

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,

Petitioner

v.

FINTIV, INC.,

Patent Owner

Case No.: IPR2023-00398
U.S. Patent No. 10,438,196

DECLARATION OF KAI JOHNSON

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I. INTRODUCTION

1. My name is Kai Johnson. I have been retained as an expert witness by Plaintiff Fintiv, Inc. (“Fintiv” or “Patent Owner”) for this *Inter Partes* Review IPR2023-00398 of U.S. Patent No. 10,438,196 (the “’196 Patent”) filed by Apple, Inc. (“Apple” or “Petitioner”).

2. I have been asked to consider the proposed construction of the term “payment handler” as used in the ’196 Patent.

3. This Declaration contains statements of my opinions formed in this case to date and the bases and reasons for those opinions. I may offer additional opinions based on further review of materials in this case, including opinions and/or testimony of other expert witnesses.

II. QUALIFICATIONS

4. This section summarizes my educational background, career history, publications, and other relevant qualifications. My curriculum vitae is attached as Patent Owner’s Exhibit 2002, which includes my detailed employment background, and professional experience.

5. I have a Bachelor of Science degree in Computer Science from the University of Wisconsin-Madison.

6. I am a consultant with over 32 years of business experience. I am currently the President of Sutton Abinger in San Diego, California, a consulting

company focused on solutions for payment systems, security, transit, and mobile applications, through which I provide services to U.S. and international clients in the areas of payment systems, information security, cryptography, and mobile applications. I am also an Advisory Partner to Penser Consulting Ltd., a firm in London which provides consulting services related to the payments industry for clients in Europe, the Middle East, and Asia.

7. I was previously the Product and Technology Leader, Chief Architect, and Chief Security Officer for Softcard (formerly known as Isis), a joint venture among AT&T, T-Mobile, and Verizon Wireless to develop contactless mobile payments. Prior to that, I worked as a consultant to Verizon Wireless to develop consumer data products.

8. From 1999 to 2004, I worked in London, UK for enCommerce (acquired by Entrust) and SchlumbergerSema (acquired by Atos Origin) on both pre- and post-sales engagements, where many of my clients were in the telecom and financial services industries, and where some of my responsibilities included business development in the mobile payments market.

9. I am a named inventor on the following three issued patents relating to contactless mobile payments: U.S. Patent Nos. 10,075,213; 10,387,873; and 11,132,668.

10. COMPENSATION

11. I am being compensated for my work in this case at the rate of \$350 per hour. I am also reimbursed for all reasonable expenses that I incur during the course of this case. My compensation does not depend upon the results of my analysis or the substance of my testimony, nor does my compensation depend on the outcome of this or any related proceeding. I have no personal interest in the outcome of this matter. I have no financial interest in Patent Owner or affiliation with any of the real parties in interest, the Patent Owner, or the named inventor of the '196 Patent. It is conceivable that I may own mutual funds whose portfolios include stock in Petitioner. If this is the case, the value of such holdings would not constitute a material part of my net worth.

12. The statements made and opinions provided in this Declaration are based on my own personal knowledge and, if called as a witness, I could and would testify in a manner consistent with this Declaration.

III. MATERIALS CONSIDERED

13. I have reviewed the following documents in forming the opinions expressed in this Declaration:

- The prosecution history of U.S. patent application 14/928,521, now U.S. patent 10,438,196.
- The prosecution history of U.S. patent application 13/680,824, now U.S. patent 9,208,488

- The prosecution history of U.S. provisional patent application 61/562,301.

14. I have also relied on my education, skill, training, and experience in the relevant fields of technology in forming my opinions. I have further considered the viewpoint of a person of ordinary skill in the art (“POSITA”) as of the time of the inventions of the ’196 Patent. I provide my opinion as to the proper level of skill of a POSITA in Section VI of this Declaration.

15. I reserve the right to supplement my opinions as expressed in this Declaration to address any new information obtained in the course of this proceeding or based on any new positions taken by Petitioner.

IV. SUMMARY OF MY OPINIONS

16. After reviewing the ’196 Patent and its prosecution history, it is my opinion that the term “payment handler” should be interpreted in accordance with its plain and ordinary meaning to a POSITA at the time of the ’196 Patent.

17. However, to the extent that the Board may determine that the term “payment handler” is a means-plus-function term, it is my opinion that that the term is not indefinite because the specification describes the structure of the “payment handler” in the context of the invention.

