

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WHATFIX INC.,
Petitioner,

v.

WALKME LTD.,
Patent Owner.

Patent No. 11,558,317

Inter Partes Review No. IPR2024-00065

REPLY DECLARATION OF DR. HOMAYOON BEIGI

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I, Homayoon Beigi, make this declaration in connection with the proceeding identified above.

I. INTRODUCTION

1. I have been retained by counsel for Petitioner Whatfix Inc. (“Whatfix” or “Petitioner”) as a technical expert in connection with the proceeding identified above. I submit this reply declaration in support of Petitioner’s Reply to Patent Owner Response in connection with the *Inter Partes* Review of U.S. Patent No. 11,558,317 (“the ’317 Patent”) (EX1001). I described my qualifications in detail in my opening declaration dated October 18, 2023, which I understand is Exhibit 1003 to this proceeding. (October 18, 2023 Beigi Decl. (EX1003).)

2. I am being paid at my standard consulting rate. I am also being reimbursed for expenses that I incur during my work. My compensation does not depend on the results of my study and analysis, the substance of my opinions, or the outcome of any proceeding involving the Challenged Claims. I have no personal or financial interest in the outcome of this proceeding or in any litigation involving the ’317 patent.

3. I have personal knowledge of the facts and opinions set forth in this declaration and believe them to be true. If called upon to do so, I would testify competently thereto. I have been warned that willfully false statements (and the like) are punishable by fine or imprisonment, or both.

4. Although I am not a lawyer and will not provide legal opinions, I have been advised to apply certain legal standards in forming my opinions. I set forth my understanding of those legal standards in my opening declaration. (EX1003, ¶¶35-43.)

5. I understand that Patent Owner and its expert, Mr. Zatkovich, have argued that the prior art does not teach certain limitations of the Challenged Claims of the '317 patent. I offer the following opinions in response.

6. I also note that Mr. Zatkovich alleges (citing my testimony) that I do not dispute that the "'317 Patent is aimed at both 'provid[ing] for a user-friendly manner of defining functionality of chat bots' and 'enable[ing] defining automation processes in a manner that enable them to be implemented even if changes are performed to the underlying platform.'" (EX2002, ¶41 (citing EX2004, 342:3-343:22).) However, the cited testimony relates to the '732 patent, not the '317 patent.

II. SYMONS-WILLIAMS

A. Symons-Williams Teaches "a natural language interface" (Elements 1[a], 9[a], And 16[a])

1. Symons teaches a "natural language interface"

7. Mr. Zatkovich agrees that Symons discloses a chatbot, but argues that it is not a "natural language interface." Not only did Symons use the word "chat bot," but he also explains what a "chat bot" is: "[c]hatbots enable organizations to

offer a more intuitive *natural way to interact* with their customers.” (EX1004, 2 (emphasis added); see also EX1009, 2.) “[T]he *chatbot collects all the necessary information in a friendly, interactive manner.*” (EX1004, 2 (emphasis added); EX1009, 2.) Symons’ explanation accords with the testimony that I provided: a “chatbot” may be a “natural language interface . . . that will allow you to do natural language communication with the software.” (EX2003, 64:14-17.) In other words, Symons provided sufficient details to determine that its chatbot is a “natural language interface.” Baetens also confirmed: “the team . . . implemented the *chatbot as an interface for a natural language conversation* with the user.” (EX1010, ¶8 (emphases added).)

8. Because Symons discloses a chatbot, Mr. Zatkovich tries to distinguish over Symons by arguing that Symons had a different definition for a “chatbot” (than the ’317 patent). I disagree. The ’317 patent explains that “[a] [c]hat bot is a computer program implementing a *natural language interface* to conduct a conversation via auditory or textual methods with the user.” (EX1001, 1:28-30 (emphasis added).) The ’317 patent also explains that a “chat bot” broadly includes both “sophisticated natural language processing systems” and “simpler systems [that] scan for keywords within the input, then pull a reply with the most matching keywords, or the most similar wording pattern, from a database.” (EX1001, 1:30-36.) For example, the chatbot’s communications “may be fixed

and predetermined.” (EX1001, 13:59-60.) Thus, a “chatbot” in the ’732 patent encompasses a natural language interface, including ones that use natural language processing. Mr. Zatkovich is thus incorrect that the ’317 patent and Symons have different meanings for a “chat bot.” (EX2002, ¶137.)

9. To further support his argument that the ’317 patent and Symons have different meanings for a “chat bot,” Mr. Zatkovich relies on EX2007 to argue that rule-based chatbots often use buttons and do not use natural language processing. I disagree. As EX1040 (Freed) explained, “[t]here are two main approaches to natural language processing: *rule-based NLP* and machine-learning-based NLP.” (EX1040, 1 (emphasis added).) Further, EX2007 is irrelevant because it is not the case that “only buttons are used” in Symons, and it is dated after the time of the alleged ’317 invention. (EX2002, ¶128.)

10. Mr. Zatkovich also relies on EX2008, but he misreads this article. This article is in fact consistent with the ’317 specification and its expansive definition of chatbot. (EX2002, ¶129.) It states that “[h]istorically, chatbots . . . operated like an interactive FAQ, and *while they worked well for specific questions and answers on which they had been trained*, they failed when presented with a complex question or one that hadn’t been predicted by the developers. Over time, chatbots have integrated *more* rules and *natural language processing*.” (EX2008, 3 (emphases added).) A POSITA would have understood

that the older chatbots being trained to handle specific questions and answers would have used natural language processing so that it could process the specific questions and provide appropriate answers. This passage also explains that there are simpler and complex systems that use natural language processing, just like the '317 specification explained (as I discuss in paragraph 8). (EX1001, 1:28-30.)

11. Mr. Zatkovich argues that a POSITA would not look to patents, including the '317 patent, to understand Symons' and Baetens' definition of a "chat bot." (EX2002, ¶137.) I have been informed that POSITA is presumed to have known about the relevant art, which includes patents, at the time of the invention. Further, the '317 patent describes the ordinary and customary meaning of a "chatbot," a meaning that a POSITA would have already known about regardless of whether he or she looked at the '317 patent. And Mr. Zatkovich's argument that "back in 2017, chatbots that use natural language understanding were less prevalent than today" should be rejected because his comparison to *today's* chatbots is irrelevant. (EX2002, ¶130.) Thus, Symons teaches a "natural language interface."

2. The claims do not require natural language processing

12. Mr. Zatkovich argues that Symons does not teach elements 1[a], 19[a], and 29[b] based on his incorrect interpretation of the claims. To start, Mr. Zatkovich incorrectly alleges that I agree that the '317 claims require natural

language processing, citing 208:3-6 and 187:23-188:5 of my deposition testimony for support. (EX2002, ¶130 (citing EX2003, 208:3-6, 187:23-188:5).) But the cited testimony is not discussing the '317 claims, but instead is discussing EX2007 and rule-based processing.

13. The claims do not recite “natural language processing,” but instead recite a “natural language interface.” I provided testimony that the two terms (“natural language processing” and “natural language interface”) do not have the same meanings, to which Mr. Zatkovich does not dispute. (EX2002, ¶121 (citing EX2003, 63:15-64:17).) Patent Owner asked me “when you talk to other people about *natural language processing*, what is it that you understand it to mean, in your own words, not the expert reports?,” and I answered “Exactly what you just did. *You spoke with me and I processed that language, which is a natural language, and I responded to it using again natural language.* What natural language processing in the computer science sense is to mimic that kind of processing using machinery or a software.” (EX2003, 63:15-64:17 (emphasis added).)

14. Then Patent Owner asked me “what would be a natural language interface to the same group of people,” and I responded, “[a] *natural language interface* is an interface that *allows you to do natural language communication* with the software.” (EX2003, 64:9-17 (emphases added).)

15. The '317 specification also treats “natural language processing” and “natural language interface” as having different meanings. The specification at 13:46-51 states that “[b]ased on *processing* of the user’s interaction with the chat bot, such as using *Natural Language Processing (NLP)* techniques, it may be determined which conversation is the most likely conversation and such a conversation may be suggested to the user for confirmation.” (EX1001, 13:46-51 (emphases added).)

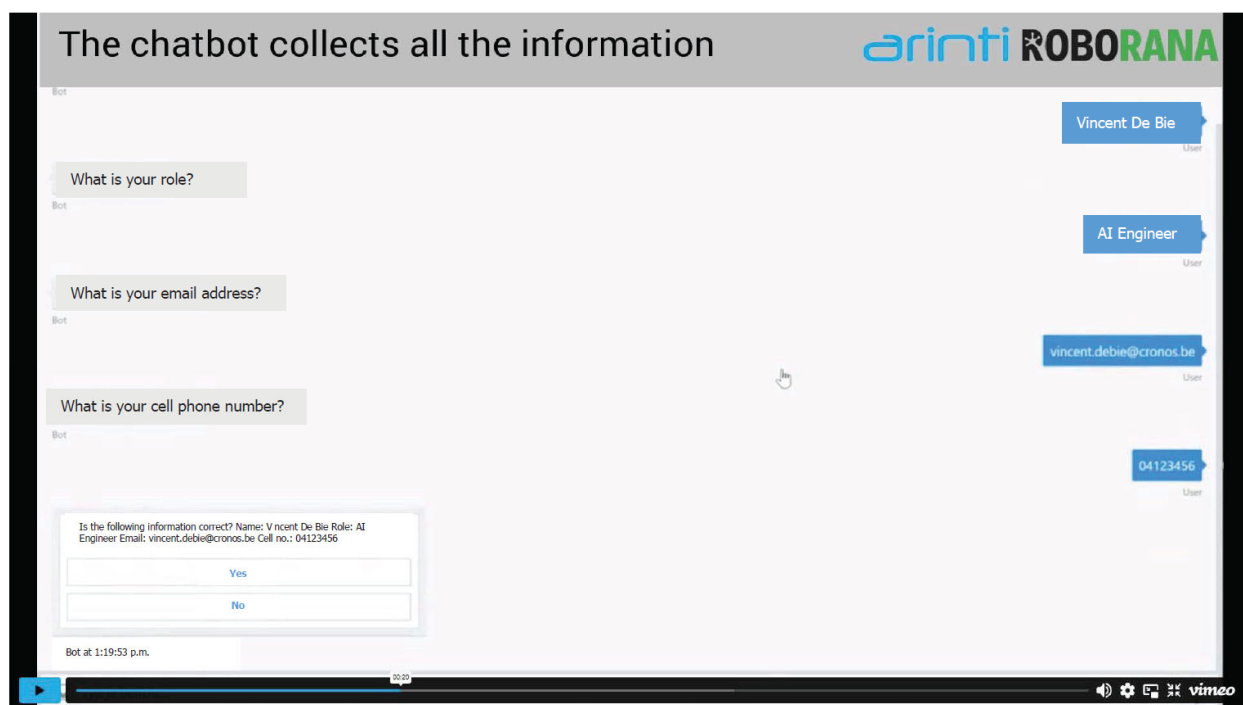
16. Compare this to the specification’s discussions regarding a “natural language interface.” The specification states “[t]he chat bot may implement a *natural language interface* such as a text-based *conversation*, an oral *conversation*, or the like.” (EX1001, 8:10-13 (emphases added).) The specification describes a “natural language interface [as] receiv[ing] input from the user.” (EX1001, 9:3-6.) The specification also describes a “natural language interface” as gathering data: “environment variables, user-associated data, or other available data sources not gathered by the natural language interface.” (EX1001, 19:17-21.)

