

—Central Research Laboratory Intellectual Property Training—

Introduction to Patent Searches(English GUI)

DEC 8, 2016

Intellectual Property
Management Division
Development Promotion
Department

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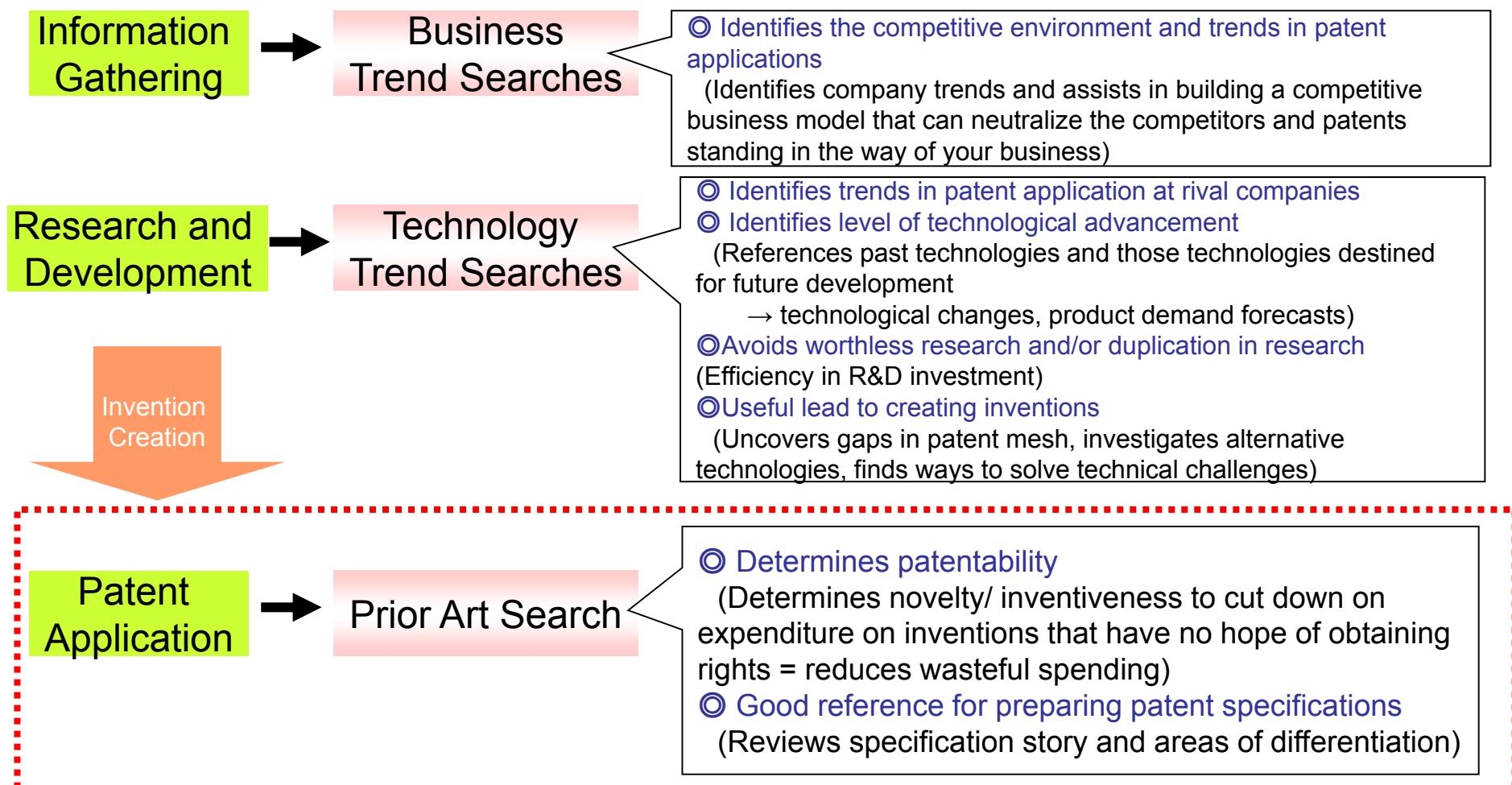
<Reference Materials>

In this presentation, the terms "search" and "information retrieval" pertain to the performance of patent searches (information gathering, analysis and reporting).

1.Introduction

(1)Information Retrieval (Searches) for Researchers

Patent searches serve a number of purposes, and are an important and necessary skill for researchers.



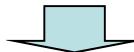
(2) Why is it important to conduct a prior art search before submitting a patent application?

Important Point:

Ideas that are not original or lack progressivity are unlikely to be patented ⇔ waste of time and money

- Check if an idea is original
 - What are the original elements of your idea after comparison with the results of a prior art search?
- Check if an idea has progressivity
 - Can these original elements be easily developed?

Gaining a understanding of prior art before application and establishing a clear differentiation between one's own ideas and prior art increases the certainty of patent rights being granted.



It is important that researchers (inventors) get in the habit of checking prior art in their chosen theme and in other related patents areas. Checks should be conducted on a regular basis and when hitting on a new idea.

<Aim of this course>

To enable participants to efficiently search for information that will help them fine tune their ideas!

Case Study

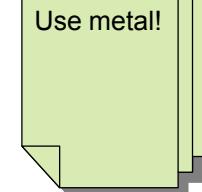
Inventor A

Hits upon the idea of using metal in a particular product



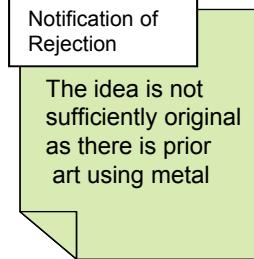
(1) Idea creation

Files a patent application for the use of metal without conducting a patent search



(2) Files patent application

A prior art using silver is detected and the inventor is notified that the idea has been rejected



(3) Notified of rejection

Silver is a metal so it is difficult to appeal the decision



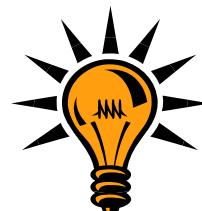
(4) Considers appealing

Waste of time and money!

