

Commissioner's Decision # 1394
Décision de la Commissaire # 1394

TOPIC: O-00 (Obviousness)
SUJECT: O-00 (Évidence)

Application No : 2,579,081
Demande no : 2,579,081

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,579,081, having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423), has consequently been reviewed in accordance with paragraph 30(6)(c) of the *Patent Rules*. The recommendation of the Board and the decision of the Commissioner follow.

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INTRODUCTION

- [1] Patent application number 2,579,081 was filed on February 16, 2007 and is entitled “*Home Health Point-Of-Care and Administration System*”. The Applicant is CellTrak Technologies Inc. The application was rejected in a Final Action dated October 2, 2013 because all of the claims were considered to be obvious. After a review of the Applicant’s response to the Final Action, the application was considered to be non-compliant with the *Patent Act* and *Patent Rules*.
- [2] The matter was referred to the Patent Appeal Board in a Summary of Reasons (SOR) dated January 31, 2014. This panel of the Board was established, and following a review of the file, the panel sent a letter on January 23, 2015 clarifying certain issues and inviting the Applicant to attend a hearing. A written submission was provided and a hearing (“the Hearing”) was held on April 15, 2015.
- [3] Our review is based on claims 1-20 submitted in response to the Final Action. For the reasons that follow, we recommend that the application be refused on the ground that the claims are obvious.

BACKGROUND

- [4] The application relates to a system for managing and coordinating the provision of home care. Typically, home healthcare agencies dispatch nurses, aides, and therapists to the homes of patients to perform healthcare assessments, tasks, and other services. The frequency and duration of the visits and the care provided by these personnel are important factors in obtaining positive outcomes in the health of the patients involved.
- [5] The specification explains that there is a need to ensure that the required visits, tasks, and services are performed, that the duration of the actual visit is tracked, and that the processing of patient data records generated by personnel for billing and scheduling purposes is completed. The specification proposes a system which overcomes certain disadvantages pertaining to previous processes, including the reliance on personnel to self-report procedures, and the administrative burden on the home healthcare agency due to increased monitoring and data entry tasks.

ISSUE

- [6] This review addresses the following question: are claims 1-20 obvious, and thus in contravention of section 28.3 of the *Patent Act*?

LEGAL PRINCIPLES

Claim construction

- [7] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*] essential elements are identified through a purposive construction of the claims done by considering the whole of the disclosure, including the specification and drawings. (see also *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at paras 49(f) and (g) and 52.) In accordance with the *Manual of Patent Office Practice* [MOPOP], Chapter 13.05 (June 2015), available at the CIPO website, the first step of purposive claim construction is to identify the person skilled in the art and their relevant common general knowledge (“CGK”). The next step is to identify the problem addressed by the inventors and the solution put forth in the application. Essential elements can then be identified as those required to achieve the disclosed solution as claimed.

Obviousness

- [8] Section 28.3 of the *Patent Act* sets out the conditions under which a claim may be found to be obvious:

28.3 The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[9] In *Apotex Inc v Sanofi-Synthelabo Inc*, 2008 SCC 61 [*“Sanofi”*] the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

- (1)(a) Identify the notional “person skilled in the art”;
- (b) Identify the relevant common general knowledge of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

ANALYSIS

Purposive Construction

[10] The letter dated January 23, 2015 provided our preliminary view of the skilled person and the relevant common general knowledge of the skilled person. It also provided a problem and solution statement, the interpretation of certain terms, and the essential elements of the claims. We invited submissions on the above points in the letter. However, the Applicant restricted its written submissions to arguments in favour of the non-obviousness of specific differences over the prior art. The Applicant did not provide any response to the other issues raised in our letter.

The person skilled in the art

[11] As we set out in our letter at page 2:

[t]he skilled person in this case is a team comprising not only engineers and technologists experienced with systems supporting the provision of telemedicine or home care, but also home healthcare agency administrators and home healthcare providers.

Common general knowledge (CGK)

[12] The knowledge (CGK) of the team includes (see pages 2 and 3 of our letter):

- 1) Knowledge of the issues involved in the provision of home healthcare, arising from the need to ensure compliance with care plans, the need to track and monitor caregivers, and the need to have proper record keeping;
- 2) Knowledge that mobile devices had their own location-determining means — see page 26 (lines 14-15) of the specification which states that “Many cell phones manufactured today and in recent years include a GPS receiver in them...”;
- 3) Knowledge of location and route determination means associated with GPS receivers in cell phones.
- 4) Knowledge of third-party applications for fillable forms and transmitting order information from mobile devices;
- 5) Knowledge of encryption communications technology, and communications schemes wherein data is temporarily stored when required in mobile devices;
- 6) Knowledge of cellular networks;
- 7) Knowledge of the messaging, captioning and annotation capabilities of mobile devices;
- 8) Knowledge of imaging technology used in mobile phones; and
- 9) Knowledge of commercially available (third party) application software to perform functions such as billing, payroll, scheduling, database information storage and retrieval, and data comparison and verification.