17. Mr. Zatkovich also seems to recognize that the claims do not recite “natural language processing,” and, as a result, Mr. Zatkovich turns to the word “determination” in the claims to argue that the claims require natural language processing. (EX2002, ¶133.) However, this “determination” refers to a

“determination to implement an automation process,” not a determination “based on the input to the natural language input,” as Mr. Zatkovich alleges. (EX2002, ¶123.) And this “determination” further only requires that it be “in response to the user instruction.” (EX1001, Claims 1, 9, 16.) It does not require either “process[ing] it” or “generat[ing] a response based on the input,” as Mr. Zatkovich contends. (EX2002, ¶123.)

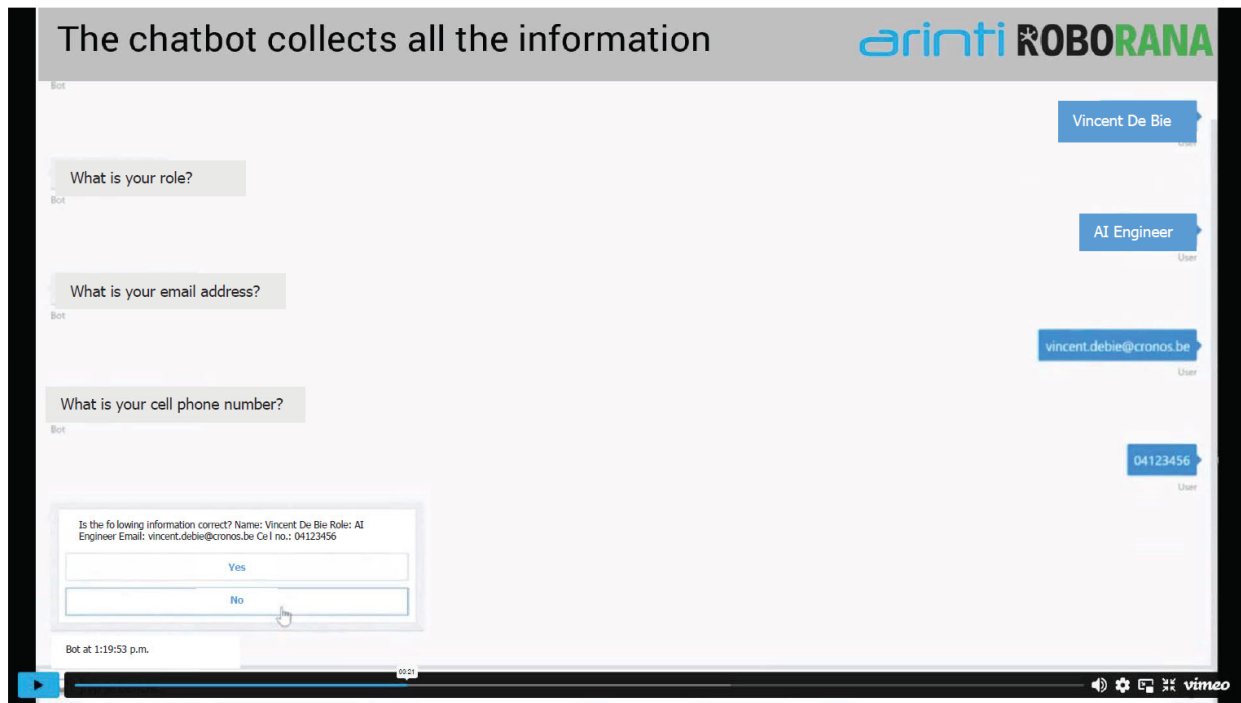
3. Symons teaches natural language processing

18. As I explained above, the claims do not require natural language processing. But if, for some reason, the claims require natural language processing, Symons’ chatbot still uses natural language processing. After the chatbot collects the user’s information, as shown in the screenshot below, the chatbot asks: “[i]s the following information correct?” (EX1006, 6.)

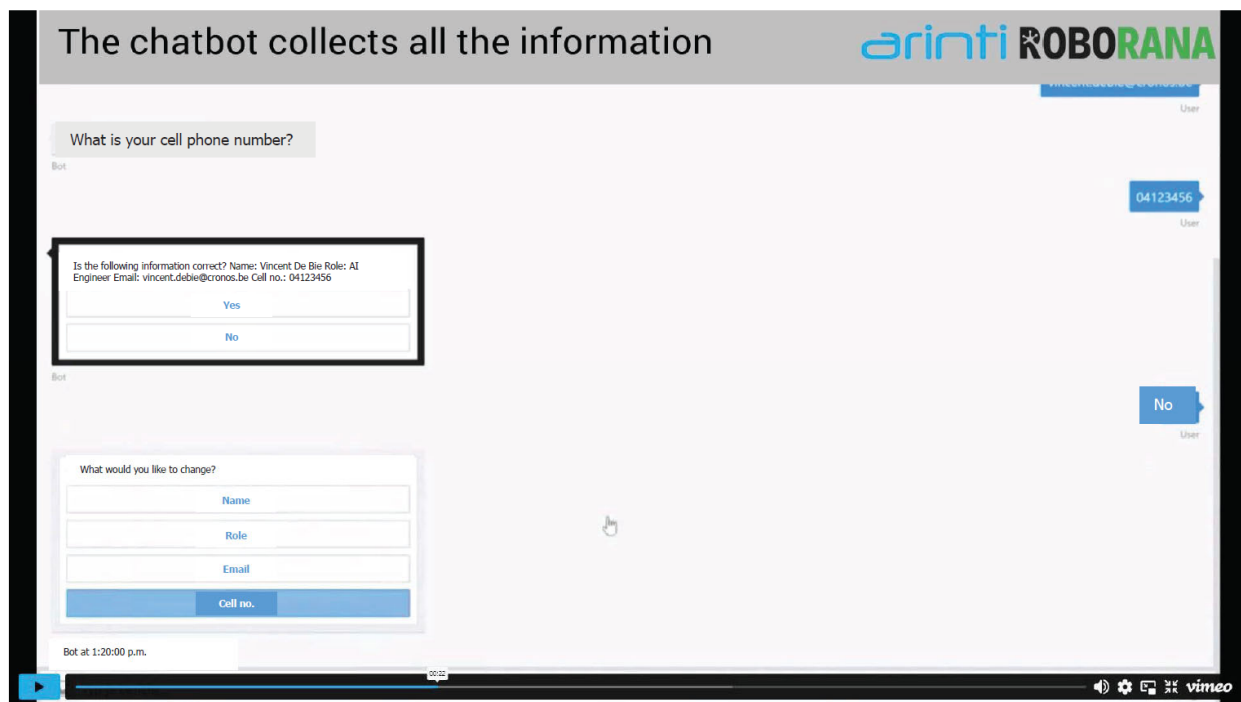


19. Symons then presents two different scenarios: one where the user's input is a "Nee" (No) and another where the user's input is a "Ja" (Yes). The actions that follow differ for the two different scenarios, showing that Symons' chatbot "process[es]" the user's input.

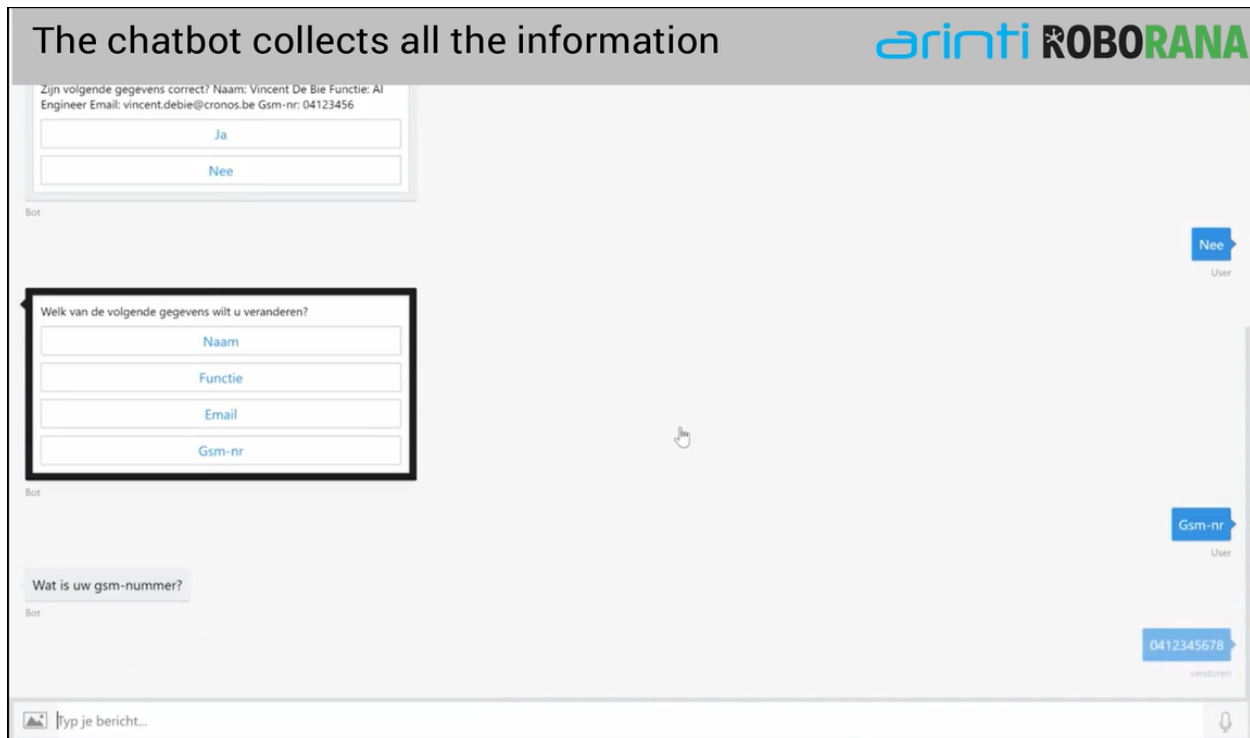
20. As shown in the screen shots below, when the user's input is "Nee" (No) (EX1006, 7), the chatbot asks the user "What would you like to change?" (EX1006, 8), the user responds with "Cell no." (EX1006, 8), and the chatbot allows the user to change the cell number (EX1033, 0:27 (showing the chatbot asking the user "Wat is uw gsm-nummer?" ("What is your cell number?") (translation by Google translate)). The chatbot's response to the user's input shows that the chatbot processed (what Mr. Zatkovich calls "comprehend, or at least recognize" (EX2006, 2)) the user's input. If the chatbot did not comprehend or recognize that user's input of "No" or "Cell no.," then a POSITA would have expected a different response.



(EX1006, 7.)

