

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**SAMSUNG ELECTRONICS CO. LTD. and SAMSUNG ELECTRONICS
AMERICA, INC.**
Petitioners

v.

VB ASSETS, LLC,
Patent Owner

**IPR2025-00868
U.S. Patent No. 8,515,765**

**DECLARATION OF DR. ANATOLE GERSHMAN IN SUPPORT OF
PATENT OWNER'S PRELIMINARY RESPONSE**

TABLE OF CONTENTS

	Page
I. INTRODUCTION AND ENGAGEMENT	1
II. QUALIFICATIONS	3
III. LEGAL PRINCIPLES	6
IV. SUMMARY OF OPINIONS	11
V. LEVEL OF ORDINARY SKILL IN THE ART	11
VI. PROSECUTION HISTORY OF THE '765 PATENT	12
VII. REBUTTAL TO GROUND 1	14
A. Overview of Asserted Art	14
1. Smith & Hipp	14
2. Guinn	18
B. Even if properly combined, the Smith & Hipp + Guinn combination fails to disclose “determining the conversation type corresponding to the natural language utterance. . .”	19
C. Smith & Hipp + Guinn combination fails to disclose “generating a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user’s future input to interjecting queries or requests for clarification if the user has the supporter role.”	26
D. Petitioners’ motivation to combine Smith & Hipp and Guinn fails	30
VIII. CONCLUSION	33

I, Anatole Gershman, do hereby declare and say as follows:

I. INTRODUCTION AND ENGAGEMENT

1. I have personal knowledge of the facts contained in this Declaration, am of legal age, and am otherwise competent to testify.

2. I have been retained by counsel for VB Assets LLC (“Patent Owner”), as an independent technical expert in the above-captioned proceeding. I have been asked to provide my opinion about the state of the art of the technology described in U.S. Patent No. 8,515,765 (“the ’765 patent”) and on the patentability of the claims of this patent.

3. The following is my written testimony on these topics. The opinions contained in this Declaration are based on the documents I reviewed, as well as my education, years of professional experience, and knowledge. The materials I have considered in reaching these opinions include the ’765 patent, the petition (Paper No. 3, hereinafter the “Petition”) and the exhibits or other material cited therein (*i.e.*, Exhibits 1001-1013), as well as Patent Owner’s Discretionary Denial Brief (Paper No. 8), the exhibits or other material cited therein, and any additional exhibits or other material cited in this Declaration.

4. This Declaration presents the opinions I have formed at the present time, and I reserve the right to revise, supplement, or amend my opinions stated in this Declaration based on any new information that I may be asked to review.

5. I understand that Samsung Electronics Co. Ltd. and Samsung Electronics America, Inc. (collectively, “Petitioners” or “Samsung”) filed a petition for *Inter Partes* Review (“IPR”) of the ’765 patent, in which Petitioners assert that:

- Claims 1-14 are obvious over R.W. Smith, et al., “An Architecture for Voice Dialog Systems Based on Prolog-Style Theorem Proving” (1995) (“Smith & Hipp” or “EX-1005”) and Curry I. Guinn, “Mechanisms for Mixed-Initiative Human-Computer Collaborative Discourse” (1996) (“Guinn” or “EX-1006”) (collectively “Ground 1”).

6. I have been asked, for purposes of Patent Owner’s Preliminary Response, to analyze and respond to particular assertions in the Petition. I reserve the right to analyze and respond to other alleged patentability challenges if this proceeding is instituted.

7. As explained below, in my opinion, the Petition fails to show that claims 1-14 of the ’765 Patent are rendered obvious.

8. I am being compensated at a rate of \$500 per hour for my study and other work in this matter. I am also being reimbursed for reasonable and customary expenses associated with my work in this investigation. My compensation is not contingent on the outcome of this matter or the specifics of my testimony.

II. QUALIFICATIONS

9. My curriculum vitae, attached here as EX-2026, lists my qualifications. To summarize, I recently retired from my position as a Distinguished Career Professor in the Language Technologies Institute at Carnegie Mellon University, a position which I had held for 16 years. After retiring from CMU, from July 2023 through June 2024, I consulted with the University of Colorado, Department of Linguistics, regarding a DARPA project that has since concluded. I received my Bachelor of Science and Master of Science Degrees in Mathematics and Computer Science from Moscow State Pedagogical University in 1971. I received a Ph.D. in Computer Science from Yale University in May 1979. My dissertation was entitled “Knowledge-based Parsing” and focused on natural language processing.

