EXHIBIT 2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

FERID ALLANI,
Patent Owner

IPR2025-00857

DECLARATION OF MAHDI ESLAMIMEHR

CASE IPR2025-00857
U.S. Patent No. 10,943,058

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. 10,943,058 ("the '058 Patent") are anticipated or rendered obvious by certain prior art 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. 10,943,058 (IPR2025-00857). 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 am 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 ("POSITA"). 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 '058 Patent.

3. INFORMATION CONSIDERED

5. In forming my opinions, I have considered:

- U.S. Patent Nos. 10,943,058 and its file history.
- Apple's Petition for *Inter Partes* Review of U.S. Patent No. 10,943,058 (IPR2054-00857) 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 of the ’058 Patent 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 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 ‘058 PATENT

26. The ’058 Patent, titled “Method and Device for Accessing Sources and Services on the Web”, addresses the problem of slow and cumbersome access to online information, especially for “users that are not accustomed to computer tolls and Internet.” (’058 Patent, 1:36–50). The specification notes that “a delay corresponds to each request-answer step, with a variable duration conditioned by non-controllable parameters like traffic on the network , jamming and power of servers in the consulted sites or also the memory size of the received pages.” (’058 Patent, 1:36–43).

27. To address these issues, the ’058 Patent teaches “one or more steps for displaying a page of selection among a plurality of selection pages organized within a structure of tree menu and beforehand locally stored within said communication device” (’058 Patent, 2:3–10). Each selection page “compris[es] a set of icons” including “one or more icons for directly accessing remote sources of information and/or one or more selection icons for locally accessing another selection page within said structure of tree menu.” (’058 Patent, 2:11–20).

28. The “addresses of information sources corresponding to direct access icons [are] beforehand locally stored in a table or base of addresses or locally generated in the progress of the display and selection steps” (‘058 patent(‘058 patent patent, 2:14–24). This allows the device to “[emit] on Internet only a

complete address for accessing a well-targeted information source" after local navigation, "drastically reduc[ing]" average access times ('058 patent, 2:25-30).

29. The key innovation of the '058 Patent is to localize part of the navigation process: performing a preliminary search on a mobile device within a plurality of beforehand locally stored selection pages, each specifically designed to include both direct access icons and selection icons, organized within a tree menu structure. The "specifically designed to include" limitation was added during prosecution to secure allowance. This limitation narrows the scope to selection pages intentionally created and arranged to contain the claimed combination of icons as opposed to including pages that happen to display such icons as a byproduct of other content. This design element, together with the local-first storage and organization, is integral to achieving the '058 Patent's goals.

30. Figures 1 and 2 illustrate an example in which a tree-menu structure of "selection pages" (e.g., LO1, LO2, TH1, TH2) is locally stored and navigated; icons AD11 and AD12 link to information sources, while thematic icons (e.g., "calendar," "1st division games") and "Return" icons control local navigation ('058 patent, 4:9–27).

31. The claims implement these teachings. For example, claim 27 recites: "…a preliminary search… locally performed within said communication device in different themes and sub-themes within a plurality of successively displayed

selection pages, said selection pages being organized in a tree menu structure and beforehand locally stored within said communication device, each said selection page being specifically designed to include a set of icons." ('058 patent, 7:52–64).

32. 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

33. The '058 Patent centers around a localized navigation process with a preliminary search within a plurality of locally stored pages on a mobile device, those pages designed with a tree menu structure with direct access icons and selection icons. The Petition's and Dr. Benjamin Bederson's analyses disregard this interplay of design and structure, instead pointing to isolated features in disparate prior art systems and treating them as interchangeable modules that can be stitched together using hindsight.

34. Patent Owner's construction of 'used to include' makes clear that the claimed selection pages must be deliberately constructed and arranged to include the required set of icons. By ignoring the 'specifically designed to include' limitation, which requires intentional construction of locally stored pages

integrating both icon types in a tree menu, Dr. Bederson's analysis collapses this into mere capability, pointing to U.S. Patent No. 6,119,155's ("Rossmann") 'decks' and U.S. Patent No. 6,037,934's ("Himmel") bookmarks that were not specifically designed for such icon arrangements. The tree menu feature with locally stored pages of direct access icons as intended is absent from all cited art. In Rossmann, decks are network-downloaded sets of cards that display server-defined content. There is no disclosure that these decks are pre-authored as part of a locally stored, multi-page tree intentionally containing both direct access and selection icons. Himmel shows individual bookmarks that initiate network access, but it does not teach embedding them into a locally stored multi-page structure designed for local preliminary search. By ignoring the design intent, Petition and Bederson effectively read this limitation out of the claims.