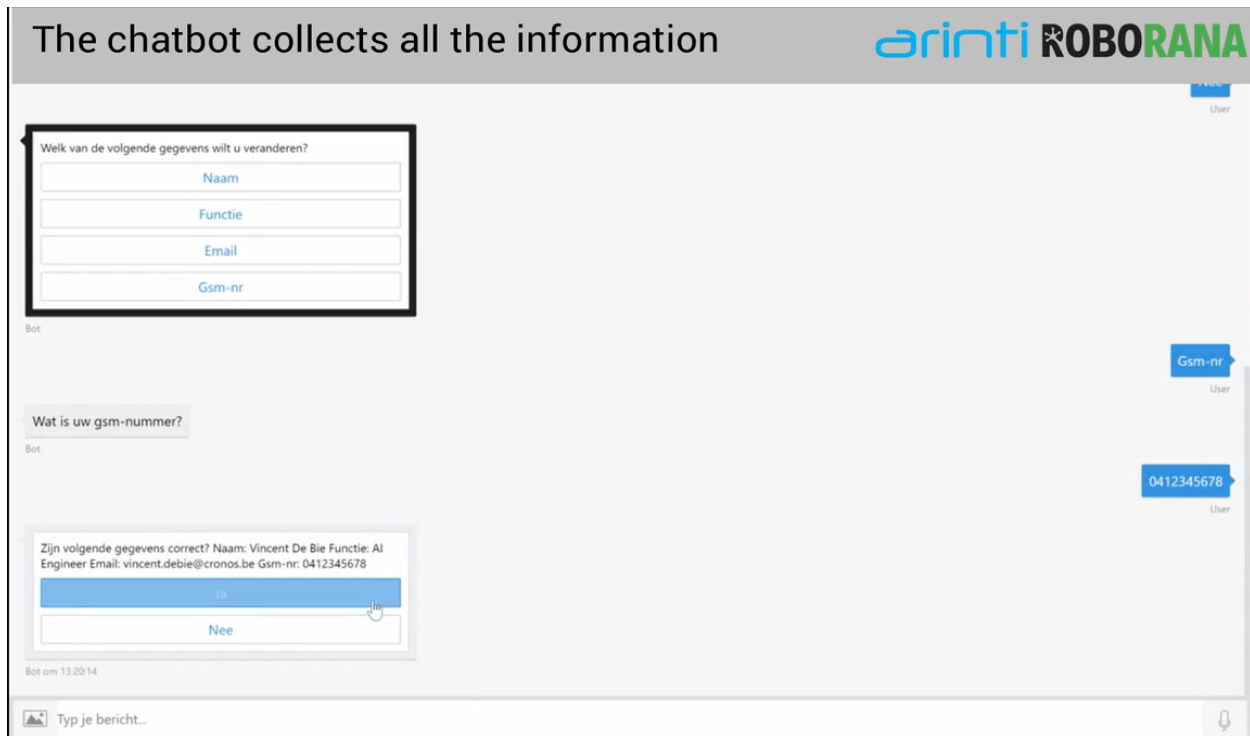


(EX1006, 8.)

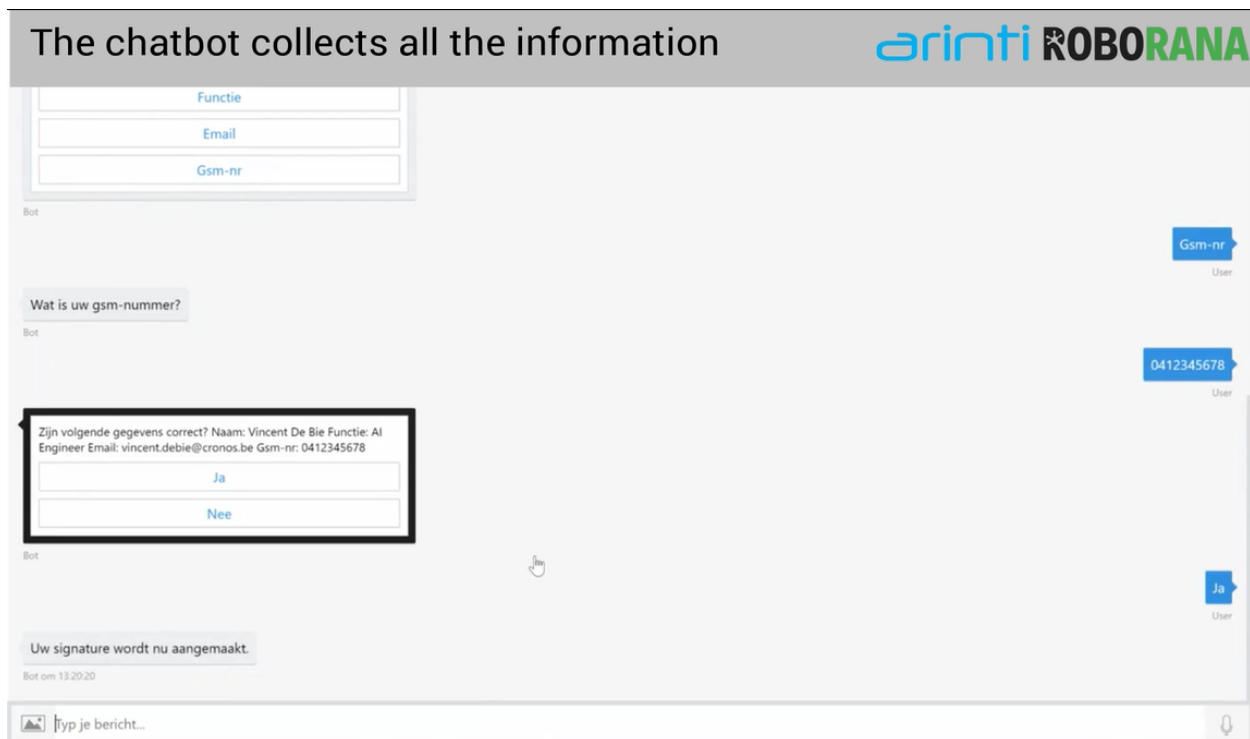


(EX1033, 0:27.)

21. As shown in the screen shots below, when the user's input is "Ja" (Yes) (EX1033, 0:00:28), that chatbot does not ask the user "What would you like to change?" like it did when the user's input is "Nee" (No). Instead, the chatbot responds with "UW signature wordt nu aangemaakt" ("Your signature will now be created") (translation by Google translate). (EX1033, 0:00:31.) The chatbot's response to the user's input shows that the chatbot processed the user's input. Thus, Symons' chatbot uses natural language processing at least in the "[i]s the following information correct?" scenario. And this scenario also shows that Symons' chatbot is not a single conversation or a hardcoded conversation, as Mr. Zatkovich alleges. (EX2002, ¶95.)



(EX1033, 00:28.)



(EX1033, 00:31.)

B. Symons-Williams Teaches “determin[ing] to implement an automation process . . . in response to the user instruction” Of Elements 1[b], 9[b], And 16[b]

1. Symons teaches “determin[ing] to implement an automation process”

22. Mr. Zatkovich does not dispute that Symons’ chatbot triggers the RPA bot (automation process). (EX2002, ¶143.) As I discuss in paragraphs 75-83 of my opening declaration, Symons’ determines to implement an automation process by its chatbot receiving the user instruction (“in response to the user instruction”) and triggering the RPA bot. (EX1003, ¶¶75-83.) Symons teaches “determining” since without the user’s input, Symons does not execute the automation process. (EX1003, ¶76.) This is like an embodiment of the ’317 patent, which discloses “defin[ing] [] a conversation flow which automation process is invoked thereby and which parameters are passed thereto.” (EX1001, 11:60-62.) The ’317 patent also discloses an embodiment where “the conversation may be associated with a single [automation process] that is selected upon reaching the end of the flow of the conversation.” (EX1001, 14:18-20.) A POSITA would have understood that “single conversation” in 14:18-20 of the ’317 specification should read “single automation process” as shown in the quote with brackets. The passage is within the discussion of “Step 240, an automation process may be selected” (EX1001, 14:12-15), and the automation process is what is “selected upon reaching the end of the flow of the conversation.” (EX1001, 14:18-20.) A POSITA would not have

understood that a “conversation” is selected upon reaching the end of the “conversation.” Because Symons maps to an embodiment of ’317 patent where a single automation process is determined, Symons teaches “determining” as recited in the claims. And Symons did not state or suggest that it “merely” passed the collected information on to the RPA robot, as Mr. Zatkovich argues. (EX2002, ¶149.)

2. The claims do not require a single automation process

23. Mr. Zatkovich argues that Symons does not disclose elements 1[b], 9[b], and 16[b] because Symons discloses a single automation process. (EX2002, ¶143.) However, the claims do not require multiple automation processes, and the specification supports the claims as encompassing a single automation process. For example, 13:23-24 describes “*one* or more automation processes,” and 19:44-47 “a specific (*single*) automation process.” (EX1001, 13:23-24, 19:44-47 (emphases added); *see also* 14:18-20.)

24. Mr. Zatkovich argues that “determining” means “selecting” or choosing among multiple automation processes (EX2002, ¶149.) But claim 8 of the ’664 patent narrows “determining” to comprise “selecting,” which means that “determining” is broader than “selecting.” And there is no dispute that “determining” in the ’664 patent and the ’317 patent have the same meanings.

3. The claims do not require a single chatbot-RPA that handles multiple requests at once in the same conversation thread

25. Mr. Zatkovich then argues that neither Symons nor Williams teaches: a (1) single chatbot-RPA (2) to handle multiple requests (3) at once (4) in the same conversation thread. (EX2002, ¶154.) The claims do not recite or require a single chatbot-RPA, handling multiple requests simultaneously, or a single conversation thread. And Mr. Zatkovich fails to identify any support for his assertions. The '317 specification supports the claims encompassing multiple bots: "HR Bot may be assigned several conversations that are different from those of a CRM Bot.") (EX1001, 17:36-37.) The passage at 17:36-37 also shows that the claims further encompass multiple conversation threads. Similarly, 11:67-68 describes "[e]ditor 110 may define several different conversation[s] for a single chat bot (e.g., HR Bot)," and 10:4-6 explains that "a chat bot service may be associated with different conversation flows. Each conversation flow may be associated with one or more automation processes that can be invoked." (EX1001, 11:67-68, 10:4-6.)

26. The claims also encompass non-simultaneous handling of requests. The specification describes "a plurality of automation processes may be performed sequentially (either immediately one after the other, or with immediate questions therebetween)". (EX1001, 17:29-32.) Additionally, "in some cases, a

conversation may execute a plurality of automation processes in sequence.”

(EX1001, 19:44-48.)

4. Symons-Williams teaches a single chatbot-RPA that handles multiple requests at once in the same conversation thread

27. Mr. Zatkovich argues that Williams does not disclose a single chatbot-RPA for a single conversation thread that handles multiple requests. Mr. Zatkovich is incorrect. Williams discloses “[t]hese chatbots can engage in natural language dialog with the caller *[(single conversation thread)]* and discern, through a series of interactions, the nature of the call *[(multiple requests)]* and then capture information further required to handle the request. The chatbot will then trigger a robot *[(single chatbot-RPA)]*.” (EX1011, 3.) Williams also describes “contact centers . . . obtaining travel and expense and payment status, updating our backend systems, and closing the inquiry,” thereby handling multiple requests. (EX1011, 3.)

28. Additionally, Williams discloses multiples automation processes. Williams refers to automation processes as “RPA operations” (plural) and “robots” (plural). (EX1011, 3.) Williams also discusses “robotic work dispatching” and “assignment of tasks to robots for execution,” which a POSITA would have understood as multiple robots and automation processes handling multiple requests at once. (EX1011, 5.) This shows that Mr. Zatkovich is wrong when he argues

that Williams is directed to “at most to using chatbots ‘in a variety of other processes and across industries.’” (EX2002, ¶154.)

29. Further, Mr. Zatkovich’s argument that Williams simply provided “broad generalizations,” and “a taxonomical definition of RPAs and IPAs, nothing more” is incorrect. (EX2002, ¶¶110, 115.) Figure 1’s “diagram shows **IBM’s** intelligent automation continuum” comprising an RPA and an IPA. (EX1011, 4.) And Williams provided “specific examples of complex process automation and intelligent automation using IBM Watson® in business process services,” such as “chatbots or digital assistants [] deployed within helpdesk functions to interact with an end user, replacing the human agent in a traditional call center.” (EX1011, 2, 3.) Another example is “a real-life example within HR operations [involving] the virtual agent [] help[ing] our contact centers improve over 50 percent of our first contact resolutions, obtaining travel and expense and payment status, updating our backend systems, and closing the inquiry in record time.” (EX1011, 3.) Williams provides even more examples, such as:

- “[c]hatbots can be used in a variety of other processes and across industries such as mortgage, banking, insurance, healthcare and others to help reinvent call center operations” (EX1011, 3);
- a “financial operations” example where the robot “ingest[s] [] unstructured documents and extract[s] the relevant fields, thus

removing additional manual work from the end-to-end process”

(EX1011, 3);

- a “specific use case [] from a global company that uses IBM’s solution to automate the extraction of data from their invoices, which are often in different formats” (EX1011, 4);
- an example “in procure-to-pay invoice processing” system (EX1011, 4);
- “IBM uses Watson Analytics to harvest the rate of unexpected job terminations within the operational footprint of deployed robots across business process services” (EX1011, 5); and
- “[i]ntelligent automation using AI technologies [that] replaces human involvement in work dispatching” (EX1011, 5).