The problem and solution addressed by the invention

[13] As set out in our letter, the problem to be solved is one of addressing known issues with prior art home healthcare systems such as: miscommunication, fraud and abuse by the

visiting caregiver; the necessity to monitor personnel through spot-checking visit attendance data or relying on patient complaints or feedback; and the use of paper reports and associated costs and inefficiencies due to administrative staff having to process this information in billing, scheduling and payroll systems.

[14] As stated in our letter:

[t]he solution set out in the instant application is a server system accessible via a communication network which creates and updates schedules, determines route information, tracks visit times and actual travel distances, creates records and plans, and bi-directionally communicates this information between a server and users.

Claims 1-20 and their essential elements

[15] Claim 1, which is illustrative of the invention, reads as follows:

1. A home care administration system comprising a server system accessible via a communication network, the server system comprising:

a staff scheduling module for creating a work schedule for a plurality of caregivers, wherein the work schedule assigns each of the plurality of caregivers to a plurality of visits with a respective plurality of patients, wherein the work schedule is dynamically updatable based on availability of the plurality of caregivers and based on locations of the plurality of caregivers and locations of the plurality of patients;

a tracking and travel management module for determining visit route information for the plurality of caregivers, tracking visit times in real-time, and determining actual travel distance between visits by caregivers based on global positioning system (GPS) data, wherein at least a portion of the work schedule created by the staff scheduling module is dynamically updated based on the tracked visit times;

a visit record and care plan module for administering visit records initiated by the caregivers during the visits and for designing patient-specific, visit-specific care plans comprising tasks to be performed during the visits; and

a communication module for bidirectionally communicating care plans, scheduling information, and route information to a plurality of mobile devices via the communication network, wherein the plurality of mobile devices are associated with the respective plurality of caregivers scheduled to visit the respective plurality of patients, wherein the server system transmits the care plans to the mobile devices so that the associated caregivers receive information regarding tasks to be performed on the patients, wherein the mobile devices are used by the caregivers to transmit back to the server system visit record information regarding performed tasks, and wherein updates to the work schedule are communicated to at least one mobile device.

[16] In our letter the essential elements of claim 1 were set out as follows:

a server system accessible via a communication network which includes:

- a scheduling module which creates and updates schedules;
- a tracking and travel management module which determines route information, tracks visit times and actual travel distances based on GPS data;
- a visit record and care plan module which creates records and plans; and
- a communication module which bi-directionally communicates this information between a server and users.

[17] At the hearing, the Applicant agreed with the panel's preliminary assessment of the essential elements as stated in our letter. However, the Applicant clarified the significance of the feature of dynamic updating in the claimed solution, in providing for changes to the work schedule as events occurred. As such, the Applicant maintained that dynamic updating is an essential feature of the invention defined by the claims.

- [18] After considering the submissions by the Applicant at the hearing, the panel agrees that the skilled person would understand that the work schedule is “dynamically” updated, based on the availability or location of caregivers, and based on tracked visit times. Accordingly, in this review, we include dynamic updating in the list of essential features that provide the disclosed solution as claimed. This addition to the list of essential elements identified at paragraph [16] above does not affect the obviousness analysis, as our letter had already set out “dynamic updating” to be a difference between the inventive concept and the state of the art, as will be discussed below.
- [19] Dependant claims 2-20 set forth additional features cooperating with the above essential elements of claim 1. These additional features will be enumerated under Step 3 of our obviousness analysis.

Obviousness

Analysis of the claims on file using the Sanofi Four-Step Approach

Step 1: Identify the notional “person skilled in the art” and the relevant common general knowledge of that person

- [20] The person skilled in the art and their relevant common general knowledge have already been identified at paragraphs [11] and [12] above.

Step 2: Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

- [21] In our letter the panel set out a preliminary view of the inventive concept(s) of the claims. We invited submissions on our views; however, no submissions were made on these points. We therefore set out the inventive concept of claim 1 and the dependent claims as stated in our letter:

the panel considers the inventive concept of claim 1 to be a server system accessible via a communication network comprising a combination of interworking elements, namely: a communicating network having a server which creates and updates schedules, determines route information, tracks visit times and actual travel

distances, creates visit records and care plans, and bi-directionally communicates this information between the server and a mobile device via the communication network. The dependant claims set forth refinements of this general inventive concept.