18. My opinions, and the bases, therefore, are detailed throughout this Declaration.

V. LEGAL PRINCIPLES

19. Counsel for Patent Owner has informed me of the legal principles that apply in this proceeding.

20. I have been informed and understand that the Court determines, as a matter of law, the meaning and scope of the patent claims. I am informed and understand that the plain and ordinary meaning of a word is determined from the perspective of a person of ordinary skill in the art as of the earliest possible priority date of the asserted claims at issue. I am informed that the primary source of claim meaning is the intrinsic record, which includes the claims, specification, and prosecution history. I understand that the specification is the single best guide to the meaning of a disputed term. I am informed that extrinsic evidence—i.e., evidence that is external to a patent and its prosecution history, such as expert testimony, dictionary definitions, technical treatises, and articles—is useful only if it does not contradict any definition found in or ascertained by a reading of the patent documents. Where extrinsic evidence does conflict with the intrinsic evidence, I am informed that the intrinsic evidence controls.

21. I understand that a patentee is not entitled to a claim construction that is divorced from the context of the written description and prosecution history. A patentee can become his or her own “lexicographer” by defining terms, within the patent, however he or she chooses, as long as it is done explicitly. Likewise, there

may be an express disavowal of claim coverage in the specification or prosecution history. In determining whether a patentee intended to become his or her own lexicographer or intended to disavow claim scope, the Court may look to the intrinsic evidence. I understand that, if no explicit definition is provided for a term in the patent specification, the claim term must be given its plain meaning unless that would be plainly inconsistent with how the term is being used in the claim or the patent specification. It is my understanding that claim terms should be given their ordinary and customary meaning within the context of the patent in which the terms are used, i.e., the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention in light of what the patent teaches (a “POSITA”).

22. I understand that to determine how a POSITA would understand a claim term, one should look to those sources available that show what a POSITA would have understood disputed claim language to mean. I understand that, although the specification is a guide to the meaning of the claims, it is an error to import limitations from the specification into the claims. I am further informed and understand that the prosecution history is useful in determining what the applicant believed he was originally claiming, and whether the patentee relinquished claim scope during prosecution. The prosecution history provides evidence of how the PTO and the inventor understood the patent. Prosecution

disclaimer ensures that claims are not construed one way in order to obtain their allowance and in a different way against accused infringers.

VI. LEVEL OF ORDINARY SKILL IN THE ART

23. In the Institution Decision, the Board stated:

For purposes of this Decision, we determine a person of ordinary skill in the art “would have had *a working knowledge of mobile payment systems and techniques*” and “a bachelor’s degree in electrical engineering, computer science, or equivalent training, and approximately two years of work experience in software development with a basic knowledge of accounting,” as Petitioner proposes. Pet. 4. We are satisfied that this definition generally comports with the level of skill necessary to understand and implement the teachings of the ’196 patent and the asserted prior art. Institution Decision, Paper No. 9, at 10 (emphasis added).

24. I adopt the Board’s determination of the level of ordinary skill in the art but provide further detail about what should be meant by “a working knowledge of mobile payment systems and techniques.” The POSITA’s working knowledge of “mobile payment systems and techniques” should specifically include a working knowledge of “mobile wallets,” because the claims of the ’196 Patent are directed to “mobile wallets.” See, e.g., Ex. 1001, Claim 1 (“A computing system for management of a mobile wallet, comprising ...”). There are types of mobile payment systems that are unrelated to “mobile wallets” such as a wireless point-of-sale system used by a merchant to remotely accept credit card payments. A person who has a working knowledge of such point-of-sale systems,

but lacks a working knowledge of “mobile wallets,” should not be considered a POSITA for purposes of the ’196 Patent.

25. I have had at least this level of skill since at least 2009, when I led product management for Verizon Wireless’s implementation to support the launch of contactless mobile payments under the joint venture that would eventually be branded as Softcard. Softcard used contactless technology to allow users to pay for items at stores and restaurants with credit and debit card credentials stored on their smartphones.

26. The opinions I express in this Declaration are from the viewpoint of such a POSITA as of November 21, 2011, the priority date claimed in the ’196 Patent (Ex. 1001, 1:8-16).

VII. BRIEF OVERVIEW OF THE ’196 PATENT

27. The ’196 Patent describes a mobile wallet infrastructure to be used with third-party mobile wallets provided by third-party mobile wallet providers (Ex. 1001, 1:37-39). As described in claim 1, the mobile wallet infrastructure receives a “communication from a customer ... indicating that the customer desires to purchase an item at an agent terminal for a specified amount of funds using a specified payment method from a mobile wallet” (Ex. 1001, 24:29-34). The mobile wallet infrastructure “debit[s] the mobile wallet by the specified amount of funds,” (Ex. 1001, 24:43) “credit[s] an agent account by the specified

amount of funds,” (Ex. 1001, 24:44) and “send[s] a notification ... to the agent terminal ... indicating confirmation of the processing of the transaction” (Ex. 1001, 24:47-52). Independent claims 8 and 16 have similar language.