30. And Mr. Zatkovich is incorrect that Symons’ chatbot was only programmed to implement a single conversation thread. (EX2002, ¶95.) As I discuss in paragraphs 18-21, Symons’ chatbot performs natural language processing, which means that Symons did not teach a single conversation, or merely hardcoding a single conversation, as Mr. Zatkovich alleges.

31. Further, Mr. Zatkovich’s emphasis that Symons *alone* does not teach “determin[ing] to implement an automation process” shows that he is ignoring the combination presented in my opening declaration, which relies on Symons *in*

combination with Williams. (EX2002, ¶143.) In fact, Symons’ welcome message (“*at this moment*, you can only use me to create a new Cronos signature”) suggests multiple automation process, as Williams teaches. (EX1006, 2 (emphasis added).) And a POSITA would not have understood Symons teachings as being rigid or strictly limited as Mr. Zatkovich argues. Mr. Zatkovich’s argument that “given the single purpose nature of the Symons chat-RPA bot, there would be no need to determine the automation process” is incorrect. (EX2002, ¶155.)

C. Symons-Williams Teaches A “third-party web-based target system” Of Elements 1[e], 9[e], And 16[e]

32. Mr. Zatkovich argues that Symons does not teach a “third-party web-based target system,” but this ignores my obviousness theory that relies on the combination of Symons and Williams. (EX2002, ¶¶157-159.) As I explained in paragraphs 91 and 92 of my opening declaration, Williams teaches a “third-party web-based target system.” (EX1003, ¶¶91-92.)

33. Mr. Zatkovich also argues that Williams’ web-based system is not a third-party web-based target system. (EX2002, ¶160.) For support, Mr. Zatkovich points to Williams’ passage that says: “work through system’s graphical interfaces, including web browsers,” and then argues that this passage suggests an internal system, not a third-party system. (EX2002, ¶160.) But I disagree. Williams’ statement refers to the actions of an RPA bot, which operates at the presentation layer. A POSITA would have known that third-party systems, not internal

systems, work at the presentation layer (*e.g.*, a GUI or web browser). Internal systems do not work at the presentation layer because it would be unnecessary and there are associated disadvantages involved (*e.g.*, time and costs required for data formatting and passing through different layers). Mr. Zatkovich points to Williams' statement of "manipulation of a call center's internal databases," but this statement refers to the data layer. The data layer is not the same as the presentation layer. The data layer is for communication between systems (such as databases) internally, whereas the presentation layer is for presenting the user interface. Thus, Williams discloses a third-party web-based target system.

34. And Mr. Zatkovich is incorrect that RoboRana is not a third party to Arinti. (EX2002, ¶159.) As both Symons and Baetens explained in their declarations, RoboRana is a company that focused on RPA, and Arinti is a company that focused on chatbots. (EX1008, 1; EX1010, 1.) Thus, the RoboRana RPA is a third-party system.

D. Symons-Williams Teaches A "text input field in the GUI of the web-based target system" Of Elements 1[g], 9[g], And 16[g], And A "widget in the GUI" Of Elements 1[h], 9[h], And 16[h]

35. Mr. Zatkovich does not dispute that Symons teaches both a text input field and a widget. (EX2002, ¶161.) Instead, Mr. Zatkovich argues that the text input field and the widget of Symons are in two different GUIs in two different systems. (EX2002, ¶161.) I disagree. Symons discloses a single RPA software

(desktop application) that is a separate computer program with its own user interface (see Symons' RPA screenshots) operated on a single device (Symons' computer).

36. As shown below, Symons' desktop application displays what Mr. Zatkovich calls "the input fields in the GUI of Cronos," and the same desktop application displays "a modal window, dialogue box, or other form of pop-up of the Windows operating system." (EX2002, ¶161.) Symons' desktop application is similar to what the '317 patent describes as providing a "unified, and simple, conversational-based user interface" that works with multiple platforms (software tools). (EX1001, 11:5-10.)

37. Additionally, claim 1 recites "the implementation of the automation process comprising:" and two steps: "automatically . . . filling in a text input field in the GUI" step and "automatically . . . interacting with a widget in the GUI." Because the claim uses the word "comprising," its scope allows for the automation process to perform additional steps outside of the two steps explicitly recited. As a result, claim 1 is not limited to an automation process that interacts with a GUI of *only* a single target system as Mr. Zatkovich alleges.

E. Mr. Zatkovich Mischaracterizes The '317 Claims And Symons/Baetens

38. Symons Video, Symons Article, and Baetens Article: Mr. Zatkovich argues that the Symons Article and the Baetens Article should be referred to as

blogs. (EX2002, 12 fn. 1.) I disagree. But this argument is a red herring.

Regardless of whether or not the Symons Article or the Baetens Article is a blog (to which I do not agree), the Symons Article and the Baetens Article show that Symons teaches the '317 patent claims before the date of the alleged invention.

39. Mr. Zatkovich also argues that Symons RPA software was executed on a different computer device than the computer device that the chatbot was executed on. (EX2002, ¶¶98-101, 107.) However, the claims do not require that the chatbot and RPA be executed on the same computer device. (EX1001, Claim 1.) Mr. Zatkovich agrees. (EX1036, 59:9-60:1.) Further, the '317 specification discloses different computer devices (“the chat bot may be implemented on a different system than the target system itself”) as an embodiment covered by the claims. (EX1001, 9:36-38.) Mr. Zatkovich acknowledged this embodiment for the '664 patent, and the '664 and '317 patents have similar specifications. (EX2002 of '664 IPR, ¶71.)

40. Additionally, I disagree with Mr. Zatkovich that the use of different languages, different user login names, different magnifications for different software, and that the email signature is sent via email necessarily means that the chatbot and RPA software are executed on different devices. (EX2002, ¶¶99-100.) I also disagree that the screenshots of Symons Video show different resolutions. (EX2002, ¶¶99-100.) A POSITA would have understood that the same computer

device may be used for different languages, the same computer device may be used with different login names, different magnifications may be used for different software (including different views in Word), and it is known for one to send emails to oneself.

41. Mr. Zatkovich also makes other assumptions that are not supported by evidence and that I disagree with. For example, Mr. Zatkovich alleges that the Symons “video was put together very quickly (less than 17 days after Mr. Symons began working at RoboRana as a ‘showcase’”).) (EX2002, ¶133.) Mr. Zatkovich also alleges that “the Arinti chatbot that was identified as being used, was not publicly available at the time.” (EX2002, ¶133.) But Mr. Zatkovich acknowledged that someone else could have been working on the Symons chatbot-RPA before Symons began working at RoboRana, and that the Arinti chatbot not being publicly available was based on his opinion. (EX1036, 118:3-119:8.)

42. The “internals”: Mr. Zatkovich also suggests that Symons was not developed, and Baetens was intentionally hiding details for that reason. (EX2002, ¶¶91, 107.) There are many reasons why companies do not share low-levels details about their products that do not mean the system had not been developed. For example, companies typically do not disclose low-level details to the public because this delays competition, and competition may exist at all stages in the

development and growth of a technology. Mr. Zatkovich agrees. He testified that companies keep some of the details secret because “it would give a competitive edge,” where “they would lose their competitive edge if that information was disclosed.” (EX1036, 24:22-26:4.) As Mr. Zatkovich explained, it was common practice and companies used nondisclosure agreements, including even when the technology was not new. (EX1036, 25:5-26:23.)

43. And knowing (what Mr. Zatkovich calls) the “internals” of Symons is not required for purposes of determining that Symons teaches the broad scope of the challenged claims. (EX2002, ¶106.) Claim 1 requires “receiving a user instruction from a user using a natural language interface,” “collecting information to be used as part of the automation process,” “determining to implement an automation process on a web-based target system in response to the user instruction,” and “implementing the automation process by interacting with a Graphical User Interface (GUI) of the web-based target system and simulating user input to the GUI of the web-based target system.” The claims do not require that the chatbot be created in a specific way, that the chatbot messages are displayed for specific reasons, that the RPA bot is triggered in a specific way or under certain conditions, or that the automation process must be created in a specific way, as Mr. Zatkovich suggests. (EX2002, ¶¶96, 97, 106, 104.) And I do not agree with Mr. Zatkovich that any conclusion can be deduced based on outsider questions related

to the Symons Article that were posted on Medium. (EX2014, ¶¶392-402; EX2005; EX2015; EX2016; EX2017.) These questions were posted a year later, and there is no evidence that Symons or Baetens saw the questions.

44. I note that the '317 specification does not even provide information about its “internals.” For example, the '317 specification generally describes “invok[ing] the automation process in a simple manner” (EX1001, 9:38-41). The specification also generally describes the “conversation flow [] be[ing] associated with one or more automation processes that can be invoked.” (EX1001, 10:5-7.) Further, the automation process is generally described as being “invoked thereby and which parameters are passed thereto” and comprising “steps in a predefined order.” (EX1001, 11:59-62, 14:40-41.)

45. Mr. Zatkovich's computer program: Mr. Zatkovich also created a computer program that allegedly “match[es]” Symons' computer program. (EX2006, EX2009, EX2010; EX2002, ¶145.) But I disagree with Mr. Zatkovich's computer program and his conclusions. Although the “internals” are not needed to determine that Symons-Williams teaches the claims (because the claim elements recite broad limitations), the “internals” are needed to create a computer code that is presented as matching Symons' computer program. And Mr. Zatkovich admits that he himself does not know the “internals” of Symons. (EX2002, ¶144.)

46. Without knowing the “internals,” Mr. Zatkovich does not know that his computer code gathers the same information in the same manner as Symons’ computer program. (EX2004, ¶135.) Mr. Zatkovich does not know that his computer program passes information to another system such as an RPA bot in the same manner as Symons’ computer program. (EX2004, ¶135.) For example, Mr. Zatkovich states that “[o]nce the user has approved the information they have entered, that information (name, role, and phone number) is transmitted to the RPA server.” (EX2006, 2.) But Mr. Zatkovich fails to show where Symons or Baetens describes an RPA server or where Symons or Baetens describes transmitting the information to a server (if at all). Instead, as Mr. Zatkovich testified “the title at the bot says, the chatbot triggers the RPA bot. And *I’m assuming* it’s referring to the Cronos server.” (EX1036, 121:8-122:22.) And according to Mr. Zatkovich, not every RPA bot is a server. (EX1036, 122:6-7.)

47. I note that Mr. Zatkovich’s description of his computer code contradicts his testimony. He testified that “[i]t’s not clear” whether the chatbot transmits information to an RPA server and “[n]either I nor Dr. Beigi could make that determination as to how or if that information is transmitted.” (EX1036, 120:13-21.) Yet, he made the “determination” when creating his code and providing a description of it. He also testified that he was not sure that the chatbot transmits information to the RPA bot via an HTML method called POST a URL

because “[a]gain, neither Dr. Beigi nor I had any view into the internals of how that worked. So I could not verify that particular method.” (EX1036, 122:23-123:9.) However, Mr. Zatkovich’s description of his computer code states “[t]he information that is collected by the chatbot is sent to a Server (e.g. an RPA Server). This is done the most common HTML method known as POST a URL.” (EX2006, 6.)

