

EXHIBIT 2016

CASE IPR2025-00856
U.S. Patent No. 8,271,877

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

FERID ALLANI,
Patent Owner

CASE IPR2025-00856
U.S. Patent No. 8,271,877

DECLARATION OF MAHDI ESLAMIMEHR PH.D., MBA

1. INTRODUCTION

1. I have been retained on behalf of Ferd Allani (“Allani” or “Patent Owner”) for the above-captioned *inter partes* review (IPR) proceedings filed by Apple Inc. (“Apple” or “Petitioner”). As an expert in computer science, I have been asked to provide analysis and opinions related to whether certain claims of U.S. Patent No. 8,271,877 (“the ’877 Patent”) are rendered obvious by certain prior art references asserted by Apple.

2. I submit this declaration as a statement of the opinions I have formed and the factual basis for the opinions. I understand that this declaration is submitted in regard to Ferid Allani’s Patent Owner Preliminary Response to: Petition for *Inter Partes* Review of U.S. Patent No. 8,271,877 (IPR2025-00856). I am prepared to testify as to the matters discussed in this declaration.

3. My employer, Quandary Peak Research, is paid a consulting fee for my time working on this matter. I have no personal interest in this matter, and my compensation does not depend in any way on the opinions I express or the outcome. I am being compensated for my time at the rate of \$600 per hour.

2. SUMMARY OF QUALIFICATIONS

4. I am a computer scientist, engineering executive, and testifying expert whose career spans academic research, large-scale software product engineering,

and extensive work before U.S. courts, the ITC, and the USPTO. I hold a Ph.D. in Computer Science from UCLA, an M.S. in Computer Science from Linköping University, and an MBA from the London School of Economics, complemented by executive programs in Leadership, Business Management, and Strategy Execution at Harvard Business School. In academia, I serve as Adjunct Professor at the University of Southern California, where I teach Requirements Engineering, Advanced Software Engineering, and Software Management and Economics for grad students; previously, I taught Software Engineering and Object-Oriented Design Patterns at Cal Poly Pomona. My research and publications (including a Best Paper Award in software reliability engineering) center on software analysis, testing, and web and mobile application architectures, topics directly relevant to the technologies at issue in this matter. Professionally, I am Executive Vice President at Quandary Peak Research, leading teams of software professionals in complex software disputes (patent, trade secret, copyright, and contract) and in rigorous technical due diligence and audits for investors and enterprises. Before that, as CTO and later CTO/COO of a global telecommunication software company, supporting millions of subscribers through our OSS/BSS platforms, and oversaw multi-region delivery and R&D, experience that grounds my opinions in the realities of designing, deploying, and scaling web and mobile systems. Earlier industry roles at SAP Labs, Samsung R&D, and Ericsson deepened my hands-on

expertise with client–server frameworks, runtime systems, and telecommunication solutions. I have been retained as a testifying expert in over 80 matters across federal courts, the ITC, and arbitrations, providing reports, declarations, depositions, and trial testimony in disputes involving web and mobile platforms, AI, networking, embedded systems, and cloud service. Taken together, my formal training, university teaching in software engineering and requirements engineering, executive leadership in building and operating real-world software systems, publication record, and extensive testimonial history meet the level of a person of ordinary skill in the art. A detailed list of my qualifications is set forth in my curriculum vitae, a copy of which is submitted as Exhibit 2017. Therefore, I believe I am qualified to express expert opinions related to the ‘877 Patent.

3. INFORMATION CONSIDERED

5. In forming my opinions, I have considered:

- U.S. Patent Nos. 8,271,877 and its file history.
- Apple’s Petition for *Inter Partes* Review of U.S. Patent No. 8,271,877 (IPR2025-00856) and the materials cited in the Petition.
- Exhibits 1001 to 1043 to the Petition.
- My education, training, and experience in the field.
- Other materials cited in this declaration.

4. LEGAL STANDARDS

4.1. Overview

6. I am not an attorney or a legal expert. The legal standards I applied in reaching the conclusions expressed throughout this declaration were provided to me by counsel. In preparing this declaration, I have endeavored to faithfully apply these legal standards. I do not intend to offer opinions on the law. Below, I describe the law I applied in considering whether the claims 1-19 of the '877 Patent ("Challenged Claims") are nonobvious.

4.2. Patent Claims

7. Patent claims describe the invention made by the inventors and describe what the patent owner owns and what the owner may prevent others from doing. Claims may describe products, such as machines or chemical compounds, or processes for making or using a product. Claims are usually divided into parts or steps called limitations.

8. There are two types of claims: independent claims and dependent claims. An independent claim sets forth all the requirements that must be met in order to be covered by that claim. Thus, it is not necessary to look at any other claim to determine what an independent claim covers. A dependent claim does not itself recite all of the requirements of the claim but refers to another claim for some of its requirements. In this way, the claim depends on another claim. The

law considers a dependent claim to incorporate all of the requirements of the claims to which it refers. The dependent claim then adds its own additional requirements. To determine what a dependent claim covers, it is necessary to look at both the dependent claim and any other claims to which it refers.