10. My first job after graduation was as a researcher (Member of Technical Staff) at Bell Laboratories focusing on natural language access to Yellow Pages. In the 1980s I was a Vice-President of Cognitive Systems, Inc, a company dedicated to commercialization of natural language processing. At Cognitive Systems, Inc., we

built systems that extracted information from natural language money transfer telexes and other financial documents for major banks, including Citibank and Union Bank of Switzerland. These systems were put in operation. We also built prototypes of interactive natural language kiosks that sold financial products such as insurance and investments as well as helped customers manage their investment portfolios. These prototypes were created for Citibank and Societe Generale de Banque, a major Belgian Bank.

11. From 1989 through 2006 I was leading applied research projects at Accenture, first as Director of Human Systems Integration Laboratory and later as Chief Scientist and Global Director of Research. At Accenture, we focused on the emerging Internet and Ubiquitous Computing applications creating prototype demonstrations of how these technologies could create revolutionary changes in a range of industries. In 1994, we launched the first internet shopping agent that helped users find the best deal on music albums. Our prototypes included interactive natural language home appliances such as medicine cabinets, wardrobes, health mirrors, smart kitchens, etc., which were featured in national and international news media. These systems featured automated interactive spoken dialog capabilities combined with a variety of physical sensors that helped users maintain their health, pick the right clothing for the occasion, create healthy menus for the family, etc. However,

due to the limitations of the speech recognition technologies at that time, practical applications were deemed premature.

12. In 2007, after my retirement from Accenture, I was invited to join the faculty of Language Technologies Institute, a department at the School of Computer Science at Carnegie Mellon University in Pittsburgh, PA as Distinguished Career Professor, the position I held until my retirement in June of 2023. At Carnegie Mellon University, I have participated in a number of research projects sponsored by major US Government agencies such as DARPA, IARPA and NMEC as well as companies such as PriceWaterhouseCoopers and Accenture. In addition, I consulted with several major companies such as Bank of New York/Mellon and MetLife. All of these projects involve extensive use of natural language processing. In-depth extraction and interpretation of information from natural language documents is the central challenge of the two DARPA projects in which I participated. Specifically relevant to spoken dialog systems were the projects involving the analysis of customer service phone calls at MetLife, speech interactions with robotic vehicles sponsored by the National Robotics Engineering Center – NREC at CMU, and a dozen of student projects exploring “in-depth” conversations with artificial agents.

13. After retiring from CMU in June of 2023, I consulted with the University of Colorado, Department of Linguistics on a DARPA project through June 2024.

14. During my 45 years of professional experience since earning my Ph.D., my focus has always been on intelligent systems and, in particular, on the knowledge that is necessary for systems to interact intelligently with their users. I have written more than 70 publications in the areas of natural language processing, the human-to-machine interface, artificial intelligence, and data science. I hold 13 US patents related to the human-to-machine interface, agent-based systems, customized media services, multimedia agents, e-commerce, and mobile object tracking.

III. LEGAL PRINCIPLES

15. For my opinions in this declaration, I understand that it requires applying various legal principles. As I am not an attorney, I have been informed and understand from counsel about various legal principles that involve my analysis. I have used my understanding of those principles in forming my opinions. I summarize those principles as I understand them below.

16. For example, I understand that Petitioners bear the burden of proving unpatentability in this proceeding by a preponderance of the evidence. I understand

that this preponderance of the evidence standard means that Petitioners must show that unpatentability is more probable than not

17. I understand that a claimed invention is not patentable under 35 U.S.C. § 103 if it is obvious. A patent claim is unpatentable if the claimed invention would have been obvious to a person of ordinary skill in the field (which I discuss below) at the time the claimed invention was made. This means that even if all of the requirements of the claim cannot be found in a single prior art reference that would anticipate the claim, a person of ordinary skill in the relevant field who knew about all this prior art would have come up with the claimed invention.

18. I have been informed and understand that the obviousness analysis requires evaluating the claim language as a whole, including comparing each and every limitation of the properly construed claim language to the prior art.

19. I further understand that the ultimate conclusion of whether a claim is obvious should be based upon several factual determinations. That is, a determination of obviousness requires inquiries into: (1) the level of ordinary skill in the field; (2) the scope and content of the prior art; (3) what difference, if any, existed between the claimed invention and the prior art; and (4) any objective factors bearing on obviousness.

20. I understand that, in determining the level of ordinary skill in the field that someone would have had at the time the claimed invention was made, I should consider: (1) the levels of education and experience of persons working in the field; (2) the types of problems encountered in the field; and (3) the sophistication of the technology.

21. I understand that, in determining the scope and content of the prior art, in order to be considered as prior art, a reference must be analogous art. I also understand that to be analogous art, the reference must be either (1) from the same field of endeavor as the claimed subject matter, regardless of the problem addressed, or (2) if not in the same field of endeavor, reasonably pertinent to the particular problem with which the inventor is involved. I am also familiar with the premise that for a reference to be reasonably pertinent, it must have logically commended itself to an inventor's attention at the time of invention.

