IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

In re U.S. Patent No. 6,925,481

Filed: May 3, 2001

Issued: August 2, 2005

Inventor: Singhal et al.

Assignee: Clouding IP, LLC

Title: Technique for Enabling Remote Data Access and Manipulation from a Pervasive Device

_____

Mail Stop PATENT BOARD, PTAB
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 6,925,481 UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 ET SEQ.

TABLE OF CONTENTS

EXHIBIT LIST

1001   U.S. Patent No. 6,925,481 to Singhal et al.

1002   Excerpts from the Prosecution History of Application No. 09/848,394, which matured into the '481 patent.

1003   U.S. Patent No. 6,670,968 to Schilit et al.

1004   U.S. Patent No. 7,269,664 to Hutsch et al.

1005   Flynn, M., et al., "The Satchel System Architecture: Mobile Access to Documents and Services," *Mobile Networks and Applications*, Vol. 5 (December 2000).

1006   Barrett, R., et al., "Intermediaries: New Places for Producing and Manipulating Web Content," *Computer Networks and ISDN Systems*, Vol. 30 (April 1998).

1007   Declaration of Dr. Benjamin B. Bederson, Ph.D.

I.   INTRODUCTION

Petitioner Oracle Corporation ("Oracle" or "Petitioner") respectfully

requests *inter partes* review for claims 1, 2, 25, 28, 32, and 50-57 of U.S. Patent

No. 6,924,481 (the "'481 patent," attached as Ex. 1001) in accordance with 35

U.S.C. §§ 311–319 and 37 C.F.R. § 42.100 et seq.

The '481 patent is generally directed to methods and systems for enabling

pervasive computing devices (*e.g.*, the Palm Pilot PDA or the Compaq iPAQ

Home Internet Appliance IA-1(*Ex. 1001 at 1:23-25, 2:24-25)*) to access and

manipulate data, such as, for example, an internet web page or a document stored

on a file server. *(See id. at 3:28-33).* More particularly, the '481 patent is directed

to methods and systems wherein a series of proxy servers are used to (1) obtain

data that was requested by a pervasive device, and (2) return the requested data to

the pervasive device along with information regarding one or more data

manipulation operations (e.g., printing and faxing) determined to be available for

the obtained data. *(See, e.g., id. at 3:28-3, claim 1).*

As demonstrated by various references which were not before the Examiner,

this technique was developed and published years prior to the earliest effective

filing date of the '481 patent. For instance, by 1997 proxy servers were being used

to transform web page content for optimized display on web browsers. *(Ex. 1007

at ¶ 21).* Moreover, by the mid-1990s, context-aware or location based computing

had rapidly spread across the academic community, leading to the development of the "ParcTab" mobile computer. *(Id. at ¶¶ 22-24).* ParcTab allowed users to wirelessly share a document with other nearby devices or manipulate a document – by faxing or printing it – to a nearby printer or fax machine. *(Id.)*

The natural progression of this research led to the development of various proxy based systems in which data requested by a pervasive device was not only manipulated for optimal display on the requesting device, but also linked to services that could print or fax the requested data. For instance, U.S. Patent No. 6,670,968 to Schilit et al. ("Schilit," Ex. 1003) discloses a server which, in response to a data access request received from a mobile device, obtains the requested web documents, parses the content into selectable hyperlinks, and determines "situation, or context-appropriate services, such as printing or faxing," which may be carried out on the obtained data. (*Ex. 1003 at 5:34-51; Ex. 1007 at ¶¶ 38, 39*).

Schilit and similar references were not before the Examiner during prosecution of the '481 patent. These references anticipate or render obvious the challenged claims of the '481 patent, as shown in the following discussion.

II. MANDATORY NOTICES

Pursuant to 37 C.F.R. § 42.8(a)(1), Oracle provides the following mandatory disclosures.

A. Real Party-In-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner certifies that Oracle is the real party-in-interest.

B. Related Maters

Pursuant to 37 C.F.R. § 42.8(b)(2), Petitioner states that the '481 Patent is asserted in co-pending litigation captioned *Clouding IP, LLC v. Oracle Corp.*, D.Del., Case No. 1:12-cv-00642. This litigation remains pending. The patents-in-suit are U.S. Patents 6,631,449; 6,918,014; 7,596,784; 7,065,637; 6,738,799; 5,944,839; 5,825,891; 5,678,042; 5,495,607; 7,254,621; 6,925,481. This IPR petition is directed to U.S. Patent 6,925,481; however, petitions corresponding to the remaining patents will be filed in the forthcoming weeks.

C. Lead And Back-Up Counsel

Pursuant to 37 C.F.R. § 42.8(b)(3), Petitioner provides the following designation of counsel: Lead counsel is Greg Gardella (Reg. No. 46,045) and back-up counsel is Scott A. McKeown (Reg. No. 42,866).

D. Service Information

Pursuant to 37 C.F.R. § 42.8(b)(4), papers concerning this matter should be served on the following.

<blockquote>
Address: Greg Gardella or Scott McKeown
               Oblon Spivak
               1940 Duke Street
               Alexandria, VA 22314
Email: cpdocketgardella@oblon.com and
</blockquote>

Telephone: (703) 413-3000
Fax: (703) 413-2220

III. PAYMENT OF FEES

The undersigned authorizes the Office to charge $27,200 to Deposit Account

No. 15-0030 as the fee required by 37 C.F.R. § 42.15(a) for this Petition for *inter*

partes review. The undersigned further authorizes payment for any additional fees

that might be due in connection with this Petition to be charged to the above

referenced Deposit Account.

IV. REQUIREMENTS FOR *INTER PARTES* REVIEW

As set forth below and pursuant to 37 C.F.R. § 42.104, each requirement for

inter partes review of the '481 patent is satisfied.

A. Grounds For Standing

Pursuant to 37 C.F.R. § 42.104(a), Petitioner hereby certifies that the '481

patent is available for *inter partes* review and that the Petitioner is not barred or

estopped from requesting *inter partes* review challenging the claims of the '481

patent on the grounds identified herein. This is because the '481 patent has not

been subject to a previous estoppel based proceeding of the AIA, and, the

complaint served on Oracle referenced above in Section II(B) was served within

the last 12 months.

B.   Identification of Challenge

Pursuant to 37 C.F.R. §§ 42.104(b) and (b)(1), Petitioner requests *inter partes* review of claims 1, 2, 25, 28, 32, and 50-57 of the '481 patent, and that the Patent Trial and Appeal Board ("PTAB") invalidate the same.

1.   The Specific Art and Statutory Ground(s) on Which the Challenge is Based

Pursuant to 37 C.F.R. § 42.204(b)(2), *inter partes* review of the '481 patent is requested in view of the following references, each of which is prior art to the '481 patent under 35 U.S.C. § 102(a), (b), and/or (e):

(1)   U.S. Patent No. 6,670,968 to Schilit et al. ("Schilit," Ex. 1003), issued December 30, 2003 from an application filed July 10, 2000. Schilit is prior art to the '481 patent under at least 35 U.S.C. § 102(e).

(2)   U.S. Patent No. 7,269,664 to Hutsch et al. ("Hutsch," Ex. 1004), issued September 11, 2007 from an application filed January 12, 2001. Hutsch is prior art to the '481 patent under at least 35 U.S.C. § 102(e).

(3)   *The Satchel System Architecture: Mobile Access to Documents and Services* by Flynn, M., et al. ("Flynn," Ex. 1005) published December 2000 in *Mobile Networks and Applications*, Vol. 5, Issue 4, pgs. 243-258. Flynn is prior art to the '481 patent under at least 35 U.S.C. § 102(a).

(4)   *Intermediaries: New Places For Producing And Manipulating Web Content* by Barrett, R., et al. ("Barrett," Ex. 1006) published April 1998 in

Computer Networks and ISDN Systems, volume 30, pgs. 509-518. Barrett is prior

art to the '481 patent under at least 35 U.S.C. § 102(b).

Schilit (Ex. 1003) anticipates claims 1, 2, 25, 28, and 50-57 of the '481

patent under 35 U.S.C. § 102(e). Claim 32 is rendered obvious by Schilit in view

of Hutsch (Ex. 1004) under 35 U.S.C. § 103.

Flynn (Ex. 1005) taken in view of Schilit renders obvious claims 1, 2, 25,

28, and 50-57 of the '481 patent under 35 U.S.C. § 103. Claim 32 is rendered

obvious by Flynn in view of Schilit and further in view of Hutsch under 35 U.S.C.

§ 103.

Barrett (Ex. 1006) taken in view of Schilit renders obvious claims 1, 2, 25,

28, and 50-57 of the '481 patent under 35 U.S.C. § 103.

2. How the Construed Claims Are Unpatentable Under the Statutory Grounds Identified in 37 C.F.R. § 42.204(B)(2) and Supporting Evidence Relied upon to Support the Challenge

Pursuant to 37 C.F.R. § 42.204(b)(4), an explanation of how claims 1, 2, 25,

28, 32, and 50-57 of the '481 patent are unpatentable under the statutory grounds

identified above, including the identification of where each element of the claim is

found in the prior art, is provided in Section VII, below, in the form of claims

charts. Pursuant to 37 C.F.R. § 42.204(b)(5), the exhibit numbers of the supporting

evidence relied upon to support the challenges and the relevance of the evidence to

the challenges raised, including identifying specific portions of the evidence that

support the challenges, are provided in Section VII, below, in the form of claim charts.

V. FACTUAL BACKGROUND

A. Declaration Evidence

This Petition is supported by the declaration of Professor Benjamin B. Bederson from the University of Maryland. (Ex. 1007). Prof. Bederson offers his opinion with respect to the content and state of the prior art.

Prof. Bederson is a Professor in the Computer Science Department and the Institute of Advanced Computer Studies at the University of Maryland. Prof. Bederson is also Co-Founder and Chief Scientist for Zumobi, Inc., a venture capital funded startup created to commercialize mobile media for cell phones, and the Co-Founder and Technical Director for the International Children's Digital Library Foundation, which provides free online children's books to its members. *(Ex. 1007 at ¶ 1)*. Prof. Bederson is the author or co-author of 10 book chapters and over 100 technical articles directed to web browsing, mobile computing, user interfaces, user experience, and the software and technology underlying these systems. *(Id. at ¶ 9)*. Prof. Bederson is also a co-inventor on 7 U.S. patents generally directed to user interfaces/experience. *(Id. at ¶ 5)*. In 2011, Prof. Bederson was recognized as an Association of Computing Machinery ("ACM") distinguished scientist and elected to the Computer-Human Interaction ("CHI")

Academy for his substantial contributions made in the field of CHI. *(Id. at ¶ 7).*

Prof. Bederson is also one of the principal inventors of the PadPrints' proxy-based

web browser that offered a graphical web history to users by visually showing

what web pages a user had visited. *(Id. at ¶ 19).*

B. The State of the Art

Proxies work by intercepting all web traffic coming from and going to a web

browser and, once intercepted, the proxy can manipulate the requested web page in

any number of different ways. *(Ex. 1007 at ¶ 19).* By 1997, proxy servers were

being used to modify web content based on the location of the client computer and

to automatically re-author a web page designed for a desktop computer to

appropriately display on a mobile web browser. *(Id. at ¶ 21).* By 1998, web

proxies were enhanced to automatically manipulate requested content by "adding

annotations, highlighting links, adding toolbars, translating document format (e.g.,

from Rich Text Format to HTML), changing form information, and adding scripts"

all before returning the content to the requesting device. *(Id. at ¶ 42).*

Ubiquitous computing was developing in parallel with the aforementioned

proxies. Ubiquitous computing was based on broadly available mobile computing

devices. *(Id. at ¶ 22).* These devices, known as "Tabs" or "Pads," continually

tracked their location and, based on the device's sensed location, offered various

services to the user, such as document sharing, printing, or faxing. *(Id. at ¶¶ 22-*

25). The ubiquitous computing field quickly evolved into calling its work "context aware computing" upon the realization that location awareness, and the ability of a mobile device to interact with nearby printers, displays, facsimiles, etc. was at the core of the technology. *(Id. at ¶ 28).*

With this deep research focus in mobile web browsing and contextual computing, the natural and obvious technological progression was to put all of these features together to offer mobile, web-based contextualized document services. *(Id. at ¶¶ 30, 31).* In this manner, rather than simply returning a requested web page that has been optimized for display on a requesting device, the returned data could also be contextualized, such that nearby services (*e.g.*, printing and faxing) could be executed. *(Id.).* For instance, U.S. Patent No. 6,670,968 to Schilit et al. ("Schilit," Ex. 1003) discloses a server which, in response to a data access request received from a mobile device, obtains the requested web documents, parses the content into selectable hyperlinks, and determines "situation, or context-appropriate services, such as printing or faxing," which may be carried out on the obtained data. (*Ex. 1003 at 5:34-51; Ex. 1007 at ¶¶ 38, 39*).