28. The mobile wallet infrastructure described in the ’196 Patent specification processes transactions using a variety of customer accounts, including stored-value accounts, bank or credit union accounts, credit or debit card accounts, or these or other types of accounts managed through third-party mobile wallet providers (Ex. 1001, 1:42-51).

VIII. CONSTRUCTION OF THE TERM “PAYMENT HANDLER”

A. The Plain and Ordinary Meaning of “Payment Handler” Is Clear

29. The plain and ordinary meaning of the term “payment handler” used in the ’196 Patent would be clear to a POSITA at the time of the patent.

30. In the context of a computing specification, a POSITA would understand the term “handler” to refer to a computer program or software component developed to perform a certain specialized task. For example, in 2010 Wiktionary defined the use of “handler” in computing as “a subroutine that handles a particular situation such as an event or exception” (Ex. 2018). So, even without any additional explanation (which the ’196 Patent provides), a POSITA would understand the term “payment handler” to refer to the component that handles the specialized task of making payments.

31. The term “payment handler” was used in IETF RFC 2935 which was the subject of a public standards process and was published in September of 2000 (Ex. 2020). At the time, the term was so well understood that the IETF RFC did not provide a specific definition beyond the plain and ordinary meaning.

B. Even if “Payment Handler” is a Nonce Word The ’196 Patent Provides Sufficient Structure to Define “Payment Handler”

32. The ’196 Patent claim limitations refer to a specific component, the “payment handler,” which is further described and depicted in the specification. The claim limitations refer to “expos[ing] a common API,” which a POSITA would understand as making the API available to other components or services to use. This API has a particular purpose, “interacting with different payment processors,” which a POSITA would understand to provide structure for the “payment handler.”

33. A POSITA would understand an application programming interface (API) to be “a particular set of rules (‘code’) and specifications that software programs can follow to communicate with each other. It serves as an interface between different software programs and facilitates their interaction, similar to the way the user interface facilitates interaction between humans and computers” (Ex. 2019). An API serves as a conduit, enabling different software applications to communicate and share data and functionality in a controlled manner. The “rules and specifications” of an API define the data formats and methods that

applications can use to exchange information and perform operations. APIs can be used in various contexts, such as web APIs that enable applications to access services over the Internet, API libraries that provide predefined functions to simplify development, and operating system APIs that mediate interactions with underlying system resources.

34. APIs are the glue that holds large computing systems together, making it possible to build systems out of discrete, reusable components. They improve efficiency by allowing code to be reused, enhance integration capabilities between disparate software applications, and allow new features to be added by integrating new components. Developers use APIs to fetch data dynamically, integrate third-party functionality, and extend the capabilities of existing software systems.