Fails to acquire patent rights

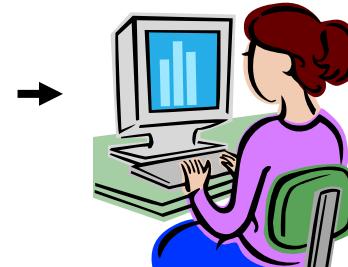
Inventor B

Hits upon the idea of using metal in a particular product



(1) Idea creation

Search reveals a prior art using silver



(2) Prior art search

Examines patentable areas in relation to the prior art using silver



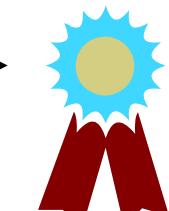
(3) Examines patentability

Files an application that differentiates these patentable areas from the prior art



(4) Files patent application

(Differentiates idea from prior art)



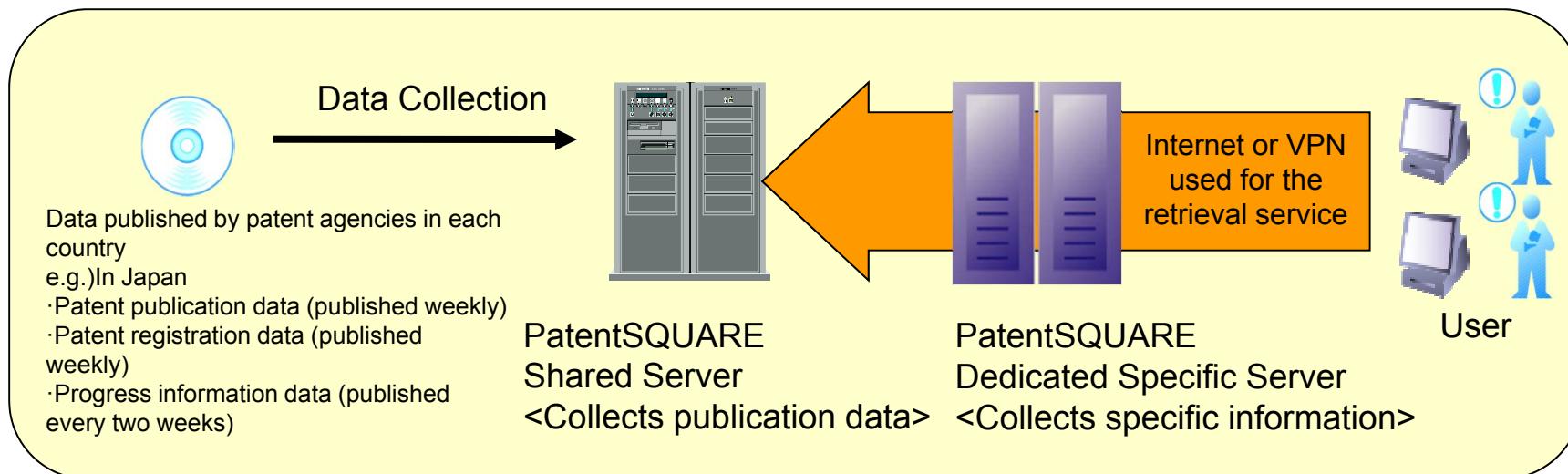
(5) Acquires patent rights

2. Searches Using PatentSQUARE

- (1) What is PatentSQUARE?
- (2) Basic Rules of Search Queries
- (3) Keyword Searches
 - ① Search Fields and Keywords
 - ② Operator
 - ③ Word Proximity Search
 - ④ Search Fields / Impact of Operators
 - ⑤ Search Fields / Operator Selection Criteria
 - ⑥ Cited Document Searches
- (4) Bibliographic Data Search
 - ① Search Fields for Bibliographic Data Searches
 - ② Patent Classification Search
 - ③ Exact Match and Partial Match
- (5) Summary of Search Fields
- (6) Assembling Search Queries
- (7) Search Procedures

(1) What is PatentSQUARE?

- PatentSQUARE is an ASP service for retrieving patent data.*



- PatentSQUARE offers the following features:
 - Search and access of patent information
 - Storage of evaluation information (specific information)
 - Monitoring of new patents (SDI function), monitoring of progress information on new patents (watching functions #optional)
 - Preparation of patent maps (matrix, portfolio, and citation maps)
 - **Preparation of projects and sharing of specific information on these projects**

*Taken from briefing material given to NEC on PatentSQUARE

(1) What is PatentSQUARE?

2. Searches using PatentSQUARE

The global search screen enables users to search the following data in English. It offers English full text + DocDB (bibliographic + abstract) searches for the USA, PCT, Europe and China.

DB	Data Source	Search Years	Coverage
Japan	DocDB	Depends on DocDB	Bibliographic + abstract (English) *Japanese not included.
USA	USPTO	Publication 2001, registration 1976~	Bibliographic + full-text search
	DocDB	Depends on DocDB (~1975)	Bibliographic + abstract
PCT	WIPO	International patent gazettes 1986~	Bibliographic + full-text search (sections published in English)
	DocDB	Depends on DocDB (~1985)	Bibliographic + abstract
Europe	EPO	Publication·registration 1986~	Bibliographic + full-text search (sections published in English)
	DocDB	Depends on DocDB (~1985)	Bibliographic + abstract
China	SIPO	Publication·registration·utility models 1985~	Bibliographic + full-text search (machine translation into English) *Chinese not included.
	DocDB	Depends on DocDB (1985)	Bibliographic + abstract
Others (DE,FR, etc.)	DocDB	Depends on DocDB (~1985)	Bibliographic + abstract

*Taken from briefing material given to NEC on PatentSQUARE

(1) What is PatentSQUARE?

- PatentSQUARE offers the following searches.

- Advanced Search (recommended)
 - Specialist interface constructed of complex Boolean expressions.
- Basic Search
 - Beginner interface for simple data searches. Features two modes.
 - "Original mode" enables users to create intuitive search queries using check boxes.
 - "Pull-down mode" enables users to select search fields from a pull-down menu to create search queries.
- Number Search
 - Interface that enables users to search using application numbers, publication numbers and similar data.

- Refer to page 61 onwards of "Reference Material 1" for PatentSQUARE URL and log-in method.

PatentSQUARE Service List Screen

- Upper part of initial screen that appears after login to PatentSQUARE.

The screenshot shows the PatentSQUARE Service List Screen. At the top, there is a navigation bar with links for Home, Settings, DB Contents, Help, and Logout. A red box highlights the 'Searches' section, which contains three search options: Basic Search, Advanced Search, and Number Search. A yellow callout box points to the 'Advanced Search' button with the text 'Menu for selecting search screen'. Below the search section is a 'Saved Information' section with icons for Formulas, Lists, Search Alerts, Email Documents, and Maps. A green callout box points to the 'Search Alerts' icon with the text 'Recommends use of the Advanced Search's World Wide Patent search function'. On the left side, there is a 'Topics' section listing latest updates (US-B, US-A, World Wide) and an 'Inbox' section indicating no messages. A blue callout box points to the 'Inbox' section with the text 'Lists service and system-related notices'. At the bottom left, there is a 'Before using the first time' section with five setup steps: 1. Internet Explorer setup, 2. Google Toolbar (etc) setup, 3. Installing Adobe Reader, 4. Java™ Plug-in setup, and 5. Downloading JAR file.

*Taken from briefing material given to NEC on PatentSQUARE

PatentSQUARE Search Criteria Screen

Advanced Search Screen

The screenshot shows the PatentSQUARE Advanced Search interface. On the left, there's a sidebar with buttons for Favorite, Number/Kind, Application, and Text Fields. Below this are buttons for Text Combination, Date, Technology, and Progress Info. The main search area has a 'Search' button circled in green at the top. A large green arrow points from this button down to a table of search results. The table has columns for 'Results' and 'Field'. The first three rows show results for S001, S002, and S003. The fourth row, S004, is highlighted with a red border and contains the number 132. The 'Field' column for S004 shows 'Filing Date: 20050101', 'Applicant: NEC', and 'Abstract: security'. A 'Search Formula' field below the table contains the text 'S001*S002*S003'. The top right of the screen has a message: 'Do not use the Back Button or the Backspace Key as an error may occur.' The top navigation bar includes Home, Settings, DB Contents, Help, and Logout. A purple callout bubble on the right says 'Manage results (convert to lists, etc.)'. A blue callout bubble on the right says 'Input search criteria'. A green callout bubble on the right says 'Displays search results'. A yellow callout bubble on the left says 'Select search fields (Click on search field buttons)'.