48. Additionally, Mr. Zatkovich fails to explain why the collected email address in his computer program is not part of the information transmitted, even though the Symons Article states that “the chatbot *collects all* the necessary *information*” and “[t]his *information gets passed* on to the RPA robot.” (EX1004, 2 (emphases added).) As Mr. Zatkovich argues, one (including himself) is left “to conjecture to the actual method of implementation and underlying code in Symons.” (EX2002, ¶147.)

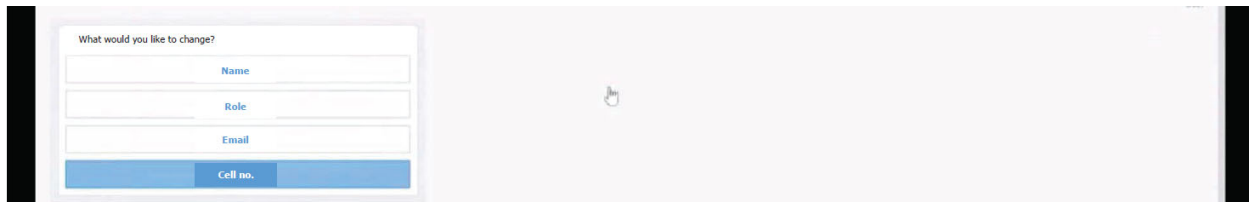
49. And Mr. Zatkovich provides no evidence that his computer program is an accurate match of Symons. At best, Mr. Zatkovich justifies creating a hardwired conversation without a “determination” step because it was “a logical way” (EX2002, ¶152) and “*could* easily have been implemented as merely hardwiring a conversation.” (EX2002, ¶145.) Mr. Zatkovich also alleges that “implementing the RPA process *could have* had the RPA process simply follow the ‘Instructions’ shown in the Cronos signature generator.” (EX2002, ¶100.) But

one “logical way” and “could easily have” does not mean that Mr. Zatkovich’s computer code matches Symons. Mr. Zatkovich argues that Symons “could easily be programmed to proceed to prompt ‘what is your name’ regardless of what the user typed.” (EX2006, 3.) But Symons could have also easily been programmed not to proceed.

50. As shown in the side-by-side comparisons below, Mr. Zatkovich’s computer program does not appear to be a “match” to the Symons Video. First, the chatbot messages are different. In Symons, the chatbot asks “[i]s the following information correct?,” and the user answers “No.” (EX1006, 7.) In Mr. Zatkovich’s program, the chatbot asks “[d]o you want to change anything? (yes/no),” and the user answers “Yes.” (EX2006, 6.)

51. The options that the chatbot displays for the “What would you like to change?” question are different. In the Symons Video, the options are “Name,” “Role,” “Email,” and “Cell no.” (EX1006, 8.) In Mr. Zatkovich’s program, the options are “Change Name,” “Change Role,” “Change Email,” and “Change Phone.” (EX2006, 6.)

Symons



Mr. Zatkovich's Program

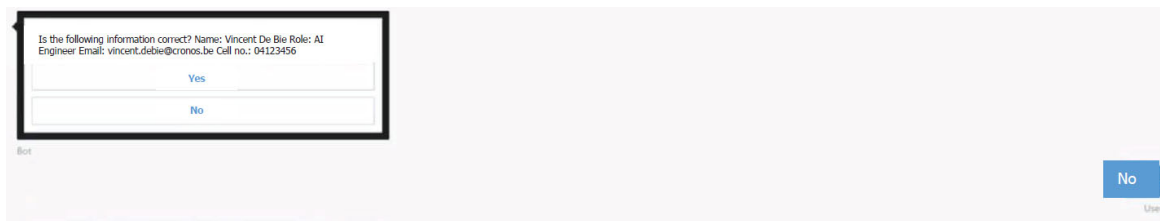


52. After the user chooses to change the “Cell no.,” Symons’ chatbot asks “Wat is uw gsm-nummer?” (EX1033, 0:27), whereas Mr. Zatkovich’s chatbot says “Please enter the new phone number:” (EX2006, 6.) Then after changing the cell phone number, Symons’ chatbot says “Zijn volgende gegevens correct?” (“Is the following data correct?”) (translation by Google translate). (EX1033, 0:27.) Mr. Zatkovich’s chatbot, on the other hand, says “Do you want to change anything else? (yes/no)?” (EX2006, 6.)

53. Second, Mr. Zatkovich’s computer program adds information that is not described anywhere in the Symons Video, the Symons Article, or the Baetens Article. For example, Mr. Zatkovich’s chatbot provides a message that says “[s]ending your information to Server.” (EX2006, 6.) As shown in the Symons Video, its chatbot never provides a “[s]ending your information to Server”

message. Despite Mr. Zatkovich alleging that his chatbot has “the equivalent functionality of [the] Symons reference as described by [the] Symons Blog” (EX1004), Mr. Zatkovich fails to show where Symons or Baetens describes an RPA *server*. (EX2006, 1.) This is because neither Symons nor Baetens describes an RPA server. (EX1004; EX1006; EX1008; EX1009; EX1010; EX1033.)

Symons



Mr. Zatkovich's Program



F. Symons-Williams Teaches “implement[ing] the automation process by a client device” Of Claim 2 (*also* “said implementing is performed by a client device” Of Claim 10) And “implement[ing] the automation process by a browser that is executed by the client device” of Claim 3 (*also* “said implementing is performed by a browser that is executed by the client device” Of Claims 11/17)

54. Mr. Zatkovich argues for claims 2 and 3 that Symons discloses different devices for the chatbot and RPA. (EX2002, ¶¶170-175.) As I discuss in paragraphs 39-40, Mr. Zatkovich’s arguments are incorrect.

G. Symons-Williams Teaches A “vocal interface” Of Claim 4

55. Mr. Zatkovich argues that a POSITA would not have been motivated to use a vocal interface for Symons because they are “notoriously poorly suited,” adds significant complexity, and leads to significant errors. (EX2002, ¶¶176-180.) Mr. Zatkovich is incorrect. The performance of voice-based services at the time of the ’317 invention was comparable to human transcribers (who made mistakes). For example, on August 20, 2017, Microsoft “announce[d] that [its] research team reached [the] 5.1 percent [human parity word] error rate with [its] speech recognition system.” (EX1041, 2.)

56. Mr. Zatkovich also argues that it would have been more convenient to have the user type with a keyboard. (EX2002, ¶178.) But there are also instances where it would not have been more convenient for a user to type with a keyboard. For example, it may not be more convenient to type when the user’s hands are occupied, the keyboard is not easily usable or accessible (*e.g.*, for a disabled person), or for users who may not be proficient at typing. I disagree that a POSITA would not have been motivated to use a vocal interface in such instances, since no extra equipment is required (Mr. Zatkovich does not dispute) and the word error rate was comparable. In such instances, the benefits (convenience) would outweigh the small costs.

H. Symons-Williams Teaches An “online form compris[ing] the text input field, wherein the widget is configured to invoke submission of the online form” Of Claims 5, 13, And 19

57. For claims 5, 13, and 19, Mr. Zatkovich makes similar arguments regarding the text input field and widget not being in the same GUI element. (EX2002, ¶183.) As I discuss in paragraphs 35-37, Mr. Zatkovich is incorrect.

58. Mr. Zatkovich also argues that Symons’ widget merely allows copying and does not invoke submission of the online form. (EX2002, ¶184.) As I explained in my opening declaration, interacting with the widget causes the RPA bot to copy the signature to a Word file, and it further causes the RPA bot to automatically email the Word file to the requester. (EX1003, ¶¶108-113.) Copying the signature to a Word file and emailing it to the requester are actions that are part of the email generation, demonstrating the submission of the online form. Thus, Symons invokes submission of the online form, otherwise these actions would not have occurred.

I. Symons-Williams Teaches “wherein the information comprises information of the user, whereby personalizing the automation process” Of Claims 6 And 14

59. Claims 6 and 14 recite: “wherein the information comprises information of the user, whereby personalizing the automation process.” (EX1001, Claims 6, 14.) Claim 1 requires that claim 6’s information be “collect[ed] information [] used as part of the automation process.” (EX1001, Claim 1.) In

other words, the “personalizing the automation process” occurs when the collected information is “information of the user.” And contrary to Mr. Zatkovich’s assertions, when the information of the user is used in the automation process, the steps of the automation process vary. (EX2002, ¶189.)

60. The specification supports this understanding of the scope of claim 6. Although the only description in the ’317 patent related to “personalizing” is in the context of a chatbot, the passage can be used to understand the meaning of the term “personalizing” in claim 6. The ’317 specification states that “a message to be provided by the chat bot to the user is defined. The definition may be explicit (e.g., fixed text). Additionally, or alternatively, the definition may provide leeway for the chat bot to personalize and implement based on the user’s information and the context of the conversation.” (EX1001, 18:65-19:3.) Thus, “personalizing” involves using the information of the user in the message (or automation process) such that the message (or automation process) is not fixed text. And Mr. Zatkovich does not dispute that Symons uses the information of the automation process such that the text in the generated email signature is not fixed (always the same).

J. Symons-Williams Teaches The “chat-bot program product is configured to utilize the credentials of the user, whereby the chat-bot is privy to user-specific information” Of Claim 7

61. For claim 7, Mr. Zatkovich acknowledges that the ’317 specification discloses “Employee ID,” “First Name,” and “Last Name,” but argues that the ’317 does not call them “credentials” that the chatbot is “privy to.” (EX2002, ¶193.) He argues that the ’317 specification makes a distinction between “parameters” and “credentials,” and points to 20:13-15 of the specification for support. (EX2002, ¶193.) I disagree. 20:13-15 of the specification states: “[a]dditionally, or alternatively, the user may associate *parameters* available to the chat bot, such as based on the *user credentials*.”). In other words, “user credentials” are an example of the “parameters.” The sentence prior (at 20:11-13) states that the “user may associate parameters gathered by the conversation (e.g., by Question Step 550b, 550c, 550d, 550e of FIG. 5B).” (EX1001, 20:11-13.) The “[a]dditionally, or alternatively,” of 20:13-15 does not mean that the user credentials cannot be “gathered by the conversation.” All it means is that the parameters are not *already* available to the chatbot at the time when the questions are asked.

K. Symons-Williams Teaches “automatically identifying the widget in the GUI” And “automatically identifying the text input field in the GUI” Of Claims 8, 15, And 20

62. For claims 8, 15, and 20, Mr. Zatkovich makes arguments similar to ones he already made regarding the text input field and widget not being in the

same GUI element. (EX2002, ¶199.) As I discuss in paragraphs 35-37, Mr. Zatkovich is incorrect.

63. Mr. Zatkovich also argues that I did not identify any support in Symons of automatically identifying the widget or text input field in the GUI. (EX2002, ¶¶197-199.) But as I identified in my opening declaration, the screenshots of Symons' video show "[t]he RPA bot automatically open[ing] browser and enter[ing] details" and "automatically cop[ying] the signature to a Word file." (EX1003, ¶¶122-123 (citing EX1003, 11-14).) In order for the RPA bot to automatically enter the details and copy the signature, it must have identified the text input field and the widget.