35. Across all grounds, the Petition's proposed combinations fail to meet the '058 Patent's requirements. The use of Rossmann in the proposed combinations requires fundamentally altering Rossmann's principle of operation, replacing its intelligent network avoidance with unconditional network calls. This discards Rossmann's intended purpose, making the system slower, more costly, and less predictable on constrained devices. Petitioner and Bederson rely on hindsight assembly of isolated elements from disparate systems without real-world motivation or interoperability.

7.1. Deficiencies in the Prior Art

7.1.1. Rossmann

36. Rossmann describes a method for accelerating navigation among multiple web pages using Handheld Device Markup Language (HDML) on mobile devices. The Rossmann system operates through a fundamentally different architecture than the Challenged Claims. Rossmann's HDML "decks" are downloaded on demand from a server. Critically, these decks and cards are downloaded from the server first, then cached locally for subsequent navigation within that delivered content, not beforehand locally stored. The HDML decks comprise links that, when selected, cause retrieval of another menu deck from the server, not a direct connection to a 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). As such, Rossmann describes a server-driven, on-demand delivery model where pages become locally available only after being downloaded from the server—the opposite of "beforehand locally stored" selection pages that must exist on the device prior to the user's preliminary search and selection activities.

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

7.1.2. Himmel

38. 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 discloses 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. The bookmarks function as gatekeepers that check requested URLs against stored lists before allowing network retrieval, which is fundamentally different from direct access icons that are pre-designed components of local selection pages and cause direct server requests upon selection.

39. Himmel also does not teach a "search engine" as a POSITA would understand that term. The '058 Patent describes icons for accessing search engines that let the user "take control of his searches on the Web." ('058 Patent, 5:1-4). A POSITA would understand that, in light of the specification, a search engine enables a search on the Web as a whole, not a search feature of a single "Web page" as taught by Himmel. (Himmel, 18:66-19:1).

40. Additionally, Himmel does not teach directly accessing a document provided by a website. Petitioner arguments that Himmel's disclosure of a "Purchase" icon linked to a webpage is meets the limitation of "directly accessing a document provided by said Web site" in claim 21. A POSITA would understand that the linked webpage in Himmel is an HTML page. In contrast, the '058 Patent distinguishes a "document" from an "HTML page," specifying that the document is "provided by said Web site," as opposed to the document itself being a website. ('058 Patent, 1:30-34, 4:21-23, Fig. 2, claim 21).

7.1.3. King

41. 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. Those variables can be modified when placed in a URL parameter via automatic escaping. (King, Abstract). King further provides examples of variable substitution affecting URL parameters in HDML actions, such as "context-sensitive conversion" which "automatically converts text during text substitution in a manner that is dependent on the placement of the variable in the HDML content." (King, 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 interactions. 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.

7.1.4. Boyle

42. Boyle teaches techniques for providing updated web information to HDML-compatible mobile devices. Boyle involves 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.

43. Boyle's update notification system then operates fundamentally differently from the claimed architecture. Boyle describes a supervisory/management server 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." (Boyle, 2:9-20). This feature undermines the '058 Patent's purpose of avoiding network access until the final selection. Boyle's updates replace or modify content, not preload an entire multi-level menu tree for local searching.

Boyle also does not disclose direct access icons leading to a final network address without intermediate downloads.

7.1.5. Adar

44. Adar teaches a centralized bookmark database that maintains users' bookmark collections, with downloadable bookmark data and a shared bookmarks program that can be received "from the database 1022 at the beginning of a session of use." (Adar, 10:41-53 & Fig. 10). The user's bookmark collection can be "maintained and modified locally at the user's system 1010" such that "many operations performed by the shared bookmark system can be executed at the user's system 1010 without any further communication with the database 1022." (Adar, 10:47-57). This describes a bookmark management system with downloadable URL lists, not the claimed architecture of "beforehand locally stored" selection pages "specifically designed to include a set of icons" within a tree menu structure.