Results	Field
S001	Filing Date: 20050101
S002	Applicant: NEC
S003	Abstract: security
S004	Search Formula: S001*S002*S003
S005	

PatentSQUARE Search Criteria Screen

Advanced Search Screen

This screen offers a technical term search tool for technical term and synonym searches.

The screenshot shows the PatentSQUARE Advanced Search Screen. On the left, there's a sidebar with buttons for Favorite, Number/Kind, Application, Text Fields, Text Combination, Date, Technology, and Progress Info. Below these are buttons for Family and Evaluate. A note says: "The item in the favorite can be deleted by clicking it with Shift Key. The retrieval item under the selection is changed when clicking on a button while pushing the Ctrl key." To the right of the sidebar is a main search area with tabs for Search, Basic List, and Abstract List. Below the tabs are buttons for Highlight, Insert, Delete, Clear, Copy, Paste, Print, Export, Input, History, Open, Save, and Alerts. A note above the tabs says: "Do not use the Back Button or the Backspace Key as an error may occur." Another note on the right says: "* Red Exp.No has been holding a check and sort. * Blue Exp.No is displayed "List screen" just before". There's also a "Setting" button. The main search area displays a table of search results:

ExpNo	Results	Field	Expressions
S001	4,011,077	Filing Date	20050101:
S002	47,669	Applicant	NEC
S003	48,573	Abstract	security
S004	132	Search Formula	S001*S002*S003
S005			

A callout box points to the search field in the table row for S003, containing "48,573 security", with the text: "Clicking on a search field brings up an technical term search menu". A blue dashed box encloses the table area with the text: "[Technical Term Search Tool]". A yellow arrow points from the bottom right of the table area to a "Technical Term Search Tool" dialog box. This dialog box has sections for "1. Search for Technical Terms" and "2. Search result list". It includes fields for Reference, Dictionary, and search terms, along with checkboxes for search operators like AND, OR, NOT, and expansion options like Vertical and Horizontal expansion.

PatentSQUARE Search Criteria Screen

Advanced Search Screen

Switching between target countries enables users to select and search publications by publishing country.

The screenshot shows the PatentSQUARE Advanced Search interface. On the left, there's a sidebar with tabs for Favorite, Number/Kind, Application, and Text Fields. Below these are various search filters like Family, Date, Technology, and Progress Info. The main area has sections for All Text, Title, Abstract, Claims, Applicant, Inventor, Report No., Application No., Report Date, Filing Date, Publication Date, Registration Date, IPC, ECLA, and USC. In the center, there's a search bar with a dropdown for 'Country' set to 'Select'. To its right is a grid of search results with columns for S001-S005, ID, Filing Date, Applicant, Abstract, and Search Formula. A red box highlights the 'Select' radio button in the country dropdown. A blue box highlights the 'JP' button in the country dropdown. A yellow callout box says: "Specify countries by setting the 'Select countries' option". A light blue callout box says: "Selected options (JP, US, etc.) are highlighted in red. Click on selected options again to return them to black. Red: target country. Black: non-target country.". A green callout box at the bottom says: "After performing a search, clear the number of search hits to change the target country." A small modal window titled 'Information' is visible in the bottom right corner, asking 'The number of registration is cleared all. Is it OK?' with 'OK' and 'Cancel' buttons.

S001	4,011,077	Filing Date
S002	47,669	Applicant
S003	48,573	Abstract
S004	132	Search Formula
S005		

(2) Basic Rules of Search Queries

- Collective Searches
 - **Keyword Search** (retrieves details on inventions contained in patent applications)
 - All text, abstracts, claims, name of invention, etc.
 - **Bibliographic Data Search** (searches bibliographic data in patent applications)
 - Applicant, inventor, application date, publication number, patent classification, etc.
- Create a search query by selecting a search field appropriate for the keyword.

Search Field

All Text

Applicant · Rights Holder

Publication Number

Keyword

Access Policy Generation System

NEC

US20130257357A

(2) Basic Rules of Search Queries

- Example of a search query

※ "Search field" is selected from the menu on PatentSQUARE.

Search Field	Keyword	
All Text	Security	All text that includes "Security"
IPC	G06F17/30	The IPC is G06F17/30
Applicant / Rights Holder	NEC	Applicant data that includes "NEC"
Application Date	20080808:	Application date on or after 8/8/2008

Search Field	Keyword	Operator	Keyword
All Text	Security	*	Authentication
Applicant / Rights Holder	NEC	+	Panasonic

Keyword and bibliographic data search queries are explained in the following paragraphs.

(3) Keyword Search

Title

(19) United States

(12) Patent Application Publication
MORINAGA

(10) Pub. No.: US 2013/0257357 A1
(43) Pub. Date: Oct. 3, 2013

(54) TERMINAL DEVICE, CONTROL DEVICE, CHARGE AND DISCHARGE CONTROL SYSTEM, CHARGE AND DISCHARGE CONTROL ADJUSTMENT METHOD, CHARGE AND DISCHARGE CONTROL METHOD, AND PROGRAM THEREOF

(71) Applicant: TSUYOSHI MORINAGA, Tokyo (JP)

(72) Inventor: TSUYOSHI MORINAGA, Tokyo (JP)

(73) Assignee: NEC CORPORATION, Tokyo (JP)

(21) Appl. No.: 13/854,193

(22) Filed: Apr. 1, 2013

(30) Foreign Application Priority Data

Mar. 30, 2012 (JP) 2012-078520

Publication Classification

(51) Int. CL H02J 7/00 (2006.01)

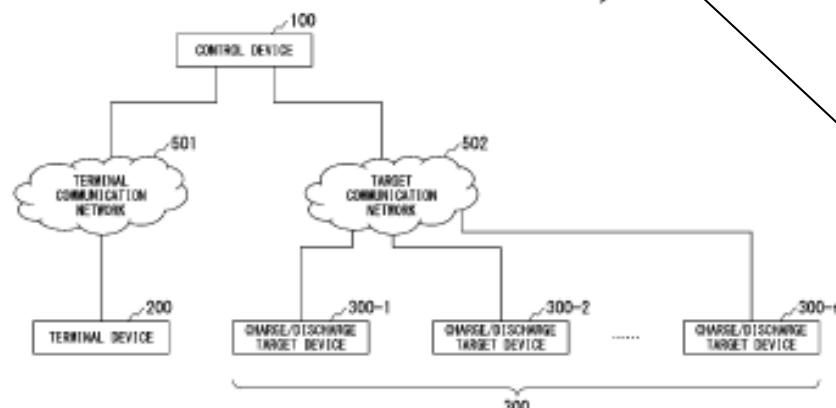
(52) U.S. CL CPC H02J 7/0004 (2013.01); H02J 7/0042 (2013.01); H02J 7/0068 (2013.01)

USPC 320/107; 320/134

(57) ABSTRACT

A terminal device includes: a tilt sensor that detects a tilt; a communication unit that transmits a signal according to the tilt detected by the tilt sensor; and a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor.