22. I understand that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. In evaluating whether such a claim would have been obvious, I may consider whether there is a reason that would have prompted a person of ordinary skill in the field to combine the elements or concepts from the prior art in the same way as in the claimed invention.

23. I understand that in order to show obviousness based on a single reference or a combination of references, a particular motivation to modify the reference or combine the teachings in the references, and a reasonable expectation of success must be shown.

24. I understand that the art must evidence a motivation to combine or modify the independently known elements to arrive at the claimed invention and an explanation as to how or why the references would be combined to arrive at the claimed invention to solve the particular problem. I understand that a challenger must show that there was a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does in an obviousness determination. I also understand that it is not enough to prove obviousness merely by a showing that the references were capable of combination without a suggestion of the desirability of the modification.

25. I further understand that there is no single way to define the line between true inventiveness on the one hand (which is patentable) and the application of common sense and ordinary skill to solve a problem on the other hand (which is not patentable). For example, market forces or other design incentives may be what produced a change, rather than true inventiveness. I may consider whether the change was merely the predictable result of using prior art elements according to

their known functions, or whether it was the result of true inventiveness. I may also consider whether there is some teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent. I may consider whether the innovation applies a known technique that had been used to improve a similar device or method in a similar way. I may also consider whether the claimed invention would have been obvious to try, meaning that the claimed innovation was one of a relatively small number of possible approaches to the problem with a reasonable expectation of success by those skilled in the art.

26. I also understand, however, that I must be careful not to determine obviousness using the benefit of hindsight; many true inventions might seem obvious after the fact. I should put myself in the position of a person of ordinary skill in the field at the time the claimed invention was made and I should not consider what is known today or what is learned from the teaching of the patent.

27. Finally, I understand that any obviousness rationale for modifying or combining prior art must include a showing that a person of ordinary skill would have had a reasonable expectation of success. I further understand that whether a proposed modification or combination of the prior art has a reasonable expectation of success is determined at the time the invention was made.

IV. SUMMARY OF OPINIONS

28. In my opinion, Petitioners' proposed combination of Smith & Hipp and Guinn does not render obvious claims 1-14 '765 patent.

V. LEVEL OF ORDINARY SKILL IN THE ART

29. I understand that Petitioners provide the following definition of a POSITA:

A person of ordinary skill in the art ("POSITA") would have had a bachelor's degree in computer science, computing engineering, electrical engineering, or related field in computing technology, and two years of experience with automatic speech recognition and natural language understanding, or equivalent education, research experience, or knowledge.

Pet., 10.

30. For purposes of this Declaration in support of Patent Owner's Preliminary Response, I offer no independent opinion of the level of ordinary skill in the art but have adopted the definition proposed by Petitioners. I reserve the right to further address the level of ordinary skill in the art if this proceeding is instituted.

31. Each of the arguments below should be considered from the perspective of a POSITA in the field of the '765 Patent and during the relevant time frame (e.g., October 16, 2006). During that time frame, as described above and as illustrated in my CV (*see* EX-2026), I had at least the requisite level of skill and experience to be a person of ordinary skill in the art. Furthermore, I am familiar with the level of skill

in the art that a POSITA would have had at the time, as during the relevant time frame I regularly supervised, interacted with, and taught persons who had this level of skill.

VI. PROSECUTION HISTORY OF THE '765 PATENT

32. I have reviewed the prosecution history of the '765 Patent (EX-1002). Application No. 13/251,712, which issued as the '765 Patent, was filed on October 3, 2011 as a continuation of Application No. 11/580,926 (now Pat. No. 8,073,681). *See* EX-1002, 73-75.

33. The Office issued a Restriction Requirement on December 02, 2011, requiring the Applicant to select claims 1-14 or claims 15-26 for prosecution. EX-1002, 76-81. In response, Applicant elected claims 15-26. EX-1002, 100.

34. Next, on January 19, 2012, the Office issued a Non-Final Office Action. EX-1002, 104-116. In the Office Action, the then pending claims were rejected under 35 U.S.C. 103(a) as being unpatentable over Kargman (US 2005/0015256), in view of Millett et al. (US 2007/0073544). EX-1002, 106. On July 19, 2012, the Applicant responded by amending its claims and traversing the rejection. *See* EX-1002, 122-136. Specifically, Applicant disputed that the references disclosed “generating a grammatically or syntactically adapted response to [an] utterance based on the conversation type.” EX-1002, 134.