C. The '349 Patent Application

Application No. 09/848,349 ("the '349 application")) was filed May 3, 2001 and does not claim priority to a prior application. The '349 application discussed methods and systems for enabling pervasive computing devices to access and

manipulate data, such as, for example, content stored on a web server, or a document stored on a file server. *(See, e.g., Ex. 1001 at 3:28-33).* First, the pervasive device submits a request for information (*e.g.*, through a web browser), which is received by a protocol proxy. *(See id. at 6:33-41, 10:17-22).* Second, the protocol proxy forwards the data request from the pervasive device to the appropriate information source, such as a web server. *(See id. at 5:42-56; 10:29-34).* Third, after receiving the requested data from the appropriate information source, the protocol proxy, by querying a data manipulation server ("DMS"), determines what services are available to manipulate the retrieved content. *(See id. at 10:35-53).* The DMS maintains a repository of available services for different types of data *(See id. at 7:49-54)* and forwards content to be manipulated to the appropriate output agent. *(See id. at 7:13-16).* Services may include, for example, printing, faxing, or e-mailing the retrieved content. *(See id. at 3:33-37).* Fourth, the protocol proxy forwards the retrieved content, along with a list of available services, to the requesting device. *(See id. at 15:52-54, Fig. 1, message flow 7).* Preferably, the list of available services will comprise a set of links, which correspond to each available service. *(See id. at 12:3-14).* The list of available services may be limited to those services available at the device's location. *(See id. at 11:28-31).* Lastly, assuming the user of the pervasive device invokes an

available service request, the request is received by the DMS and, thereafter, executed. *(See, e.g., id.16:32-34, Fig. 4)*.

D. Prosecution History of the '481 Patent

The '349 application received a first action Notice of Allowance, which include the following statement of reasons for allowance:

> The following is an examiner's statement of reasons for allowance: None of the prior art of record taken singularly or in combination teaches or suggests receiving a data access request from a pervasive device and receiving the requested data at the pervasive device, along with information about one or more data manipulation operations that have determined to be available for the obtained data.

(Ex. 1002 at November 24, 2004 Notice of Allowance). The '349 application issued as U.S. Patent No. 6,925,481, the subject of the instant petition.

Thus, the prosecution history indicates that the '481 patent was allowed because the Examiner believed that the prior art failed to teach a data access technique wherein (1) a data access request is received from a pervasive device; (2) the pervasive device in turn receives the requested data; and (3) the pervasive device also receives information regarding one or more data manipulation operations determined to be available for the obtained data.

VI. BROADEST REASONABLE CONSTRUCTION

Because the standards of claim interpretation used by the federal courts are different from the standards used by the Patent Office in claim examination proceedings (including this *inter partes* review), any claim interpretations used or

applied in these proceedings are neither binding upon Petitioner in patent

infringement litigation or on any other litigants, nor do such claim interpretations

correspond to the construction of claims under the legal standards used by the

courts. Accordingly, any interpretation of claims presented either implicitly or

explicitly herein should not be viewed as constituting, in whole or in part,

Petitioner's own interpretation and/or construction of such claims for the purposes

of litigation. Instead, any constructions in this proceeding should be viewed only

under the "broadest reasonable construction" standard required here.

All claimed terms not specifically addressed in this section have been

accorded their broadest reasonable interpretation in light of the patent specification

including their plain and ordinary meaning. Any claim term which uses the phrase

"means for" is presumed for purposes of this petition to invoke 35 U.S.C. § 112 ¶

6. (See, e.g., M.P.E.P. § 2181, Eighth Ed., Rev. Nine, August 2012).

A.   Location

Challenged claims 1, 50, 52, 54, and 56 require a "location of each available

data manipulation operation" to be returned to the requesting pervasive device

along with the determined data manipulation operations. The '481 patent in one

embodiment uses term "location" to refer to the physical location of a pervasive

device relative to the physical location of available data manipulations. *(See Ex.*

1001 at 11:28-57). However, the term "location," given its broadest reasonable

interpretation in this proceeding, broadly corresponds to a URL or other similar reference specifying the location on a computer network of an available data manipulation. *(See id. at 5:52-53, 9:10-14; Ex. 1007 at ¶ 15).*

B. Means For Receiving

Claim 50 uses the term "means for receiving a data access request from a pervasive device." Under the broadest reasonable interpretation of this limitation, the structure most closely corresponding to this means-plus-function element is a protocol proxy, which "provides a bridge between the client … and the information that it seeks to access and manipulate. A protocol proxy is responsible for accessing information on behalf of the client…" *(Ex. 1001 at 5:43-47; see also Ex. 1007 at ¶46).*

C. Means For Obtaining

Claim 50 uses the term "means for obtaining the requested data." The specification does not clearly disclose structure for performing the function "obtaining the requested data." Under the broadest reasonable interpretation of this limitation, however, the structure most closely corresponding to this means-plus-function element is either the protocol proxy which, "forwards the [data] request to the appropriate information source" *(see Ex. 1001 at 10:29-33)*, or the file access proxy, which is used to "access data from a local repository, within remote data stores…" *(Id. at 6:53-60; see also Ex. 1007 at ¶ 49).*

D. Means For Determining

Claim 50 uses the term "means for determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operations." The specification does not clearly disclose structure for performing the function "determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operations." Under the broadest reasonable interpretation of this limitation, however, the structure most closely corresponding to this means-plus-function element is either the protocol proxy or the data manipulation server ("DMS"). *(Compare Ex. 1001 at 10:38-53* (stating that "[t]he protocol proxy then determines, in Block 340, which services are available to the WID for manipulating the returned content. … In a preferred embodiment, the protocol proxy issues a query to the DMS for a list of available services. … In an alternative embodiment, the protocol proxy may be statically pre-configured with a list of available services…") *with id.* at 10:54-58 (stating that the DMS "determines which services are available for the data being returned to the WID" after being queried by the protocol proxy)). *(See also Ex. 1007 at ¶ 52).*

E. Means For Returning

Claim 50 uses the term "means for returning the determined data manipulation operations and locations to the pervasive device, in addition to the

obtained data." Under the broadest reasonable interpretation of this limitation, the structure most closely corresponding to this means-plus-function element is the protocol proxy, which transmits "the content, along with the annotated list of available services," to the pervasive device. *(Ex. 1001 at 15:52-55, Fig. 1, message flow 7; see also Ex. 1007 at ¶ 60).*

F.   Means For Requesting

Claim 51 uses the term "means for requesting operation of a selection of the determined data manipulation operations." Under the broadest reasonable interpretation of this limitation, the structure most closely corresponding to this means-plus function element is a user interface to execute a desired manipulation operation. *(See Ex. 1001 at 18:8-15, Fig. 6A, elements 601-604; see also Ex. 1007 at ¶ 63).*

G.   Means For Performing

Claim 51 uses the term "means for performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device." Claim 53 uses the term "means for performing is executed by another device on behalf of the pervasive device." The specification does not clearly disclose structure for performing the function "performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device." Under the broadest reasonable interpretation of

this limitation, however, the structure most closely corresponding to this means-plus-function element is either the data output agents 170 or the DMS. *(Compare Ex. 1001 at 9:44-46* ("[t]he DMS passes data to selected ones of these [data output] agents to perform the manipulation services which are managed by the DMS) *with id.* at 7:13-16 (stating that "[i]n its roll of providing data manipulation services, those services may be provided by the DMS either directly, or indirectly by invoking one or more data output agents 170…")). *(See also Ex. 1007 at ¶ 65).*

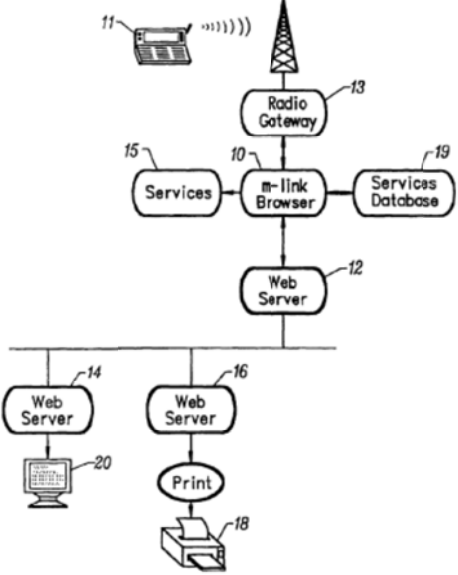## VII. REPRESENTATIVE PROPOSED REJECTIONS SHOWING THAT PETITIONER HAS A REASONABLE LIKELIHOOD OF PREVAILING

The references addressed below each provide the teaching believed by the Examiner to be missing from the prior art and variously anticipate or render obvious the claimed subject matter. It should be understood that rejections may be premised on alternative combinations of these same references.

A. Claims 1, 2, 25, 28, and 50-57 Are Anticipated by Schilit under 35 U.S.C. § 102(e)

U.S. Patent No. 6,670,968 to Schilit et al. ("Schilit," Ex. 1003) was not considered during the original prosecution of the '481 patent, nor is it cumulative of any prior art considered by the Examiner. Schilit was filed July 10, 2000 and issued December 30, 2003. The effective filing date of the '481 patent is May 3, 2001. Therefore, Schilit is available as prior art against all claims of the '481 patent under 35 U.S.C. § 102(e). The following claim chart demonstrates, on a

limitation-by-limitation basis, how claims 1, 2, 25, 28, and 50-57 of the '481 patent

are anticipated by Schilit under 35 U.S.C. § 102(e). *(See Ex. 1007 at ¶ 75).*

US 6,925,481 Claim Language	Correspondence to Schilit
1. A method of enabling data access and manipulation from a pervasive device, comprising steps of:	Schilit discloses a system and method for enabling data access and manipulation from a pervasive device by providing a Web browser that requests, accesses, and displays Web page content, along with selectable hyper-links from the requested Web page: A Web browser provides the ability to separate content and hyper-links from a Web page and provides a list of the links for viewing on a mobile device display screen enabling more effective Web page navigating using the limited mobile device display. … Further, once a link is selected using the mobile device, a services portal link is provided to the mobile device display to provide selection of services to be performed on the selected link, such as faxing or printing. *(Ex. 1003 at Abstract).* *(See also Ex. 1007 at ¶ 37).*
receiving a data access request from a pervasive device;	Schilit discloses a Web Browser, called "m-link," which accesses a server to retrieve a document as identified by a user-selected URL. The present invention provides a Web Browser, referred to herein as "m-link", which converts HTML documents for displaying on a mobile display. The m-link program accesses a server to retrieve a document as identified by a user-selected URL. *(Ex. 1003 at 5:30-34).* As shown in Fig. 7, reproduced below, the m-link browser receives a data access request from a pervasive device (shown as element 11). *(Id. at Fig. 7).*

(See also Ex. 1007 at ¶ 37).