Abstract



Detailed Description

TERMINAL DEVICE, CONTROL DEVICE, CHARGE AND DISCHARGE CONTROL SYSTEM, CHARGE AND DISCHARGE CONTROL ADJUSTMENT METHOD, CHARGE AND DISCHARGE CONTROL METHOD, AND PROGRAM THEREOF

[0001] This application is based upon and claims the benefit of priority from Japanese patent application No. 2012-78520, filed on Mar. 30, 2012, the disclosure of which is incorporated herein in its entirety by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a terminal device, a control device, a charge and discharge control system, a charge and discharge control adjustment method, a charge and discharge control method, and a program thereof.

[0004] 2. Description of Related Art

[0005] There have been proposed several methods of controlling charging of a secondary battery such as a secondary battery that is mounted on an electric motor vehicle. For example, Japanese Unexamined Patent Application, First Publication No. 2011-24293 (hereunder, referred to as Patent Document 1) discloses a charging system for a vehicle including a center server. This charging system for a vehicle, in a case where an authentication is established with the center server, allows a charger with an authenticating function to charge an on-vehicle battery. Meanwhile, this charging sys-

the tilt detected by the tilt sensor; and a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor.

[0011] A control device according to an exemplary aspect of the present invention includes: a receiver that receives a signal according to a tilt of a terminal device; and a charge and discharge controller that controls charging of a charge target from a power supply. The charge and discharge controller switches execution and stop of control of the charging of the charge target from the power supply, based on the signal according to the tilt of the terminal device received by the receiver.

[0012] A charge and discharge control system according to an exemplary aspect of the present invention, includes a control device and a terminal device. The terminal device includes: a tilt sensor that detects a tilt; a communication unit that transmits a signal according to the tilt detected by the tilt sensor; and a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor.

[0013] The present invention relates to a terminal device, a control device, a charge and discharge control system, a charge and discharge control adjustment method, a charge and discharge control method, and a program thereof. The present invention also relates to a charge and discharge control system according to an exemplary aspect of the present invention, includes a control device and a terminal device. The terminal device includes: a tilt sensor that detects a tilt; a communication unit that transmits a signal according to the tilt detected by the tilt sensor; and a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor. The control device includes: a receiver that receives the signal according to the tilt of the terminal device; and a charge and discharge controller that controls charging of a charge target from a power supply. The charge and discharge controller switches execution and stop of control of the charging of the charge target from the power supply, based on the signal according to the tilt of the terminal device received by the receiver.

Claims

What is claimed is:

1. A terminal device comprising:
a tilt sensor that detects a tilt;
a communication unit that transmits a signal according to the tilt detected by the tilt sensor; and
a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor.
2. The terminal device according to claim 1, wherein:
the communication unit transmits a charge execution request as the signal according to the tilt when the tilt sensor detects the tilt; and

Keyword Search Fields

① Search Field and Keyword

- Input search criteria

- Basic: Select desired option for "Field" from the menu → Use the keyboard to input a search string into the "Formula" box
- Selecting "All Text" as the "Field" option will initiate a search for anything containing the search string shown in the "Formula" box (= exact match)

e.g.)

ExpNo	Results	Field	
S001	131,853	All Text	policy
S002			

Searches the full text of a gazette for any phrase containing the word "policy", such as "security policy".

- List synonyms / different notations where possible

- Keywords are not always written in a uniformed way in patent gazettes (spelling mistakes can occur)
- However, don't use colloquial expressions or in-house NEC terminology

e.g.) It is basically impossible to retrieve results for keywords such as "WebSAM" or "VALUMO" as there are too many applicable patents.

- Be careful when using the keyboard to input data

- The system does not differentiation between capital and lower case letters.

Operators

2. Searches using PatentSQUARE (3) Keyword Search

② Operators

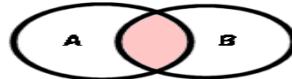
- The maximum number of letters that can be input into the criteria column is 2,000 byte (2,000 half-sized letters / 1,000 full-sized letters).
- The default setting for searches in English is **exact match**. (This is not the case for searches in Japanese.)

ExpNo	Results	Field	Expressions
S001	658	Title	voice*call
S002	5,416	Abstract	? "plasma display"
S003	409,506	All Text	[plasma,crystal*display]W5

Function	Search Category	Input Example	Remarks
AND Search	General	panasonic*matsushita	"**" supports both one and two-byte characters.
OR Search	General	panasonic + matsushita	"+" supports both one and two-byte characters. Spaces are treated in the same way.
NOT Search	General	display#mold	"#" supports both one and two-byte characters.
Precedent Designation	Text-based	(plasma + (liquid*crystal))*display	Terms enclosed in () take priority. ※Same for the four arithmetic operations.
Intermediate Match Search	Text-based	?display?	"?" supports both one and two-byte characters.
Partial Match Search	Text-based	display? , ?display	"?" is placed either before or after the term.
Exact Match Search	Text-based	display	No additions. Default setting.
Word Proximity Search	Text-based	[plasma,crystal*display] W20	Maximum of four"**". Synonyms are specified with ",". W: consider order, A: no particular order. Specify word distance (excluding search word)
Stemming Search	Text-based	book!, call!	"!" supports both one and two-byte characters. Supports only plurals and regular verbs.
Collocation Search	Text-based	"16: 4" , "plasma display"	" " supports both one and two-byte characters. Special symbols inside quotation marks are treated as characters.
Scope of Search	Date	20010101: 20041231	

② Operators

- Operators
 - For synonyms / words with similar meanings / different notations, use **OR (+)**to list keywords
e.g.) **RFID + IC tag + wireless tag**
 - Use **AND (*)** to link keywords and extract the overlap between these words.
e.g.) **wireless*LAN**
 - When using search queries, link queries with **OR (+)**, **AND (*)** and **NOT (#)**.
e.g.) **When extracting the overlap between search query 1 and search query 2 → S001*S002**

AND (*) 	A*B	NOT (#) 	A#B
OR (+) 	A+B	⌘As it is more difficult to apply the NOT function, AND and OR are more frequently used	

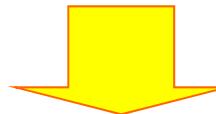
- Order of priority for operators **1. AND, NOT → 2. OR**
 - When AND and NOT exist in the same query, operations are processed in the order they appear.
 - Enclose keywords in brackets to prioritize OR operations.
e.g.) **(RFID + IC tag + wireless tag)*(read + reading + read)**



Notes on Boolean Operations

- Simply using AND searches for keywords is not always the most effective search method

"Wireless IC Tag" "Wireless LAN" "Access Policy" are
all compound terms



Simply integrating the words that make up compound terms (using AND operation) will result in too many irrelevant hits as this type of search doesn't take into account word order.



