Docket No.: 1585/001

FORM PTO-1595 (Modified)
(Rev. 6-93)
OMB No. 0651-0011 (exp.4/94)
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P08A/REV02

07-24-1998

100775027

RECORDATION FORM COVER SHEET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

Tab settings ➔ ➔ ➔ ▼ ▼

To the Honorable Commissioner of Pa... please record the attached original documents or copy thereof.

1. Name of conveying party(ies):
Inso Corporation

Additional names(s) of conveying party(ies) ☐ Yes ☒ No

2. Name and address of receiving party(ies):

Name: Lernout & Hauspie Speech Products N.V.

Address: Sint-Krispijnstaat 7

City: Ieper State/Prov.:

Country: Belgium ZIP: 8900

Additional name(s) & address(es) ☐ Yes ☒ No

3. Nature of conveyance:

☒ Assignment ☐ Merger

☐ Security Agreement ☐ Change of Name

☐ Other Confirmatory Assignment

Execution Date: June 12, 1998

4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.	Filing date
08/555,495	11/8/95
08/684,002	7/19/96
08/915,628	8/21/97

B. Patent No.(s)

4,580,241	4,724,523	4,868,750
4,730,269	4,771,401	4,964,501
5,690,628	4,773,009	
4,783,758	4,864,502	

Additional numbers ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Bruce D. Sunstein

Registration No. 27,234

Address: BROMBERG & SUNSTEIN LLP

125 Summer Street

City: Boston State/Prov.: MA

Country: USA ZIP: 02110-1618

6. Total number of applications and patents involved: 13

7. Total fee (37 CFR 3.41):.....$ 520.00

☒ Enclosed - Any excess or insufficiency should be credited or debited to deposit account

☐ Authorized to be charged to deposit account

8. Deposit account number:

19-4972

07/23/1998 JSHABAZZ 00000089 08555495

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9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Bruce D. Sunstein — Name of Person Signing

Signature

July 15, 1998 — Date

Total number of pages including cover sheet, attachments, and 8

CONFIRMATORY ASSIGNMENT

WHEREAS, Inso Corporation (hereinafter "Assignor"), a Delaware corporation, is the owner of the entire right, title and interest in and to the inventions disclosed in the United States and foreign patent applications and patents on the schedule attached hereto and incorporated herein by reference as Exhibit A and in and to such patent applications and such patents;

WHEREAS, Lernout & Hauspie Speech Products N.V. (hereinafter "Assignee"), a Belgian corporation, having a place of business in Belgium, is desirous of acquiring the entire right, title and interest in and to such inventions, patent applications and patents;

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, Assignor has sold, assigned and transferred, and by these presents does hereby sell, assign and transfer to Assignee, its successors and assigns, the entire right, title and interest in and to such inventions, such patent applications and such patents and any patents, and any reissues and extensions thereof, which issue or have issued in any country upon patent applications which correspond with any of such applications or patents or any divisional, continuation-in-whole, or continuation-in-part thereof, including the right to sue and collect for past infringement; the same to be held and enjoyed by Assignee for its own use, and for the use of its legal representatives, to the full term for which such patents have been granted as fully and entirely as the same would have been held by Assignor had this assignment not been made.

Assignor does hereby further covenant and agree that it will not execute any writing or do any act whatsoever conflicting with these presents, and that Assignor, its successors and assigns, will at any time upon request without further additional consideration, but at the expense of Assignee, its successors and assigns, execute such additional writings and do such additional acts as Assignee, its successors and assigns, may determine as necessary or desirable in the enjoyment of this grant, and in any proceedings or transactions involving such inventions, patent applications or patents.

Date: 6-12-96

INSO CORPORATION

By: _____

Authorized Agent

STATE OF MASSACHUSETTS)
) ss.
COUNTY OF SUFFOLK)

On ~~May~~ June 12, 1998, before me, a notary public in and for said county and state, personally appeared Jonathan Levitt, who, being by me first duly sworn, declared that he is the Intellectual Property Counsel of Inso Corporation, and that the foregoing instrument was signed on behalf of the corporation by authority of its board of directors as its free act and deed.