35. In response, the Office Issued a Final Office Action on August 6, 2012.

EX-1002, 150. In the Final Office Action, claims 15 and 17-26 were again rejected based on Kargman and Millet. *See* EX-1002, 150-165. Along with this rejection, the Final Office Action maintained the double patenting rejection as well as indicated then pending claims 16, 27 and 28 were allowable if rewritten in independent form. *Id.* In indicating that claims 16, 27 and 28 were allowable, the Final Office Action stated:

The prior art of record does not teach the combination of limitations in claims 15 and 16, including determining the conversation type by determining whether the user has a leader or supporter role, and where generating a grammatically/syntactically adapted response comprises generating a response that limits a user's future input to interjecting queries for clarification if the user has a supporter role.

EX-1002, 163.

36. The Applicant responded on November 27, 2012 by amending its claims and traversing the rejection. *See* EX-1002, 176-185. Specifically, the Applicant argued that “Kargman fails to teach or suggest generating a response with a format based on a conversation type nor using a format that limits a user's future input to interjecting queries or requests for clarification if the user has a supporter role. The foregoing deficiency in Kargman is not cured by Millett.” EX-1002, 184.

37. The Office subsequently issued a Notice of Allowance on February 14, 2013. *See* EX-1002, 192-198. After an additional filing, a subsequent Notice of Allowance was issued and the patent issued. *See* EX-1002, 220, 235.

VII. REBUTTAL TO GROUND 1

38. I understand that in order for an *inter partes* review to be instituted, the Petition must establish that there is a reasonable likelihood that at least one challenged claim is unpatentable. For at least the reasons I explain below, it is my opinion that the Petition fails to do so because the Smith & Hipp and Guinn combination does not render obvious Claims 1-14.

A. Overview of Asserted Art

1. Smith & Hipp

39. The Smith & Hipp paper is entitled “An Architecture for Voice Dialog Systems Based on Prolog-Style Theorem Proving” and is generally directed to “voice dialog machines aimed at the equipment repair problem has been implemented.” EX-1005, 281. Smith & Hipp provides an exemplary dialog of the equipment repair problem illustrating an example where it was determined that “a particular knob should be set to 10 and then a voltage measurement should be made.” EX-1005, 284. Smith & Hipp provides the following example of the system operating in directive mode:

1. Computer: Put the knob to one zero.

2. User: Okay.
3. Computer: What is the voltage between connector one two one and connector three four?
4. User: I do not know.
5. Computer: Locate the voltmeter.
6. User: Done.
7. Computer: Add a wire between the minus com hole on the voltmeter and the connector one two one.
8. User: How do I do that?
9. Computer: Connect the end of the black wire with the small plug to the minus com hole on the voltmeter.
10. User: Done.
11. Computer: Connect the end of the black wire with the large plug to connector one two one.
12. User: Which knob?
13. Computer: Near the top boundary and in the center is a green region. Now, in the middle right of this green region is the control knob.
14. User: Okay.
15. Computer: Put the knob to zero one.
16. User: Done.
17. Computer: Connect the end of the black wire with the large plug to connector one two one.
18. User: Where is connector three four?

19. Computer: Near the left boundary and toward the middle is a green region. Now, in the bottom center of this green region is connector three four.

20. User: Okay.

21. Computer: What is the voltage between connector one two one and connector three four?

22. User: Zero.

EX-1005, 284-285. As is described by Smith & Hipp, the above dialog illustrates a limited goal-oriented behavior and allows for transitions between subdialogs. *See* EX-1005, 285. Smith & Hipp is clear that its “system is built around a theorem prover at its core, and the role of language is to supply missing axioms” and its “system engages in dialog only for the purpose of enabling theorem proving, and voice interactions do not otherwise occur. (A later publication will propose other uses of voice interactions, but our current system uses them for only this purpose.)” EX-1005, 286.

40. Smith & Hipp discusses variable initiative in a dialog, which allows for either participant in a dialog to have control. *See* EX-1005, 289. Smith & Hipp states that the variable initiative dialog also “allows intermediate levels of control where one participant may gently rather than strongly lead the interactions.” *Id.* Smith & Hipp disclose the following four initiative modes or levels:

- (1) Directive Mode. Unless the user explicitly needs some type of clarification, the computer will select its response solely according to its next goal for the task. If the user expresses need for clarification about the previous goal, this must be addressed first. No interruptions to other subdialogs are allowed.
- (2) Suggestive Mode. The computer will again select its response according to its next goal for the task, but it will allow minor interruptions to subdialogs about closely related goals. As before, user requests for clarification of the previous goal have priority.
- (3) Declarative Mode. The user has dialog control. Consequently, the user can interrupt to any desired subdialog at any time, but the computer is free to mention relevant, though not required, facts as a response to the user's statements.
- (4) Passive Mode. The user has complete dialog control. Consequently, the computer will passively acknowledge user statements. It will provide information only as a direct response to a user question.

Id.