Step 3: Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed

[22] This review considers the following prior art discussed in our letter:

United States patent applications:

2005/131 740	June 16, 2005	Massenzio <i>et al.</i>
2006/111 955	May 25, 2006	Winter <i>et al.</i>

Publications:

"3M Scheduling System: A Solution From 3M Home Health Systems", Brochure from 3M Health Information Systems, October 2002 [3M].

[23] Massenzio et al. disclose a system for controlling the provision of home healthcare by scheduling, assigning work to, and otherwise communicating with caregivers in the field via their mobile devices.

[24] Winter et al. disclose a customer appointment management system with means for scheduling and assigning tasks to field agents by communication with them via their mobile devices. The end users envisioned by the document include those in the home healthcare field (paragraph 0082).

[25] The 3M document is a brochure discussing a software-based scheduling system used in association with the provision of home healthcare. The system provides for the management of staff resources taking into account factors such as availability, patient needs, staff skill levels, geographic area, teams and clinical specialties.

Differences with regard to independent claim 1:

[26] In our letter we identified differences between the inventive concept of claim 1 and the three prior art documents set out above. With respect to Massenzio et al. and Winter et al., the Applicant agreed with the differences we set out, namely that Massenzio et al. does not disclose dynamic updating based on tracked visit time and that Winter et al. does not disclose dynamic updating based on availability and locations, or based on tracked visit times (Applicants letter of March 12, 2015 at pages 2 and 3). With respect to the 3M document, the Applicant identified the lack of disclosure of dynamic updating based on tracked visit times as the only difference (Applicants letter of March 12, 2015 at page 5).

[27] Accordingly the only difference between the state of the art and the inventive concept of claim 1 is the dynamic updating of schedules based on tracked visit times.

Differences with regard to dependent claims 2-14:

[28] In our view, for each of the dependent claims, the following features are not differences in view of the information disclosed in the following paragraphs of Winter et al. and Massenzio et al.:

- Claim 2: a mobile device application for rendering a fillable form — Winter et al., paragraphs 0063, 0070;
- Claim 3: encrypted communications— Massenzio et al., paragraph 0065;
- Claim 4: data storage in mobile devices for temporarily storing entered data — Winter et al., paragraph 0076;
- Claim 5: the mobile device being a cell phone and the communication network being a cellular network— Winter et al., paragraph 0069;
- Claim 6: the mobile devices including a GPS receiver for tracking location — Winter et al., paragraph 0079;
- Claim 7: using the transmitted location to track the location of the mobile device — Winter et al., paragraph 0079;
- Claim 8: the tracking and travel management module determining an actual route travelled — Winter et al., paragraph 0099;
- Claim 9: creating a work schedule based on locations — Winter et al., paragraphs 0008-0010;
- Claim 10: the visit record and care plan module collecting and storing visit record

information and accepting a selection of tasks — Winter et al., 0094, 0101);

- Claim 11: the server system comprising a messaging and notification module so that messages may be broadcast to the mobile devices — Winter et al., paragraphs 0094, 0096;
- Claim 12: the mobile devices including an imaging device for transmitting an image — Massenzio et al., paragraphs 0062;
- Claim 14: accepting and transmitting supply orders to the server system — Winter et al., paragraphs 0070, 0076;
- Claim 15: a disease management intelligence module for applying rules to entered data transmitted from the mobile device to determine whether additional action should be taken — Massenzio et al., paragraphs 0064, 0088-0089;
- Claim 16: transmitting medical advice from the server system to the mobile device — Massenzio et al. paragraphs 0088-0089;
- Claim 17: an enterprise application integration module for integrating a third-party application — Massenzio et al., paragraphs 0088, 0098;
- Claim 18: third-party applications namely: a billing system, a payroll system, and a scheduling system — Massenzio et al., paragraphs 0088, 0098;
- Claim 19: the server system comprising at least one database storing information related to the home healthcare system — Massenzio et al., paragraphs 0024, 0121, 0068; and
- Claim 20: verifying that scheduled visits have actually occurred by comparing information from the staff scheduling module with information from the tracking and travel management module — Massenzio et al., paragraph 0088.

[29] Compared against claim 1, in respect of the inventive concept of dependent claim 13, since recording an annotation to accompany a transmitted image is not explicitly disclosed in either Massenzio et al. or Winter et al., the skilled person would consider this to be an additional difference.