9. In that case, the dependent claims incorporate the limitations of the independent claim upon which they depend, and if a reference fails to disclose any of the limitations of an independent claim, the claims which depend on that claim cannot be made invalid by that reference. As a result, any of the references at issue in this proceeding that fail to disclose all of the limitations of an independent claim necessarily also fail to disclose all of the limitations of claims which depend on that claim.

4.3. Burden of Proof for Invalidity

10. I understand that the party challenging the validity of an issued United States patent in an IPR bears the burden of proving invalidity through facts supported by a preponderance of the evidence. I understand that a “preponderance of the evidence” means evidence sufficient to prove that a fact is more likely true than it is not.

4.4. Claim Construction

11. I understand that the first step in determining validity is to properly construe the claims. I further understand that, in this proceeding, the Board must

determine the scope of the claims by using the same claim construction standard that United States District Courts use. Under this standard, words of a claim are given their “ordinary” and “customary” meaning as understood by a person of skill in the art at the time of the invention. I understand that such a person looks to the claims, specification, and file history in understanding the meaning of the claim terms. I have applied this understanding in this declaration. I understand that Allani contends that each term of the Challenged Claims should be interpreted as construed by the court in the district court litigation. Additionally, I understand that Allani contends that the terms (1) “a preliminary search for information or service, locally performed within said communication device” or “a preliminary search locally performed within said communication device” (2) “beforehand locally stored” and (3) “direct access icon” should be construed as proposed in Allani Patent Owner’s Preliminary Response. For the purpose of forming my opinions, I have applied these constructions. I reserve my right to amend or alter my analysis and opinions in view of the claim constructions adopted by the Board.

4.5. Person of Ordinary Skill in the Art

12. I understand that a person having ordinary skill in the art may be defined by factors such as: (a) the levels of education and experience of the inventor and other persons actively involved in the field; (b) the types of problems

encountered in the field; (c) prior art solutions to those problems; (d) rapidity with which innovations are made; and (e) the sophistication of the technology.

4.6. Prior Art

13. I understand that a patent cannot be invalidated based on one person's testimony alone without corroborating evidence, particularly documentary evidence. Moreover, I understand that corroboration is required of any witness whose testimony alone is asserted to invalidate a patent, regardless of his or her level of interest in relation to that patent. Accordingly, even if the testifying individual has no interest in the litigation, I understand that that corroboration is still required.

14. In this declaration, I may use the phrase "prior art" when describing specific references. However, my use of this phrase should not be interpreted as agreement that the item(s) described qualify as prior art under the patent laws. I merely use this phrase to address the items labeled as "prior art" by Petitioner and its expert.

4.7. Anticipation

15. I understand that a patent claim can be found invalid as anticipated if each and every element of the claim, as properly construed, is found either explicitly or inherently in a single prior art reference. However, I also understand that in order to anticipate a patent claim, the reference itself must actually qualify

as prior art. If the single prior art reference does not disclose any one claim limitation, then that claim is not anticipated. I further understand that the single prior art reference cannot merely disclose each element; rather, it must disclose all of the elements as arranged in the claim. I have been informed that for a prior art reference to “inherently” disclose something, the reference must necessarily function in accordance with, or include the claimed limitations, to anticipate. The missing descriptive matter cannot merely probably or possibly include the claimed limitations. I further understand that, with respect to an anticipation analysis, it is improper to combine separate, distinct embodiments of a single prior art reference.

16. I understand that for a claim to be anticipated, each claim limitation must be disclosed in a single prior art reference, and the claimed arrangement or combination of those limitations must also be disclosed in that same prior art reference. I understand that for a reference to be anticipatory, the reference must contain an enabling disclosure. I understand that merely naming or describing the subject matter is insufficient if it cannot be produced without undue experimentation.

4.8. Obviousness

17. I understand that a patent claim can be found invalid as obvious if the differences between the claim and the prior art references would have been obvious to a person of ordinary skill in the art at the time of the invention, taking

into account (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any objective indicia of non-obviousness. I further understand that a claim can be found to be obvious in light of either a single prior art reference or multiple prior art references. I understand that references qualify as prior art for an obviousness determination only when they are analogous to the claimed invention. Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed; and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. However, as I noted above I also understand that in order to render a patent claim obvious, the reference itself must actually qualify as prior art.

18. To be obvious in light of multiple prior art references, there must be a reason either to combine the two or more prior art references to achieve the claimed invention. I understand that this reason may come from a teaching, suggestion, or motivation to combine or may come from the reference or references themselves, the knowledge or "common sense" of one skilled in the art, or from the nature of the problem to be solved, and may be explicit or implicit from the prior art as a whole. The combination of familiar elements according to

known methods is likely to be obvious when it does no more than yield predictable results.

19. I further understand that there is no suggestion to combine, however, if a reference teaches away from its combination with another source. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant, or if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. If when combined, the references would produce a seemingly inoperative device, then they teach away from their combination. I understand that it is improper to combine references where the references teach away from their combination.

20. I understand that the degree of teaching away will depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. I understand that a reference teaches away, for example, if (1) the combination would produce a seemingly inoperative device, or (2) the references leave the impression that the product would not have the property sought by the applicant.

