-function limitations. For example, in ex parte Blumenberg,[8] the board applied Schulhauser to a Beauregard-like claim and found that the examiner did not identify prior art that was capable of all the recited functions — including those depending on a condition precedent that was not required to be met. The board has also applied Schulhauser to claim limitations such as circuit-for-,[9] module-for-[10] and component-for-like limitations.[11]

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[1] P.T.A.B., No. 2013-007847, 2016.

[2] Application number 12/184,020.

[3] Schulhauser at 7.

[4] Id. at 8.

[5] Id.

[6] Id. at 15.

[7] Id.

[8] P.T.A.B., No. 2015-007394, 2016.

[9] Ex parte Lidstrom, P.T.A.B., No. 2016-003867, 2016.

[10] Ex parte Bortoloso, P.T.A.B., No. 2015-006985, 2016.

[1] Ex parte Nikoulina, P.T.A.B., No. 2016-003107, 2016.