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BEFORE THE PATENT TRIAL AND APPEAL BOARD

WEBASTO ROOF SYSTEMS, INC.

Petitioner

V.

UUSI, LLC

Patent Owner

Case IPR2014-00648

Patent 8,217,612

Case IPR2014-00649

Patent 7,548,037

Case IPR2014-00650

Patent 7,579,802

Deposition of Dr. Mark Ehsani

March 13th, 2015

8:52 a.m.

Reported By:
KELLY BRYANT
Job No: 38002

2	<p>1 A-P-P-E-A-R-A-N-C-E-S</p> <p>2 FOR THE PETITIONER:</p> <p>3</p> <p>4 Goodwin Procter</p> <p>5 Exchange Place, 53 State Street</p> <p>6 Boston, MA 02109</p> <p>7 BY: CHARLES H. SANDERS, ESQ.</p> <p>8 csanders@goodwinprocter.com</p> <p>9</p> <p>10 FOR THE PATENT OWNER:</p> <p>11</p> <p>12 Harness, Dickey & Pierce</p> <p>13 5445 Corporate Drive</p> <p>14 Suite 200</p> <p>15 Troy, MI 48098</p> <p>16 BY: HEMANT M. KESKAR, ESQ.</p> <p>17 hkeskar@hdp.com</p> <p>18</p> <p>19 ALSO PRESENT:</p> <p>20</p> <p>21 Mr. Bryan Ligon, videographer</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	4
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2	<p>1 PROCEEDINGS</p> <p>2 (March 13, 2015)</p> <p>3 VIDEOGRAPHER: We're on the record.</p> <p>4 The date is March 13th, 2015, the time 8:52 a.m.</p> <p>5 beginning of the deposition of Mark Ehsani.</p> <p>6 MR. SANDERS: This is Charles Sanders of</p> <p>7 Goodwin, Procter, on behalf of the petitioner, Webasto</p> <p>8 Roof Systems.</p> <p>9 MR. KESKAR: Hemant Keskar, on behalf -- of</p> <p>10 Harness, Dickey & Pierce, on behalf of the patent owner,</p> <p>11 UUSI.</p> <p>12 VIDEOGRAPHER: And will the court reporter</p> <p>13 please swear in the witness?</p> <p>14 DR. MARK EHSANI,</p> <p>15 having been first duly sworn, testified as follows:</p> <p>16 DIRECT EXAMINATION</p> <p>17 BY MR. SANDERS:</p> <p>18 Q. Good morning, Dr. Ehsani.</p> <p>19 A. Good morning.</p> <p>20 Q. Is there anything that would prevent you from</p> <p>21 testifying truthful today?</p> <p>22 A. No.</p> <p>23 Q. And you understand that this will be a two-day</p> <p>24 deposition, today and Saturday, tomorrow?</p> <p>25 A. It's kind of short, but we'll try to enjoy it as</p> <p>1 much as we can.</p> <p>2 Q. Understood. And I instruct you that you can't</p> <p>3 discuss overnight the contents of this deposition with</p> <p>4 your counsel.</p> <p>5 Do you understand that?</p> <p>6 A. I understand that.</p> <p>7 Q. And you've been deposed before, Dr. Ehsani,</p> <p>8 correct?</p> <p>9 A. Yes.</p> <p>10 Q. Dr. Ehsani, one of the patents that you reviewed</p> <p>11 in this case was UUSI '612 patent.</p> <p>12 Do you recall that?</p> <p>13 A. Yes.</p> <p>14 Q. Now, the '612 patent does not disclose a working</p> <p>15 example of an algorithm that was implemented, correct?</p> <p>16 A. I don't know if that's correct or not.</p> <p>17 We have to look at the patent and you have to</p> <p>18 show me where it's not.</p> <p>19 Q. Well, actually, Dr. Ehsani, you're the expert.</p> <p>20 So you'll tell me whether it's there or not.</p> <p>21 MR. SANDERS: Just as a housekeeping issue,</p> <p>22 these exhibits have been premarked as exhibit -- with</p> <p>23 this petition. So unless -- unless Dr. Ehsani writes on</p> <p>24 them, I propose that we just simply use them with the</p> <p>25 exhibit numbers we have.</p>	4