41. Smith & Hipp discloses that “an automatic mechanism is needed for setting the appropriate level of initiative as an interaction proceeds” but does not teach or suggests such a mechanism. EX-1005, 316. Each of the experiments disclosed in Smith & Hipp relate to fixed initiative level and are limited to the directive and declarative modes of operation. *See* EX-1005, 303-307.

2. Guinn

42. The Guinn paper is entitled “Mechanisms for Mixed-Initiative Human-Computer Collaborative Discourse.” EX-1006, 278. Guinn discloses a system for identifying which of a user or computer has dialogue initiative. *See id.* Indeed, Guinn states: “[o]ur model of mixed-initiative dialogue allows either participant to be in control of the dialogue at any point in time.” *Id.* Guinn discloses attaching an initiative to each goal in a task tree thus allowing an agent (*i.e.*, computer or user) to have initiative over one goal but not another. EX-1006, 278-279.

43. Guinn discloses that initiative, as between the computer and the user, can be set based on questions and answers. *See* EX-1006, 279. For example: “[w]hen an agent A_1 asks another agent A_2 to satisfy a goal G , agent A_2 gains initiative over goal G and all subgoals of G until agent A_2 passes control of one of those subgoals back to agent A_1 . A similar initiative-setting mechanism is fired if agent A_1 announces that it cannot satisfy goal G .” *Id.* (emphasis in original). Guinn also discloses that assigning initiative to a computer or a user is set based on competency level. *Id.* “Competency evaluation will be based on how likely an agent's branch will be successful (based on a weighted factor analysis) and how likely the collaborator's branch will be successful (based on a weighted factor analysis and a probabilistic model of the collaborator's knowledge).” *Id.* Indeed, in the continuous mode, “the

more knowledgeable agent (defined by which agent's first-ranked branch is more likely to succeed) is initially given initiative. If that branch fails, this agent's second-ranked branch is compared to the other agent's first-ranked branch with the winner gaining initiative.” EX-1006, 281.

B. Even if properly combined, the Smith & Hipp + Guinn combination fails to disclose “determining the conversation type corresponding to the natural language utterance. . .”

44. It is my understanding that Petitioners assert that its rejection of Claims [1B]/[10B]¹ is based on “the combined Smith & Hipp-Guinn system determin[ing] during a conversation that the computer is the more knowledgeable agent, [and] the system giv[ing] initiative (or control) to the computer” and “[i]n such a case, the

¹ Claim [1B] recites: “determining the conversation type corresponding to the natural language utterance based on whether a user that spoke the natural language utterance has a leader role in an interaction with the voice-enabled device or has a supporter role in the interaction with the voice-enabled device.” Claim [10B] recites: “determine the conversation type corresponding to the natural language utterance based on whether a user that spoke the natural language utterance has a leader role in an interaction with the voice-enabled device or has a supporter role in the interaction with the voice-enabled device.”

system would therefore be operating in **directive** mode, where ‘[t]he computer has complete dialog control.’” Pet., 29 (emphasis in original); *see also id* (“In short, in the combined system of Smith & Hipp-Guinn, the conversation type (initiative mode) is determined based on whether the user (“*a user that spoke the natural language utterance*”) has more knowledge (and thus the user is the leader of the conversation) or whether the computer has more knowledge (and thus the user is the supporter of the conversation)” (emphasis in original)). It is my opinion that Petitioners’ ground fails because there is no disclosure in the references alone or in combination as to how the system would select a particular initiative type or level, such as directive mode. As such, it is my opinion that even if a POSITA would have combined these references, Petitioners’ ground fails for the reasons I outline below.

45. It is my understanding that Petitioners interpret Claims [1B]/[10B] to require the conversation type to automatically change in real time—“[i]n other words, as roles and information allocation shift, so too should the conversation type that is being applied by the system.” Pet., 27. For purposes of this Declaration in support of Patent Owner’s Preliminary Response, I offer no independent opinion of the proper interpretation of Claims [1B]/[10B] but have adopted the interpretation proposed by Petitioners. I reserve the right to further address the interpretation of Claims [1B]/[10B] if this proceeding is instituted.

46. In view of Petitioners' interpretation, it is my understanding that there is no dispute that Smith & Hipp alone fails to teach or suggest Claims [1B]/[10B] because it "*did not include an automatic mechanism* for selecting among the variable initiatives." Pet., 28 (emphasis added). Smith & Hipp confirms in that it states that "an automatic mechanism is needed for setting the appropriate level of initiative as an interaction proceeds" EX-1005, 316. As I describe in more detail below, Smith & Hipp discloses different levels of initiative, such as directive mode, suggestive mode, declarative mode, and passive mode.