Karen Broderick
Notary Public

(seal)
63661

KAREN BRODERICK
Notary Public
My Commission Expires Oct. 5 2001

SCHEDULE 1.1(iii)

PATENT DOCKET
AS OF NOVEMBER 12, 1997

DKT NO.	CTY	STATUS	TITLE		
	APPL NO.	APPL DT.	PAT NO.	GRANT DT.	
ISM-0001 DICTIONARY	USA	G	GRAPHIC WORD SPELLING CORRECTION USING AUTOMATED		
	06/467836	18FE1983	4580241	01AP1986	
		COMPARISONS WITH PHONETIC WORD SKELETONS			

- NOT CURRENTLY USED IN ANY INSO PRODUCT, BUT VALUABLE FOR FUTURE USE

ISM-0001CA	CANA	G	METHOD AND APPARATUS FOR AUTOMATED SPELLING CORRECTION		
	447576	16FE1984	1203916	29AP1986	

- NOT CURRENTLY USED IN ANY INSO PRODUCT, BUT VALUABLE FOR FUTURE USE

ISM-0001CN UTILIZING	USA	G	METHOD AND APPARATUS FOR GENERATING WORD SKELETONS		
	06/846555	31MR1986	4730269	08MR1988	
		ALPHA SET REPLACEMENT AND OMISSION			

- NOT CURRENTLY USED IN ANY INSO PRODUCT, BUT VALUABLE FOR FUTURE USE

ISM-0002	USA	G	METHOD AND APPARATUS FOR AUTOMATED SEARCH AND RETRIEVAL		
	08/503981	19JL1995	5680628	21OC1997	
		PROCESSING			

- CURRENTLY USED IN INSO'S INTELLISCOPE SEARCH ENHANCER PRODUCT

ISM-0002CP	USA	F	METHOD AND APPARATUS FOR MORPHOLOGICAL ANALYSIS AND		
	08/555495	08NO1995			
		GENERATION OF NATURAL LANGUAGE TEXT			

- CURRENTLY USED IN INSO'S INTELLISCOPE SEARCH ENHANCER PRODUCT

ISM-0002CP2	USA	F	METHOD AND APPARATUS FOR IMPROVED TOKENIZATION OF NATURAL		
	08/686002	19JL1996			
		LANGUAGE TEXT			

- CURRENTLY USED IN INSO'S INTELLISCOPE SEARCH ENHANCER PRODUCT

ISM-0002PC	PCT	F	METHOD AND APPARATUS FOR AUTOMATED SEARCH AND RETRIEVAL		
	PCT/US96/12018	19JL1996			
		PROCESSING			

- CURRENTLY USED IN INSO'S INTELLISCOPE SEARCH ENHANCER PRODUCT

ISM-0009	USA	G	AUTOMATED WORD SUBSTITUTION USING NUMERICAL RANKINGS OF		
	06/699202	05FE1985	4783758	08NO1988	
		STRUCTURAL DISPARITY BETWEEN MISPELLED WORDS & CANDIDATE			

- NOT CURRENTLY USED IN ANY INSO PRODUCT; NO PLANS FOR FUTURE USE

DKT NO.	CTY	STATUS	TITLE		
	APPL NO.	APPL DT.	PAT NO.	GRANT DT.	
ISM-0009CA CORRECTION	CANA	G	METHOD AND APPARATUS FOR SEMI-AUTOMATIC SPELLING		
	501091	04FE1986	1248635	10JA1989	

- NOT CURRENTLY USED IN ANY INSO PRODUCT; NO PLANS FOR FUTURE USE

ISM-0010	USA	G	METHOD AND APPARATUS FOR THE ELECTRONIC STORAGE AND	
	06/750911	01JL1985	4724523	09FE1988
		RETRIEVAL OF EXPRESSIONS AND LINGUISTIC INFORMATION		

- NOT CURRENTLY USED IN ANY INSO PRODUCT; NO PLANS FOR FUTURE USE

ISM-0010CA	CANA	G	METHOD AND APPARATUS FOR THE ELECTRONIC STORAGE AND	
	512709	27JE1986	1260558	01MY1990
		RETRIEVAL OF EXPRESSIONS AND LINGUISTIC INFORMATION		

- NOT CURRENTLY USED IN ANY INSO PRODUCT; NO PLANS FOR FUTURE USE

ISM-0012	USA	C	METHOD AND APPARATUS FOR LINGUISTIC EXPRESSION PROCESSING	
	06/846366	31MR1986	4771401	13SE1988

- NOT CURRENTLY USED IN ANY INSO PRODUCT; NO PLANS FOR FUTURE USE

ISM-0013CA	CANA	G	METHOD AND APPARATUS FOR THE ELECTRONIC STORAGE RETRIEVAL	
	531032	03MR1987	1257705	18JL1989
		OF EXPRESSIONS AND LINGUISTIC INFORMATION		

- NOT CURRENTLY USED IN ANY INSO PRODUCT; NO PLANS FOR FUTURE USE

ISM-0014	USA	C	METHOD & APPARATUS FOR TEXT ANALYSIS	
	06/872094	06JE1986	4773009	20SE1988

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0014CA	CANA	G	METHOD AND APPARATUS FOR TEXT ANALYSIS	
	539001	05JE1987	1295746	11FE1992

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0020	USA	G	SENTENCE ANALYZER	
	07/106535	07OC1987	4864502	05SE1989

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0020CA	CANA	C	SENTENCE ANALYZER	
	579693	07OC1988	1300269	05MY1992