III. ALLEN

A. Allen Teaches A "natural language interface" Of Elements 1[a], 9[a], And 16[a]

64. Mr. Zatkovich argues that Allen does not disclose "a natural language interface" because Allen only displays the automation process during the training of the automation process, not during the execution of the automation process. (EX2002, ¶¶207-216.) According to Mr. Zatkovich, Allen's displays (task log 16 and speech interface display 20) are used only for training. But Allen's descriptions show that its displays are also used for executing an automation process. Allen discloses that its "system [] allows a user to teach a computational device how to perform complex, repetitive tasks that the user usually would

perform using the device’s graphical user interface (GUI).” (EX1014, Abstract.)

The user “using the device’s graphical user interface (GUI)” and the computational device performing what the “user usually would perform” means that automation process utilizes the GUI (displayed user interface) during execution of the automation process. And a POSITA would have understood from Allen’s description that “[t]he present invention can be configured to apply to virtually any computational device employing a graphical user interface (‘GUI’)” means that a displayed user interface is used for both training and executing. (EX1014, 1:50-52.)

65. As Allen explains, the task log 16 and speech interface “displays allow the user to monitor his or her interaction with PLOW.” (EX1014, 5:17-20.) And “[t]he system communicat[ing] with a user in natural dialog-based language” applies to both the “user teach[ing] the system . . . [and] the system . . . automatically execut[ing]” what it learned. (EX1014, 6:60-65.)

66. Further, Allen’s “method for learning and *executing executable tasks* using language . . . comprising: . . . providing software running on said computational device and supported *GUI-based interaction with said user*; . . . wherein said software includes a *natural dialog-based interface* whereby said user can communicate with said software using natural dialog-based language” shows

that its GUI and natural dialog-based interface are not limited to just training.

(EX1014, 18:38-49 (emphases added).)

67. Additionally, the descriptions of Figures 9 and 10 discuss the system executing a task that “assist[s] the user” (the system and user work together). The user identifies the title (EX1014, 15:25-28), and the system performs a search (EX1014, 15:28-31). As part of the description of this collaborative and iterative task, Allen discloses “*the user can readily observe the [system’s] mistake* and take action to correct it.” (EX1014, 15:39-40 (emphasis added).) This is another disclosure of Allen that shows that it displays the automation process during execution.

68. Thus, Allen teaches a natural language interface associated with executing an automation process. Mr. Zatkovich points to Figures 2, 3, 7, and 8 to support his argument. (EX2002, ¶¶212-215.) Although the examples shown in Figures 2, 3, 7, and 8 may be specific to training, given Allen’s disclosures, a POSITA would have understood that the GUI shown in Figures 2, 3, 7, and 8 and Allen’s displays would also be used for displaying during executing the automation process.

69. Mr. Zatkovich also points to Figure 6 of Allen and alleges that Figure 6 shows that Allen does not teach a “natural language interface.” (EX2002, ¶218.) But Mr. Zatkovich is wrong. The question in Figure 6 (“What is the name of the

book you are looking for?”) is different from the question (“What is the title of the book?”) in the natural language conversation at 12:62-13:1 (EX1014). And Mr. Zatkovich agreed in the ’664 IPR. (EX2002 of IPR2023-01368, ¶234.)

Additionally, Figure 6 relates to training (“observing the user’s actions in *teaching* the step”), not executing the automation process. (EX1014, 10:25-30 (emphasis added).) Mr. Zatkovich’s reliance on Figure 6 is improper, especially since the theory that I presented in my opening declaration did not rely on Figure 6.

70. Mr. Zatkovich alleges that I testified that Allen’s Figure 6 is not a “natural language interface.” (EX2002, ¶18 (citing EX2003, 60:24-61:3).) But Mr. Zatkovich mischaracterizes my testimony. The question that Patent Owner asked me was regarding “a form where you fill in name, address, telephone number,” which is not shown in Figure 6. And in 257:20-24 of my deposition transcript, Patent Owner asked me whether Figure 6 is “an example of how system asked it using the word ‘name’ instead of title.” (EX2003, 257:20-24.) Patent Owner did not ask me whether Figure 6 is a “natural language interface.”

B. Allen Teaches “implementing the automation process by interacting with a Graphical User Interface (GUI) of the web-based target system and simulating user input to the GUI of the web-based target system” Of Elements 1[d], 9[d], And 16[d]

71. Mr. Zatkovich argues that Allen does not disclose the “automation process” of elements 1[d]/9[d]/16[d] because Allen only interacts with a GUI

during training of the automation process; it does not interact with a GUI during execution of the automation process. (EX2002, ¶210.) I explained why Mr. Zatkovich is incorrect in paragraphs 64-70.

72. Mr. Zatkovich argues that PLOW is designed to take advantage of HTML code and not rely on visuals. (EX2002, ¶225.) But Allen says otherwise. Allen states that its system “appl[ies] to virtually any computational device employing a graphical user interface (“GUI”).” (EX1014, 1:50-52.) “A graphical user interface (‘GUI’) is preferably provided so that the user can easily monitor PLOW’s actions.” (EX1014, 4:66-5:1.) Allen also repeatedly describes its system as having a “GUI-based interaction [(including displaying visuals)] with said user” and observing user actions. (EX1014, 18:43-45.) For example, “[t]he user ‘teaches’ task steps by inputting natural language and demonstrating actions with the GUI” (Abstract), “the user can readily observe the mistake and take action to correct it. The GUI allows the user to select a particular entry . . .” (15:39-42), “the system identifies parameters by observing [] user actions” (EX1014, 3:53-54; *also* 11:37-38), “PLOW has observed the user’s demonstration . . . and has observed the necessity for entering a title in the entry box” (6:47-49), “[t]he system then learns to automatically execute steps by observing the user’s actions” (6:63-64), “[t]he system identifies ‘objects’ that a user interacts with . . . and

observes what the user does with them” (8:36-37). (*See also* EX1014, Claims 2, 4, 5.)

73. And Mr. Zatkovich’s argument that PLOW executes the automation process by changing the HTML code is flawed. The HTML code used by PLOW is “transmitted back and forth *between // two systems*,” which involves “transmit[ing] information over the Internet.” The executed automation process being displayed is between one system (PLOW) and the user—not between two systems.

74. I note that Mr. Zatkovich acknowledges that Allen uses both displayed and non-displayed information for a task. (EX2002, ¶226.) The displayed part is for interaction between PLOW and the user (the automation process for both teaching and executing), and the non-displayed part is for interaction between two systems (*e.g.*, PLOW and a website). This is consistent with Allen’s disclosure of “filling in the title as more than simply mimicking the user’s actions.” (EX1014, 8:58-60.) Allen explains that “the step of filling in the title means reviewing the code transmitted by the host-server and searching for an object having the name ‘title,’ and then inputting text for that object.” (EX1014, 8:60-64.) Thus, the “more than” refers to “reviewing the code transmitted by the host-server and searching for an object having the name ‘title.’” And “mimicking the user’s actions” refers to “inputting text for that object.” In other words, Allen

still displays steps of the automation process (inputting text for that object) when executing the automation process. And Mr. Zatkovich’s “*could have* just as easily modified the values using the HTML code accessible to plow” and “*could* return values directly using HTML” are just hypotheticals. (EX2002, ¶228.)

75. Mr. Zatkovich also argues that the only GUIs used to monitor the system’s actions are the task log 16 and speech interface display 20. (EX2002, ¶¶230-231.) But the Figures 9 and 10 embodiments that I discuss in paragraph 67 shows otherwise. And Mr. Zatkovich is wrong that “once the task is learned and tested, such monitoring no longer serves a purpose.” In the iterative task of Figures 9 and 10, the user selects DOM nodes, and “*PLOW then applies what [it] has learned* and identifies all the remaining DOM nodes.” (EX1014, 14:1-6 (emphasis added).) Figure 10 shows the iterative task GUI, which does not include either the task log 16 or the speech interface display 20. Along with the Figure 10 GUI, Allen explicitly states “[o]n some occasions the system will make mistakes. For example, it may extract the wrong structure as the title. If so, the user can readily observe the mistake and take action to correct it.” (EX1014, 15:37-40.) Thus, contrary to Mr. Zatkovich’s assertions, it does make sense to monitor PLOW’s actions after a task is learned and tested (as Allen teaches). (EX2002, ¶¶232-233.)

C. Allen Teaches “personalizing the automation process” Of Claims 6 And 14

76. For claims 6 and 14, Mr. Zatkovich’s argument regarding PLOW using the user’s address resembles the same incorrect argument that he made about Allen’s Figure 6, which I addressed in paragraphs 69-70. (EX2002, ¶236.)

77. Mr. Zatkovich repeats another argument for claims 6 and 14, that the claims require that the steps of the automation process varies depending on the information provided by the user. (EX2002, ¶236.) I addressed this argument in paragraphs 59-60 (in discussing Symons-Williams).

D. Allen Teaches The “chat-bot program product is configured to utilize the credentials of the user, whereby the chat-bot is privy to user-specification information” Of Claim 7

78. For claim 7 and Allen, Mr. Zatkovich’s arguments are a repeat of the same arguments he made for claim 7 and Symons-Williams. (EX2002, ¶¶239-246.) I addressed these arguments in paragraph 61.

E. Allen Teaches “automatically identifying the widget in the GUI” And “automatically identifying the text input field in the GUI” Of Claims 8, 15, And 20

79. For claims 8, 15, and 20, Mr. Zatkovich argues, like he did for claim 1, that even though PLOW’s learns by observing the user identify GUI elements, that does not mean it automatically identifies the GUI elements. (EX2002, ¶¶247-248.) In other words, according to Mr. Zatkovich, PLOW does not

necessarily execute what it is taught. For the reasons that I discuss in paragraphs 64-70, Mr. Zatkovich is wrong.

80. And as I explained in my opening declaration, the system observes the user's demonstrated actions, and then it "automatically execute[s] the task." (EX2002, ¶¶202-203.) The task includes actions such as using a mouse, moving a mouse cursor, pulling down a drop-down box, typing into an input field, and waiting for a web page to load. (EX1014, Abstract, 6:5-7, 6:10-11, 6:20-22, 7:43--45, 12:38-41, 12:45-46.)

81. And I disagree with Mr. Zatkovich's contentions that the claims require "identification" during "execution." (EX2002, ¶¶249-251.) But even if that is the case, PLOW still performs "identification" during execution. In order for PLOW to automatically execute the task correctly, it must identify a text input field (*e.g.*, for typing into an input field) and a widget (*e.g.*, for moving a mouse cursor, for pulling down a drop-down box).

IV. KRISHNAN-RADHAKRISHNAN

A. Radhakrishnan Is Analogous Art

82. Mr. Zatkovich argues that Radhakrishnan is not in the same field of endeavor as the '317 patent. (EX2002, ¶¶283-286.) But, as Mr. Zatkovich acknowledges, the '317 relates to executing an automation process that interacts with a GUI in a manner similar to how the user would interact with a GUI.

(EX2002, ¶284.) And this is in line with Radhakrishnan. Radhakrishnan describes its invention as “leverag[ing] the unique interactions of a robotic process automation module with a user interface of an application to simulate user operations with [a] user device.” (EX1018, Abstract.)

83. Mr. Zatkovich improperly tries to narrow Radhakrishnan’s field of endeavor specifically to file diagnosis and correction, in order to differentiate over the ’317 patent. (EX2002, ¶ 285.) However, I have been informed that art for purposes of determining whether it is analogous may be based on the broad scope of the field, not necessarily the specific problem being solved. For Radhakrishnan, file diagnosis and correction is a specific problem being solved.