45. Adar's bookmarks are also similar to the bookmarks in Himmel in that they are designed to always trigger a network request, making their integration into Rossmann's architecture inconsistent. Integrating Adar's direct network bookmarks into Rossmann's architecture would require bypassing its local-check logic entirely. A POSITA would need to create a new class of icons routed through an always-online pathway, fundamentally changing Rossmann's control flow. This would require a substantial redesign.

7.2. Rebuttal to Ground 1 – Rossmann + Himmel (Claims 24–26)

7.2.1. Claim 24

46. Claim 24 requires "a first one of said locally stored pages [to be] specifically designed to include at least one direct access icon … and at least one selection icon … to display a second one of said locally stored pages" ('058 Patent, 7:43-57).

47. Firstly, Rossmann's use of a "cache" does not satisfy the "locally stored" requirement of the '058 Patent. Rossmann discloses that "the phone 120 typically receives a single HDML deck from the server device and stores the deck as cached in RAM 134… Each deck has a unique address identifier such as a URL and includes one or more cards. A card includes the information required to generate a screen display on the display Screen 116." (Rossmann, 6:25-35). Rossmann states that Fig. 2 containing RAM 134 illustrates "a typical digital mobile phone 120." (Rossmann, 6:11-12). A cache is, by definition, a temporary buffer used to hold data opportunistically, subject to eviction and replacement. By contrast, the '058 Patent requires "a plurality of pages locally stored in said data storage and displayable on said display" ('058 Patent, 7:11-13). The '058 Patent teaches that screen-pages are "locally stored in a storage unit, for example a hard disk unit or a CD-ROM, of the apparatus wherein this method is implemented." ('058 Patent, 4:5-7). A POSITA would understand "locally stored" in the '058

Patent to mean pages intentionally resident in the device's non-volatile memory for navigation, not transient cached copies stored in RAM dependent on prior retrieval. Accordingly, Rossmann's cache does not disclose the "locally stored" pages required by Claim 24.

48. In describing navigation, Rossmann explains that "each of the menu items is associated with a numeral that corresponds to a resource locator in the card containing the menu items. The resource locator includes an address of the particular object associated with that menu item. In general, a resource locator includes a URL … The address can be to another card in the deck stored in the cache or to a remote object on a server computer" (Rossmann, 10:26–34).

49. Rossmann further describes navigating through successive cards: "the tree structured information is hosted in a server device … According to the present example, the entry 402 contains a number of hyperlinkable nodes … a node 'Weather 406 under its parent node 'Local News' may have the address: www.xyzinfo.com/LocalNews/Weather … One of the final leaves along the node 'Weather 406 is a page 420 that provides weather information in Town A" (Rossmann, 11:34-56). To the extent that this navigation allows traversal between cards or between decks, Rossmann fails to disclose the use of "selection icons" or "direct access icons" to do so. While Rossmann shows cached decks and

hierarchical card navigation, it does not disclose locally stored pages "specifically designed" with both direct access and selection icons as Claim 24 requires.

50. Himmel instead teaches bookmarks to remote addresses. It explains: "Each bookmark entry is comprised of a URL to a favorite page and an associated descriptive text string which describes the web page in such a way to be easily recognized by the user" (Himmel, 6:19–22). Himmel also describes a "consumer hot list [bookmark set] … includ[ing] request items such as Purchase 552, On-Sale Today 553, Review Order 554, Review Shopping Cart 555 and Consumer Address 556. The selection of any of these bookmarks would result in the retrieval of a web page which would provide the listed action" (Himmel, 20:63-21:2).

51. Petitioner maps Rossmann's "cards" to the "selection icons" and Himmel's bookmarks to the "direct access icons," stating: "Himmel teaches downloading a 'consumer hot list' bookmark set … if a user selects a bookmark in the hot list, a web page at the URL of the selected item is retrieved. Himmel, 18:53–21:17" (Petition, 22–23). However, the bookmarks of Himmel are described by the Petition as "hyperlinked URLs" and cites Himmel's description that they are "comprised of a URL to a favorite page and an associated descriptive text string which describes the web page in such a way to be easily recognized by the user." These text-based hyperlinks do not sufficiently satisfy requirements for "direct access icons."