21. I understand that if the teachings of a prior art reference would lead one skilled in the art to make a modification that would render another prior art device inoperable, then such a modification would generally not be obvious. I understand that if a proposed modification would render the prior art device unsatisfactory for its intended purpose, then the proposed modification would generally not be obvious.

22. I understand that it is improper to use hindsight in making the obviousness determination.

23. I understand that some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness must be made. For example, I understand that there may be no rational underpinning to support the legal conclusion of obviousness where systems are already complete and the party challenging validity seeks to mix and match components, which each exist in the separate systems, from these complete systems.

4.9. Objective Indicia

24. I understand that objective indicia of non-obviousness must be taken into account in a proper obviousness analysis and that these objective indicia of non-obviousness may include the following: (1) failure of others; (2) long-felt but unmet need for the claimed invention; (3) commercial success attributable to the claimed invention; (4) unexpected results of the claimed invention; (5) initial

skepticism; (6) prior art teaching away from the claimed invention; (7) professional approval; (8) licensing; (9) acquiescence to the patent's validity; (10) copying of the claimed invention by others, and (11) progress through the Patent Office. I further understand that a so-called nexus between the merits of the claimed invention and evidence of objective indicia of non-obviousness is required in order for the evidence to be given substantial weight in an obviousness determination. As an example, I understand that nexus can be established if there was commercial success and if the invention disclosed in the patent was that which was commercially successful.

5. LEVEL OF ORDINARY SKILL IN THE ART

25. In my opinion, a person of ordinary skill in the art ("POSITA") at that time would be a person with a bachelor's degree in computer science, computer engineering, or a closely related discipline and two years of relevant professional experience in software engineering or a similar field. Alternatively, someone with an advanced degree and less professional experience or less education and more professional experience would also qualify as a POSITA. For the sake of this declaration I have adopted that level of skill, which I meet. I reserve the right to modify this level of skill at a later date. I understand that Apple has adopted a slightly different definition of a POSITA but I do not believe that the Challenged Claims would be obvious to a POSITA under either parties' definition.

6. THE '877 PATENT

26. The '877 Patent is directed to a method for enabling faster and easier access to online information or services from a communication device connected to the Internet. It recognizes that existing mobile Internet access in the late 1990s suffered from significant latency because each navigation step typically required a new HTML page to be downloaded from the server. This delay discouraged many users, resulting “in a real discomfort felt by a number of Internet surfers, so far as to dissuade some of them from launching an information search that could prove to be long, tedious, and uncertain.” ('877 Patent, 1:36–54).

27. To address this problem, the '877 Patent discloses storing a complete set of multi-level selection pages locally on the mobile device in advance of any user navigation. These pages are organized into a tree menu, where each “theme” and “sub-theme” corresponds to a branch in the hierarchy. By storing the entire hierarchy “beforehand” on the device, the user can perform a “preliminary search” entirely local, traversing multiple levels of menus without initiating any network request ('877 Patent, 2:8–16, 4:51–55).

28. Once the user has navigated to their desired choice, they select a “direct access icon” that corresponds to the destination. Only at that point does the device access the network, sending the address corresponding to the selected icon to retrieve the requested information or service ('877 Patent, 5:1–14). This approach

reduces the number of network calls to a single request, minimizing latency and improving the user experience.

29. The claims of the '877 Patent reflect this structure. For example, Claim 1 recites: (a) performing a preliminary search locally in different themes and sub-themes within successively displayed selection pages that are beforehand locally stored, and (b) selecting a direct access icon that causes the device to emit the address of the corresponding site or service. The specification consistently distinguishes this invention from prior art systems that download each new page on demand during navigation, emphasizing that the inventive local search capability was not present in earlier mobile browsing technologies.

30. I understand that the Challenged Patents claim priority to a French patent filed on December 30, 1999 under the number FR 2 803 929 and issued on September 17, 2004 under the number FR 99 16704 and now expired. (EX1001). Accordingly, I understand that the Challenged Claims are entitled to a priority date at least as early as December 30, 1999.

7. SUMMARY OF OPINIONS

31. In my opinion, Petitioner and Dr. Ben Bederson's analysis fails to establish that the Challenged Claims of the '877 Patent would have been obvious to a person of ordinary skill in the art as of the December 30, 1999 priority date. The Petition misapplies critical claim terms, such as "preliminary search" and

“beforehand locally stored,” by equating them with on-demand network retrieval and transient caching that occur only after navigation has begun. This approach disregards the temporal and operational distinctions set forth in the claims, the specification, and the prosecution history of the ’877 Patent.

32. I also find that Petitioner and Dr. Benjamin Bederson’s analyses rely on conclusory assertions that the features of the ’877 Patent were routine, even though Petitioner must piece together multiple disparate references with U.S. Patent No. 6,119,155 (“Rossmann”), U.S. Patent No. 6,037,934 (“Himmel”), U.S. Patent No. 6,353,839 (“King”), and U.S. Patent No. 6,138,158 (“Boyle”) to approximate the claimed invention. If the claimed functionality were truly conventional, there would be no need to combine so many unrelated systems, each operating in a different technical environment and solving a different problem.