Use a Word Proximity Search !





Operators

2. Searches using PatentSQUARE

(3) Keyword Search

③ Word Proximity Search (1)

- Word Proximity Search

- Input Format

[Keyword(**X**) * Keyword (**Y**) * Keyword (**Z**) * ...] Wn (where n is a whole number)
 [Keyword(**X**) * Keyword (**Y**) * Keyword (**Z**) * ...] An
 ※ “An” for no particular word order. “Wn” for a specific word order
 (3 or more keywords can be specified in word order)

- Input Example

2 keywords: [plasma * display, monitor] W5
 3 keywords: [plasma * display, monitor * reliability] W10

- Input Restrictions

- Input “,” (one-byte comma) between words when adding synonyms / words with similar meanings.
- AND operations link rows when using input support functions.

- Operation Results

- Retrieves documents in which keywords "**X**" and "**Y**" appear within intervals of n words ("**X**", "**Y**" and "**Z**" in the case of 3 keywords).



③ Word Proximity Search (2)

- Use a word proximity search when searching for keywords "X" and "Y" in a particular word order.

The "n" of Wn and An represents a number of characters in Japanese, but a number of words in English.

Case 1

Effective related word search of keywords "X" and "Y"

If the subject of a search is "technology related to plasma(X) displays(Y)" , it is highly probable that
Keywords "X" and "Y" will appear in close proximity to each other
⇒ Using a word proximity search removes more irrelevant hits than simply integrating (X)*(Y)

★ Input example: [plasma*display]W5

Case 2

Searching compounding terms with multiple notations

The following synonyms exist for RFID
"RF ID, RF card, RF tag"

⇒ Using a word proximity search allows a match with all the above synonyms

★ Input example: [RF*ID, tag, card]W2

(Reference) Input Support Functions for Word Proximity Searches

- Input support functions simplify input operations

The screenshot illustrates the process of performing a word proximity search using the Word Proximity Search Tool. It shows three main stages:

- Initial Search Selection:** A screenshot of a search interface with a table showing results for 'ExpNo' S001 and S002. The 'Field' is set to 'All Text'. A callout box labeled ① points to the 'Word Proximity Search' button in the toolbar, which is highlighted with a red circle.
- Enter Keywords:** A screenshot of the 'Word Proximity Search Tool' window. A red box highlights the 'Keywords' input field where 'radio' and 'frequency' are entered. A callout box labeled ② points to this input field.
- Specify Proximity:** A screenshot of the 'Word Proximity Search Tool' window showing proximity settings. A red box highlights the 'Word Spacing' input field set to '2 Words or less', the 'Within sentence' checkbox (unchecked), and the 'In any order' checkbox (checked). A red circle highlights the 'Confirm' button. A callout box labeled ③ points to these settings, with notes explaining the AND operator for row linking and the use of commas for synonyms.

<Notes on entering data>

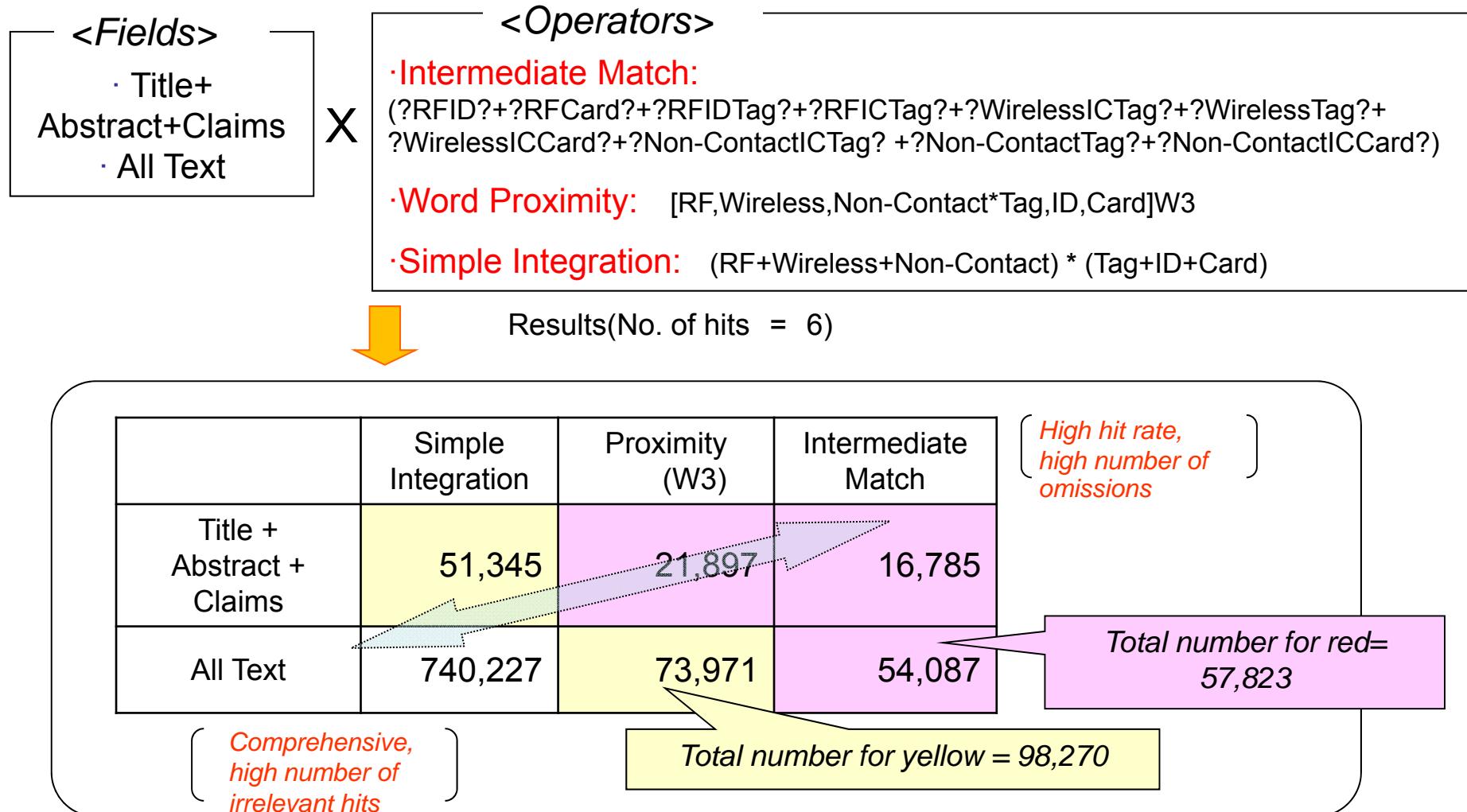
- AND operator is used to link rows
- Use "," (one-byte commas) to separate synonyms / words with similar meanings

④ Word proximity is reflected in the search query

The final screenshot shows the search results table again, but now the 'Expressions' column for S001 contains the search query: '[radio*frequency]A', indicating that the proximity search has been applied.