52. Even considered together, Rossmann and Himmel fail to disclose or suggest what Claim 24 requires. Rossmann describes cached decks of cards and hierarchical navigation but does not disclose direct access icons to predetermined sources; Himmel discloses bookmarks with hyperlinked URLs but does not disclose direct access icons nor locally stored pages with selection icons to other locally stored pages. The combination therefore does not achieve the claim's requirement of a plurality of locally stored pages, each "specifically designed" to include both types of icons.

7.2.2. Claim 25

53. Claim 25 Adds that "at least one of said selection pages is further specifically designed to include one or more icons for directly accessing a search engine on the Web." (col. 8:15-19). Petitioner points to Himmel's bookmark to a search engine but does not show such an icon embedded in a multi-level local tree menu alongside selection icons. The Petition asserts that "it would have been obvious, based on Himmel's disclosures, to download a 'search engine' icon along with the rest of the hot list icons for display on Rossmann's mobile device." (Petition, 30). However, the '058 Patent specification states that "the different consulted pages can advantageously include icons for accessing one or more search engines" and thus contemplates thematic organization where even a search-engine icon is part of the locally navigable hierarchy ('058 Patent, 5:1-5). Himmel

describes a "rudimentary common interface" search functionality (Himmel, 18:66-19:1) that a POSITA would understand operates within a website, not in the broader Web.

54. The "rudimentary common interface" search functionality of Himmel does not constitute a "search engine." What it describes is a "consumer hot list" and "search menu" system designed to provide quick links to actions within a given website. For example, Himmel explains that "the consumer hot list 551 can be presented on a retail site like www.Sears.com" and may include items such as "Purchase 552, On-Sale Today 553, Review Order 554, Review Shopping Cart 555 and Consumer Address 556," where selecting one of these items retrieves a page specific to that merchant's website (Himmel, 20:63–21:2).

55. This is categorically different from the "search engine on the Web" contemplated by the '058 Patent. A search engine in the sense of the '058 Patent is a stand-alone web-based service that indexes and retrieves results across multiple independent sites (e.g., Yahoo!, AltaVista). By contrast, Himmel's "search menu" operates only within the limited scope of a particular website's content. It is not capable of crawling, indexing, or retrieving results across the broader Web. Indeed, Himmel's system merely provides pre-set form actions or bookmarks tied to a merchant's own URLs, which a POSITA would not equate with a true Web search engine. Thus, even if Himmel's bookmarks could be

combined with Rossmann, they do not disclose nor render obvious an icon for "directly accessing a search engine on the Web" as required by claim 25 of the '058 Patent.

7.2.3. Claim 26

56. Claim 26 recites that "selective activation of a direct access icon comprises emitting, on the communication network, an address of the first, second or third predetermined one of said remote sources." ('058 Patent, 8:20-24). As discussed in section 7.1.1, Rossmann describes cached decks of cards and hierarchical navigation but does not disclose direct access icons to predetermined sources; Himmel discloses bookmarks with hyperlinked URLs but does not disclose direct access icons. The combination therefore does not achieve the claim's requirement of "direct access icons."

7.2.4. Motivation to Combine Rossmann and Himmel

57. Rossmann's 'compound request' system is designed for intelligent network avoidance, using a local cache ('deck') as the primary mode of navigation, and only initiating network fetches when local content is insufficient. The preferred mode is the 'cache case,' which allows access 'without requiring any communication with the server device' until needed. Himmel's bookmarks are tools of unconditional network access where a click always triggers a network request, with no local-first logic. Integrating Himmel's direct network bookmarks

into Rossmann's architecture would require bypassing its local-check logic entirely. A POSITA would need to create a new class of icons routed through an always-online pathway, fundamentally changing Rossmann's control flow. This is a substantial reconstruction and redesign, not a straightforward substitution.

58. The result would reintroduce the latency and network cost Rossmann was designed to avoid, confusing users with inconsistent response times and undermining its stated purpose of efficient navigation for resource-constrained devices. Such a modification would render the system unsatisfactory for its intended purpose. Neither reference teaches locally stored pages intentionally constructed with both icon types. Rossmann's decks are transient server-authored content; Himmel's bookmarks are independent of any tree menu structure.