33. Additionally, the assertion that all cited references are analogous art is presented without the required analysis under Federal Circuit precedent. References such as U.S. Patent No. 5,781,909 (“Logan”), which are directed to broadband-connected public kiosks, do not address the problem solved by the ’877 Patent and would not logically have commended themselves to the attention of a skilled mobile interface designer in 1999.

34. The prior art combinations presented in the Petition also omit multiple claim requirements. None of the cited references discloses or suggests a local,

multi-level tree menu in which all selection pages are locally stored before the start of navigation, direct access icons that lead immediately to the target website without server-mediated intermediate menus, or a preliminary search that is completed entirely local to reduce network delay.

35. Finally, although the Bederson declaration offers arguments for why a POSITA might be motivated to combine some of the cited references, these arguments rely on generalized notions such as improving user efficiency, combining familiar navigation techniques, or providing enhanced functionality, that do not address the substantial technical barriers to implementing the proposed combinations on 1999-era mobile devices. They also assume, without evidence, that a POSITA would have reasonably expected success in integrating these disparate systems. The proposed combinations require significant redesign, cross-protocol integration, and structural changes to the underlying systems. These are changes for which the prior art provides neither guidance nor suggestion, and which would not have been obvious without the hindsight benefit of the '877 Patent.

7.1. Analagous Art

36. Dr. Bederson states: “Each of the references I rely on in this declaration is analogous art.” (EX1003, ¶21). This statement is a legal and factual conclusion stated without any substantive analysis. Logan (Logan) illustrates the flaw in this

blanket assertion. Logan describes an “attract page” displayed on a public access kiosk, which contains links to local and remote information sources (Logan, 4:55-68). The kiosks disclosed in Logan include a personal computer which is connected to the internet via a modem (Logan, 3:30-50) and operates in a fixed-location, broadband environment. The ’877 Patent, by contrast, addresses “a communication device connected via a network to the Internet” where “preliminary selection steps” can be performed on the device itself rather than over the network. (’877 Patent, abstract, 1:65–2:16). Logan’s focus on persistent broadband kiosk operation is not reasonably pertinent to the ’877 Patent’s local multi-level navigation for mobile devices.

37. The Bederson declaration (EX1003) at ¶21 does not explain how a mobile user interface (“UI”) engineer in 1999 would have looked to a fixed-location, broadband-connected kiosk with an “attract page” system to solve the problem identified in the ’877 Patent: “[avoiding] delays from busy networks and [simplifying] browsing for users poorly accustomed to Internet searches” (’877 Patent, 1:36–43). Without that analysis, the conclusion that Logan and similar references are analogous art is unsupported.

7.2. “Routine” Features Assertion

38. Dr. Bederson asserts: “The features described and claimed in the ’877 Patent were routine as of December 30, 1999.” (EX1003, ¶40). The Petition itself

contradicts this statement by acknowledging that Rossmann does not disclose all claim elements and must be combined “in view of Himmel and King” (Petition at 4), and for some dependent claims also with Boyle (Petition at 4, 56–62). If these features were truly routine, a single prior art reference should have disclosed them in combination.

39. The '877 Patent emphasizes that existing systems forced “a delay correspond[ing] to each request-answer step... resulting in a real discomfort... so far as to dissuade some of them from launching an information search” ('877 Patent, 1:46–54). The claimed invention avoids this by “organizing [selection pages] in a structure of tree menu and beforehand locally stor[ing them]” so that “the whole operations for selecting themes and sub-themes having been beforehand locally realized” utilizing local addresses. ('877 Patent, 4:51–55).

40. The Bederson declaration provides no contemporaneous evidence, such as late-1990s technical publications or product documentation, showing that mobile devices already implemented complete, prestored local multi-level browsing trees. Bederson makes conclusory assertions without sufficient supporting evidence.

7.3. “Preliminary Search” Mischaracterization

41. Claim 1(a)(1) requires: “a preliminary search for information or service, locally performed within said communication device in different themes

and sub-themes within a plurality of successively displayed selection pages.” The specification explains that the “selection pages” are “organized within a structure of tree menu and beforehand locally stored” (’877 Patent, 2:8–10) and that the user can “access without any difficulty the information source being searched with a single request answer sequence” using local addresses until they select a direct access icon. (’877 Patent, 4:51–55).

42. The Petition argues that “Rossmann teaches a user can perform a preliminary search for information or service.” (Petition at 16-18). Rossmann includes a disclosure of a “communication session request” for downloading an “HDML deck from the server device.” (Rossmann, 6:20-29, Fig. 2). The system can attempt to fetch a requested deck, resulting in a check to “determine if the requested deck is available.” The Bederson declaration states: “Rossmann teaches that a user can perform a preliminary search... such as by locally navigating through a downloaded HDML deck.” (EX1003, ¶78). However, Rossmann discloses: “If the received request can not be satisfied by one of the cards in the received deck, which means the request has to be Satisfied in a new deck, a connection initiated by the client module 146 to the server device 144 is made to fetch the new deck.” (Rossmann, 8:48-60). Figures 4C–4G confirm that moving beyond the currently stored received decks requires a new server request.