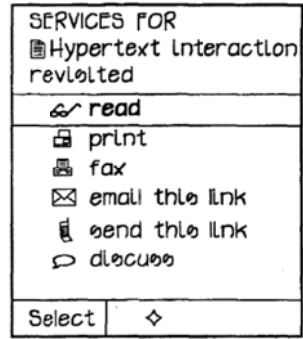|	
obtaining the requested data;	The m-link browser of Schilit accesses a web server 12 (shown in Fig. 7, above) to obtain the document request by the user of the pervasive device. > M-link browser 10 accesses a server 12 to retrieve a document as identified by the user selected URL. The URL is used to identify a document on another server, such as server 14. *(Ex. 1003 at 11:1-4).* Requested data is obtained and returned to the pervasive device in an un-compressed format by selecting the disclosed reading link. > The reading link allows the user to view the content of the link line by line in a linear fashion using the PCS phone display. *(Id. at 8:65-67).* *(See also Ex. 1007 at ¶ 37).*
determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operation;	The m-link browser also determines and creates a list of "situation, or context-appropriate services, such as printing or faxing," for the requested data. *(Ex. 1003 at 5:45-51).* The context-appropriate services may include reading, emailing, sending, and discussing. *(See id. at 8:62-65).* A database of potentially available services is stored on the host computer providing m-link.

and	A database of services will provide on a host computer providing m-link in accordance with the present invention. The database will be configured to include standard services, such as printing of faxing shown in FIG 6B. The database is made dynamic by including specialized services for individual links based on the link owner or link type. *(Id. at 9:66 - 10:4).*
	The database is accessed by the m-link browser in determining available service operations.
	With m-link providing dynamic services, a service portal database 19 is provided which is accessible by the m-link browser software 10. When a link is selected by a user 11, services designated for the link are accessed from the service portal database 19 and provided with the link to the user's mobile device 11. For user dependent services, m-link can be configured to include software to determine user preferences based on user selections and update the database 19 accordingly. *(Id. at 11:38-45).*
	The situation, or context-appropriate services of Schilit correspond to the data manipulation operations of the '481 patent which "**may include viewing, faxing, printing, and projecting the data** …" *(Ex. 1001 at 3:33-36).*
	Schilit's list of situation, or context-appropriate services accessed by the m-link browser (and as shown in Fig. 6C, reproduced below) comprises a listing of links. *(See Ex. 1003 at 8:62-9:5).* Each link comprises a URL for the available service.

SERVICES FOR
Hypertext interaction
revisited

read
print
fax
email this link
send this link
discuss

Select   ◇

The database will be configured to include standard
services, such as printing or faxing shown in Fig. 6B.
The database is made dynamic by including specialized
services for individual links based on the link owner or
link type. The individual links in the database can be
identified by the URL code of the link selected by the
user. *(See id. at 10:1-6).*

Thus, the service links provide the pervasive device with
information regarding the network locations of the
determined data manipulation operations. *(Ex. 1007 at ¶ 39).*

Service invocation addresses (or URLs) are described in the
'481 specification as identifying the network location of
available services to the pervasive device. *(See Ex. 1001 at
8:57-62; 16:1-5).*

A "service invocation address" is specified for each
service … and indicates an address at which the service
may be invoked. In preferred embodiments, these
addresses are provided as Uniform Resource Locators
("URLs"). *(Id. at 8:57-62).*

As noted above, Schilit teaches the same.

Moreover, the '481 patent specifically defines the term
"location" as corresponding to the physical location of
available services relative to the physical location of the
pervasive device. *(See Ex. 1001 at 11:28-65).*

When information about the location of the WID is used
as a factor in determining available services, this
location information may also be obtained in various
ways and once obtained, may be used in various ways.
The location information may, for example, be

20

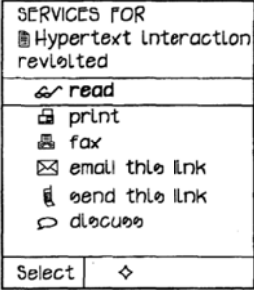|	
	determined by querying a global positioning system ("GPS") function on the client. Or, the location information might be obtained by querying a Location Registry … [which maintains] a list of access points which are near the mobile device at a point in time. *(Id. at 11:28-44).*
	In this same manner, the list of situation, or context-appropriate services accessed by the m-link browser may be made dependent on the current physical location of the user relative to the physical location of available services.
	The services portal provided for the link can further be made dependent on the location of the user at the time the link is accessed. A location aware service can, for example, direct the printing service to a close by print shop if the mobile device has the capability of identifying the users location. The mobile device could further give the user a choice of several nearby print shops, either in a separate print category, or simply in a list of available printing options along with other listed services. *(Ex. 1003 at 10:52-62).*
	Thus, Schilit provides teachings directed to either interpretation of the term "location" (*i.e.*, URL reference or physical location). *(Ex. 1007 at ¶ 38).*
returning the determining data manipulation operations and locations to the pervasive device, in addition to the obtained data.	After the disclosed system receives a data access request, the requested data is obtained, hyper-linked, and returned to the requesting device.
	The m-link program accesses a server to retrieve a document as identified by a user-selected URL. The document received from the server is then parsed and hyper-links provided in the document are separated from the content. The hyper-links are processed, re-organized, and provided for display on the mobile device. *(Ex. 1003 at 5:32-37).*
	Not only are the hyper-links, which are representative of the obtained data, returned to the pervasive device,

	but the entirety of the obtained data is returned to the pervasive device by selecting the reading link.
	The reading link allows the user to view the content of the link line by line in a linear fashion using the PCS phone display. *(Id. at 8:65-67).*
	Once a displayed hyper-link is selected, the list of situation, or context-appropriate services is determined and returned to the requesting device.
	Once the links are displayed, the mobile-device keypad can then be used to navigate to and select one of the displayed links. A list of situation, or context-appropriate services, such as printing or faxing, is then provided to the mobile device display after a link is selected enabling a service selected from a list to be performed on the selected link. *(Id. at 5:45-52).*
	As described with respect to the "determining" limitation, *supra*, information regarding the location of available services (*e.g.*, URL and physical location reference) is also provided to the requesting device. *(Ex. 1007 at ¶ 38).*
2. The method according to claim 1, further comprising steps of: requesting operation of a selected one of the determined data manipulation operations; and	Figs. 6C, reproduced above, shows the device display after selecting the "services" key (shown in Fig. 6B) of Schilit. A displayed service (*e.g.*, read, print, fax, email, send, and discuss) is requested by selecting the desired link. *(Ex. 1003 at 8:60 – 9:9).*

See also Ex. 1007 at ¶ 38. |
| performing the requested operation, wherein the performing step is executed by another device on behalf of the pervasive device. | Requested services are performed by m-link enabled devices, or other specific service providers, on behalf of the requesting pervasive device. |
| | For example, if the service is printing to a printing service 18 which uses Web server 16, then the m-link browser 10 would send the link designated for the service through servers 12 and 16 to the print service provider 18. If the service is an email provided to a computer 20 on server 14, the m- |

	link browser 10 would email the link designated for the service through servers 12 and 14 to the computer 20. *(Ex. 1003 at 11:29-36).*
25. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a content type of the obtained data.	Schilit describes that services may be made dependent on the content type of document requested. In addition to making the service links dependent on services provided by the owner of the link, the services provided can be made dependent on the format of the link. For instance, if the document accessed is a WordPerfect ™ file, the "read" or "print" services can be configured to use WordPerfect ™. *(Ex. 1003 at 9:41-48).* In addition to the service list being dependent on the link owner, or format type, the services can be made dependent on the link content language, age or size. *(See id. at 9:49-54).*
28. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a user of the pervasive device.	Schilit describes that services may be dependent on user preferences or services typically executed by a specific user. In another aspect of the present invention, the services portal enables a dynamic contribution to the items in the services list dependent on the specific user. *(Ex. 1003 at 4:52-54).* [L]ink services also depend on user characteristics, such as the user location, the type of communication device the user is using, or the cost of services the user is willing to pay for. *(Id. at 10:22-25).* For instance, a user particularly user may use printing or faxing more consistently than any of the other services, so m-link can be configured to recognize this and configure the services list accordingly. *(Id. at 10:30-33).*
50. A system for enabling data access and manipulation from a pervasive device, comprising:	*See* claim 1, preamble, *supra*. *See* Ex. 1003 at Abstract; Ex. 1007 at ¶ 37.

means for receiving a data access request from a pervasive device;	*See* claim 1, "receiving" limitation, *supra*. The m-link browser of Schilit acts as a protocol proxy and receives a data access request from a pervasive device. M-link operates as a browser 10 which translates HTML for transmission and efficient display on a mobile-device 11. M-link browser 10 accesses a server 12 to retrieve a document as identified by the user selected URL. The URL is used to identify a document on another server, such as server 14… *(Ex. 1003 at 10:65 - 11:10)*. As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Schilit's m-link browser to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for receiving…" *(Ex. 1007 at ¶ 46)*.
means for obtaining the requested data;	*See* claim 1, "obtaining" limitation, *supra*. *(Ex. 1003 at 8:65-67, 11:1-4)*. In addition to receiving a data access request from a pervasive device, the m-link browser of Schilit accesses a web server 12 (as shown in Fig. 7) to obtain the document request by the user of the pervasive device. *(See id. 1003 at 11:1-7)*. As provided above in Section VI, C, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 49)*. However, applying the structure most closely corresponding to the recited function (i.e., protocol proxy or file access proxy (*id.*)), a skilled artisan would have considered Schilit's m-link browser to be structurally equivalent to that disclosed by the '481 patent. *(Id.)*
means for determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operations; and	*See* claim 1, "determining" limitation, *supra*. In particular, and as shown in Fig. 7, the m-link browser of Schilit communicates with a services database 19 to determine situation, or context-appropriate services for the obtained data. *(See Ex. 1003 at 9:66 -10:4)*. Available services "are accessed from the service portal database 19 and provided with the link to the user's mobile device 11." *(Id. at*