59. Additionally, Petitioner's reliance on "a consistent user interface" (Petition, 22) is not a persuasive motivation. Rossmann already provides its own structured navigation model: "the phone 120 typically receives a single HDML deck from the server device and stores the deck as cached in RAM 134… Each deck has a unique address identifier such as a URL and includes one or more cards. A card includes the information required to generate a screen display on the display Screen 116." (Rossmann, 6:25-35). Rossmann further explains that "the example shown in FIGS. 4A through 4G illustrates the steps of navigating an information service web site that generally provides hierarchic layers of

information … the final page, i.e. the weather information in Town A, is what the user is interested in" (Rossmann, 12:19-25). This hierarchical, cache-based interface already delivers a consistent user experience within its own framework. Adding Himmel's bookmarks would not enhance consistency but introduce a conflicting interface paradigm: a flat list of external URLs that bypasses Rossmann's designed navigation sequence. A POSITA would recognize that the result would be less consistent, not more.

60. Nor would Himmel "simplify navigation" (Petition, 23). Himmel explains that "Each bookmark entry is comprised of a URL to a favorite page and an associated descriptive text string … The selection of any of these bookmarks would result in the retrieval of a web page which would provide the listed action" (Himmel, 6:19–22; 20:65-21:3). Unlike Rossmann's local card navigation, which avoids repeated server access, Himmel's bookmarks always trigger network retrieval. This adds latency, increases dependence on network availability, and undermines the efficiency Rossmann sought to achieve. A POSITA would understand that incorporating Himmel into Rossmann would complicate navigation by mixing local card hierarchies with remote network fetches, making the system slower and less reliable rather than simpler.

61. Petitioner further fails to account for the fact that Rossmann and Himmel assume different form factors on which their technologies will be

implemented, as Rossmann specifies the use of a "mobile [device]… designed small in size, light in weight, low in power consumption, and as economical and portable as possible" whereas Himmel describes "a personal computer, a mini computer, mainframe computer or a computer running in a distributed network of other computers… limited… by processor speed and disk storage requirements." (*Compare* Rossmann, 2:8-34 *with* Himmel, 3:66-4:11). There would be no expectation of success in implementing the resource intensive methods of Himmel in the resource-limited mobile device of Rossmann.

62. Thus, Petitioner and Bederson do not sufficiently show that a POSITA would be motivated to combine Rossmann and Himmel. I provide additional reasons why a POSITA would not be motivated to combine Rossman and Himmel in my declaration filed in Case IPR2025-00856, which I incorporate by reference.

7.3. Rebuttal to Ground 2 – Rossmann + Himmel + King (Claims 1, 2, 4–6, 10–23, 27)

63. The Petition cites King for additional UI features, but King does not disclose or suggest 'specifically designed' locally stored selection pages within a tree menu. Its teachings do not fill the gaps inherent to the Rossmann-Himmel combination. Firstly, this combination lacks a preliminary search in different themes/sub-themes, as Rossmann's sequential deck fetching is not equivalent; it does not allow multi-level local traversal before any network call. This

combination also does not locally store decks and instead utilizes a cache where Rossmann's decks are downloaded on demand. These cached decks do not persist in the system between instances, and King does not change this. Additionally, neither Rossmann nor King provides evidence of intentional design integrating both icon types into a locally stored multi-page hierarchy.

64. Further, Petitioner's reliance on King is misplaced because King is not in the same field of endeavor as the '058 Patent. The '058 Patent is directed to mobile communication devices, specifically mobile phones, that locally store multiple pages with icons for direct access to remote sources of information or services. In contrast, King is directed to "the field of computer languages," and more particularly "methods for inline variable management into a hypermedia display language" (King, 1:6–10). A POSITA would recognize that King's focus on variable management in a markup language does not address the challenges of user interface design or locally stored pages in a mobile communication device. Thus, King is not analogous prior art to the '058 Patent and would not naturally be consulted by a POSITA seeking to solve the problems addressed by the '058 Patent.

65. Second, Petitioner's assertion that "the HDML cards are stored 'before' the final target information is obtained and therefore are 'beforehand locally stored'" (Petition, 35) mischaracterizes how HDML cards function in King. King

describes HDML as a tag-based document language where "a number of 'cards' are grouped into a 'deck' that is the smallest unit of HDML information that can be exchanged between the mobile device … and the proxy server" (King, 4:27-31). These cards are transmitted over the network from a server to the device and are not persistently stored on the device beforehand in the manner required by the claims of the '058 Patent. Temporary reception of server-provided cards is fundamentally different from the claim requirement of "locally stored" pages that exist on the device prior to user activation. Therefore, Petitioner's attempt to equate transient HDML card delivery with "beforehand locally stored" pages is incorrect.