43. As such, Rossmann describes network-dependent navigation, unlike the '877 Patent's local traversal of the entire tree until the final selection. The Bederson declaration conflates Rossmann's stepwise, server-reliant method with the '877 Patent's locally performed "preliminary search." Even if the selection of a deck in Rossmann can be considered a "selection," it does not further constitute a "preliminary selection" as discussed in the '877 patent. The '877 patent discloses "preliminary selection steps in pages organized in a tree manner " "Where there are multiple "preliminary selection steps... operating as rolling menus." ('877 Patent, 2:27-36). The preliminary selection is disclosed as using multiple steps to traverse the "rolling" tree menu such as by organizing the selection pages into "different themes, sub-themes or sub-categories." ('877 Patent, 3:1-5). This "rolling" operation is meant to allow a user to navigate from broader "themes" to more specific "sub-themes" or "sub-categories," so as to assist the user in narrowing down their search to a "well-targeted information source" before "finally emitting on Internet only a complete address." ('877 Patent, 2:27-36).

44. Rossmann does not disclose these kinds of locally stored "rolling menus" or the use of "themes" to further organize Rossmann's decks into a more easily navigable "tree menu." Instead, new decks are retrieved by direct requests from the user, where the primary user input that would further determine which

deck is retrieved are “choice card[s] [displaying] a list of choices for the user.” (Rossmann, 9:8-36). Rossmann does not disclose the use of “choice cards” organize a menu of pages into “themes, sub-themes or sub-categories,” nor do “choice cards” circumvent the need to transmit a “request to a server device for a new deck.” Thus, Rossmann does not achieve a locally navigable tree menu as disclosed in the ’877 Patent.

7.4. “Beforehand Locally Stored” Misinterpretation

45. Claim 1(a)(2) requires the selection pages to be “beforehand locally stored” in the device. The ’877 Patent uses “beforehand” in its plain meaning; stored before any navigation begins: “[The] selection pages [are] organized within a structure of tree menu and beforehand locally stored.” (’877 Patent, 2:8–16). The user can thus begin his or her search by locally navigating prestored selection pages.

46. The Bederson declaration relies on Rossmann’s disclosure that “after a deck has been downloaded from the server to the thin device it is stored in the work memory” (EX1003, ¶88; Rossmann, 4:25–30). But Rossmann’s “storage” occurs only after a user initiates navigation and only for the single HDML deck retrieved. That is on-demand caching, not advance preloading of an entire tree. Treating Rossmann’s reactive storage as “beforehand” is therefore inconsistent with the plain claim language and does not disclose this limitation.

7.5. Missing Claim Elements Across Combinations

47. Claim 1 of the '877 Patent contains multiple specific limitations that the Petition's combinations do not teach or suggest. These include:

48. "A preliminary search... locally performed... in different themes and sub-themes... within a plurality of successively displayed selection pages..." (Claim 1(a)(1));

49. "...said selection pages being beforehand locally stored in the communication device..." (Claim 1(a)(2));

50. "...each selection page comprising at least one direct access icon..." (Claim 1(a)(3)); and

51. "...selecting said direct access icon causes the address corresponding to the selected icon to be emitted by the communication device..." (Claim 1(b)).

52. The Petition's proposed combinations fail to teach or suggest multiple claim limitations. The '877 Patent's local search of beforehand locally stored selection pages which allows the user to refine their choice without network delay has no counterpart in Rossmann, Himmel, King, or Boyle. Himmel's disclosure is bookmarking technology (Himmel, 1:15–20), King is about URL generation (King, Abstract), and Boyle addresses synchronization updates (Boyle, Abstract). None teaches or suggests the claimed local browsing tree comprising a set of icons that is beforehand locally stored.

7.5.1. Failure of Rossmann (Ex. 1004)

53. Rossmann's HDML "decks" are downloaded on demand from the server. These decks are downloaded from the server first, then cached locally for subsequent navigation within that delivered content, not beforehand locally stored. As discussed in section 7.4, in Rossmann, selecting a link causes retrieval of another menu deck from the server, not a direct connection to the target remote resource. Rossmann discloses: "[i]f the received request can not be satisfied by one of the cards in the received deck, which means the request has to be satisfied in a new deck, a connection initiated by the client module 146 to the server device 144 is made to fetch the new deck." (Rossmann, 8:48-60).

54. Each HDML deck contains only the next navigational step, not the complete multi-level tree required for a preliminary search of prestored selection pages. This server-reliant model does not teach the Challenged Claims, which all require selection pages to be navigable locally in different themes and sub-themes of before network access is triggered.

55. Rossmann also does not teach the Challenged Claims, which all require a direct access icon triggers network access after local navigation is complete by emitting an address to the network corresponding to the selected icon.