35. The “Payment Handler 105” is depicted in Fig. 1 of the ’196 Patent, reproduced here with added emphasis.

Platform Functional Architecture

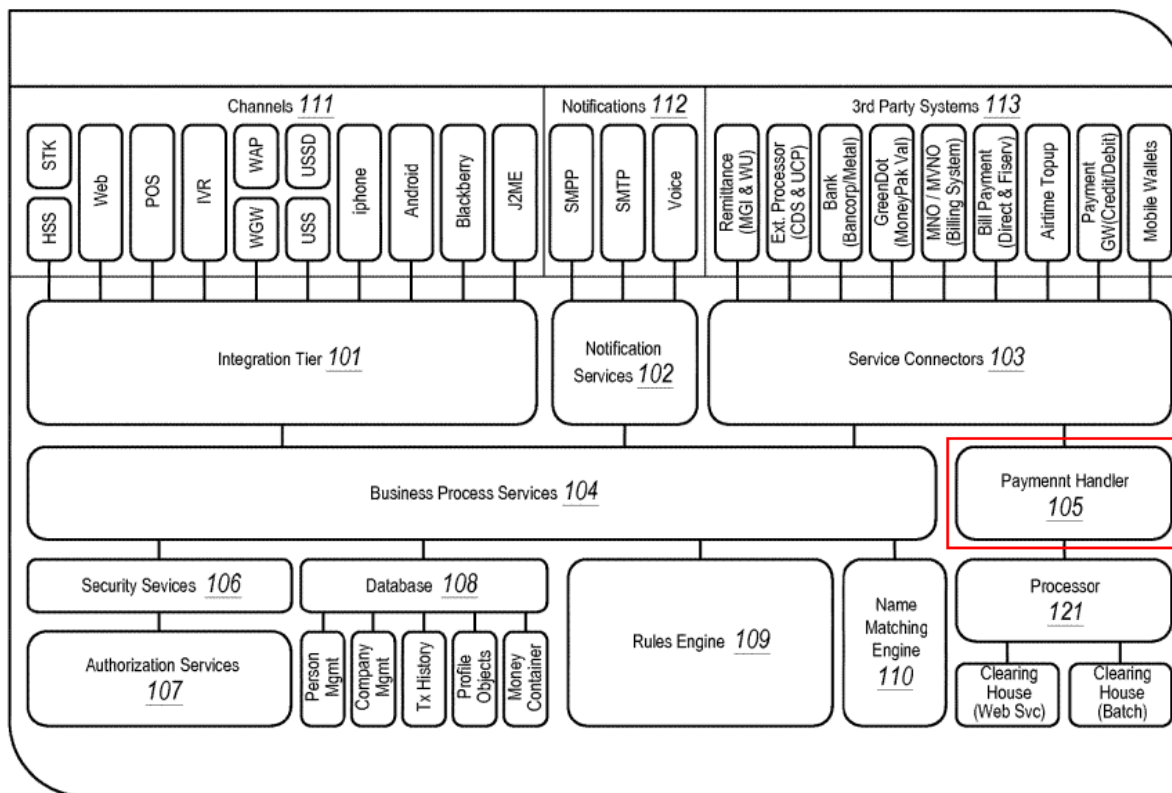


FIG. 1

36. As depicted in Fig. 1, the “Payment Handler 105” is one of several components of the platform and directly interacts with the “Service Connectors 103” and “Processor 121.” According to the specification, “Payment handler 105 is configured to wrap APIs of different payment processors, such as, for example, banking accounts, credit/debit cards or processor 121. Payment handler 105 exposes a common API to facilitate interactions with many different kinds of payment processors” (Ex. 1001, 10:21-26). Although the specification says that “The transaction processor 121 can be used to hold, load, withdraw and deposit

funds to mobile wallet accounts” among other tasks (Ex. 1001, 10:49-50), the description of the “Payment Handler 105” in the specification makes it clear that the “Processor 121” is merely one of several different kinds of payment processors that the “Payment Handler 105” is able to interface with.

37. Both the claims and the specification of the ’196 Patent refer to the “payment handler” exposing a common API. Exposing a common API means making it available to other components or services to use. A POSITA would recognize the architectural style of Fig. 1 as “service-oriented architecture,” which uses software components called services to create business applications where each service provides a business capability and can communicate with each other across platforms and languages. In the context of a service-oriented architecture a POSITA would understand that the connection from “Payment Handler 105” to “Service Connectors 103” represents the API that the “payment handler” exposes to other components in the environment, via the “Service Connectors 103” and “Business Process Services 104.”

38. This interface between “Service Connectors 103” and “Payment Handler 105” is the “common API” described in the claims and specifications. According to the specification, “Payment handler 105 is configured to wrap APIs of different payment processors” (Ex. 1001, 10:21-22). A POSITA would understand that “wrapping an API” refers to an established technique for

providing a translation interface that provides the functionality or some subset of the functionality of the API in another form. The purpose of this common API, which “wrap[s] the APIs of different payment processors,” is to provide an abstract interface for payment transactions, where the specialized task of the “payment handler” is to encapsulate the complexity of the various interactions with many different kinds of payment processors. The payment handler’s common API would allow other components in the platform to make credit or debit, for example, without making distinctions between the routing number and account number necessary for transactions with bank accounts and the card number and expiration date necessary for debit card transactions; or for example, without needing to follow the sequence of authorization, capture, and settlement steps necessary for credit card transactions.

39. To a POSITA, the structure of the “payment handler” is clearly determined by the APIs it uses and the common API it provides. Specifically, a POSITA would understand the distinct differences in the APIs to interact with different payment processors, as these APIs define the variety of parameters these processors may need and the variation in the sequence of steps required to process different types of transactions. And the common API exposed by the “payment handler” simplifies the specialized task of making payments so that other components in the infrastructure can make payments without each implementing

the complex interactions with each individual payment processor. Given the specification of the payment processors that the “payment handler” would integrate with, and an architecture for the common API that the “payment handler” would provide, implementing the “payment handler” component would be trivial for a POSITA.

IX. CONCLUSIONS

40. Relying on my education, experience, skill, and training in the relevant field of art, and after reviewing the materials identified above, it is my opinion that:

41. The plain and ordinary meaning of the term “payment handler” as used in the claims and specifications of the ’196 Patent is clear and specific. Even if the Board determines that “payment handler” is a means-plus-function term, the claims and specification of the ’196 Patent provide sufficient structure to define the term.

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

43. I reserve the right to supplement my opinions in the future to respond to any arguments that Petitioner raises and to consider new information as it becomes available to me.

44. In signing this Declaration, I understand that the Declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross examination in the case and that cross examination will take place within the United States. If cross examination is required of me, I will appear for cross examination remotely within the United States during the time allotted for cross examination.

Executed October 12, 2023, at San Diego, California.

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Kai Johnson