47. Unlike Smith & Hipp, Guinn discloses giving an initiative (or control) to the computer or the user during a conversation. That is, it is my opinion that Guinn allows for initiative changes between a computer and user during a particular conversation, but Guinn goes no further and does not describe setting different levels of initiative or control. Guinn states "[o]ur model of mixed-initiative dialogue allows either participant to be in control of the dialogue at any point in time." EX-1006, 278. Thus, it is my opinion that Guinn is silent about assigning degrees of initiative type such as those described in Smith & Hipp. *See* EX-1006, 278.

48. It is my understanding from the Petition that Petitioners are asserting that if the computer has the initiative, then the combined system would necessarily

be operating in Smith & Hipp's directive mode (and not, for example, in the suggestive mode). *See* Pet., 28-29. Specifically, the Petition states:

Applying Guinn's teachings related to Continuous mode to Smith & Hipp's four initiative modes, if the combined Smith & Hipp-Guinn system determines during a conversation that the computer is the more knowledgeable agent, the system gives initiative (or control) to the computer. (EX-1003, ¶177.) In such a case, the system would therefore be operating in directive mode, where "[t]he computer has complete dialog control." (EX-1005, 282; EX-1003, ¶178.) On the other hand, if the system determines during a conversation that the user is the more knowledgeable agent, it gives the initiative (control) to the user, thereby operating in passive mode, where "[t]he user has complete dialog control." (EX-1005, 283.)

Pet., 29. But, as I explain below, the knowledge that the computer has the initiative that is gained from the teachings of Guinn does not provide the information necessary to select a particular initiative level in Smith & Hipp. That is, it is my opinion that the Petition erroneously correlates the determination that the computer has initiative with directive mode and the determination that the user has the initiative with passive mode, effectively ignoring suggestive mode and declarative mode. As I demonstrate below, Smith & Hipp disclose additional levels of initiative and neither Petitioners nor their expert demonstrate why directive mode or passive mode are necessarily selected.

49. Smith & Hipp discloses four initiative modes, two initiative modes where the computer has control and two initiative modes where the user has control (*see* table below). As such, even if the computer was determined to be in control, the combined system could be operating in one of two modes, directive or suggestive mode. Likewise, even if the user was determined to be in control, the combined system could be operating in one of two modes, declarative or passive mode. Neither Petitioner nor its expert address or resolve how the combined system determines which mode or level to operate in. It is my opinion that the combined system is unable to make such a determination.

Initiative Level	Computer v. User Control (EX-1005, 289)
Directive	<u>Computer Control.</u> EX-1005, 289 (“Unless the user explicitly needs some type of clarification, the <i>computer</i> will select its response solely according to its next goal for the task.”); <i>see also</i> EX-1005, 282 (“The computer has complete dialog control.”).

Initiative Level	Computer v. User Control (EX-1005, 289)
Suggestive	<u>Computer Control.</u> EX-1005, 289 (“The <i>computer</i> will again select its response according to its next goal for the task, but it will allow minor interruptions to subdialogs about closely related goals.); <i>see also</i> EX-1005, 282 (“ <i>The computer still has dialog control</i> , but not as strongly.”).
Declarative	<u>User Control.</u> EX-1005, 289 (“The <i>user</i> has dialog control.”)
Passive	<u>User Control.</u> EX-1005, 289 (“The <i>user</i> has complete dialog control.”)

50. Mr. Lipoff alleges “Smith & Hipp’s **suggestive** and **declarative** modes are equivalent to the ’765 patent’s exploratory conversation type, as the user and the computer may each have a leader or supporter role in those modes.” EX-1003, ¶168 (emphasis in original). It therefore appears that Mr. Lipoff is asserting that in the suggestive and declarative modes, both the user and computer can have initiative and, thus, Mr. Lipoff is not considering either in his analysis of Claims 1[B]/10[B]. However, in my opinion, the plain language of Smith & Hipp undercut his analysis. As I note in the chart above, in suggestive mode, the “[t]he *computer still has dialog*

control, but not as strongly” (EX-1005, 283) and, in declarative mode, “[t]he *user* has dialog control.” EX-1005, 289 (emphasis added).

51. Indeed, even Smith & Hipp suggest that the person of ordinary skill in the art would not have chosen directive mode and passive mode.² For example: “During session 1, subjects had gained substantial information about how to debug this circuit, so the extremely pedantic directive mode was too detailed for them in most cases. They functioned much better in declarative mode, in which the machine stated relevant facts but allowed the user to lead the interaction.” EX-1005, 308. But even Smith & Hipp could not resolve the preferred mode of initiative only “that user behavior differs according to the level of initiative” suggesting that not even Smith & Hipp had an experimentally proven theory of how to assign initiative modes. EX-1005, 310.