84. Mr. Zatkovich also tries to focus on chatbots and invoking automated processes using a natural language interface as the reasonably pertinent problems faced by the ’317 inventors. (EX2002, ¶¶287-288.) But both the ’317 inventors and Radhakrishnan describe problems that pertain to automation processes and using them to perform users tasks to improve the user experience. The ’317 patent describes it as “simplif[ying] the end-user experience by collecting data from him and executing a predefined automation flow.” (EX1001, 8:8-12.) The ’317 patent also describes “[t]he automation process may be executed in a manner that manipulates the GUI of the target system, in a similar manner to the manner in which the user operates.” (EX1001, 9:6-9.) Radhakrishnan describes it as

“computer systems are relied upon to complete various tasks and increase user and/or process efficiency.” (EX1018, 1:7-9.) Radhakrishnan also describes “interactions of a robotic process automation module with a user interface of an application to simulate user operations with the user device.” (EX1018, Abstract.) I note that Mr. Zatkovich acknowledges this problem in discussing the ’664 patent. (EX2002 of IPR2023-01368, ¶331.) And contrary to Mr. Zatkovich’s assertions, Krishnan-Radhakrishnan teaches using a GUI to invoke functionality. (EX2002, ¶288; EX1003, ¶¶264-267.)

B. Krishnan-Radhakrishnan Teaches “a natural language interface” Of Elements 1[a], 9[a], And 16[a]

85. Mr. Zatkovich argues that Krishnan does not teach “a natural language interface” because the user is providing input via selecting a button. (EX2002, ¶260.) Mr. Zatkovich alleges that Figure 1 of Krishnan does not show that the user can provide free text information. This is false. The user typing “Book Flight” is one example of the user providing free text information. (EX1016, Fig. 1.)

86. A POSITA would not have viewed Krishnan’s button selection for one input in isolation and conclude that it is not a “natural language input.” And Mr. Zatkovich mischaracterizes my testimony. (EX2002, ¶¶260, 139 (citing EX2003, 199:11-16).) My testimony discussing a form that is not human natural language refers to “*where you would just have the choice of just that one thing*

that you would either click or select or something like that” (EX2004, 336:21-24) such as where “[t]hey ask you a question in English, and you *click yes or no or you select something and then say next.*” (EX2003, 200:15-19.) This is not the scenario in Krishnan. The user in Krishnan does not click “yes” or “no,” and then select “next.”

87. Krishnan’s chatbot provides more than just a yes/no selection followed by clicking next. The user types “Book Flight,” and also selects among multiple destination locations. (EX1016, Fig. 1.) Further, Krishnan’s disclosures support that its chatbot receives user input via typed words, including for destination 130 (mapped to a “second natural language input”), such as “the user typ[es] in ‘Europe’.” (EX1016, 11:4-6.) A POSITA would have also understood that the user provides inputs to the chat via typed words for “dates of travel, . . . and credit card information” (EX1016, 3:1-3.)

C. Krishnan-Radhakrishnan Teaches “determin[ing] to implement an automation process on a web-based target system in response to the user instruction” Of Elements 1[b], 9[b], And 16[b]

88. Mr. Zatkovich argues that Krishnan alone does not disclose the “automation process” of elements 1[b], 9[b], and 16[b]. (EX2002, ¶296.) However, the obviousness theory relies on the combination of Krishnan *and* Radhakrishnan.

89. Mr. Zatkovich also argues that Krishnan’s disclosure of a “user . . . visit[ing] or log[ing] into a website and hav[ing] customer service requests fulfilled by a chat-bot” does not relate to where the automation process is performed. (EX2002, ¶297.) I disagree. The “requests fulfilled” refers to the automation process being implemented on the website.

D. Krishnan-Radhakrishnan Teaches “implement[ing] the automation process by interacting with a Graphical User Interface (GUI) of the web-based target system and simulating user input to the GUI of the web-based target system” Of Elements 1[d], 9[d], And 16[d]

90. Mr. Zatkovich argues that 2:27-35 of Krishnan mentions a “backend” system, and thus, Krishnan does not teach “interacting with a Graphical User Interface (GUI).” (EX2002, ¶¶262-263.) However, 2:27-35 is discussing a chatbot, whereas element 1[d] refers to the GUI of an automation process. Additionally, 2:27-35 states “one or more backend databases *or other information processing systems*,” which means its invention works with non-backend systems.

91. Further, Mr. Zatkovich assumes a backend database and GUI cannot be used together. (EX2002, ¶¶262-263.) But this is wrong. A database is for storing, and a GUI is for displaying. The two can co-exist in the same system. For example, Krishnan teaches the “chat bot may respond to customer input by retrieving *[(backend database)]* and providing the requested information, requesting additional input or information from the user *[(chatbot)]*, or performing

an action and providing the user with status updates about the progress of the action *[(automation process)]*.” (EX1016, 2:40-44.) Thus, Krishnan teaches that the use of a backend database works together with—and not instead of—an automation process.

92. And Mr. Zatkovich’s argument that there would be no reason to configure Krishnan’s system to access a user interface because it would be less efficient is flawed. (EX2002, ¶263.) Mr. Zatkovich argues that a POSITA would request information directly from databases without the need of an automation process that interacts with a GUI. (EX2002, ¶263.) As I discuss in paragraphs 90-92, where a backend database is used, Krishnan teaches using it together with an automation process. Mr. Zatkovich’s argument that it would be less efficient to access the backend database through a user interface is misplaced. The claims require implementing an automation process by interacting with a GUI. The claims do not require accessing a database by interacting with a GUI, and the obviousness combination does not replace a database or access it by interacting with a GUI, as Mr. Zatkovich suggests.

93. And besides, Mr. Zatkovich is wrong that it would be more costly and less efficient to update a database by interacting with a GUI. (EX2002, ¶307.) A POSITA would have known about the benefits that RPA has to offer when performing complicated tasks at the presentation layer (GUI). As Radhakrishnan

explains, it “reduce[s] the amount of computing resources required to execute tasks when compared with executing the same tasks using a traditional application programming interface (API)” and “avoid[s] the costly and time-consuming process of building a new and complicated API-based system from the ground up.” (EX1018, 6:22-29.) “[I]nteraction through the data layer would require more complex programming requiring additional resources for development and operation.” (EX1018, 6:36-38.) “The bot application [] interacts with the application at the user interface level and has the ability to input information or data into another application, whereas a typical application would be waiting for an input.” (EX1018, 6:38-42.) Thus, contrary to Mr. Zatkovich’s arguments, reducing computing resources is an advantage of RPA bots even if used to access a database by interacting with a GUI. (EX2002, ¶312.)

94. Mr. Zatkovich acknowledges that Radhakrishnan mirrors the user’s operations on a GUI, but tries to distract from these teachings by placing emphasis on Radhakrishnan’s disclosure of an “operation record.” (EX2002, ¶¶269-270.) Radhakrishnan explains that “the RPA module . . . monitor[s], detect[s], reproduce[s], and store[s] the actual user operations to [] populate the operation record.” (EX1018, 11:52-60.) In other words, the RPA module’s use of a GUI is used to generate the operation record. It is irrelevant whether the operation record

is used to perform the automation process again or to be later invoked, as Mr. Zatkovich argues. (EX2002, ¶306.)

95. Mr. Zatkovich does not dispute that Radhakrishnan's user operations are with a GUI of a web-based target system. Mr. Zatkovich instead argues that Radhakrishnan's RPA operations are not with a GUI because its RPA works "within a virtual environment." (EX2002, ¶¶271, 307.) That is, Mr. Zatkovich is alleging that "a virtual environment" is not displayed. This is incorrect. A POSITA would have understood that a "virtual environment" refers to a computer-simulated environment that allows user interactions via an interface, and one type of interface is a GUI.

96. Radhakrishnan confirms in stating, "[i]n some embodiments, the RPA module interacts directly with a *presentation layer* of the application *within a virtual environment*." (EX1018, 11:41-47 (emphases added).) A POSITA would have understood that a presentation layer refers to a GUI. Radhakrishnan explains, "[t]he RPA module may typically interact[] with *a presentation layer of the computer system (i.e., the UI)*." (EX1018, 5:10-12 (emphasis added).) Radhakrishnan further explains that "bots" are "trained to mimic user *activity directly with a UI*." (EX1018, 5:49-50 (emphasis added); *see also* 6:29-34.) Since the user operations involve interacting with a GUI and the RPA mimics the user operations, the RPA interacts with a GUI, as I explained in my opening

declaration. (EX1003, ¶¶256-259, 262-263.) And just because Radhakrishnan's RPA operates in the background "of another application" and operates in real-time does not mean it does not interact with a GUI, as Mr. Zatkovich argues. (EX2002, ¶269.) Operating in the background "of another application" and operating in real-time does not mean there is no interaction with a GUI. (*See, e.g.*, EX1018, 11:29-32.)

E. Krishnan-Radhakrishnan Teaches "the automation process is performed with respect to third-party web-based target system" Of Elements 1[e], 9[e], And 16[e]

97. Mr. Zatkovich argues that Krishnan does not teach a "third-party" system because a "user could ostensibly 'make a purchase'" via one party. (EX2002, ¶¶292, 300.) However, this does not address my obviousness argument. My argument was not whether a user *could* make a purchase. My argument was that it would have been obvious for the airline company and online merchant (*e.g.*, a credit card company) to be different parties, thereby involving a third-party system. (EX2002, ¶261.)

F. Krishnan-Radhakrishnan Teaches "implementing the automation process by interacting with a Graphical User Interface (GUI) of the web-based target system and simulating user input to the GUI of the web-based target system" Of Elements 1[d], 9[d], And 16[d]

98. Mr. Zatkovich makes the same argument he made regarding Krishnan accessing a backend system, not an automation process that uses a GUI. (EX2002,

¶304.) Mr. Zatkovich also argues that Krishnan’s web-based target system is for a chatbot, not an automation process. (EX2002, ¶304.) I addressed both arguments in paragraphs 88-89 and 90-93.

99. Mr. Zatkovich also argues that Radhakrishnan’s RPA *alone* does not use information obtained by the chatbot. (EX2002, ¶307.) As I described in my opening declaration, my theory relies on Krishnan, not Radhakrishnan, for teaching information obtained by a chatbot. (EX1003, ¶¶245-250.)

G. Krishnan-Radhakrishnan Teaches “the automation process is performed with respect to third-party web-based target systems” Of Elements 1[e], 9[e], and 16[e]

100. Patent Owner argues that a user can book a flight using the same website that he or she uses to making a purchase of a ticket. (POR, 69-71.) But Krishnan describes “book[ing] a flight” and “making purchases” (also “purchasing items”, “credit card information,” “account transfers,” “processing payments,” “providing the user account balance information,” “performing transfer requests) as different types of actions involving different types of parties, thus, a POSITA would not have understood “making purchases” as referring to the same as “book[ing] a flight.” (EX1016, 2:20-24, 3:1-2, 3:46-50, 4:46-49.)

H. Krishnan-Radhakrishnan Teaches “interacting with a widget . . . to cause the web-based target system to perform a predefined functionality” Of Elements 1[h], 9[h], And 16[h]

101. Mr. Zatkovich fails to rebut that Radhakrishnan teaches elements 1[g] and 1[h]. (EX2002, ¶273.)

102. Mr. Zatkovich alleges that I did not assert that Radhakrishnan’s module “performs a predefined functionality.” (EX2002, ¶308.) But as I explained in my opening declaration, selecting options such as a check box, drop-down menu, etc. means interacting with a widget to cause the system to perform a predefined function. (EX1003, ¶266.) The user performs selecting options, and the RPA module mirrors the user, and thus, the RPA performs selecting options and also performs a predefined function. (EX1003, ¶266.)