	11:40-42).
	The list of situation, or context-appropriate services provides both a URL location and physical location of the available services. *(See id. at 8:62-9:5, 10:1-6, 10:52-62).*
	As provided above in Section VI, D, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 52).* However, applying the structure most closely corresponding to the recited function (i.e., protocol proxy or DMS(*id.*)) , a skilled artisan would have considered Schilit's m-link browser and services portal database to be structurally equivalent to that disclosed by the '481 patent. *(Id. at ¶¶ 53, 54).*
means for returning the determined data manipulation operations and locations to the pervasive device, in addition to the obtained data.	*See* claim 1, "returning" limitation, *supra.*
	In particular, after the system of Schilit receives a data access request, the requested data is obtained, hyper-linked, and returned to the requesting device. *(See Ex. 1003 at 5:32-37).*
	Not only are hyper-links (which are representative of the obtained data (*See Ex. 1007 at ¶ 37)*) returned to the pervasive device, the entirety of the obtained data is returned to the pervasive device by selecting the reading link. *(See Ex. 1003 at 8:65-67).*
	Once a displayed hyper-link is selected, the list of situation, or context-appropriate services (with corresponding location information) is determined and returned to the requesting device. *(See id. at 5:45-52, 8:62-9:5, 10:1-6, 10:52-62, 11:7-10).*
	As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Schilit's m-link browser to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for returning…" *(Ex. 1007 at ¶ 60).*
51. The system according to claim 50, further comprising: means for requesting operation of a selection of the determined data	*See* claim 2, "requesting" limitation, *supra.*
	In particular, Schilit teaches that a graphical user interface on the pervasive device allows for displayed services to be selected. (See *Ex. 1003 at 8:60 – 9:9, Fig. 6C, reproduced below; see also Ex. 1007 at ¶ 38).*

manipulation operations; and	As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Schilit's user interface to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for requesting…" *(Ex. 1007 at ¶ 63).*
means for performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device.	*See* claim 2, "performing" limitation, *supra.* In particular, Schilit teaches that requested services are performed by m-link enabled devices, or other specific service providers, on behalf of the requesting device. *(See Ex. 1003 at 11:23-36).* As provided above in Section VI, G, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 65).* However, applying the structure most closely corresponding to the recited function (i.e., output server agents or the DMS(*id.*)) , a skilled artisan would have considered Schilit's direct and indirect service providers to be structurally equivalent to that disclosed by the '481 patent. *(Id. at ¶¶ 66-68).*
52. Computer program instructions for enabling data access and manipulation from a pervasive device, the computer program instructions embodied on one or more computer readable media and comprising:	The scope of claim 52 is coextensive with claim 1, the only difference being one of claim draftsmanship, *i.e.*, claim 1 recites a method whereas claim 52 recites computer program instructions. All limitations of claim 52 are identical to the limitations presented in claim 1. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 1, herein.
computer program instructions for receiving…;	*See* claim 1, "receiving" limitation, *supra.* (Identical claim language).

computer program instructions for obtaining…;	*See* claim 1, "obtaining" limitation, *supra*. (Identical claim language).
computer program instructions for determining…; and	*See* claim 1, "determining" limitation, *supra*. (Identical claim language).
computer program instructions for returning…	*See* claim 1, "returning" limitation, *supra*. (Identical claim language).
53. The computer program instructions according to claim 52, further comprising: computer program instructions for requesting operation…; and	The scope of claim 53 is coextensive with claim 2, the only difference being one of claim draftsmanship, *i.e.*, claim 2 recites a method whereas claim 53 recites computer program instructions. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 2 and claim 51 (as it pertains to the "means for performing" limitation), herein.
computer program instructions for performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device.	In particular, *see* claim 2, "performing" limitation and claim 51, "mean for performing" limitation, *supra*.
54. A method of enabling a pervasive device to access and manipulate remotely-stored data, comprising steps of:	Schilit discloses a method for enabling a pervasive to access remotely stored Web page data and manipulate the data, such as by printing, faxing, or e-mailing it. *(See, e.g., Ex. 1003 at 5:30-51)*.
	Claim 54 is nearly identical to claim 1 and substantially, if not entirely, coextensive in scope with claim 1. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 1, herein.

receiving a data access request from the pervasive device;	*See* claim 1, "receiving" limitation, *supra.*
obtaining the requested data;	*See* claim 1, "obtaining" limitation, *supra.* (Identical claim language).
determining what data manipulation operations…; and	*See* claim 1, "determining" limitation, *supra.* (Identical claim language).
returning the determining data manipulation operations…	*See* claim 1, "returning" limitation, *supra.* (Identical claim language).
55. A method of accessing and manipulating remotely-stored data from a pervasive device, comprising steps of:	Schilit discloses a method for enabling a pervasive to access remotely stored Web page data and manipulate the data, such as by printing, faxing, or e-mailing it. *(See, e.g., Ex. 1003 at 5:30-51).*
requesting an access of the remotely-stored data from the pervasive device; and	*See* claim 1, "receiving" limitation, *supra.* In particular, and as shown in Fig. 7, reproduced above, the m-link browser 10 of Schilit receives a request from pervasive device 11 to retrieve a document identified by a user selected URL input into the pervasive device. *(See id. at 10:65 – 11:2).* "The URL is used to identify a document on another server, such as server 14." *(Id. at 11:3-4). (See also Ex. 1007 at ¶ 37).*
receiving the requested data at the pervasive device, along with information about one or more data manipulation operations that have been determined to be available for the obtained data.	*See* claim 1, "determining" and "returning" limitations, *supra.* In particular, after obtaining the data requested by the pervasive device, the m-link browser determines by accessing a services database a list of "**situation, or context-appropriate services, such as printing or faxing**," for the requested data. *(Ex. 1003 at 5:45-51; see also id. at 8:62 – 9:5, 9:66 – 10:6, 10:65 – 11:10, 11:38-45).* Once the list of situation, or context-appropriate services is determined, the method of Schilit returns the services list, along with hyper-links representative of the initially requested

	data, to the pervasive device. *(Id. at 11:7-10).*
	Not only are hyper-links (which are representative of the obtained data) returned to the pervasive device, the entirety of the obtained data is returned to the pervasive device by selecting the reading link. *(Id. at 8:65-67).*
	See also Ex. 1007 at ¶¶ 37, 38.
56. The method according to claim 55, wherein the information further comprises a location of each available data manipulation operation.	*See* claim 1, "determining" limitation, *supra.*
	In particular, Schilit teaches that the list of situation, or context-appropriate services provided to the pervasive device (and as shown in Fig. 6C) comprises a listing of links. *(See Ex. 1003 at 8:62-9:5).*
	The list of situation, or context-appropriate services provides both a URL location and physical location of the available services. *(See id. at 8:62-9:5, 10:1-6, 10:52-62).*
	See also Ex. 1007 at ¶¶ 37, 38.
57. The method according to claim 56, further comprising the step of requesting operation of a selected one of the data manipulation operations.	See claim 2, "requesting operation" limitation, *supra.*
	In particular, Schilit teaches that a desired service may be initiated by selecting the appropriate link corresponding to the desired and determined to be available service. (See *Ex. 1003 at 8:60 – 9:9, Fig. 6C; see also Ex. 1007 at ¶ 38).*

B.   Claim 32 Is Rendered Obvious by Schilit in View of Hutsch Under 35 U.S.C. § 103

U.S. Patent No. 7,269,664 to Hutsch et al. ("Hutsch," Ex. 1004) was not

considered during the original prosecution of the '481 patent, nor is it cumulative

of any prior art considered by the Examiner. Hutsch was filed January 12, 2001

and issued September 11, 2007. The effective filing date of the '481 patent is May

3, 2001. Therefore, Hutsch is available as prior art against all claims of the '481

patent under 35 U.S.C. § 102(e).

A skilled artisan would have been motivated to combine the teachings of

Schilit and Hutsch given their similar purpose of enabling pervasive devices to

access and manipulate data, such as by printing or faxing a web page, via remote

proxies. *(Ex. 1007 at ¶ 41).* Moreover, Schilit teaches that available services may

be determined based upon a variety of different factors or characteristics, including

the specific preferences of a given user if the pervasive device is shared by a

group. *(See Ex. 1003 at 10:39-43).* As would have been known to a person of

ordinary skill in the art at the time of filing, and as explicitly taught by Hutsch *(Ex.*

1004 at 39:16-20), available services may also be determined based upon the

preferences of the user group as a whole. *(Ex. 1007 at ¶ 41).* Hutsch's teachings

represent a well-known design choice that could be predictably implemented in

Schilit's m-link system. *(Id.)*

The following claim chart demonstrates, on a limitation-by-limitation basis,

how claim 32 is rendered obvious by Schilit in view of Hutsch under 35 U.S.C. §

103(a). *(See also Ex. 1007 at ¶ 77).*

US 6,925,481 Claim Language	Correspondence to Schilit in view of Hutsch
32. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a user	Hutsch discloses a system and method for enabling data access and manipulation using a "web-top manager." The "web-top manager" receives a data access request from the client device, submits the request to a "content broker system" that obtains the requested data, and then transforms the requested data into a form that can be displayed by the client device. *(See Ex. 1004 at 2:55-3:16)*

30

group of which a user of the pervasive device is a member.	The web-top manager receives a content request from a client system. … The web-top manager in the network portal system communicates with a universal content broker system that also is in the network portal system. Upon receipt of a content request from the web-top manager, a universal content broker in the universal content broker system, using resources within the network portal system, selects a content provider system, which is able to provide the requested content. … If the request was to retrieve content, the content in a raw data format is passed to the web-top manager. The web-top manager renders the requested content into a page that can be displayed by the requesting client system and the page is returned to the requesting client system. … *(Id.)*
	Before returning the requested data to the client device, Hutsch's web-top manager extracts and reformats the obtained data into a template associated with the type of user device that issued the request. *(Id. at 20:19-22; 20:35-39).* Depending on the type of requested data, Hutsch teaches that the client device may "**manipulate the displayed data, e.g., delete an e-mail message, and forward the content to an output device."** *(Id. at 20:46-48).*
	Further, the content broker system of Hutsch, which works in concert with the web-top manger to obtain requested content, includes a configuration server 336. *(See id. at 14:43-45; Fig. 3, element 336).* The configuration server 336 stores user profiles**,** application profiles, and settings "for **specific user groups or devices."** *(See id. at 39:16-20).*
	The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Schilit and Hutsch references in this manner. *(Ex. 1007 at ¶ 41).*

C.   Claims 1, 2, 25, 28, and 50-57 Are Rendered Obvious by Flynn in View of Schilit Under 35 U.S.C. § 103.

The Satchel System Architecture: Mobile Access to Documents and Services published by Flynn et al. ("Flynn," Ex. 1005) was not considered during the original prosecution of the '481 patent, nor is it cumulative of any prior art considered by the Examiner. Flynn was published December 2000 in *Mobile Networks and Applications*, Vol. 5, Issue 4, pgs. 243-258.[1] The effective filing date of the '481 patent is May 3, 2001. Therefore, Flynn is available as prior art against all claims of the '481 patent under 35 U.S.C. § 102(a).