52. Because, at best, Guinn is able to assign initiative to either the computer or the user and because Smith & Hipp have multiple initiative levels for each of the computer and user, it is my opinion that Petitioners’ theory that the combined system

² Each of the experiments disclosed in Smith & Hipp relate to fixed initiative level and are limited to the directive and declarative modes of operation. *See* EX-1005, 303-307.

would select the declarative mode fails. Indeed, Petitioners' combination is thus lacking any teaching or suggestion that the combined system would be able to select a particular initiative mode from Smith & Hipp based solely on a determination that a user or computer had the initiative. As such, even if properly combined, it is my opinion that the combination fails to render Claims [1B]/[10B] obvious.

C. Smith & Hipp + Guinn combination fails to disclose “generating a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user’s future input to interjecting queries or requests for clarification if the user has the supporter role.”

53. It is my understanding that Petitioners assert that its rejection of Claims [1C]/[10C]³ is based on “[i]n directive mode, the user’s future input is limited to *‘interjecting queries or requests for clarification if the user has the supporter role.’*”

³ Claim [1C] recites: “generating a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user’s future input to interjecting queries or requests for clarification if the user has the supporter role.” Claim [10C] recites: “a response builder configured to generate a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user’s future input to interjecting queries or requests for clarification if the user has the supporter role.”

Pet., 31 (emphasis in original). It is my opinion that Petitioners' ground fails at least because the user's future input is not limited as claimed. As such, it is my opinion that even if a POSITA would have combined these references, Petitioners' ground fails.

54. It is my understanding that Petitioners interpret Claims [1C]/[10C] to be directed to generating a response "in a *format* that would limit the user's future input 'to interjecting queries or requests for clarification.'" Pet., 30 (emphasis added). For purposes of this Declaration in support of Patent Owner's Preliminary Response, I offer no independent opinion of the proper interpretation of Claims [1C]/[10C] but have adopted the interpretation proposed by Petitioners. I reserve the right to further address the interpretation of Claims [1C]/[10C] if this proceeding is instituted.

55. In view of this interpretation, it is my opinion that Petitioners' argument fails because Petitioner does not explain if or how the Smith & Hipp system adapts the format of its responses. Instead, Petitioners identify the directive mode of operation. *See* Pet., 31. With respect to the directive mode of operation, Smith & Hipp states:

Directive Mode. Unless the user explicitly needs some type of clarification, the computer will select its response solely according to its next goal for the task. If the user expresses need for clarification

about the previous goal, this must be addressed first. No interruptions to other subdialogs are allowed.

EX-1005, 289. Smith & Hipp's directive mode implies only that, for example, "[n]o interruptions to other subdialogs are allowed" but a person of ordinary skill in the art would not necessarily interpret this statement in the manner alleged by Petitioner. Instead, preventing interruptions could be interpreted as a system level control whereby the system does not allow interruptions or simply ignores interruptions.

56. A person of ordinary skill in the art would have understood that the initiative levels in Smith & Hipp, such as directive mode, are indicating what level of interruptions will be allowed. Indeed, similar to the directive mode, suggestive mode selects its "response according to its next goal for the task." EX-1005, 289. However, unlike directive mode, when the system is in suggestive mode, some minor interruptions are allowed. *Id.* As such, in both modes, the system appears to be selecting a response based on its next goal for the task and, thus, a person of ordinary skill in the art reading Smith & Hipp would not have understood that Smith & Hipp is disclosing "generating a response to the natural language utterance with a *format* based on the conversation type, wherein the *format is adapted* to limit the user's future input to interjecting queries or requests for clarification if the user has the supporter role."

57. It is my opinion that Petitioners' reliance on the initiative modes in Smith & Hipp is misplaced because a person of ordinary skill in the art would have understood that a different system, namely the output generator of Smith & Hipp, generates the output statements in Smith & Hipp. EX-1005, 289. Specifically, Smith & Hipp discloses an output generator that specifies the level of assertiveness. *Id.* Next, the Petition states: "[a]s Smith & Hipp explain, it had been known since at least 1988 that assertive statements (e.g., commands) are most likely to maintain dialog control with the speaker," but does not provide any further explanation. Pet., 31. Other than a reference to assertive statements being "most likely to maintain dialog control," neither Petitioners nor their expert explain the correlation, if any, between the level of assertiveness and the initiative level. Further, neither Petitioners nor their expert explain if or how an assertiveness level relates to "wherein the format is adapted to limit the user's future input to interjecting queries or requests for clarification if the user has the supporter role."

58. Moreover, Smith & Hipp disclose that a directive participant may impact a passive participant so as to limit the passive participants responses. However, in acknowledging such a possibility, Smith & Hipp states that its system takes no such action as it states: "[i]nputs from a passive participant can be expected to be more predictable and well behaved than those from a directive one. ***Our system***

does not account for this effect at this time.” EX-1005, 290 (emphasis added). In

my opinion, this is further evidence that the Smith & Hipp system had not implemented “generating a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user’s future input to interjecting queries or requests for clarification if the user has the supporter role.”