I. A POSITA Would Have Been Motivated To Combine Krishnan And Radhakrishnan

103. Mr. Zatkovich alleges that I did not show that Krishnan is supported by its provisional application. (EX2002, ¶¶256-257, 312.) Mr. Zatkovich is wrong. I provided over 6 pages of discussion in ¶239 of my opening declaration. (EX1003, ¶239.) Mr. Zatkovich’s argument fails because, as I have been informed, motivation to combine need not appear explicitly in the prior art reference, nor do specific examples which would be part of POSITA knowledge, as Mr. Zatkovich suggests. (EX2002, ¶261.)

104. Mr. Zatkovich argues that Radhakrishnan's discussion about "reduc[ing] the amount of computer resources" in 6:20-38 (EX1018) is specific to error detection, and does not apply to other RPA bots. (EX2002, ¶312.) I disagree because Mr. Zatkovich's argument is contrary to what Radhakrishnan says. 6:21-34 (EX1018) of Radhakrishnan states: "***[b]y leveraging robotic process automation technology***, the present invention ***reduces the amount of computing resources*** required to execute tasks when compared with executing the same task using a traditional application programming interface (API)." (EX1018, 6:21-34 (emphases added).) The phrase "[b]y leveraging" means that what follows after (robotic process automation technology) is the cause for the effect (reducing the amount of computing resources). Radhakrishnan did not say "by leveraging error detection," as Mr. Zatkovich suggests.

105. And Mr. Zatkovich's argument that Radhakrishnan is not used for booking a hotel or flight (Krishnan's specific examples) is flawed. (EX2002, ¶267.) A POSITA is supposed to have creativity, as a result, a POSITA would not have understood Symons teachings as being rigid or strictly limited as Mr. Zatkovich argues. Additionally, Mr. Zatkovich's suggestion that Radhakrishnan RPA bots do not implement an automation process using a GUI is incorrect, as I explained in paragraphs 94-96.

106. Thus, contrary to Mr. Zatkovich’s assertions (EX2002, ¶¶272, 278, 279), a POSITA would have been motivated to combine the teachings of Krishnan (chatbot that invokes an automation process) and Radhakrishnan (an automation process that interacts with a GUI), as I explained in paragraphs 242-267 of my opening declaration. (EX1003, ¶¶242-267.)

J. Krishnan-Radhakrishnan Teaches “wherein the chat-bot program product is configured to implement the automation process by a client device” Of Claim 2 (*also* “said implementing is performed by a client device” Of Claim 10) And “wherein the chat-bot program product is configured to implement the automation process by a browser that is executed by the client device” Of Claim 3 (*also* “said implementing is performed by a browser that is executed by the client device” Of Claims 11/17)

107. For claims 2 and 10, and claims 3, 11, and 17, Mr. Zatkovich argues that I identified Krishnan’s “bot-builder interface” as the “client device.” (EX2002, ¶¶316-322.) Mr. Zatkovich misunderstands the theory that I presented in my opening declaration. As I explained in paragraph 268 of my opening declaration, “[a] computing device is a client device used by the user.” (EX1003, ¶268.) Krishnan discloses a “computing device,” for example, “[a] chat bot executing on a computing device.” (EX1016, 1:66.) The “a user may visit or log into a website and have customer service requests fulfilled by a chat bot,” thereby Krishnan teaches “implement[ing] the automation process by a client device” and “implement[ing] the automation process by a browser that is executed by the client

device.” (EX1016, 2:10-11, *also* 3:46-50.) Mr. Zatkovich does not dispute that the user of the chatbot is the “user” of claims 2 and 10, and claims 3, 11, and 17.

K. Krishnan-Radhakrishnan Teaches “personalizing the automation process” Of Claims 6 And 14

108. Mr. Zatkovich’s argument for claims 6 and 14 fail. (EX2002, ¶¶323-328.) As I discuss in paragraphs 59-60, claims 6 and 14 require that the collected information be used as part of the automation process, thereby the steps of the automation process vary when the information of the user is used in the automation process.

109. Regarding Patent Owner’s hypothetical, the “flight booking task” would be personalized because using John’s information (such as John’s destination location of Washington DC, USA) would involve a different automation process than compared to the automation process for using Mary’s information (such as Mary’s destination location of China). (POR, 77.) The automation processes would be different because, *e.g.*, booking Mary’s flight would require entering passport information, whereas booking John’s flight would not. And neither Mr. Zatkovich nor Patent Owner disputes that the collected information in Krishnan is information of the user.

V. LEVEL OF ORDINARY SKILL IN THE ART

110. For the level of ordinary skill in the art, Petitioner proposed: “[a] person of ordinary skill in the art (‘POSITA’) in the field of the ’317 patent would

have a bachelor's degree in engineering or computer science and two years of experience working on NLP or automation processes. Alternatively, a POSITA would have five to six years of experience working on NLP or automation processes.” (Petition, 6.) I agree with Petitioner's proposed level. (EX1003, ¶¶44-45.)

111. I understand that Mr. Zatkovich disagrees with Petitioner's proposed level. (EX2002, ¶40.) Mr. Zatkovich argues that Petitioner's proposed level is inconsistent with factor 4 (“rapidity with which innovations are made”), factor 5 (“sophistication of the technology”), and factor 6 (“educational level of active workers in the field”). (EX2002, ¶40.) I disagree with Patent Owner and Mr. Zatkovich for the reasons set forth below.

112. In my opinion, the evidence shows that Petitioner's POSITA level is proper.

- EX1014 (Allen) shows that the combination of a chatbot and automation process was known by at least 2007. (See EX1003, ¶¶59, 154-163.)
- EX1031 (Le Clair) described a robotic automation tool by EdgeVerve as of 2013 and its integration with chatbots: “In *January 2013*, EdgeVerve launched its AssistEdge robotic automation tool and now has 80 customers, mostly in banking, interactive commerce,

distributive trade, credit servicing, and customer service.” (EX1031, 13 (emphasis added).) “EdgeVerve implemented a *chatbot for a technology company that will launch RPA scripts* based on user interactions. Several vendors had *integrated a voice or chatbot interface into their RPA platforms*, had customers in beta test, or had self-service portals or interactive voice response (IVR) deployments on their road maps, but only a handful had live integrations.” (EX1031, 4 (emphases added).)

- Le Clair (EX1031) also discusses the integration of chatbots (conversational understanding) and RPAs in 2015, including “for nonprogrammers.” “In **2015**, [WorkFusion] turned to RPA. It specializes in conversational understanding to improve how people interact with machines.” (EX1031, 12 (emphasis added).) LeClair described that WorkFusion’s combination of chatbot and RPA as being “[l]ater to the market than others and not as purely focused on the RPA game plan.” (EX1031, 12.)
- EX1032 (Arya) discusses the chatbots in 1994 and 1995 that used natural language processing (NLP). “*ELIZA*: It is considered to be the first chatbot in the history of Computer Science . . . It was in **1994** that the term ‘Chatterbot’ was coined.” (EX1032, 3 (emphasis added).)

“*ALICE*: It was developed in 1995. . . . , the *ALICE* chatbot was able to use natural language processing.” (EX1032, 3.)

- EX1028 (Ferscht) discusses RPA and its presence in 2012, including “Blue Prism’s novel idea is to give business units a tool to automate these ad hoc processes on their own, addressing their custom requirements without relying on an expensive, lengthy IT development process . . . It calls this concept ‘robotic automation,’ and refers to the custom applications produced by its software and methodology as ‘robots.’” (EX1028, 4.)

I note that neither Patent Owner nor Mr. Zatkovich disputes this evidence, including EX1011 (Williams), EX1016 (Krishnan), EX1018 (Radhakrishnan), EX1026 (Melendez), EX1029 (Lacity), and EX1030 (Bornet). This evidence shows that the “rapidity with which innovations are made” was low and “sophistication of the technology” was high as there is a 10 year difference from Allen (in 2007) to the ’317 patent (in 2017), thereby showing that Petitioner’s proposed POSITA level is proper.

113. For factor 4 (“rapidity with which innovations are made”) and factor 5 (“sophistication of the technology”), Mr. Zatkovich alleges that the combination of RPA and chatbots was new and innovative. (EX2002, ¶42.) But in reaching this conclusion, Mr. Zatkovich misrepresents the Symons Article and the Baetens

Article. The Symons Article and the Baetens Article did not claim or suggest that combining RPA bots and chatbots was “so new and purportedly innovative.”

(EX2002, ¶42.) Instead, Symons stated: “[w]e decided to join forces with Arinti, specialized in chatbot and AI technologies within the Cronos Group, to explore the possibilities to combine RPA bots with chatbots.” (EX1004, 1 (emphasis added).)

Baetens similarly stated that, “[a]s soon as *we’ve heard about our new colleagues at RoboRana*, we’ve been figuring out how to combine these technologies in a customer case.” (EX1009, 2 (emphasis added).) As Symons explained, RoboRana specialized in “developing intelligent automation such as Robotics Process Automation (RPA).” (EX1008, 1.) And as Baetens explained, Arinti specialized in “transforming data using artificial intelligence (AI); one example application includes conversational AI bots.” (EX1010, ¶2.) As I explained in paragraph 110 and in paragraphs 17-21 of my opening declaration, the combination of chatbots and automation processes was known at the time to a POSITA. Since RoboRana specialized in one aspect of the combination and Arinti specialized in the other aspect, a POSITA would have understood Symons and Baetens passages as suggesting that if anything was new, it was specific to the RoboRana and Arinti collaboration.

114. Additionally, Symons’ “evolving rapidly” statement refers generally to the “technology landscape.” (EX2002, ¶42 (citing EX1004, 1).) A POSITA

would have understood that this “evolving rapidly” statement does not refer to the combination of chatbots and RPA, since the very next sentence discusses both “[n]ew technologies” and “older technologies.” (EX1004, 1.) Further, Baetens’ comment that “we can’t share much about the results of our joint effort (yet)” does not suggest that its chatbot-RPA or the chatbot-RPA technology had not been developed. As I discuss in paragraph 42, there are other reasons for a company not to disclose low-level details that are unrelated to the level of sophistication in the technology.

115. For factor 6 (“educational level of active workers in the field”), Mr. Zatkovich assumes that Symons had less experience than Petitioner’s proposed level by only counting Symons’ time at RoboRana. (EX2002, ¶43.) That is, Mr. Zatkovich improperly ignores Symons’ time before his employment at RoboRana, thereby his conclusion that Symons only had 19 days of experience is flawed. In my opinion, time spent studying a specific area while in school counts as experience. Mr. Zatkovich testified that he also counts his time during school as experience. (EX1036, 16:7-25.)

116. Mr. Zatkovich proposed level of ordinary skill is: “a POSITA would have had some education either formal or informal in computer science and some work experience (e.g., 1-2 years) with chatbots using NLP or automation process.” (EX2002, ¶44.) I disagree with Mr. Zatkovich’s proposed level for the reasons

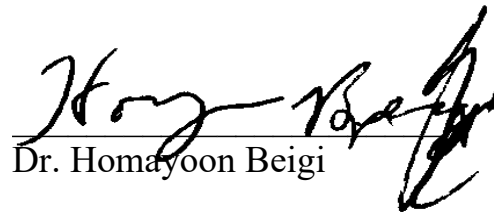
stated above. I also disagree because it is unclear what “some education, formal or informal” means.

117. If Mr. Zatkovich’s proposed level is adopted, my analysis would be the same. Mr. Zatkovich agrees. (EX2002, ¶45.) And Mr. Zatkovich misunderstands my testimony regarding my analysis and opinion from the perspective of a POSITA. (EX2002, ¶130 (citing EX2003, 194:4-13).) As I testified, while I have more experience than a POSITA, my qualifications allow me to provide analyses and opinions from the perspective of a POSITA.

* * *

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Dated: Oct. 17, 2024


Dr. Homayoon Beigi