A skilled artisan would have been motivated to combine the teachings of Flynn and Schilit given their similar purpose of obtaining data requested by a pervasive device and, along with the requested data, providing the pervasive device options to execute certain services (*e.g.*, printing or faxing) on the obtained data. *(Ex. 1007 at ¶¶ 39, 40).* Moreover, applying Schilit's web browsing techniques to

---
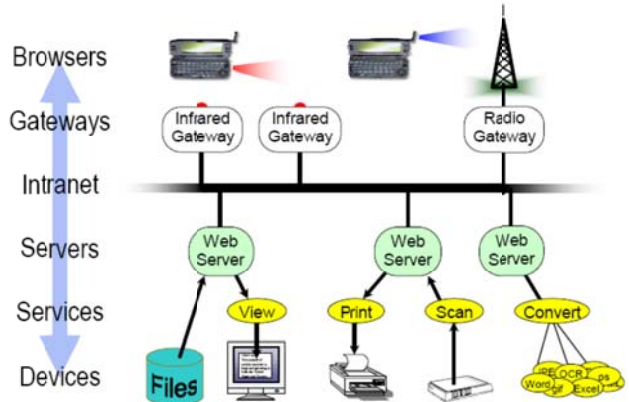
[1] An earlier publication describing the Satchel System was published in *ACM Transactions on Computer-Human Interaction*, Vol. 7, No. 3, 322-352 (September 2000) by Lamming, M. et al. ("Lamming"), the disclosure of which is substantially coextensive with the disclosure of Flynn (attached to the Declaration of Prof. Bederson as A-16). Petitioner relies upon Flynn for the purpose of showing a reasonable likelihood of prevailing as Flynn's disclosure, although substantially coextensive with Lamming, provides broader system details relied upon and not clearly disclosed in the earlier publication.

the device of Flynn would have been commonsensical and readily accomplished at the time of filing because Schilit's teachings simply represent the application of known web browsing advancements achieved between the creation of the Satchel Browser during the mid-1990's and the filing of Schilit in 2000. *(See id. at ¶ 39).*

Moreover, as to claims 25 and 28, Flynn provides an explicit motivation that would have led one of ordinary skill in the art to combine the references teachings. *(See Ex. 1005 at 249, § 7.2).* Specifically, if multiple services are available for obtained data, both Flynn and Schilit recognize that the services should be organized and presented to the user in a logical fashion, such as by service location. *(Ex. 1007 at ¶ 40; Ex. 1005 at 249, § 7.2; Ex. 1003 at 8:65-67).* Flynn goes on to state that available services may be also organized and determined upon "any other appropriate organization." *(Ex. 1007 at ¶ 40; Ex. 1005 at 249, § 7.2).* As was well known to a person of ordinary skill in the art, and as specified by Schilit, available services could also be determined and organized, for example, based upon the content type of the data or for a specific user of the pervasive device. *(Ex. 1007 at ¶ 40; Ex. 1003 at 9:41 – 10:4).* These designations would constitute "other appropriate designations" as specified by Flynn. *(Ex. 1007 at ¶ 40).* Thus, Schilit's teachings represent known design choices that could be predictably implemented in Flynn's Satchel System. *(Id.)*

The following claim chart demonstrates, on a limitation-by-limitation basis,

how claims 1, 2, 25, 25, and 50-57 of the '481 patent are rendered obvious by

Flynn in view of Schilit under 35 U.S.C. § 103. *(See also Ex. 1007 at ¶ 78).*

US 6,925,481 Claim Language	Correspondence to Flynn in view of Schilit
1. A method of enabling data access and manipulation from a pervasive device, comprising steps of:	Flynn describes the "Satchel system," which consists of a set of browsers, gateways, servers and services that allows a user to wirelessly access documents stored on a remote file server using a pervasive device (specifically, a Nokia 9000 Communicator). *(See Ex. 1005 at 244-45, § 3).* As shown in Fig. 1, reproduced below, a "Satchel Browser" operates on the pervasive device to provide an interface for navigating to documents and invoking services on them, such as printing, faxing, and scanning. *(Id.)*
receiving a data access request from a pervasive device;	Flynn's Satchel Browser operates on a pervasive device and acts like a normal Web browser, allowing the user to select and access documents stored on a remote file server. *(Id. at 246, § 4.1).* In addition: **When browsing Web pages with the Satchel Browser, the user selects a link with the cursor, and presses the OPEN button** (see Figure 4 below). If the page is not already cached, then an HTTP [Berners-Lee et al., 1996] request must be made, over a communications link, to a Web server hosting Satchel services. *(Id.) (emphasis added).*

	The Satchel browser also provides:
	Selection and following of hyperlinks, to other HTML pages or directories; …Nomination of a "home" page, typically an HTML page on a user's workstation, with links to useful places within the user's private filing system, or the Internet;… *(Id. at 246, § 4).*
	Flynn states that Satchel services, such as the Fetch Service, are implemented as CGI scripts hosted by regular Web servers. *(See id. at 248, § 7).*
	(See also Ex. 1007 at ¶¶ 35, 36).
obtaining the requested data;	If a cached version of the requested document is not stored on the Satchel system, a Fetch Service is carried out to obtain the data from a Web server hosting Satchel services:
	Whenever the browser makes any request, it inserts an HTTP "Accept" header to inform this service that the browser only accepts Halibut replies, and it arranges for translation of replies into Halibut. …*(Ex. 1005 at 246, § 4.1).*
	While transparent to the end user, the **Fetch Service** underpins browsing and service invocation (§4.1). This service is **used to retrieve HTML pages**, including directory listings and service forms, from the World Wide Web and translate them to Halibut. It takes a token for the required page as argument ― lexically just an HTTP request ― and **contacts the appropriate Web server or proxy, if necessary, to obtain it**… *(Id. at 248-249, § 7.1) (emphasis added).*
	(See also Ex. 1007 at ¶¶ 35, 36).
determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operation; and	The essence of the Satchel Browser is to "provide the ability to browse directories for documents, and to invoke service upon them, once found." *(Ex. 1005 at 245, § 4).*
	Typically, a user browses to a document of interest, and wishes to **invoke some service on that document – to print it to a nearby printer, for example**. When in front of a Satchel-enabled

35

device, the user presses the SERVICES button, which makes an **infrared request for services (section 7.2) available at that location, and expects back an appropriate service form or a directory of such forms, where multiple services are possible.** *(Id. at 247, § 4.2) (emphasis added).* * * *

The service forms are just normal HTML Web pages and forms, arranged by local system administrators, which, once again, are translated to Halibut on the fly, and sent to the browser... *(Id.)*

Because the service forms of Flynn are "just normal HTML Web pages and forms," *(Id. at 247, § 4.2)*, they include a reference, such as an URL, specifying the network location of the associated web server which is to execute the chosen service. *(Ex. 1007 at ¶¶ 15-18).* This is also shown in Fig. 6, Ex. 1005, below.

```
<HEAD>
<TITLE>Fax Service</TITLE>
</HEAD>
<BODY>
<FORM ACTION="/satchelServices/faxService.py" METHOD="POST">
<P>
Document title
<INPUT NAME="SATCHEL_TOKEN_TITLE" VALUE="Document">
<P>
Fax number
<INPUT NAME="SATCHEL_FAX_NUMBER" VALUE="">
<P>With a Cover sheet, you may add a Message.
<P>
Cover sheet
<SELECT NAME = "SATCHEL_COVERSHEET">
   <OPTION VALUE = "" SELECTED>No Cover Sheet
   <OPTION VALUE = "XRCE">XRCE Cover Sheet
</SELECT>
<P>
Recipient
<INPUT NAME="SATCHEL_FAX_RECIPIENT">
<P>
Message
<TEXTAREA COLS=50 ROWS=5 NAME="SATCHEL_COVERSHEET_MESSAGE">
</TEXTAREA>
<P>
<INPUT NAME="SATCHEL_SERVICE_MODE" VALUE="asynchronous"
TYPE="hidden">
<INPUT NAME="SATCHEL_USER" VALUE="Test User" TYPE="hidden">
<P>
<INPUT TYPE="SUBMIT" VALUE="Fax">
<INPUT TYPE="HIDDEN" NAME="SATCHEL_TOKEN">
</FORM>
</BODY>
```

Figure 6. An HTML page for a typical Fax Service form

Although "[t]ransmission to the Satchel Browser could in principle use HTML," as shown in Fig. 6, the Satchel Browser instead uses Halibut, which is a simplified version of HTML and is shown in Fig. 7, below. *(Ex. 1005 at 251, § 8). (See also Ex. 1007 at ¶¶ 35, 36).*

```
H   Fax Service       0
F   Document title    SATCHEL_TOKEN_TITLE    Document
F   Fax number        SATCHEL_FAX_NUMBER
T   With a Cover sheet, you may add a Message.
I   No Cover Sheet
I   XRCE Cover Sheet  XRCE
M   Cover sheet       SATCHEL_COVERSHEET    No Cover Sheet
F   Recipient         SATCHEL_FAX_RECIPIENT
F   Message           SATCHEL_COVERSHEET_MESSAGE    250
X   SATCHEL_SERVICE_MODE SATCHEL_SERVICE_MODE asynchronous
X   SATCHEL_USER      SATCHEL_USER          Test User
B   Fax               POST    /satchelServices/faxService.py
X   SATCHEL_TOKEN     SATCHEL_TOKEN
```

Figure 7. The Halibut translation of the Fax Service form

Service invocation addresses (or URLs) are described in the '481 patent as identifying the network location of available services to the pervasive device. *(See Ex. 1001 at 8:57-62; 16:1-5).*

> A "service invocation address" is specified for each service … and indicates an address at which the service may be invoked. In preferred embodiments, these addresses are provided as Uniform Resource Locators ("URLs"). *(Id. at 8:57-62).*

As noted above, Flynn teaches the same.

Further still, the '481 patent specifically describes the term "location" as corresponding to the physical location of available services relative to the physical location of the pervasive device. *(See, e.g., Ex. 1001 at 11:28-65).*

> When information about the location of the WID is used as a factor in determining available services, this location information may also be obtained in various ways and once obtained, may be used in various ways. The location information may, for example, be determined by querying a global positioning system ("GPS") function on the client. Or, the location information might be obtained by querying a Location Registry … [which maintains] a list of access points which are near the mobile device at a point in time. *(Id. at 11:28-45).*

In this same manner, Flynn describes that the disclosed services directory may be determined by the physical location of the available services.

> **This enquiry service yields a form for the service provided at the given location**. **Where**

37

	more than one service is available, a directory of such services might be provided. The location information is supplied by the infrared Gateway (§5). In the case of radio communication, no location information is available, and so a full directory of available services is returned. This might include the Fax, Print and E-Mail services described below.
	A service directory might be organized by function, location, or indeed any other appropriate organization, at the discretion of the local system manager. The list of available services might even be dynamically determined from all available information. *(Ex. 1005 at 249, § 7.2) (emphasis added).*
	The "dynamically determined" list of available services corresponds to the data manipulation operations of the '481 patent, which "**may include viewing, faxing, printing, and projecting the data** …" *(Ex. 1001 at 3:33-36).*
	See also Ex. 1007 at ¶¶ 35, 36.
returning the determining data manipulation operations and locations to the pervasive device, in addition to the obtained data.	As described above with respect to the "determining" limitation, when multiple service operations are available for the requested data, a services directory, comprising a list of service forms, is returned to the pervasive device. *(See Ex. 1005 at 249, § 7.2).*
	The service forms include a reference, such as an URL, to specify the network location of the associated web server which is to execute the chosen service *(see id. at 247, § 4.2; Ex. 1007 at ¶¶ 15-18)*, and the service directory may be organized by physical location of available services. *(See Ex. 1005 at 249, § 7.2).*
	In addition to the list of available services, the requested and obtained data is returned to the device via Flynn's Fetch Service:
	The Satchel services instigate document transactions, such as printing or scanning, and report on their success. Actually, mobile directory and document access is also

	performed indirectly through such a service – the fetch service [] – capable of translating HTML content into a proprietary condensed format, known as Halibut [], for efficient transmission and display on the browser. *(Id. at 245, § 3).*
	*****
	While transparent to the end user, the Fetch Service underpins browsing and service invocation (§4.1). This service is used to retrieve HTML pages, including directory listings and service forms, from the World Wide Web and translate them to Halibut. *(Id. at 248, § 7.1).*
	To view the obtained data, a View Service is carried out:
	The View Service presents a document on a Satchel-enabled monitor or display screen. As with the Print Service, the document represented by the token argument is fetched and the MIME type noted. Then, Windows information regarding the locally available display applications is gathered. The Conversion service [] is invoked, if necessary, and the resultant file is opened on the display. Note that this is a local copy of the document, possibly in a different format to the original. *(Id. at 248, § 7.4) (emphasis added).*
	(See also Ex. 1007 at ¶¶ 35, 36).
	Similarly, Schilit discloses a web browser, called "m-link," which provides for remote web page and access and manipulation:
	The m-link program accesses a server to retrieve a document as identified by a user-selected URL. The document received from the server is then parsed and hyper-links provided in the document are separated from the content. **The hyper-links are processed, re-organized, and provided for display on the mobile device**.