66. Petitioner further asserts that King provides a motivation to combine because its inline variable management "solves the problem of using client state in displays without the necessity of the server round-trip and without incurring all the memory and processing requirements of a full scripting language." (King, 2:26-30; Petition, 45–46). But King's discussion of variable management in a hypermedia markup language is directed to reducing the overhead of server interactions in the context of form variables and scripting, such as by using HDTP which "is a session-level protocol that resembles the HTTP but without incurring the overhead there of." (King, 4:59-65). This has nothing to do with the locally stored navigation pages required by the '058 Patent, nor with the hierarchical card

navigation disclosed in Rossmann or the bookmark lists disclosed in Himmel. A POSITA would recognize that King's focus on inline variable substitution addresses a different problem of minimizing the cost of scripting languages in client–server form submissions, not the design of locally stored pages or direct access icons. Incorporating King's variable handling into the Rossmann–Himmel combination would not simplify or improve navigation; instead, it would import an unrelated technique that does not advance the goals of the '058 Patent.

67. In my opinion, a POSITA would not have been motivated to combine King with the Rossmann-Himmel combination. Introducing King to create this three-way combination is an exercise in hindsight, combining unrelated concepts without a pre-AIA motivation to do so. I provide additional reasons why a POSITA would not be motivated to combine Rossman-Himmel and King in my declaration filed in Case IPR2025-00856, which I incorporate by reference.

7.3.1. Claim 1(c)

68. Petitioner argues that "a preliminary search" occurs merely because Rossmann's system allows the user to navigate through cached cards "before the final target information is obtained" (Petition, 41). But Claim 1(c) requires more: a "preliminary search" must be performed on locally stored pages, not merely on pages retrieved from a server and temporarily cached. Rossmann explains that "the phone 120 typically receives a single HDML deck from the server device and

stores the deck as cached in RAM 134." (Rossmann, 6:25-35). Rossmann's so-called preliminary search is dependent on network calls to retrieve pages as opposed to local navigation. These pages are created by the server and only cached after a network request; they are not "locally stored pages" as required by the '058 Patent, which describes pages that are intentionally resident on the device beforehand ('058 Patent, Claim 24/25). Thus, Petitioners' construction of "preliminary search" as any activity before final retrieval is incorrect, as it must be a search conducted within pages that are already locally stored on the device.

69. Petitioner also contends that "a POSITA would have understood Rossmann's modified system locally generates an address when a user selects a direct access icon displayed in the HDML browser" (Petition, 45). But the correct construction of "locally generated" is "generated on the device." Neither Rossmann nor Himmel discloses generating addresses on the device. Rossmann teaches that "each of the menu items is associated with a numeral that corresponds to a resource locator in the card containing the menu items … The address can be … to a remote object on a server computer" (Rossmann, 10:26–34). These addresses are pre-coded into the HDML deck delivered from the server. Likewise, Himmel's bookmarks are stored URL strings: "Each bookmark entry is comprised of a URL to a favorite page and an associated descriptive text string" (Himmel, 6:19–22). A POSITA would understand these are hardcoded addresses supplied

by the server or service provider, not addresses "generated on the device." Petitioners' assertion stretches the concept of "local generation" beyond recognition.

7.3.2. Claim 4

70. Claim 4 requires that a single selection page include "two or more direct access icons… corresponding to distinct sources of information or services." ('058 Patent, Claim 4). Rossmann's system is explicitly hierarchical, with each card leading to the next in a tree structure: "the example shown in FIGS. 4A through 4G illustrates the steps of navigating an information service web site that generally provides hierarchic layers of information" (Rossmann, 12:17-20). Himmel's bookmarks, by contrast, are presented in sets, but each selection triggers only one URL fetch (Himmel, 21:3–8). Neither reference suggests a single locally stored page that is "specifically designed" to include multiple direct access icons corresponding to different websites. Indeed, Rossmann teaches away from this by enforcing linear, hierarchical navigation rather than multiple branching direct access icons on a single page.