④ Search Fields / Impact of Operators

- Searching "RFID" using search fields / different operators



⑤ Selection Criteria for Search Fields / Operators

(Not absolutely necessary but recommended)

- All Text is considered the standard search field for prior art searches
 - In patent gazettes, claims are described as the dominant concept as they define the scope of rights covered by the patent. However, working examples and other sections often contain detailed explanations, and it is therefore necessary to use an All Text search when investigating prior art.
 - Using just Title / Abstract / Claims searches may result in examples of prior art listed in other areas of a gazette being omitted from search results.
 - Specific details on provisions and other important information are often not picked up by Title / Abstract / Claim searches.
- However, All Text searches are likely to result in an excess number of hits
 - It may be possible to search by "Title / Abstract / Claim" if generic terms are used to describe an invention's configuration (functions).
 - An "All Text Word Proximity Search" further narrows down hits and increases accuracy.
 - However, be careful not to use a Word Proximity Search to narrow down results too much.
 - < Cases suitable for Word Proximity Searches>
 - When a related search of 2 search words is beneficial
 - Compound terms such RFID

⑥ Cited Document Searches

- Documents cited in examinations by examiners can be searched using keywords.

Cited documents are classified into 2 groups.

- Patent documents: search by patent document number
- Non-Patent documents: search by keyword

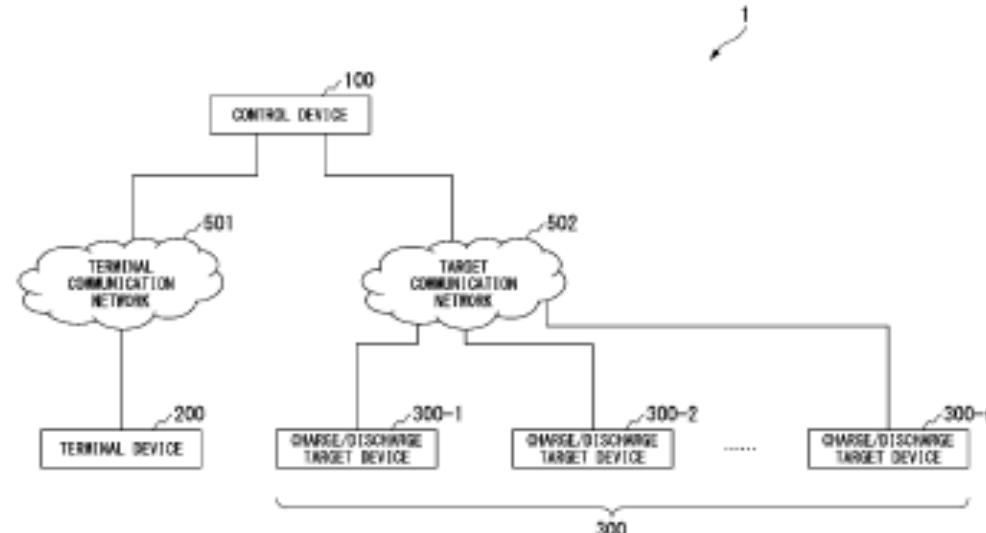
The screenshot shows the PatentSQUARE Advanced Search interface. On the left, there is a sidebar with various search fields and dropdowns. Two specific fields are highlighted with red boxes: "NonPatRefCitedInfo" and "Ref. Cited Info". Red arrows point from these highlighted fields to the text "Patent Documents" and "Non-Patent Documents" respectively. On the right, the main search results table is displayed. The table has columns for "ExpNo", "Results", "Field", and "Text". One row is highlighted in green, showing "S003" in the ExpNo column, "All Text" in the Results column, and "[plasma,crystal"display]W5" in the Field column. The text "voice*call" and "'plasma display'" are also visible in the table.

ExpNo	Results	Field	Text
S001		Title	voice*call
S002		Abstract	"plasma display"
S003		All Text	[plasma,crystal"display]W5
S004			

(4) Bibliographic Data Searches

Scope of
Bibliographic Data

<p>(19) United States (12) Patent Application Publication MORINAGA</p> <p>(54) TERMINAL DEVICE, CONTROL DEVICE, CHARGE AND DISCHARGE CONTROL SYSTEM, CHARGE AND DISCHARGE CONTROL ADJUSTMENT METHOD, CHARGE AND DISCHARGE CONTROL METHOD, AND PROGRAM THEREOF</p> <p>(71) Applicant: TSUYOSHI MORINAGA, Tokyo (JP)</p> <p>(72) Inventor: TSUYOSHI MORINAGA, Tokyo (JP)</p> <p>(73) Assignee: NEC CORPORATION, Tokyo (JP)</p> <p>(21) Appl. No.: 13/854,193</p> <p>(22) Filed: Apr. 1, 2013</p>	<p>(10) Pub. No.: US 2013/0257357 A1 (43) Pub. Date: Oct. 3, 2013</p> <p>(30) Foreign Application Priority Data Mar. 30, 2012 (JP) 2012-078520</p> <p>Publication Classification</p> <p>(51) Int. CL <i>H02J 7/00</i> (2006.01)</p> <p>(52) U.S. CL CPC <i>H02J 7/0004</i> (2013.01); <i>H02J 7/0042</i> (2013.01); <i>H02J 7/0068</i> (2013.01) USPC 320/107; 320/134</p> <p>(57) ABSTRACT A terminal device includes: a tilt sensor that detects a tilt; a communication unit that transmits a signal according to the tilt detected by the tilt sensor; and a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor.</p>
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① Search Fields in Bibliographic Data Searches

- Cases employing bibliographic data searches
 - When the lead researcher is known
 - A search of the inventor will retrieve patents by that person
→ This may then prove effective in retrieving keywords / patent classifications.
 - Rival patent search: Use applicant (company name, etc.) searches
 - Date search: Effective when the development date is known
 - IPC: International classifications. Arranges all technical fields on a classification tree.

PatentSQUARE

The screenshot shows the PatentSQUARE interface with the following details:

- Left Panel (Search Fields):**
 - Buttons: Favorite, Number/Kind, Application, Text Fields.
 - Text Combination, Date, Technology, Progress Info.
 - Family, Evaluate.
 - Text area: "The item in the favorite can be deleted by clicking it with Shift Key. The retrieval item under the selection is changed when clicking on a button while pushing the Ctrl key."
 - Table: Commonly used search fields (highlighted with a red border).