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0021 USA G COLLOCATIONAL GRAMMAR SYSTEM
07/106127 07OC1987 4868750 19SE1989

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

DKT NO.	CTY	STATUS	TITLE		
	APPL NO.		APPL DT.	PAT NO.	GRANT DT.
ISM-0021CA	CANA	G	COLLOCATIONAL GRAMMAR SYSTEM		
	579695		07OC1988	1301934	26MY1992

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0022 USA G WORD ANNOTATION SYSTEM
07/106224 07OC1987 4864501 05SE1989

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0022CA CANA G WORD ANNOTATION SYSTEM
578694 07OC1988 1300272 05MY1992

- CURRENTLY USED IN INSO'S GRAMMAR CORRECTION PRODUCTS

ISM-0024 USA P METHOD AND APPARATUS FOR BREAKING WORDS IN A STREAM
08/915628 21AU1997
OF TEXT

- CURRENTLY USED IN INSO'S INTELLISCOPE SEARCH ENHANCER PRODUCT

ISM-0024PC PCT P METHOD AND APPARATUS FOR BREAKING WORDS IN A STREAM
PCT/US97/14741 21AU1997
OF TEXT

- CURRENTLY USED IN INSO'S INTELLISCOPE SEARCH ENHANCER PRODUCT

ABSTRACTS OF PENDING APPLICATIONS

** ALL PENDING APPLICATIONS RELATE TO TECHNOLOGY USED IN INTELLISEEK SEARCH ENHANCER

ABSTRACT FOR ISM-002CP, SERIAL NO. 08/555,495

This invention improves information retrieval and the precision of language processing by providing an apparatus and method for organizing, utilizing, analyzing, and generating morphological data. The apparatus and method involve locating a stored lexical expression representative of a candidate word found in a stream of natural language text, identifying a paradigm for the candidate word based upon the stored lexical expression, and applying transforms contained within the identified paradigm to the candidate word.

ABSTRACT FOR ISM-002CP2, SERIAL NO. 08/684,002

This invention improves information retrieval by providing a tokenizing apparatus and method that parses natural language text in a manner that increases the throughput of an information retrieval or natural language analysis system. The tokenizer includes a parser that extracts characters from the stream of text, an identifying element for identifying a token formed of characters in the stream of text that include lexical matter, and a filter for assigning tags to those tokens requiring further linguistic analysis. The tokenizer, in a single pass through the stream of text, determines the further linguistic processing suitable to each particular token contained in the stream of text.

ABSTRACT FOR ISM-002PC, SERIAL NO. PCT/US96/12018

This invention provides a method and apparatus for automated search and retrieval processing that includes a tokenizer, a noun phrase analyzer, and a morphological analyzer. The tokenizer includes a parser that extracts characters from the stream of text, an identifying element for identifying a token formed of characters in the stream of text that include lexical matter, and a filter for assigning tags to those tokens requiring further linguistic analysis. The tokenizer, in a single pass through the stream of text, determines the further linguistic processing suitable to each particular token contained in the stream of text. The noun phrase analyzer annotates tokens with tags identifying characteristics of the tokens and contextually analyzes each token. During processing, the noun phrase analyzer can also disambiguate individual token characteristics and identify agreement between tokens. The morphological analyzer organizes, utilizes, analyzes, and generates morphological data related to the tokens. In particular, the morphological analyzer locates a stored lexical expression representative of a candidate token found in a stream of natural language text, identifies a paradigm for the candidate token based upon the stored lexical expression, and applies transforms contained within the identified paradigm to the candidate token.

ABSTRACT ISM-024, SERIAL NO. 08/915,628

A word breaker utilizing a lexicon module and a processing module to identify word breaks in a stream of Asian (e.g. Japanese, Chinese, or Korean) language text. The lexicon module is a dictionary or database containing words native to the language of the input text. The processing module includes a plurality of analysis modules which operate on the input text. In particular, the processing module can include modules that analyze the input text using heuristic rules and statistical analysis to identify a first set of work breaks, thereby reducing the size of segments with undefined word breaks. The processing module also includes a database analysis module that identifies the remaining undefined word breaks in those smaller segments that have undergone heuristic or statistical analysis.

ABSTRACT OF ISM-024PC, SERIAL NO. PCT/US97/14741

A word breaker utilizing a lexicon module and a processing module to identify word breaks in a stream of Asian (e.g. Japanese, Chinese, or Korean) language text. The lexicon module is a dictionary or database containing words native to the language of the input text. The processing module includes a plurality of analysis modules which operate on the input text. In particular, the processing module can include modules that analyze the input text using heuristic rules and statistical analysis to identify a first set of work breaks, thereby reducing the size of segments with undefined word breaks. The processing module also includes a database analysis module that identifies the remaining undefined word breaks in those smaller segments that have undergone heuristic or statistical analysis.