7.5.2. *Failure of Himmel (Ex. 1005)*

56. Apple relies on Himmel for “direct access icons,” but Himmel’s disclosure diverges fundamentally from the ’877 patent’s requirements. Himmel discloses a bookmark-based authorization system for controlling Internet access on mobile devices, not a system with pre-stored selection pages containing direct access icons. In one embodiment, the system operates through “a plurality of bookmark sets” where “when a request to retrieve an Internet file... the designated URL is checked against the URLs in the active bookmark set.” (Himmel, Abstract). Upon successful match, the system proceeds to “RETRIEVE PAGE” from the server. (Himmel, Fig. 2) In another embodiment, Himmel disclose a “consumer hot list” bookmark set that “can be used to control user access to the web.” (Himmel, 18:53-21:26). Himmel’s bookmarks therefore operate as network access control mechanisms. They are not integrated into selection pages, nor are they part of beforehand locally stored selection pages organized in a tree menu structure. Himmel explains that “each bookmark set [includes] a respective set of Uniform Resource Locators (URLs).” (Himmel, 2:63-68). As Dr. Bederson concedes, Himmel’s bookmarks are “typically presented as sets of hyperlinked URLs.” (EX1003, p. 64). The Petition is explicit that it relies on Himmel only for the “direct access icon” limitation, as both Petitioner and Dr. Bederson concede that “Rossmann’s ‘cache case’ embodiment

does not expressly teach a selection page comprising both selection icons and ‘direct access icons,’” and thus incorporates Himmel by describing the “bookmark sets” as “sets of ‘direct access icons.’” (Petition at 26). Dr. Bederson likewise characterizes Himmel solely as teaching bookmarks “that a user can select to access a specific URL.” (EX1003, ¶¶ 101-102). Neither the Petition nor Bederson cites Himmel for any disclosure of a locally stored tree menu or a multi-level preliminary search.

57. Even as to direct access icons, however, Himmel does not disclose what the ’877 patent requires. The claims of the ’877 patent recite “one or more icons for directly accessing remote sources of information” such that “said addresses of information sources corresponding to direct access icons.” (’877 patent, 2:4–26). The specification makes clear that such direct access icons are part of a plurality of beforehand locally stored selection pages organized in a tree structure, which together enable the claimed local preliminary search (*Id.*, 2:4–16, 2:27–36). By contrast, Himmel describes simple bookmarks in a kiosk environment, which are merely stored links to individual predetermined sites.

58. A Himmel bookmark is therefore not a “direct access icon” in the sense of the ’877 patent. Unlike the claimed invention, Himmel’s bookmarks are not presented within a plurality of locally stored selection pages organized in a tree menu, they do not enable or coexist with a local preliminary search through

different themes and sub-themes, and they are not part of a hybrid page containing both direct access icons and selection icons, as expressly required by claim 1(a)(3) of the '877 patent. Instead, Himmel's bookmarks are flat, isolated links that are downloaded from the internet and presuppose continuous network connectivity and do not achieve the reduced-latency offline navigation that the '877 patent set out to solve.

59. Further, a POSITA would not be motivated to combine Rossmann with Himmel solely for the purpose of "providing a user with a 'consistent user interface' when accessing a website to make navigation easier." (EX1003, ¶¶ 104). Bederson does not provide sufficient explanation as to how Rossmann's mobile device environment would benefit from the use of Himmel's bookmarks, which are described in a kiosk environment and thus uses a different device form factor. Nor does he address how Himmel's bookmarks inherently must be downloaded from the internet, adding more reliance on network calls earlier in the process than even Rossmann requires and further constraining Rossmann's limited resources with a challenging redesign. Accordingly, while Apple and Dr. Bederson invoke Himmel only for direct access icons, Himmel in fact discloses nothing that satisfies the direct access icon limitation in context, let alone the broader requirements of claim 1(a)(1)–(2).

60. Rossmann and Himmel represent fundamentally incompatible system architectures that cannot be harmoniously combined. In Rossmann’s architecture, a server first delivers HDML deck to a mobile device, which then enables local navigation within the downloaded decks. Network access is conditional and secondary—triggered only when local content is exhausted. The system’s intelligence lies in avoiding network traffic by maximizing local navigation within server-delivered content. Himmel’s architecture, on the other hand, bypasses local navigation entirely through controlled network access upon bookmark selection. Network access is primary—every bookmark triggers an attempt at network access without any local preliminary search. As such, these systems operate on opposite principles regarding when and how network access occurs. Rossmann defers network access to minimize latency; Himmel prioritizes network access for specified content. A POSITA would recognize that combining these contradictory approaches would require abandoning the core operational logic of one or both systems.

61. Combining these references would not be a simple modification but would require complete redesign of both systems. To accommodate Himmel-style network access, Rossmann would need an entirely new user interface paradigm that bypasses its “cache-first, network-second” logic. This design would require abandoning Rossmann’s core innovation—intelligent caching to minimize

network requests. In actuality, the references teach away from combination. Rossmann explicitly addresses the “poor performance of the internet on early mobile devices” caused by excessive network requests. (Rossmann, Abstract) Its entire purpose is reducing “latency of the information delivery” and minimizing “network traffic.” (Id.) Himmel’s focus on controlled network access directly contradicts this design goal. Its design assumes network access is desirable once a bookmark is selected, teaching away from local-first preliminary search architectures. (Id.) A POSITA would recognize that Rossmann and Himmel solve different problems through contradictory approaches and would not be motivated to combine them into the claimed local-first, pre-stored selection page architecture.