All Text	Title
Abstract	Claims
Applicant	Inventor
Report No.	Application No.
Report Date	Filing Date
Publication Date	Registration Date
IPC	ECLA
USC	Search Formula
- Top Bar:** Home, Settings, DB Contents, Help, Logout.
- Alerts:** Search, Basic List, Abstract List, Insert, Delete, Clear, Copy, Paste, Print, Export, Input, History, Open, Save.
- Country:** All, Select, JP, US, WO, EP, CN, DE, FR, GB, BR, IN, KR, NL, RU, TW, Others.
- Results Table:**

ExpNo	Results	Field	Expressions
S001		Title	voice*call
S002		Abstract	"plasma display"
S003		All Text	[redacted] plasma.crystal*display/W5
S004			
- Bottom Text:** Commonly used search fields

② Patent classification search

- What is a patent classification
 - Patent classification: Patent agencies classify each patent based on features to facilitate examinations
 - International Patent classification
- Patent classification in Japan

IPC: International classification. Classifies all technology areas into a tree.

- In Japan, after adding FI, IPC is added in a comparison table
- One (or a few) are assigned to each patent

FI: JP unique classification; more detailed subdivision of IPC tree

- Added to all patents related to Japanese applications
- One (or a few) are assigned to each patent

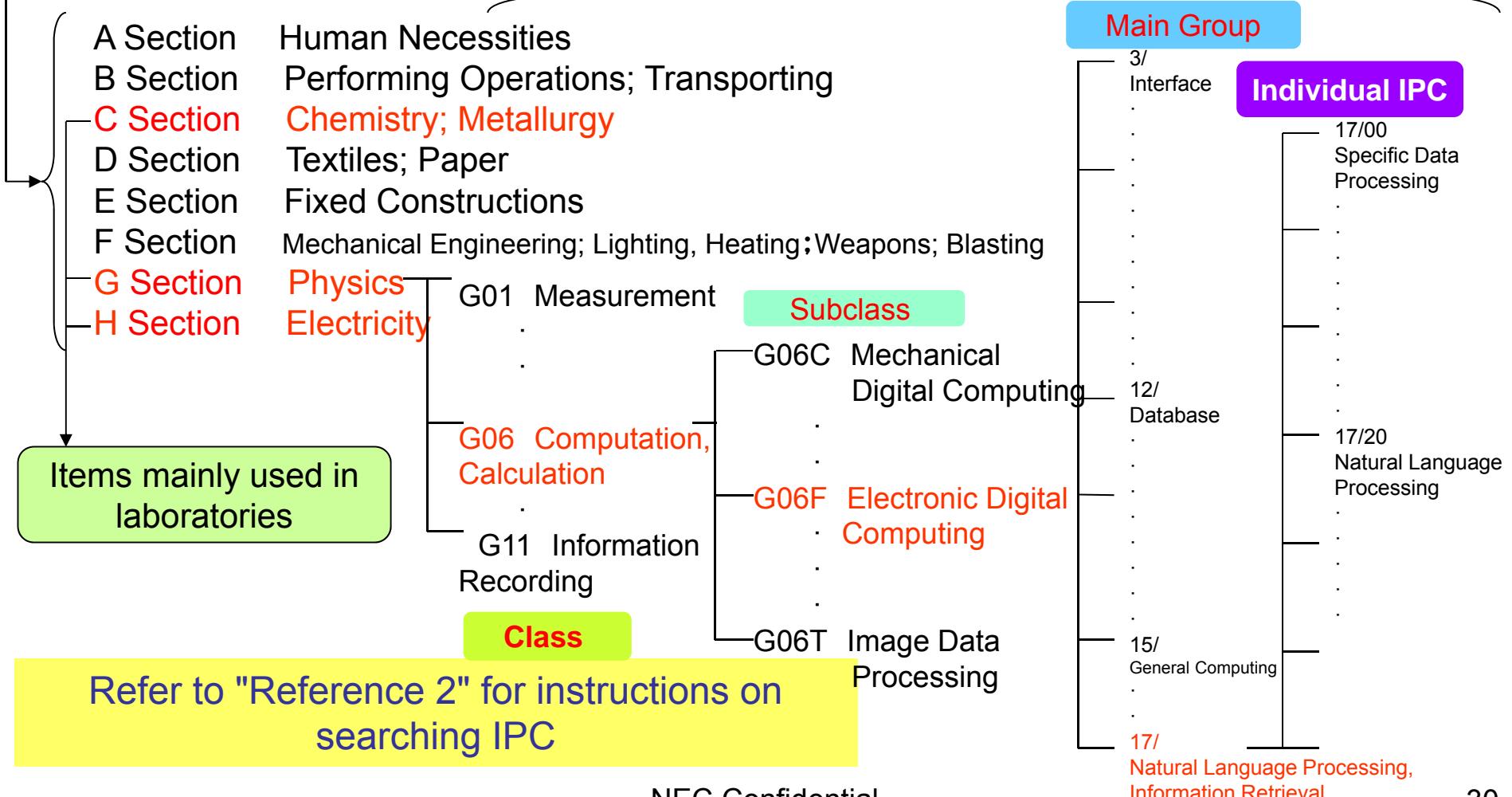
F term: JP unique classification; further subdivision regarding particular technology themes

- Classify into configuration / desired effect / purpose in table form
- Many classifications assigned to each patent

· IPC are arranged in a 4-tiered tree structure

- Sections A through to H
- A four-tiered tree structure is created from each section

Example: IPC tree structure for "Information Retrieval"