[30] In our letter, we invited the Applicant to identify any other differences which should be considered by the panel (page 7). None were identified by the Applicant, either in the letter of March 12, 2015 or at the hearing.

[31] In light of the above, as set out in our letter, the skilled person would consider the overall differences between the inventive concept(s) of the claims and the state of the art to be:

For claims 1-12 and 14-20:

- dynamic updating of schedules based on tracked visit times;

For claim 13:

- dynamic updating of schedules based on tracked visit times and recording an annotation to accompany a transmitted image

Step 4: Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

Claims 1-12 and 14-20: Dynamically updating a schedule based on tracked visit times

Massenzio et al.

[32] Like the system of the present invention, Massenzio et al. use a mobile field device in conjunction with a server system in order to manage a home healthcare system. In relation to schedule updates during a work period, Massenzio et al. at paragraphs 0090 and 0091 describe the operation of the field device. It is disclosed as being updated “at the start of each work period or at other selected times.” Also, it is disclosed that the communication link between the field device and the server can be initiated by the caregiver or “server 206 can automatically establish it to reflect changing conditions during the course of the work period.”

[33] An example of “changing conditions” is given in paragraph 0091, namely a patient may be admitted to the hospital, in which case the caregiver’s schedule is updated based on the server being aware of the hospital admission through a link to their admission list. As disclosed, “the caregiver’s schedule is automatically adjusted so that time is not wasted on attempting to complete a scheduled appointment when the patient is unavailable.” Such a schedule change would be an example of a “dynamic” update to the caregiver’s schedule, as this could happen multiple times during any given work period.

[34] At paragraph 0061 Massenzio et al. disclose real time updates to the services provided to a patient in that if a “caregiver determines that new or additional services are required,

the caregiver is able to document the need for such care and to obtain approval for such care in real time.” Though not explicit, in our view, this functionality would suggest to the skilled person that the caregiver’s schedule would be immediately updated if such services were immediately required.

- [35] The Massenzio et al. system also includes a time tracking module 518 to record the time a caregiver spends at a particular location. This module records the time of arrival of the caregiver at a patient’s location as well as the time of departure (see paragraph 0089). In the submissions of March 12, 2015, the Applicant pointed out that this time interval is used to compare the services to be provided with time spent at the patient’s location based on community standards of care for service verification purposes. We agree that this particular use of the data is disclosed at paragraph 0089; however, Massenzio et al. disclose other functionality which suggests a requirement to more dynamically track the time a caregiver spends at a patient location.

- [36] For example, at paragraph 0093, it is disclosed that the server 206 may calculate an anticipated arrival time for a caregiver at a location and advise the patient of the caregiver’s arrival by delivery of an automated message. Though not explicit, in our view, such functionality would suggest to the skilled person that accurate data regarding the caregiver’s location would be necessary. In particular, if a caregiver spent more time than originally scheduled at a patient’s location, any calculation of an anticipated arrival time would need to take this into account and adjust the schedule accordingly. In such a manner the schedule would be dynamically updated based a record of the caregiver’s time spent at a patient location.

- [37] In light of the above, in our view, the skilled person would view Massenzio et al. as suggesting the dynamic updating of a caregiver’s schedule based on the tracked visit times.

Winter et al.

- [38] In its letter of March 12, 2015 (page 3), the Applicant noted that the system in Winter et al. determines schedules based on “standard task intervals” (paragraph 0056), and that the

agent schedules are not updated if the actual time an agent takes to complete a task is longer or shorter than the “standard task interval”.

[39] The Applicant’s observation regarding the “standard task intervals” is correct; however, there are several teachings in Winter et al. that would suggest to the skilled person that the schedule would be updated by taking into account factors that affect the scheduled appointment times such as transit distance, response times, task profiles, and agent status. This would suggest to the skilled person that the “standard task intervals” do not rigidly define the schedule as a whole, which is adjustable in real-time. This relates to the following functionality in Winter et al.:

- the system selects and schedules “the tasks as a function of the task profile, the agent status, the customer location, and the agent location.” (paragraph 0024);
- “...assign a new task associated with a new customer request received by the customer service module to an agent as a function of a transit distance, a response time, an agent arrival time, and a customer requested time.” (paragraph 0027);
- “... selects an agent to deliver the service or product to the customer from among the plurality of agents as a function of the task profile, the agent status, the customer location, and the agent location. The customer communication module transmits to the customer a notification of a pending arrival of the selected agent at the customer location as a function of the determined agent status and the location of the selected agent.” (paragraph 0036) and
- “The agent status message can include, by way of example, a status parameter such as an availability of the agent, a pending availability of the agent, a status of a previously assigned task, a task delivery period, and a task completion time.” (paragraph 0041).