7.3.3. Claim 13

71. Petitioner argues that "moving a cursor and pressing a soft key" in Rossmann is a "click" within the meaning of Claim 13 (Petition, 54). But a POSITA would understand "click" in the context of the '058 Patent to refer to the

direct activation of an icon, not indirect navigation through cursor movement and soft-key selection. Rossmann explains that the user can move a selection using upward and downward arrow keys. For example, in a generated menu where not all items are visible, "to view the additional items, the user presses the downward arrow key corresponding to the multi-display screen card indicator 312 on the display screen," and in another example, "the user moves the arrow 310 downward to the second item. After a predetermined button is pressed, i.e. either the soft key OK or the numbered button '2' is pressed, the resource locator for the selection is transmitted to the server device." (Rossmann, 10:5-23, 51-56). This is not the same as a graphical "click" that selects an icon with a single actuation. The Petition's equivalence between cursor navigation/soft keys and a "click" broadens the term beyond its ordinary meaning and the specification's context, where the invention contemplates graphical icons selectively activated by the user. A POSITA would not equate the two.

7.4. Rebuttal to Ground 3 – Rossmann + Himmel + King + Adar

72. Petitioner argues that a POSITA would have been motivated to combine Adar with Rossmann, King, and Himmel (Petition, 65), but Adar addresses a fundamentally different problem. Adar explains that its system is "a System and method for enhancing Searches and recommending documents in a collection through the use of bookmarks shared among a community of users"

(Adar, 1:6-11). It further teaches that the system "maintain[s] a centralized database of bookmarks or user document preferences." (Adar, 4:29-38) . This architecture is inherently server-centric and depends on centralized collection and processing of user behavior. By contrast, Claim 24 of the '058 Patent requires "a plurality of pages locally stored in said data storage and displayable on said display" ('058 Patent, Claim 24). A POSITA would recognize that combining Adar's centralized recommendation system with Rossmann's cached HDML cards (Rossmann, 6:20–29) or Himmel's bookmark sets (Himmel, 6:19–22) would not simplify navigation on a mobile device. Instead, it would introduce the complexity of remote databases and collaborative filtering, a functionality entirely unrelated to the '058 Patent's goal of improving local navigation through stored pages and icons.

73. Similar to the problems with integrating Himmel's bookmarks into Rossmann, incorporating Adar into the combination would reintroduce the latency and network cost Rossmann was designed to avoid. The combined system of Rossmann-Himmel-King-Adar would be unsatisfactory for the intended purpose taught by Rossmann.

74. Moreover, Petitioner's proposal is not just a combination of two references, but a four-way combination of Rossmann, Himmel, King, and Adar. A POSITA would have had no reason to embark on such a sprawling

reconstruction absent knowledge of the challenged claims. That kind of piecemeal assembly, pulling together unrelated systems to meet the claim language, is a textbook example of hindsight reasoning. Accordingly, neither Petitioner nor Bederson provide sufficient motivation to combine Adar with Rossmann, King, and Himmel.

7.4.1. Claim 1(c)

75. Petitioner argues that a POSITA would have been motivated to "modify the resident 'bookmark manager' software in Rossmann-Himmel-King with the functionality of the 'SBM' bookmarks computer program to download popular bookmarks from a bookmark database at the start of a user session, including a 'Yahoo!' search engine bookmark" (Petition, 66–67). This rationale mischaracterizes both the requirements of the '058 Patent and the actual teachings of Adar.

76. Adar describes a "shared bookmark manager, which stores individual users' bookmarks (some of which may be published or shared for group use) on a centralized bookmark database connected to the Internet" (Adar, Abstract). The system "employs the preferences and profiles of individual users and groups within a community of users, as well as information derived from shared document bookmarks, to augment Internet searches, re-rank search results, and

provide recommendations." (Adar, Abstract). Adar's bookmarks are therefore dynamic, server-driven, and dependent on collective usage data.

77. By contrast, Claim 1(c) of the '058 Patent requires that a "preliminary search" be performed on locally stored pages ('058 Patent, Claim 1(c)). Bookmarks "downloaded at the start of a user session" from a server are not "beforehand locally stored," and a POSITA would recognize that Adar's server-centric model undermines the '058 patent's express focus on navigation through pages already stored on the device. Rossmann's HDML cards are cached after being retrieved from the server (Rossmann, 6:20–29), and Himmel's bookmarks are fixed, user-managed entries stored in sets (Himmel, 6:19–22). Neither contemplates importing server-curated popular links.