62. Rossmann’s conditional server fetch of HDML decks conflicts with a system in which selection pages are all present beforehand and navigation is local until a final selection. Grafting Himmel’s immediate network retrieval onto Rossmann would push network access earlier in the flow, contrary to the ’877 architecture that defers network access until after a local preliminary search. This change undermines Rossmann’s principle of operation and is not suggested by either reference. Implementing a device resident, multi level tree of selection pages “beforehand,” with qualifying icons would require substantial redesign on the constrained mobile devices disclosed in Rossmann, which had limited

computing resources. (Rossmann, 2:8-34) Neither Rossmann nor Himmel provides guidance for creating and maintaining such a preloaded tree on such a device. (Rossmann, 2:8-34) Himmel also contemplates that its bookmarking technology would be implemented on traditional computing systems, not the mobile communications devices disclosed in Rossmann.

63. Even if a POSITA contemplated modifying Rossmann to incorporate Himmel's bookmarking technology, a POSITA would not have had a reasonable expectation of success making this modification. As noted above, Rossmann and Himmel concern different device form factors. (*Compare* Rossmann, 2:8-34 *with* Himmel, 3:66-4:11). Petitioner cites no evidence that Rossmann could accommodate Himmel's bookmarking technology given Rossmann's limited computing resources. Implementing the claimed selection-page tree with icon sets on 1999 mobile devices would require substantial memory and processing resources that were severely constrained at the time. Neither Rossmann nor Himmel provides guidance for creating and maintaining a preloaded tree of selection pages specifically designed to include pictorial icon sets, nor for device-side generation of website addresses during icon selection on such resource-limited platforms.

64. Even Rossmann could accommodate Himmel's bookmarking technology, Petitioner cites no evidence that Rossmann could accommodate or

that this combination would yield selection pages that are beforehand locally stored in a tree menu and icons within those pages that, when selected, send a direct request to the corresponding web server. Petitioner claims that pages with both selection and direct access icons like the modified Rossmann-Himmel system were already known in the art as disclosed in Logan. (Petition, 30 (citing EX1003, ¶113)). But as Petitioner's expert admits, Logan discloses an "attract page" displayed on a public access kiosk, which contains links to local and remote information sources. (EX1003, ¶56; Logan, 4:55-68). The kiosks disclosed in Logan include a personal computer, which is connected to the internet via a modem and operates in a fixed-location, broadband environment. (Logan, 3:30-50). The '877 patent, by contrast, addresses "a communication device connected via a network to the Internet" where "preliminary selection steps" can be performed on the device itself rather than over the network. ('877 Patent , Abstract, 1:65–2:16) Logan's focus on persistent broadband kiosk operation is not reasonably pertinent to the '877 patent's local multi-level navigation for mobile devices. Petitioner does not explain how a mobile UI engineer in 1999 would have looked to a fixed-location, broadband-connected kiosk with an "attract page" system to solve the problem identified in the '877 patent: "[avoiding] delays from busy networks and [simplifying] browsing for users poorly accustomed to Internet searches." (EX1001 at 1:36–43). Moreover, Petitioner cites no evidence that

Rossmann's mobile communications devices could accommodate the modified Rossmann-Himmel pages, much less prestore these pages.

7.5.3. Failure of King (Ex. 1006)

65. King discloses a URL management system that enables use of variables within URLs. The system allows variables within addresses such as URLs with text substitution and context-sensitive conversion, and variables are automatically escaped when placed in a URL parameter. (King, Abstract). King further provides examples of variable substitution affecting URL parameters in HDML actions. (*Id.* at 9:49–10:27, 10:13–27). King focuses on parameterizing preexisting server-defined URLs through variable substitution rather than device-side generation of website addresses. Its menus are presented dynamically over the network, and the URLs are generated in response to server-driven interaction. It does not teach locally pre stored selection pages nor locally generating addresses on a mobile device without reliance on a server-provided URL template.

66. Petitioner relies on King for the proposition that URLs are produced as part of the user's hierarchical navigation through menus of services. Dr. Bederson echoes this contention in his discussion of King, stating King “describes how URLs can be locally generated and modified with variables to reach a webpage using a HDML browser.” (EX1003, ¶121).

67. This contention, however, is not what the '877 patent requires. Claim 1(a)(2) recites that the selection pages are “organized within a structure of tree menu and beforehand locally stored” ('877 patent, 2:4–16, 2:27–36). The specification is clear that the addresses corresponding to direct access icons are either “beforehand locally stored in a table or base of addresses or locally generated in the progress of the display and selection steps” but always within the context of a plurality of beforehand locally stored selection pages (*id.*, 2:15–26).