In addition, as the system of Schilit operates on a more advanced mobile display, requested data may be returned to the pervasive device in an un-compressed format by selecting the disclosed reading link:

> The reading link allows the user to view the content of the link line by line in a linear fashion using the PCS phone display. *(Id. at 8:65-67).*

The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Flynn and Schilit references in this manner. *(Ex. 1007 at ¶ 39).*

2. The method according to claim 1, further comprising steps of: requesting operation of a selected one of the determined data manipulation operations; and	In order to request operation of a specific service, the user first presses the SERVICES button to request a listing of all available services and, second, initiates a desired service by completing the appropriate service form: > When in front of a Satchel-enabled device, the user presses the services button, which makes and infrared request for services (§ 7.2) available at that location, and expects back an appropriate service form or a directory of such forms, where multiple services are possible. … Pressing the form's operation button packages up the form contents as an HTTP POST request, and transmits it as the argument to a Fetch Service request. *(Ex. 1005 at 247, § 4.2).*
performing the requested operation, wherein the performing step is executed by another device on behalf of the pervasive device.	Services, such as printing, are invoked through the disclosed Fetch Service (which is hosted on a standard web server) and ultimately executed by a remote device. *(Id. at 247, § 4.2; 248, § 7).* > Pressing the [service] form's operation button packages up the form contents as an HTTP POST request, and transmits it as the argument to a Fetch Service request. *(Id. at 247, § 4.2).* For example, when executing a print request: > [t]he service takes as argument the printer to use, various printing options and a token for the document to be printed. The service fetches the document, noting its

	MIME type. Then, Windows information regarding the indicated printer is examined to determine what format the printer accepts. To convert between these types, the Conversion Service [] is invoked, and the result is sent to the printer. *(Id. at 249, § 7.3).* *(See also Ex. 1007 at ¶ 36).*
25. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a content type of the obtained data.	*See* Section VII, A, claim 25 regarding Schilit's teaching of determining data manipulation operations for a content type of the obtained data. (See *Ex. 1003 at 9:41-54).* The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Flynn and Schilit references in this manner. *(Ex. 1007 at ¶ 40).*
28. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a user of the pervasive device.	*See* Section VII, subsection A, claim 28 regarding Schilit's teaching of determining data manipulation operations for a user of the pervasive device. *(Ex. 1003 at 4:52-54, 10:22-33).* The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Flynn and Schilit references in this manner. *(Ex. 1007 at ¶ 40).*
50. A system for enabling data access and manipulation from a pervasive device, comprising:	See claim 1, preamble, *supra.* See Ex. 1005 at 244-45, § 3.
means for receiving a data access request from a pervasive device;	Flynn's Satchel Browser, which operates on a pervasive device and is in communication with various Web servers hosting Satchel services, submits a document request through a Fetch Service. *(See id. at 246, §4.1).* The Fetch Service, which "underpins browsing," is used to "retrieve HTML pages … from the World Wide Web..." *(Id. at 249, § 7.1).* *(See also id. at 248, § 7; Ex. 1007 at ¶¶ 35, 36).* As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Flynn's Fetch Service to be structurally equivalent to the structure

	described in the specification as most closely corresponding to the recited "means for receiving…" *(Ex. 1007 at ¶ 47)*.
means for obtaining the requested data;	Flynn's Fetch Service, which is hosted on a standard Web server, obtains the data requested by the pervasive device. *(See Ex. 1005 at 249, § 7.1; Ex. 1007 at ¶¶ 35, 36).* As provided above in Section VI, C, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 49).* However, applying the structure most closely corresponding to the recited function (i.e., protocol proxy or file access proxy *(id.))*, a skilled artisan would have considered Flynn's Fetch Service to be structurally equivalent to that disclosed by the '481 patent. *(Id. at ¶ 50).*
means for determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operations; and	Flynn's Enquiry Service, which is hosted on a standard Web server, determines what services are available for the obtained data. *(See Ex. 1005 at 249, § 7.2).* If multiple service operations are available, a service directory, comprising a list of service forms organized by location, is returned. *(See id. at 247, § 4.2).* Moreover, Flynn provides teachings directed to either construction of the term location (*i.e.*, URL reference or physical location). *(Id. at 247, § 4.2; 251, § 8; 249, § 7.2). (See also Ex. 1007 at ¶¶ 15-18, 35,36).* As provided above in Section VI, D, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 52).* However, applying the structure most closely corresponding to the recited function (i.e., protocol proxy or DMS*(id.))* , a skilled artisan would have considered Flynn's Enquiry Service to be structurally equivalent to at least the protocol proxy of the '481 patent. *(Id. at ¶ 55).* Additionally, the m-link browser of Schilit communicates with a services database 19 to determine situation, or context-appropriate services for the obtained data. *(See Ex. 1003 at 9:66 -10:4).* Flynn's Enquiry Service uses content information provided by infrared gateways to determine available services.

	Each Gateway process has a simple user interface for specifying which infrared transceiver to listen to, which Web server to forward to, and what context information to insert. … The information is flexible, and may be managed according to local requirements. Typically, it identifies the location, the name of the device, and the service to offer. Whilst the Fetch Service ignores this information, service enquiries use it to determine which service form to reply. Although the device and service could be determined from the location information alone, this would requires some central database to performing that mapping. *(Ex. 1005 at pg. 247-248, § 5).*
	The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Flynn and Schilit references in this manner. *(Ex. 1007 at ¶ 57).* Thus, if the structure corresponding to the recited "means for determining" is found to be the data manipulation server of the '481 patent, a skilled artisan at the time of filing would have considered Schilit's service portal database to be structurally equivalent to the data manipulation server. *(Id. at. ¶¶ 56, 57).*
means for returning the determined data manipulation operations and locations to the pervasive device, in addition to the obtained data.	Flynn's Fetch Service returns the determined service forms (specifying the location of the determined data manipulation operations) and requested data to the pervasive device. *(See Ex. 1005 at 245, § 3; 248, § 7.1; 248, § 7.2). (See also Ex. 1007 at ¶¶ 35, 37).*
	As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Flynn's Fetch Service to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for returning…" *(Ex. 1007 at ¶ 61).*
51. The system according to claim 50, further comprising: means for requesting operation of a selection of the determined data	*See* claim 2, "requesting" limitation, *supra.*
	In particular, a Satchel enabled device requests operation of a selected service using the "SERVICES button," which is part of the device's user interface (*e.g.*, keypad/cursor). *(Ex. 1005 at pg. 247, § 4.2).*

manipulation operations; and	As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Flynn's user interface to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for requesting…" *(Ex. 1007 at ¶ 64).*
means for performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device.	*See* claim 2, "performing" limitation, *supra.* In particular, Services, such as printing, are invoked through the disclosed Fetch Service (which is hosted on a standard web server) and ultimately executed by a remote device. *(Id. at 247, § 4.2; 248, § 7; 249, § 7.3). (See also Ex. 1007 at ¶ 36).* As provided above in Section VI, G, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 65).* However, applying the structure most closely corresponding to the recited function (i.e., output server agents or the DMS*(id.))* , a skilled artisan would have considered Flynn's Satchel services to at least be structurally equivalent to the disclosed output server agents. *(Id. at ¶ 69).* Moreover, a skilled artisan would have considered Schilit's direct and indirect service providers to be structurally equivalent to the output server agents and the DMS of the '481 patent which most closely corresponds to the recited "means for performing" function. *(Id. at ¶¶ 66-68).*
52. Computer program instructions for enabling data access and manipulation from a pervasive device, the computer program instructions embodied on one or more computer readable media and comprising:	The scope of claim 52 is coextensive with claim 1, the only difference being one of claim draftsmanship, *i.e.*, claim 1 recites a method whereas claim 52 recites computer program instructions. All limitations of claim 52 are identical to the limitations presented in claim 1. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 1, herein.
computer program instructions for receiving…;	*See* claim 1, "receiving" limitation, *supra.* (Identical claim language).

computer program instructions for obtaining…;	*See* claim 1, "obtaining" limitation, *supra*. (Identical claim language).
computer program instructions for determining…; and	*See* claim 1, "determining" limitation, *supra*. (Identical claim language).
computer program instructions for returning…	*See* claim 1, "returning" limitation, *supra*. (Identical claim language).
53. The computer program instructions according to claim 52, further comprising: computer program instructions for requesting operation…; and	The scope of claim 53 is coextensive with claim 2, the only difference being one of claim draftsmanship, *i.e.*, claim 2 recites a method whereas claim 53 recites computer program instructions. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 2 and claim 51 (as it pertains to the "means for performing" limitation), herein.
computer program instructions for performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device.	In particular, *see* claim 2, "performing" limitation and claim 51, "mean for performing" limitation, *supra*.
54. A method of enabling a pervasive device to access and manipulate remotely-stored data, comprising steps of:	Flynn describes the "Satchel system," which consists of a set of browsers, gateways, servers and services that allows a user to access remotely stored data using a pervasive device, and invoke services on them, such as printing, faxing, and scanning. *(See Ex. 1005 at 244-245, § 3)*.
	Claim 54 is nearly identical to claim 1 and substantially, if not entirely, coextensive in scope with claim 1. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 1, herein.
receiving a data access request from the	*See* claim 1, "receiving" limitation, *supra*.