59. Altogether, neither the Petition nor the expert declaration correlate the levels of initiative to “generating a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user’s future input to interjecting queries or requests for clarification if the user has the supporter role.” For at least these reasons, it is my opinion that the combination fails to render Claims [1C]/[10C] obvious.

D. Petitioners’ motivation to combine Smith & Hipp and Guinn fails

60. It is my understanding that Petitioners’ motivation to combine is based on Smith & Hipp allegedly motivating the combination by identifying an “important unsolved problem[]” in its system, which included “**an automatic mechanism is needed for setting the appropriate level of initiative as an interaction proceeds.**” Pet., 14-15 (emphasis in original). Other than relying on this single statement for its apparent motivation to combine, I do not see any further discussion or analysis

regarding this alleged motivation. Notably, the explanation in the Petition does not account for the fact that Smith & Hipp disclose multiple levels of initiative whereas Guinn only provides an identification of whether a computer or a user has the initiative. *See supra* Section VII.B. As such, it is my opinion that even if there was a motivation to combine, the motivation is undercut by the teachings of the references themselves.

61. As I discussed above with regard to Claims [1B]/[10B] in Section VII.B, Smith & Hipp discloses four initiative modes, two initiative modes where the computer has control and two initiative modes the user has control (*see* table in Section VII.B). As such, even if the computer was determined to be in control, the combined system still is unable to determine which of two modes it is operating in, directive or suggestive mode. Likewise, even if the user was determined to be in control, the combined system is still unable to determine which of two modes it is operating in, declarative or passive mode.

62. Given these shortcomings in the Guinn system and because Guinn does not solve the problem outlined in Smith & Hipp, it is my opinion that a person of ordinary skill in the art would therefore not be motivated to look to Guinn to address the alleged unsolved problem in Smith & Hipp's system. Indeed, even if the person

of ordinary skill in the art would have looked to Guinn, the combination still would not have met the limitations of the claims. *See supra* Section VII.B.

63. Next, Petitioners turn to Guinn and allege that Guinn’s teachings are directly applicable to the system disclosed in Smith & Hipp. Pet., 15. I understand that Petitioners’ make this assertion because of a reference to Smith (1995) in the Guinn paper, specifically:

The dialogue model of Smith (1995) allows for either the computer or the user to assume degrees of initiative; however, Smith presents no algorithm for the computer to change initiative during a dialogue. Our model of mixed-initiative dialogue allows either participant to be in control of the dialogue at any point in time.

EX-1006, 278; *see also* Pet., 15.

64. Again, it is my opinion that Guinn is not addressing the “degrees of initiative” but instead is creating a model that “allows either participant to be in control of the dialogue at any point in time.” *Id.* I discuss the computer and user initiative as it relates to Guinn above with regard to Claims [1B]/[10B] in Section VII.B.

65. Regardless, Petitioners’ assumption that the above reference to Smith (1995) is the Smith & Hipp paper cited as EX-1005 is incorrect and, based on my review, I do not see that Petitioners explained how the reference to Smith (1995) relates to the Smith & Hipp paper cited as EX-1005. That is, Petitioners appear to

wrongly assume that Guinn was referring to the cited Smith & Hipp (EX-1005) paper, which is entitled “An Architecture for Voice Dialog Systems Based on Prolog-Style Theorem Proving” in its discussion at page 15 of the Petition. *See* EX-1005, 281. But the only citation to Smith & Hipp in Guinn is “R.W. Smith and D.R. Hipp. 1995. Spoken Natural Language Dialog Systems: A Practical Approach. Oxford University Press, New York.” EX-1006, 285. Further complicating Petitioners’ reliance on the citation in Guinn is the fact that EX-1005 (which is at issue in this proceeding) lists an additional author, Alan W. Biemann, who does not appear to be listed as an author of “R.W. Smith and D.R. Hipp. 1995. Spoken Natural Language Dialog Systems: A Practical Approach. Oxford University Press, New York.”

66. Thus, it is my opinion that the person of ordinary skill in the art would not have combined the cited references for the reasons espoused by Petitioners and Mr. Lipoff.

VIII. CONCLUSION

67. In sum, it is my opinion that Smith & Hipp and Guinn do not render Claims 1-14 of the ’765 Patent unpatentable as obvious for the reasons I discuss above.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on the information and belief are believed to be true; and further that these statements were made with the 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.

Executed on August 20, 2025 in New York, NY.

A handwritten signature in black ink, reading "Anatole Gershman". The signature is written in a cursive, flowing style.

Dr. Anatole Gershman