68. King discloses no such local storage. As noted above, its menus are presented dynamically over the network, and the URLs are generated in response to those server-driven interactions. Dr. Bederson does not identify any disclosure in King of the selection pages being preloaded or stored on the client device, and simply points to the generation of URLs for accessing remote web pages. Thus, while Apple invokes King for URL generation, King fails to teach or suggest the requirement that selection pages be beforehand locally stored on the device in a tree menu structure. Not only would a POSITA not have been motivated to combine Rossmann and Himmel for the reasons stated above, but a POSITA would not have been motivated to modify the Rossmann-Himmel system with King except in hindsight. Rossmann-Himmel fail to disclose much more than just King's URL generation, but the need for URL generation only becomes apparent based on facts gleaned from the '877 patent, not the alleged prior art. Indeed,

Rossmann-Himmel teaches away from locally generating an address because the addresses generated by Himmel's bookmarking technology are not generated locally. A POSITA would only be led to the flawed combination of Rossmann-Himmel and King if a POSITA starts with the claimed elements of the '877 patent and seeks to find them in the alleged prior art. Because this combination only makes sense in hindsight, it does render the Challenged Claims obvious.

7.5.4. Failure of Boyle (Ex. 1007)

69. Boyle teaches techniques for providing updated web information to HDML-compatible mobile devices. Boyle involves an update notification system where “when one or more pages of information are updated, users of those client devices subscribing to the updated pages of information receive a notification from one of the server devices that stores the updated information.” (Boyle, 2:9-28). The system allows “client devices to fetch the updated information from the server device” and is relevant for “devices that may have cached a local copy of the outdated content.” (Boyle, 2:27-28, 5:23-36). As such, Boyle describes an on-demand content refresh system for cached HDML decks, not the claimed architecture of updating “selection pages” that are “beforehand locally stored,” “organized in a tree menu structure,” and specifically designed to include a set of icons. Boyle's system addresses keeping cached server content current, not

maintaining the claimed device-side selection page architecture with integrated pictorial icon sets.

70. Boyle's update notification system then operates fundamentally differently from the claimed architecture. Boyle describes a system for "pushing" updated content to a client device. While Boyle allows updating stored content, it presumes either periodic or persistent connectivity as "[w]hen one or more pages of information are updated, users of those client devices subscribing to the updated pages of information receive a notification from one of the server devices that stores the updated information." (Ex 1006, 2:5–20). This feature undermines the '877 Patent's purpose of avoiding network access until the final selection. Boyle's updates also replace or modify content, not preload an entire multi-level menu tree for local searching. It does not disclose "direct access icons" leading to a final network address without intermediate downloads.

71. Further, the addition of Boyle's update/notification mechanisms does not supply missing limitations of Rossmann-Himmel-King. Updating local content presupposes the existence of the specific content to be updated. Here, Petitioner has not shown the claimed plurality of "selection pages" that are "beforehand locally stored" in a "tree menu," nor qualifying "direct access icons," nor "locally generated" addresses. Without that baseline, Boyle's updates cannot remedy the deficiencies.

72. Additionally, a POSITA would not have been motivated to modify the Rossmann-Himmel-King system with Boyle except in hindsight. Not only does Rossmann-Himmel-King fail to disclose much more than just updating outdated HDML decks, but the need for updating outdated HDML decks only becomes apparent based on facts gleaned from the '877 patent, not the alleged prior art. Indeed, Rossmann-Himmel-King teaches away from updating locally stored selection pages because Rossmann's HDML decks are not beforehand locally stored. A POSITA would only be led to the flawed combination of Rossmann-Himmel-King and Boyle if a POSITA starts with the claimed elements of the '877 patent and seeks to find them in the alleged prior art.

7.5.5. Failure in Combination

73. Even if one were to take Rossmann's HDML decks, Himmel's directory hierarchy, King's bookmark organization, and Boyle's push updates, the combined system would still lack several features of the '877 Patent. Firstly, the complete local multi-level navigation requirements (Claim 1(a)(1)–(a)(2)) are not met because no reference teaches preloading all themes and sub-themes before navigation. Then, the selection pages with direct access icon requirements (Claim 1(a)(3)) are not met by any reference, as Rossmann's links lead to other decks, Himmel and King have no concept of an “icon” tied directly to a final address as opposed to a text-based hyperlink, and Boyle's updates do not address icon-based

selection. Also, the direct access to the final resource upon selection requirements (Claim 1(b)) are not met because in the proposed combination, selecting any link or item still involves additional network calls or intermediate menus.

74. These are not minor distinctions. The '877 Patent discloses a structure with preloaded multi-level selection pages, local preliminary search, and single network call upon final selection. This structure is absent from each reference individually and remains absent even if they are combined. The Petition and Bederson declaration attempt to bridge these gaps with hindsight, effectively importing the '877 Patent's architecture into the prior art without evidence that a POSITA would have conceived of or implemented it in 1999.

8. CONCLUSION

75. For the reasons above, it is my opinion that Petitioner has not met its burden to show that the Challenged Claims would have been obvious as of December 30, 1999. The Petition and the Bederson declaration rely on hindsight reconstruction, mischaracterizations of the prior art, and conclusory assertions unsupported by contemporaneous evidence.

76. I hereby declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that all statements made of my own knowledge are true and that all statements made on information

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and belief are believed to be true. I understand that willful false statements are punishable by fine or imprisonment or both. See 18 U.S.C. Section 1001.

Dated: August 22nd, 2025

A handwritten signature in black ink, appearing to read 'Mahdi Eslamimehr', is written over a horizontal line.

Mahdi Eslamimehr, PhD, MBA