[40] In combination with the fact that Winter et al. disclose “dynamic real-time data necessary to manage and optimize appointment schedules of mobile resources” (paragraph 0058); and “an agent/mobile resource receives real-time service delivery requests and scheduled appointments” (paragraph 0107), we conclude that the skilled person reading Winter et al. would be led to an embodiment in which a schedule is updated based on tracked visit times. For example, since tasks are assigned based on agent status, location, and arrival time, when an agent is unavailable due to an extended appointment, the skilled person

would understand that schedule updates in Winter et al. would take this into account, hence a dynamic update of the schedule based on tracking the agent's status/location (and therefore visit times) would be achieved.

- [41] In light of the above, in our view, the skilled person would view Winter et al. as suggesting the dynamic updating of a caregiver's schedule based on the tracked visit times.

3M

- [42] The 3M document discloses a scheduling system for home healthcare services, similar to those of Massenzio et al. and Winter et al. It does disclose that schedule changes may occur at the point of care and that the master schedule is updated on synchronization, however, as the Applicant pointed out (Applicant's letter of March 12, 2015 at page 5), there is no further detail provided as to when such synchronization occurs. However, it does disclose functionality such as:

- provides reports that enable visit tracking and status and unassigned orders;
- enables users to easily create, modify and cancel visits;
- identifies appropriate resource utilization; and
- synchronizes with the clinical point of care and shares data to enable appropriate scheduling activities.

- [43] Given that the system provides for visit tracking and the updating of visit information (the creation, modification or cancellation of them), as well as synchronization with the point of care for scheduling purposes, in our view, the 3M document might be taken as suggesting to the skilled person the dynamic updating of the schedule. However, it is not clear whether or not the schedule would be automatically updated based on such visit tracking in a dynamic manner since as the Applicant noted there is no detail which would clarify when and how frequently the synchronization occurs. The 3M document is therefore not as suggestive of the inventive concept as the disclosures of Massenzio et al. or Winter et al.

- [44] In light of the above, the combination of features defined by claims 1-12 and 14-20 would have been obvious in light of state of the art as represented by Massenzio et al. or Winter et al., and the common general knowledge.

Claim 13: dynamic updating of schedules based on tracked visit times and recording an annotation to accompany a transmitted image

- [45] With respect to the feature of recoding an annotation to accompany a transmitted image, at paragraph 0097 of Massenzio et al., it is disclosed that upon completion of a visit, a caregiver may add an annotation regarding the visit to the patient's file. At paragraph 0062 of Massenzio et al, it is disclosed that the field device used by the caregiver, such as a cellular telephone, may be used record a voice file which can be attached to an electronic mail message, and to generate digital photos of the patient which can be uploaded to the server 206. While Massenzio et al. does not explicitly disclose the provision of an annotation to accompany an image, it does disclose such functionality in respect of a voice recording sent by electronic mail. The skilled person would view the provision of a digital photo of the patient by electronic mail with an accompanying message as lacking any inventive ingenuity over the disclosure of the same functionality in respect of a voice recording, as taught by Massenzio et al.
- [46] With respect to the combination of the two differences in claim 13 (dynamic updating of a caregiver's schedule based on the tracked visit times and recording an annotation on a transmitted image), both features operate independently of each other and do not accrue any further inventive ingenuity in their combination. The limitation of recording an annotation to an image does not render the remaining features of the home care administration system defined by claim 13 inventive.
- [47] In light of the above, the combination of features defined by claim 13 would have been obvious in light of state of the art as represented by Massenzio et al. and the common general knowledge.

RECOMMENDATION OF THE BOARD

[48] In view of the above findings, the Board recommends that the application be refused on the grounds that claims 1-20 on file are obvious and are therefore non-compliant with section 28.3 of the *Patent Act*. We therefore recommend that the application be refused.

Andrew Strong
Member

Stephen MacNeil
Member

Paul Sabharwal
Member

DECISION

[49] I concur with the findings and the recommendation of the Board that the application be refused as claims 1-20 are obvious and are therefore non-compliant with section 28.3 of the *Patent Act*.

[50] Therefore, in accordance with section 40 of the *Patent Act*, I refuse to grant a patent on this application. Under Section 41 of the *Patent Act*, the Applicant has six months within which to appeal my decision to the Federal Court of Canada.

Johanne Bélisle

Commissioner of Patents

Dated at Gatineau, Quebec,
this 6th day of April, 2016