78. Incorporating Adar's SBM into Rossmann-Himmel-King would shift the system toward collaborative filtering and remote bookmark distribution, adding server dependence and complexity that are contrary to the patent's design of simplified, device-resident navigation. Such a modification is not a natural extension but a hindsight-driven attempt to meet Claim 1(c).

79. Rossmann's decks are cached from a server after a request, not "beforehand locally stored" (Rossmann, 6:20–29), and Himmel's bookmarks are fixed URL entries: "Each bookmark entry is comprised of a URL to a favorite page and an associated descriptive text string" (Himmel, 6:19–22). Neither

suggests dynamic server-pushed bookmarks. Importing Adar's SBM into Rossmann-Himmel-King would therefore shift the system away from the '058 patent's focus on locally stored navigation pages toward a centralized recommendation platform. A POSITA would recognize that this adds complexity, increases network dependence, and undermines the efficiency achieved by local storage.

80. Thus, the notion that a POSITA would have been motivated to modify Rossmann-Himmel-King with Adar's SBM to meet limitation 1(c) is unsupported and rests on hindsight.

7.5. Rebuttal to Ground 4 – Rossmann + Himmel + King + Boyle

81. Boyle's update features concern network downloading of new data, not the original design or structure of the selection pages. Even if applied, this does not create the claimed architecture. Firstly, updating transient or server-generated pages is not equivalent to pre-authoring and storing pages designed to include both direct access and selection icons. A POSITA would understand that updating Rossmann's deck is not critical because Rossmann's decks are transient server-authored content intended only for temporary storage. Moreover, because the updates are maintained on the server rather than the mobile device, the updates would be delivered the next time an HDML deck is requested and therefore would not require Boyle's push notifications to keep content up-to-date. Further, the

addition of Boyle's update/notification mechanisms does not supply missing limitations from Ground 2. 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. Boyle cannot backfill the missing 'specifically designed' requirement, because it deals with maintenance, not initial design intent.

82. Petitioner's Boyle rationale likewise fails to supply a real motivation to combine. Boyle describes a proxy server system for delivering information to client devices, explaining that the "proxy server or gateway server… performs mapping or translation functions, for example, mapping from one protocol to another." (Boyle, 5:36-45). The invention is directed to server-side reformatting of content for wireless delivery, not to the use of locally stored selection pages with direct access and selection icons as required by the '058 patent ('058 Patent, claim 24). Boyle is fundamentally concerned with optimizing network transmission and offloading complexity to a proxy, which is the opposite of the '058 Patent's emphasis on providing simplified, device-resident navigation through pages that are beforehand locally stored.

83. A POSITA would not view Boyle as offering a solution to the problem addressed in the ’058 patent. Combining Boyle’s proxy architecture with Rossmann’s cached HDML decks (Rossmann, 6:20–29), Himmel’s named bookmark sets (Himmel, 6:19–22), and King’s inline variable management (King, 1:6–10) would not lead to the claimed invention. Instead, it would result in a system that is more dependent on remote processing and server-side intervention, which runs counter to the patent’s goal of enabling efficient local access through pages stored in the device itself.

84. Petitioner’s theory thus requires a four-way combination of Rossmann, Himmel, King, and Boyle. A POSITA would have no reason to assemble these disparate references in the absence of hindsight knowledge of the challenged claims. The proposal to layer Boyle’s server-centric proxy system onto Rossmann, Himmel, and King is an exercise in hindsight reconstruction rather than a natural development suggested by the prior art. I provide additional reasons why a POSITA would not be motivated to combine Rossman-Himmel-King with Boyle in my declaration filed in Case IPR2025-00856, which I incorporate by reference.

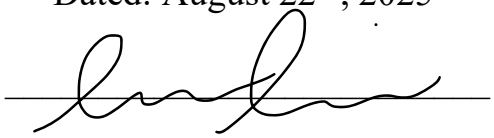
8. CONCLUSION

85. 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 30th, 1999. The Petition and Bederson declaration do not provide

sufficient evidence that a POSITA would have been motivated to combine the cited references in the manner proposed, and even if they had, the resulting system would not satisfy the claim limitations of the ’058 Patent.

86. 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 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



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