pervasive device;	
obtaining the requested data;	*See* claim 1, "obtaining" limitation, *supra*. (Identical claim language).
determining what data manipulation operations…; and	*See* claim 1, "determining" limitation, *supra*. (Identical claim language).
returning the determining data manipulation operations…	*See* claim 1, "returning" limitation, *supra*. (Identical claim language).
55. A method of accessing and manipulating remotely-stored data from a pervasive device, comprising steps of:	Flynn describes the "Satchel system," which consists of a set of browsers, gateways, servers and services that allows a user to access remotely stored data using a pervasive device, and invoke services on them, such as printing, faxing, and scanning. *(See Ex. 1005 at 244-245, § 3).*
requesting an access of the remotely-stored data from the pervasive device; and	*See* claim 1, "receiving" limitation, *supra*. In particular, the disclosed Satchel Browser, which operates on a pervasive device, acts like a normal Web browser, allowing a user to select and access remotely stored documents or directories. *(See id. at 246, § 4.1).* Document requests are initiated through a Fetch Service, which "underpins browsing" and is used to "retrieve HTML pages … from the World Wide Web..." *(Id. at 248-249, § 7.1).* *(See also Ex. 1007 at ¶¶ 35, 36).*
receiving the requested data at the pervasive device, along with information about one or more data manipulation operations that have been determined to be available for the obtained data.	*See* claim 1, "determining" and "returning" limitations, *supra*. In particular, the disclosed Fetch and Enquiry services of Flynn obtain the requested data and determine what service operations are available for the requested data, respectively. *(See Ex. 1005 at 245, § 3; 249, §§ 7.1-7.2).* A directory of available services is returned by the Enquiry service and obtained data is returned by Flynn's Fetch Service. *(See id. at 245, § 3; 249, §§ 7.1-7.2). (See aslo Ex. 1007 at ¶¶ 33-37).* Moreover, Flynn and Schilit may be combined such

	that the selection of a reading link "allows the user to view the content of the link line by line in a linear fashion using the PCS phone display," and, thus, returns the entirety of the obtained data to the requesting device. *(Ex. 1003 at 5:32-37, 8:65-67; Ex. 1007 at ¶ 39).*
56. The method according to claim 55, wherein the information further comprises a location of each available data manipulation operation.	Flynn discloses an Enquiry Service, which determines what data manipulation operations (*e.g.*, printing, faxing, and viewing) are available for the obtained data. *(See Ex. 1005 at 249, § 7.2).* If multiple service operations are available, a service directory, comprising a list of service forms organized by location, is returned. *(See id. at 247, § 4.2).* Moreover, Flynn provides teachings directed to either construction of the term location (*i.e.*, URL reference or physical location). *(See id. at 247, § 4.2; 249, § 7.2). (See also Ex. 1007 at ¶¶ 15-18, 35-37).*
57. The method according to claim 56, further comprising the step of requesting operation of a selected one of the data manipulation operations.	Flynn discloses that an available service operation may be requested by first pressing the SERVICES button to request a listing of all available services and, second, initiating a desired service using the device's keypad/cursor. *(See Ex. 1005 at 247, § 4.2).*

D. Claim 32 is Rendered Obvious by Flynn in View of Schilit and Further in View of Hutsch Under 35 U.S.C. § 103

A skilled artisan would have been motivated to combine the teachings of

Hutsch with the combined system of Flynn and Schilit given each references

similar purpose of enabling pervasive devices to access and manipulate data, such

as by printing or faxing a web page, via remote proxies. *(Ex. 1007 at ¶ 41).* Flynn

also provides an explicit motivation that would have led one of ordinary skill in the

art to combine the references teachings. In particular, Flynn teaches that available

services may be determined based upon location or "any other appropriate organization." *(Ex. 1005 at 249, § 7.2).* As would have been known to a person of ordinary skill in the art at the time of filing, and as explicitly taught by Hutsch, available services may be determined based upon user group based preferences. *(Ex. 1007 at ¶ 41; Ex. 1004 at 39:16-20).* This designation would constitute "other appropriate designations" as specified by Flynn. *(Ex. 1007 at ¶ 41).* Thus, Hutsch's teachings represent known design choices that could be predictably implemented in Flynn's Satchel System. *(Id.)*

The following claim chart demonstrates, on a limitation-by-limitation basis, how claim 32 of the '481 patent is rendered obvious by Flynn in view of Schilit and further in view of Hutsch under 35 U.S.C. § 103. *(See also Ex. 1007 at ¶ 79).*

US 6,925,481 Claim Language	Correspondence to Flynn, Schilit and Hutsch
32. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a user group of which a user of the pervasive device is a member.	*See* Section VII, B, claim 32 regarding Hutsch's teaching of determining data manipulation operations for a user of a user group. The arguments and supporting evidence of which is incorporated herein. The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Flynn and Hutsch references in this manner. *(Ex. 1007 at ¶ 41).*

E.   Claims 1, 2, 25, 28, and 50-57 are Rendered Obvious by Barrett in view of Schilit Under 35 U.S.C. § 103
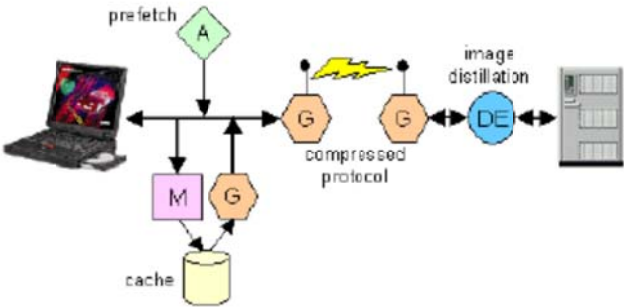
Intermediaries: New Places For Producing And Manipulating Web Content published by Barrett et al. ("Barrett," Ex. 1006) was not considered during the original prosecution of the '481 patent, nor is it cumulative of any prior art considered by the Examiner. Barrett was published in *Computer Networks and ISDN Systems*, volume 30, issue 107, pgs. 509-518, April 1998. The effective filing date of the '481 patent is May 3, 2001. Therefore, Barrett is available as prior art against all claims of the '481 patent under 35 U.S.C. § 102(b).

A skilled artisan would have been motivated to combine the teachings of Barrett and Schilit given their similar purpose of using proxy servers to manipulate web content before returning it to a requesting pervasive device. *(Ex. 1007 at ¶¶ 37, 42-44).* A skilled artisan would have recognized that the functionality of Schilit's "m-link" browser, which operates as an intermediary proxy server between the requesting pervasive device and the information that it seeks to access and manipulate, would be fully applicable to and could be predictably combined with the intermediary proxy servers disclosed in Barrett. *(Id. at ¶¶ 43, 44; Ex. 1003 at 10:65 – 11:10).* Moreover, it would have been natural and expected for a skilled artisan to improve Barrett's programmable proxy server (which automatically manipulates and re-authors web pages for optimal display on the requesting device *(see Ex. 1006 at 512-514, §§ 3.2, 3.3.2)* to include the increased

proxy functionality described by Schilit, which dynamically determines what data

manipulations (such as printing, faxing, reading, emailing, sending, and

discussing) are available for the requested and obtained data. *(Ex. 1007 at ¶¶ 43,*

44; see also Ex. 1003 at 5:45-51, 11:38-48).

The following claim chart demonstrates, on a limitation-by-limitation basis,

how claims 1, 2, 25, 28, and 50-57 of the '481 patent are rendered obvious by

Barrett in view of Schilit under 35 U.S.C. § 103. *(See also Ex. 1007 at ¶ 80).*

US 6,925,481 Claim Language	Correspondence to Barrett and Schilit
1. A method of enabling data access and manipulation from a pervasive device, comprising steps of:	Barrett discloses a Web intermediary framework that employs a programmable proxy server to optimize Web browsing on a pervasive device.
	Another obvious role for intermediaries is in content distillation… A distilling intermediary transforms the original content obtained from the server to optimize for transmission speed, **browser display capabilities, or browser computational limitations.** … The increasing popularity of devices with small displays, such as the PalmPilot, provide [a compelling reason for developing such schemes]. *(See Ex. 1006 at 510, § 1) (emphasis added).*
	As discussed in Section VII, subsection A, claim 1 "preamble," Schilit describes a method of enabling data access and manipulation from a pervasive device.
receiving a data access request from a pervasive device;	Barrett's WBI programmable proxy server may be utilized to improve web browsing performance on pervasive devices, which may include mobile pervasive devices, such as the Palm Pilot *(See id. at 510, § 1)*, or non-mobile pervasive devices (*e.g.*, smart appliances for the home or business setting, devices which are permanently mounted in automobiles). *(See Ex. 1007 at ¶ 42).* The disclosed:

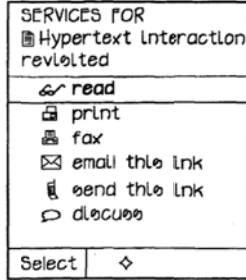|	
	"Generator intercepts all requests from the browser, examines [its] cache and, if possible satisfies the request." *(Ex. 1006 at 514, § 3.3.2).*
obtaining the requested data;	If the requested document cannot be located in the primary Generator's cache, the data request is forwarded to an appropriate downstream Generator that can produce the requested data/document. *(See id. at 512-514, § 3.2, 3.3.2).*
	The request is sent to the highest priority Generator whose rule is satisfied. If that Generator rejects the request, subsequent valid Generators are called in priority order until one produces a document. *(Id. at 512, §3.2).*
	(See Ex. 1007 at ¶ 42).
determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operation; and	Before returning the obtained document to the requesting pervasive device, Barrett teaches that the WBI's Document Editor function manipulates the obtained document by, for example, "**distill[ing] what comes back from the server to remove unneeded color depth…**" *(Ex. 1006 at 514, § 3.3.2) (emphasis added).* The Document Editor may further manipulate the obtained document by
	adding annotations, highlighting links, adding toolbars, translating document format (e.g., from Rich Text Format to HTML), changing form information, and adding scripts. *(See id. at 513, § 3.1).*
	Fig. 5 of Barrett (reproduced below) illustrates how several WBI proxies can be used to improve a wireless web browser.
	A monitor and Generator manage a local cache. An

	autonomous function periodically prefetches important documents. A pair of Generators, one on the client and one at the workgroup server convert the standard HTTP protocol to a compressed version suitable for wireless transmission. A document editor distills documents to reduce image size and complexity. *(Id. at 514, § 3.3.2).*
	This type of manipulation fits squarely within the definition of a data manipulation as provided by the '481 patent. *(See, e.g., Ex. 1001 at 3:44-53).* Thus, before further data manipulations are <u>determined</u> for the obtained data as taught by Schilit, Barrett teaches that the requested data may be automatically manipulated and optimized for display/use on the requesting pervasive device.
	See Section VII, subsection A, claim 1 "determining…" limitation, regarding Schilit's teaching of determining data manipulation operations for the obtained data, as well as a location of each available data manipulation operation.
	The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43, 44).*
returning the determining data manipulation operations and locations to the pervasive device, in addition to the obtained data.	After Barrett's Document Editor function manipulates the obtained data for optimized display/use on the requesting device, the optimized data is returned to the client by the WBI programmable proxy server.
	Finally, the document is delivered to the requester, which may be the browser if this is the first intermediary in the chain. *(Ex. 1006 at 513, § 3.2).*
	See Section VII, subsection A, claim 1 "returning…" limitation, regarding Schilit's teaching of returning the determined data manipulation operations, locations, and data to the pervasive device.
	The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43, 44).*
2. The method according to claim 1, further comprising steps	Fig. 6C of Schilit shows the device display after selecting the "services" key, as shown in Fig. 6B. *(See Ex. 1003 at Figs. 6A-6C).* A displayed service (*e.g.*, read, print, fax, email,

of: requesting operation of a selected one of the determined data manipulation operations; and	send, and discuss) is requested by selecting the desired link. *(Id. at 8:60 – 9:9)*. The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43, 44)*.
performing the requested operation, wherein the performing step is executed by another device on behalf of the pervasive device.	Schilit teaches that requested services are performed by m-link enabled devices, or other specific service providers, on behalf of the requesting pervasive device. *(See Ex. 1003 at 11:29-36)*. The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43, 44)*.
25. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a content type of the obtained data.	*See* Section VII, subsection A, claim 25 regarding Schilit's teaching of determining data manipulation operations for a content type of the obtained data. The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43, 44)*.
28. The method according to claim 1, wherein the determining step further comprises determining what data manipulation operations are available for a user of the pervasive device.	Barrett's WBI programmable proxy server "provides the **capability of identifying individual users**," allowing the intermediary to **"maintain individual histories or to provide custom configurations.**" *(See Ex. 1006 at 515, § 4.1) (emphasis added)*. Further, Schilit describes that the services may be dependent on user preferences or services typically executed by the specific user. *(See Ex. 1003 at 4:52-54; 10:22-33)*.
50. A system for enabling data access and manipulation from a pervasive device, comprising:	*See* claim 1, preamble, *supra*. *See* Ex. 1006 at 510, § 1; Ex. 1007 at ¶ 42.
means for receiving a data access request from a pervasive device;	*See* claim 1, "receiving" limitation, *supra*. In particular, Barrett's Generator function, which operates on the WBI programmable proxy server, "**intercepts all**