<p style="text-align: right;">6</p> <p>1 MR. KESKAR: Sure.</p> <p>2 THE WITNESS: Thank you.</p> <p>3 (Petitioner's Exhibit 1001 premarked)</p> <p>4 Q. (BY MR. SANDERS) Dr. Ehsani, I've provided you</p> <p>5 with a copy of the '612 patent, which is Exhibit 1001,</p> <p>6 in the '612 patent IPR.</p> <p>7 And my question is whether this, excuse me -- my</p> <p>8 question -- I wanted you to confirm that the '612 patent</p> <p>9 does not disclose any working example of an algorithm</p> <p>10 that was implemented.</p> <p>11 A. Is that something I -- I recite in my report or</p> <p>12 are you asking something outside of my report?</p> <p>13 Q. Actually, I'm just asking the question.</p> <p>14 A. Is this related to my report, or is it outside of</p> <p>15 my report?</p> <p>16 Q. Dr. Ehsani, you understand that here today,</p> <p>17 you're -- you're here to answer my questions. I'm not</p> <p>18 here to answer yours.</p> <p>19 So if you can't answer the question, that's okay,</p> <p>20 just tell me that you -- you can't answer it; but,</p> <p>21 otherwise, please, confirm that this '612 does not</p> <p>22 disclose any working example of an algorithm that was</p> <p>23 implemented.</p> <p>24 A. I may be wrong, but my understanding is that I'm</p> <p>25 here to answer questions related to my report, and I'd</p>	<p style="text-align: right;">8</p> <p>1 going to give you one more chance, and then we'll just</p> <p>2 move on and mark the transcript that you were unable to</p> <p>3 answer.</p> <p>4 A. Sir --</p> <p>5 Q. My question is: Can you confirm that the '612</p> <p>6 patent does not disclose any working example of an</p> <p>7 algorithm that was implemented?</p> <p>8 A. I disagree with that assessment.</p> <p>9 Q. Do you believe the '612 patent does disclose a</p> <p>10 working example of an algorithm that was implemented?</p> <p>11 A. The '612 shows a series of equations and</p> <p>12 procedures that are the foundations of an algorithm and</p> <p>13 it shows the configuration of the hardware that can run</p> <p>14 that algorithm, and it gives examples of its results.</p> <p>15 That, in my mind, is what an algorithm consists</p> <p>16 of, and an algorithm, itself, being a rather vaguely</p> <p>17 defined term and not being specific codes of a software</p> <p>18 based on an algorithm.</p> <p>19 With that understanding, it is my belief that</p> <p>20 this is sufficient disclosure of an algorithm.</p> <p>21 Q. Does the '612 patent disclose that algorithm was</p> <p>22 implemented?</p> <p>23 A. My understanding is a patent is not a reporting</p> <p>24 of past events, but it is disclosure of a method or</p> <p>25 apparatus to the level of enablement of the reader to</p>
<p style="text-align: right;">7</p> <p>1 be happy to entertain general, unrelated questions, as</p> <p>2 long as you identify them as such. That's why I'm</p> <p>3 asking for clarification.</p> <p>4 If I have stated in my report that there's no</p> <p>5 working algorithm, then I'd be happy to read that and</p> <p>6 elaborate.</p> <p>7 But if you're asking general questions outside of</p> <p>8 my report, I would like to know that.</p> <p>9 Q. Dr. Ehsani, let me be very clear. You're here to</p> <p>10 answer my questions. I'm not here to answer yours.</p> <p>11 If you can't answer the question, you can let me</p> <p>12 know that, but, otherwise, I'll give you one more chance</p> <p>13 to review this '612 patent and tell me whether you can</p> <p>14 answer my question.</p> <p>15 My question is: Can you confirm that the '612</p> <p>16 patent does not disclose any working example of an</p> <p>17 algorithm that was implemented?</p> <p>18 A. I believe you are not correct in your general and</p> <p>19 vague assessment of the '612.</p> <p>20 Q. Is it your testimony that the '612 patent does</p> <p>21 disclose a working example of an algorithm that was</p> <p>22 implemented?</p> <p>23 A. Sorry, that's a different question from the</p> <p>24 previous question.</p> <p>25 Q. You didn't answer my previous question. I'm</p>	<p style="text-align: right;">9</p> <p>1 reproduce it and not a report of whether that was done</p> <p>2 in the past or not.</p> <p>3 It is not the way I read a patent.</p> <p>4 Q. Okay. You've answered a different question,</p> <p>5 which is how you read a question patent.</p> <p>6 My question is -- could I please have my question</p> <p>7 read back?</p> <p>8 (Reporter read requested material)</p> <p>9 A. Again, my understanding is that you're asking me</p> <p>10 that there is the reporting of an event in time.</p> <p>11 I have to read the patent over to see if a</p> <p>12 reporting was done. I read their patent for the</p> <p>13 disclosure of the invention, and its embodiment in the</p> <p>14 specifications.</p> <p>15 I have not read the patent, or at least I don't</p> <p>16 -- I have to read it over again to see if it reports</p> <p>17 events of the past. It may be there. It may not be</p> <p>18 there.</p> <p>19 My understanding is that patents are not written</p> <p>20 about -- you don't -- you don't patent events. You</p> <p>21 patent methods and apparatus.</p> <p>22 Q. Let me make this very simple.</p> <p>23 If you believe that the '612 discloses an example</p> <p>24 of an algorithm that was implemented, please give me the</p> <p>25 column and line numbers where you believe that</p>

10	<p>1 disclosure is in the patent.</p> <p>2 A. As I mentioned to you, the disclosures, as I read</p> <p>3 them, are enabling for the claims that it has listed.</p> <p>4 My understanding is that it is not necessary for</p> <p>5 someone to have actually built one or not.</p> <p>6 I have to read the whole patent to -- I have</p> <p>7 actually never read a patent that said we did this and</p> <p>8 we did it on such and such date and it was nice or</p> <p>9 anything like that. So a description of an event in the</p> <p>10 laboratory is probably not in this patent.</p> <p>11 But if you are asking me the implication that the</p> <p>12 person was in possession of the patent at the time of</p> <p>13 filing, I believe the answer is, yes.</p> <p>14 Q. Actually, none of that is what I asked. I asked</p> <p>15 you to identify column and line numbers. You have the</p> <p>16 patent in front of you.</p> <p>17 If you believe that the '612 patent discloses a</p> <p>18 working example of an algorithm that was implemented,</p> <p>19 please identify the column and line numbers where that</p> <p>20 is disclosed in the patent.</p> <p>21 A. Again, that's a very, very complicated and</p> <p>22 composite question.</p> <p>23 Q. No, it's not. I asked you to identify the column</p> <p>24 and line number.</p> <p>25 A. May I finish my answer --</p>	12	
11	<p>1 Q. No, you may not.</p> <p>2 A. If you interrupt me, sir, you will not get an</p> <p>3 answer. You have to let me finish my answer.</p> <p>4 Q. You were asked for column and line numbers and</p> <p>5 you're not even looking at the patent.</p> <p>6 I'll try this one more time. If you're not</p> <p>7 capable of answering the question, we'll simply mark the</p> <p>8 transcript and move on, and we'll deal with it down the</p> <p>9 line.</p> <p>10 My question is: If you believe that the '612</p> <p>11 patent discloses a working example of an algorithm that</p> <p>12 was implemented, please identify the column and lines</p> <p>13 where that is disclosed.</p> <p>14 A. It will take me a while because I have to review</p> <p>15 the entire patent, with your indulgence.</p> <p>16 I'm on column 2, I have not finished my entire</p> <p>17 search yet. Line 3 says, An exemplary system built in</p> <p>18 accordance with one embodiment of the invention, built,</p> <p>19 implements position and speed sensing is via electronic</p> <p>20 motor control commutation pulse sensing of the motor --</p> <p>21 of the drive motor, and so on and so forth.</p> <p>22 That, sir, to me says that it was built. It's an</p> <p>23 event in time. It was based on the invention. I would</p> <p>24 like to continue to look for all the other occurrences</p> <p>25 of this event.</p>	<p>1 Q. Just to be clear, what column and lines were you</p> <p>2 speaking about?</p> <p>3 A. Patent number U.S. 8217612 B2, column 2, starting</p> <p>4 from line 3.</p> <p>5 Q. Continue your review.</p> <p>6 A. Yeah, I'm not finished.</p> <p>7 Another occurrence is in column 2 of the same</p> <p>8 patent, starting from line 9, In one exemplary</p> <p>9 embodiment stored empirical parameter characteristics</p> <p>10 and algorithms adaptively modify.</p> <p>11 Stored is an event in time. It implies</p> <p>12 implementation, to me, and it goes on to say,</p> <p>13 Empirically -- Empirical parameter characteristics and</p> <p>14 algorithms adaptively modify, obstacle detection</p> <p>15 thresholds, during an ongoing actuation for improved</p> <p>16 obstacle detection sensitivity and threshold, resulting</p> <p>17 in quicker obstacle detection, with lower initial force,</p> <p>18 lower final pinch force, and reduced -- reduced</p> <p>19 occurrence of false obstacle detection.</p> <p>20 I read that to mean it is an implementation.</p> <p>21 It's reporting of an event in the past.</p> <p>22 (Reading)</p> <p>23 A. In column 10, line 13, it says, One</p> <p>24 representative vehicle sunroof has approximately 3,000</p> <p>25 commutation pulses over the full actuation range of the</p>	13