	requests from the browser, examines [its] cache and, if possible satisfies the request." *(Ex. 1006 at 514, § 3.3.2) (emphasis added).* As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Barrett's WBI programmable proxy server to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for receiving…" *(Ex. 1007 at ¶ 48).*
means for obtaining the requested data;	*See* claim 1, "obtaining" limitation, *supra.* In particular, Barrett's Generator function, which operates on the WBI programmable proxy server, locates and produces the requested data. *(See Ex. 1006 at 512-14, §§ 3.2, 3.3.2).* As provided above in Section VI, C, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 49).* However, applying the structure most closely corresponding to the recited function (i.e., protocol proxy or file access proxy (*id.*)), a skilled artisan would have considered Barrett's WBI programmable proxy server to be structurally equivalent to that disclosed by the '481 patent. *(Ex. 1007 at ¶ 51).*
means for determining what data manipulation operations are available for the obtained data, as well as a location of each available data manipulation operations; and	*See* claim 1, "determining" limitation, *supra.* In particular, Barrett's Document Editor function, which operates on the WBI programmable proxy server, automatically manipulates the requested data by adding annotations, highlighting links, adding toolbars, translating document format, changing form information, and adding scripts. *(See Ex. 1006 at 513, § 3.2).* Further, Schilit's m-link browser communicates with a services database **to <u>determine</u> situation, or context-appropriate services for requested and obtained data**. *(See Ex.1003 at 9:66 -10:4).* Available services "are accessed from the service portal database 19 and provided with the link to the user's mobile device 11." *(Id. at 11:40-42).* The list of situation, or context-appropriate services provides

54

	both a URL location and physical location of the available services. *(See id. at 8:62-9:5, 10:1-6, 10:52-62).*
	As provided above in Section VI, D, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 52).* However, applying the structure most closely corresponding to the recited function (i.e., protocol proxy or DMS(*id.*)) , a skilled artisan would have considered Barrett's WBI programmable proxy server, as modified by Schilit, to be structurally equivalent to that disclosed by the '481 patent. *(Ex. 1007 at ¶ 58).*
	Alternatively, if the structure corresponding to the recited "means for determining" is found to be the DMS, a skilled artisan at the time of filing would have considered Schilit's service portal database to be structurally equivalent to the data manipulation server. *(Id. at ¶ 59).* The declaration of Prof. Bederson also sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Id. at ¶¶ 43,44).*
means for returning the determined data manipulation operations and locations to the pervasive device, in addition to the obtained data.	*See* claim 1, "returning" limitation, *supra.*
	In particular, after Barrett's Document Editor function manipulates the obtained data for optimized display/function on the requesting device, the optimized data is returned to the client by the WBI programmable proxy server. *(Ex. 1006 at 513, § 3.2).*
	Further, in Schilit, once a displayed hyper-link is selected, the list of situation, or context-appropriate services is determined and returned to the requesting device. *(See Ex. 1003 at 5:45-52; 11:7-10).* The list of situation, or context-appropriate services provides both a URL location and physical location of the available services. *(See id. at 8:62-9:5, 10:1-6, 10:52-62).*
	As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Barrett's WBI programmable proxy server, as modified by Schilit, to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for returning…" *(Ex. 1007 at ¶ 62).* The declaration

	of Prof. Bederson also sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Id. at ¶¶ 43,44).*
51. The system according to claim 50, further comprising: means for requesting operation of a selection of the determined data manipulation operations; and	*See* claim 2, "requesting" limitation, *supra.* In particular, Schilit teaches that a graphical user interface on the pervasive device allows for displayed services to be selected. *(See Ex. 1003 at Fig. 6C, reproduced below).* As explained in the declaration of Prof. Bederson, at the time of filing a skilled artisan would have considered Schilit's user interface to be structurally equivalent to the structure described in the specification as most closely corresponding to the recited "means for requesting…" *(Ex. 1007 at ¶ 63).* The declaration of Prof. Bederson also sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Id. at ¶¶ 43,44).*
means for performing the requested operation, wherein the means for performing is executed by another device on behalf of the pervasive device.	*See* claim 2, "performing" limitation, *supra.* In particular, Schilit teaches that requested services are performed by m-link enabled devices, or other specific service providers, on behalf of the requesting device. *(See Ex. 1003 at 11:23-36).* As provided above in Section VI, G, the specification fails to clearly associate structure corresponding to the claimed function. *(See Ex. 1007 at ¶ 65).* However, applying the structure most closely corresponding to the recited function (i.e., output server agents or the DMS(*id.*)) , a skilled artisan would have considered Schilit's direct and indirect service providers to be structurally equivalent to that disclosed by the '481 patent. *(Id. at ¶¶ 66-68).* The declaration of Prof. Bederson also sets forth the reasons why one skilled in the art would combine the Barrett and

	Schilit references in this manner. *(Id. at ¶¶ 43,44).*
52. Computer program instructions for enabling data access and manipulation from a pervasive device, the computer program instructions embodied on one or more computer readable media and comprising:	The scope of claim 52 is coextensive with claim 1, the only difference being one of claim draftsmanship, *i.e.*, claim 1 recites a method whereas claim 52 recites computer program instructions. All limitations of claim 52 are identical to the limitations presented in claim 1. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 1, herein.
computer program instructions for receiving…;	*See* claim 1, "receiving" limitation, *supra*. (Identical claim language).
computer program instructions for obtaining…;	*See* claim 1, "obtaining" limitation, *supra*. (Identical claim language).
computer program instructions for determining…; and	*See* claim 1, "determining" limitation, *supra*. (Identical claim language).
computer program instructions for returning…	*See* claim 1, "returning" limitation, *supra*. (Identical claim language).
53. The computer program instructions according to claim 52, further comprising: computer program instructions for requesting operation…; and	The scope of claim 53 is coextensive with claim 2, the only difference being one of claim draftsmanship, *i.e.*, claim 2 recites a method whereas claim 53 recites computer program instructions. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 2 and claim 51 (as it pertains to the "means for performing" limitation), herein.
computer program instructions for performing the requested operation, wherein the means for	In particular, *see* claim 2, "performing" limitation and claim 51, "mean for performing" limitation, *supra*.

performing is executed by another device on behalf of the pervasive device.	
54. A method of enabling a pervasive device to access and manipulate remotely-stored data, comprising steps of:	Barrett discloses a web intermediary framework that employs a programmable proxy server to access and manipulate remotely stored data on behalf of a pervasive device, such as a Palm Pilot. *(See Ex. 1006 at 510, § 1).* Claim 54 is nearly identical to claim 1 and substantially, if not entirely, coextensive in scope with claim 1. Petitioner incorporates all arguments and supporting evidence cited with respect to claim 1, herein.
receiving a data access request from the pervasive device;	*See* claim 1, "receiving" limitation, *supra.*
obtaining the requested data;	*See* claim 1, "obtaining" limitation, *supra.* (Identical claim language).
determining what data manipulation operations…; and	*See* claim 1, "determining" limitation, *supra.* (Identical claim language).
returning the determining data manipulation operations…	*See* claim 1, "returning" limitation, *supra.* (Identical claim language).
55. A method of accessing and manipulating remotely-stored data from a pervasive device, comprising steps of:	Barrett discloses a web intermediary framework that employs a programmable proxy server to access and manipulate remotely stored data on behalf of a pervasive device, such as a Palm Pilot. *(See Ex. 1006 at 510, § 1).*
requesting an access of the remotely-stored data from the pervasive device; and	*See* claim 1, "receiving" limitation, *supra.* In particular, Barrett's Generator function, which operates on the WBI programmable proxy server, "**intercepts all requests from the browser**, examines [its] cache and, if possible satisfies the request." *(Ex. 1006 at 514, § 3.3.2) (emphasis added).*

58

receiving the requested data at the pervasive device, along with information about one or more data manipulation operations that have been determined to be available for the obtained data.	*See* claim 1, "determining" and "returning" limitations, *supra*. In particular, after Barrett's Document Editor function manipulates the obtained data by "adding annotations, highlighting links, adding toolbars, translating document format, changing form information, [and] adding scripts" *(See id. at 513, § 3.2)*, the optimized data is returned to the client by the WBI programmable proxy server. *(Id.)* Further, Schilit teaches that the obtained data may be further manipulated by **determining** "situation, or context-appropriate services, such as printing or faxing," that are available for the obtained data. *(Ex. 1003 at 5:45-51).* Once the list of situation, or context-appropriate services is determined, the method of Schilit returns the services list, along with the initially requested data, to the pervasive device. *(Id. at 11:7-10).* The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43,44).*
56. The method according to claim 55, wherein the information further comprises a location of each available data manipulation operation.	*See* claim 1, "determining" limitation, *supra*. In particular, Schilit teaches that the list of situation, or context-appropriate services provided to the pervasive device (and as shown in Fig. 6C) comprises a listing of links. *(See Ex. 1003 at 8:62-9:5).* Each link comprises a URL for the available service. *(See id. at 10:1-10).* The list of services can be "made dependent on the location of the user at the time the link is accessed." *(Id. at 10:52-62).* The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit references in this manner. *(Ex. 1007 at ¶¶ 43,44).*
57. The method according to claim 56, further comprising the step of requesting operation of a selected one of the data manipulation operations.	Fig. 6C of Schilit shows the device display after selecting the "services" key, as shown in Fig. 6B. *(See Ex. 1003 at Figs. 6A-6C).* A displayed service (*e.g.*, read, print, fax, email, send, and discuss) is requested by selecting the desired link. *(Id. at 8:60 – 9:9).* The declaration of Prof. Bederson sets forth the reasons why one skilled in the art would combine the Barrett and Schilit

	references in this manner. *(Ex. 1007 at ¶¶ 43, 44).*

VIII. CONCLUSION

Substantial, new and noncumulative technical teachings have been presented

for each of claims 1, 2, 25, 28, 32, and 50-57 of the '481 patent, which are

anticipated or rendered obvious for the reasons set forth above. There is a

reasonable likelihood that Petitioner will prevail as to each of the claims. *Inter*

Partes Review of claims 1, 2, 25, 28, 32, and 50-57 is accordingly requested.

<div style="text-align: right">

Respectfully submitted,
OBLON SPIVAK

</div>

Dated: December 10, 2012   /Greg H. Gardella/

Greg H. Gardella
Reg. No. 46,045

Scott A. McKeown
Reg. No. 42,866

Christopher Ricciuti
Reg. No. 65,549

Customer Number
  22850
Tel. (703) 413-3000
Fax. (703) 413-2220
(OSMMN 02/10)

CERTIFICATE OF SERVICE

The undersigned certifies service pursuant to 37 C.F.R. §§ 42.6(e) and

42.105(b) on the Patent Owner by Express Mail of a copy of this Petition for *Inter*

Partes Review and supporting materials at the correspondence address of record

for the '481 patent:

> Tarek N. Fahmi, APC
> 84 W. Santa Clara St.
> Suite 550
> San Jose, CA 95113

Dated: December 10, 2012   By: /S/ /Greg H. Gardella/
                                         Greg H. Gardella (Reg. No. 46,045)