<p style="text-align: right;">14</p> <p>1 This implies to me that this was obtained 2 empirically. And to obtain this, I assume that -- it's 3 reasonable to assume that they did this experiment with 4 their machinery and with their algorithm to get these 5 things. 6 So they are in possession of a running experiment 7 to get these curves. I could be wrong. This could just 8 be an artist rendition. It's got -- it's too nuanced 9 beyond what they need to use for their arguments. 10 So I'm led to believe that this is an actual 11 working system representative curvature. 12 THE WITNESS: Am I going too fast? Can you 13 keep up? 14 (Reading) 15 A. In column 25, I will read from line 55, because 16 it shows the person has done these experiments 17 physically, Empirical actuation motor load profile 18 equation and algorithm. 19 Nominal operation parameters for obstacle 20 detection threshold are empirically characterized as 21 motor current loading versus actuator position. 22 Alternative empirical characterization -- 23 characterizations include motor current versus time, 24 motor speed versus time, motor speed versus position and 25 combinations thereof, as period as per -- as per period</p>	<p style="text-align: right;">16</p> <p>1 there's a reference to stored empirical parameter 2 characterizations. 3 A. Are you talking about column 2? 4 Q. Yes, that's what I directed you to. 5 A. Column 2, line 10, One exemplary embodiment 6 stored parameter characterization and algorithms 7 adaptively modified obstacle detection thresholds, 8 during an ongoing actuation for improved obstacle 9 detection sensitivity and threshold, resulting in a 10 quicker obstacle detection, with lower initial force, 11 lower final pinch force, and reduced the occurrence of 12 false detection, correct. 13 Q. So we established that you have seen it. 14 There's no disclosure of any values of the stored 15 empirical parameter characterizations, correct? 16 A. This passage is not about naming numbers. It is 17 about -- 18 Q. Thank you. 19 You also read the language adaptively modify 20 obstacle detection thresholds as part of that sentence. 21 My question is: Whether you see in this passage 22 any disclosure of how that adaption was done? 23 A. Of course, you understand much better than I do 24 that this is a summary of the invention. So it is 25 acknowledging what will be disclosed in the</p>
<p style="text-align: right;">15</p> <p>1 art references. 2 In the present embodiment this algebraic 3 representation has a general, simplified large -- 4 simplified algebraic form for fast commutation via speed 5 processing, particularly implementing, adding and/or bit 6 shifting and/or bite shifting operations. 7 These types of empirical data manipulation for 8 conversion to fast computing real time micro controller 9 algorithm have been found to be applicable to various 10 diverse combinations of vehicle sunroofs. 11 This, to me, implies that this might include the 12 authors -- they have found through experimentation. 13 (Reading) 14 A. On a very quick reading of the patent in response 15 to your questions about whether the inventor actually 16 practiced and experimented the algorithm and the system 17 that they have claimed, I found the references that I 18 mentioned to you. 19 Q. I would like to direct your attention to the 20 first passage that you identified at column 2, starting 21 at line 3, you identified that paragraph as well as the 22 paragraph starting at line 9. 23 Do you have that in front of you? 24 A. I do. 25 Q. Do you see -- you read in column 2 about line 9,</p>	<p style="text-align: right;">17</p> <p>1 specifications in detail. 2 Q. There's also notice of disclosure in that section 3 of what specific algorithm was used, correct? 4 A. Again, I don't really agree with your 5 characterization of disclosure. This is a summary of a 6 disclosure of those algorithms. 7 Q. What specific algorithm was used in the passage 8 that you identified, column 2, lines 3 through 15? 9 A. Again, I have to read through the whole thing to 10 match with that. These are very, very specialize 11 questions. I haven't read these from the perspective of 12 that question. 13 Would you like me to take time and to try to 14 match -- 15 Q. No. If you haven't been able to figure it out 16 after an hour of review, then that's sufficient for my 17 purposes. 18 A. No, sir. That's a mischaracterization of my 19 answer -- sir, let me finish my answer. 20 Q. Actually -- 21 A. You interrupt me, then you're asking the question 22 and moving on. 23 Q. I'm moving on. 24 A. Okay. Because -- I would like to put on the 25 record that you mischaracterized my answer and the</p>

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