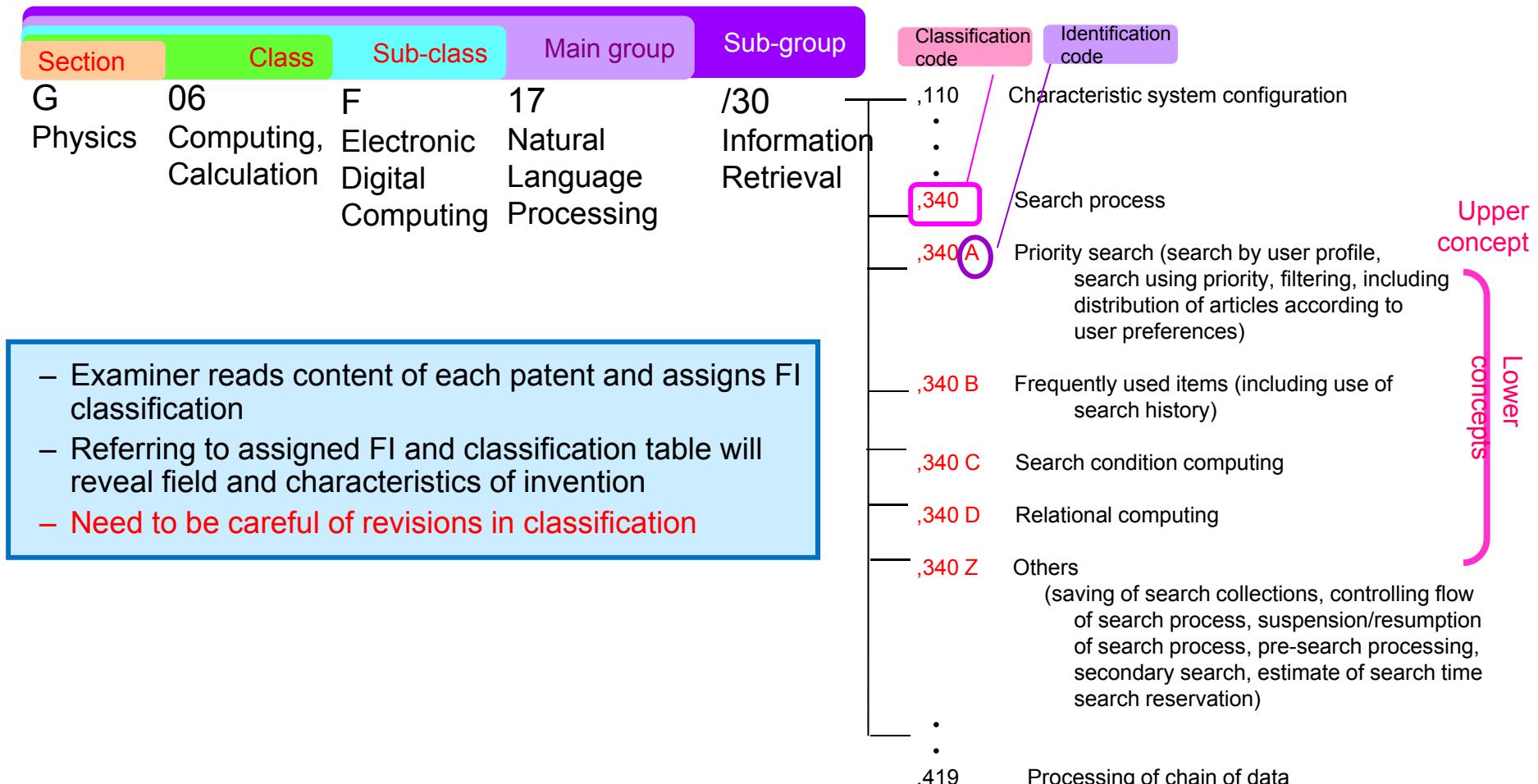
Using IPC on PatentSQUARE

- When searching by Section
Example: G "Physics" Approximately 4.84 million items
- Class
Example: G06 "Computing, Calculation" Approximately 1.19 million items
- Sub-class
Example: G06F "Electronic Digital Computing" Approximately 900,000 items
- Main Group
Example: G06F17/ "Natural Language Processing, Information Retrieval"
Approximately 230,000 items
- Sub-group
Example: G06F17/30 "Information Retrieval" Approximately 70,000 items

IPC effectively refines technology field searches

FI classification structure

• FI G06F17/30 classification example



Points to remember in using IPC/FI

- Before using FI, make sure to check definition of classifications in the Handbook

- Check at Patent Map Guidance (Japan Patent Office)

https://www5.j-platpat.inpit.go.jp/pms/tokujitsu/pmgs/PMGS_GM101_Top.action

The screenshot shows the 'Patent Map Guidance(PMGS)' page. At the top, there are links for Help desk, Japanese, Top page, Help list, Site map, JPG, INPIST, and the National Center for Industrial Property Information and Training logo. Below the header, there are tabs for Patent & Utility Model, Design, Trademark, and Trial & Appeal. The main content area shows a breadcrumb trail: Top page > Patent & Utility Model > Patent Map Guidance(PMGS). A search bar with 'Search' and 'List' buttons is present. Below the search bar, there are links for Former main group, Following main group, and Main group selection. The main content area is titled 'FI(List Indication)' and displays a table of IPC codes with their explanations and references.

FI	Explanation	Reference, etc.
• 17/00	Digital computing or data processing equipment or methods, specially adapted for specific functions	(Notes) / (Index) SB056 HR
• 17/10	. Complex mathematical operations [6]	SB056 HR
	A folding operation	SB056 HR
	C calculation of year/month/date, period, day (calculation of time G06F7/49A)	SB056 HR
:		
• 17/30	. Information retrieval; Database structures therefor [6]	SB075 HR
	110 . . characterized by system structure	SB075 HR
	A database machine (parallel computer, B)	SB075 HR
	B parallel computer, multi-processor	SB075 HR
	C dispersion system	SB075 HR
	D hierarchical structure of memory (hierarchical files, 150@B)	SB075 HR

Theme code and F term

A collection of FI within a fixed scope of technical group is called a “theme,” for which a name and theme code number is assigned to represent the group of technologies

- F-term 5K067EE06 search example

Theme code	View point	Number
5K067 Mobile wireless communication system	EE System configuration	06 Relay station

Theme code

Viewpoint

Individual features in viewpoint

Viewpoint		F-term							FI Cover Range			
AA	AA00	AA01	AA02	AA03	AA04	AA05	AA06	AA11	AA12	AA13	AA14	AA15
PURPOSE OR EFFECT *		. Measures against radio jamming or propagation trouble	. . . Measures against phasing or multi-pass	. . . Measures against interference	. . . Preventing unwanted transmission	. . . Measures against noise	. . . Measures against electromagnetic interference (EMI) or electromagnetic compatibility (EMC)					

Structured into tree based on number of middle points “•”
*The more “•”, the lower the concept

Viewpoint

Individual features in viewpoint

Viewpoint		F-term									
EE	EE00	EE01	EE02	EE03	EE04	EE05	EE06	EE07	EE08	EE09	EE10
SYSTEM CONFIGURATION *		. . . Station configurations	. . . Mobile stations	. . . having tertiary stations	. . . usable in a plurality of systems		. . . Repeater stations	. . . Satellite stations	. . . having beam antennas		. . . Base stations

Look here for 5K067EE06

NEC Confidential

Points to remember in using F-terms

- Before using F-terms, make sure to check definition of classifications
 - Check at Patent Map Guidance (Japan Patent Office)

Click “Explanation” tab to open explanation page

F-term Description

This screen shows the description of the F-term "5K067".

-Theme code **5K067**
-Technical arts FI Coverage
[H04B7/24-7/26;H04W4/00-99/00](#)
General Coverage of Theme
(1) This theme covers the arts for mobile radio communication systems which communicate through radio lines, e.g. radio waves or light, and which include at least mobile stations in communication systems, e.g. base station - mobile station or base station - mobile station - base station. This theme also covers the arts for communicating among a plurality of base stations with each other through radio lines.
A representative configuration example is shown in Image 1).
(2) Arts for saving or the like for power sources of radio equipment
(3) Arts for monitoring mobile radio communication systems
(4) Relevant classification is described as the following
Satellite communication: H04B7/14

Use of FI/ F-terms in PatentSQUARE

FI

- In case of inclusion of up to classification code:
Ex. G06F17/30,340 “Search processes” Approx. 19,000
- In case of inclusion of up to identification code:
Ex. G06F17/30,340A “Priority searches” Approx. 7,000

F-terms

- Theme code
Ex. 5B075 “Search devices” Approx. 6,900
- F-term
Ex. 5B075KK41 “Operation permission, protection, restriction”
Approx. 3,000

Effective for narrowing down fields (theme code)
and for high-accuracy population searches (FI, F-term)

Keywords

2. Searches using PatentSQUARE
(4) Bibliographic Data Searches

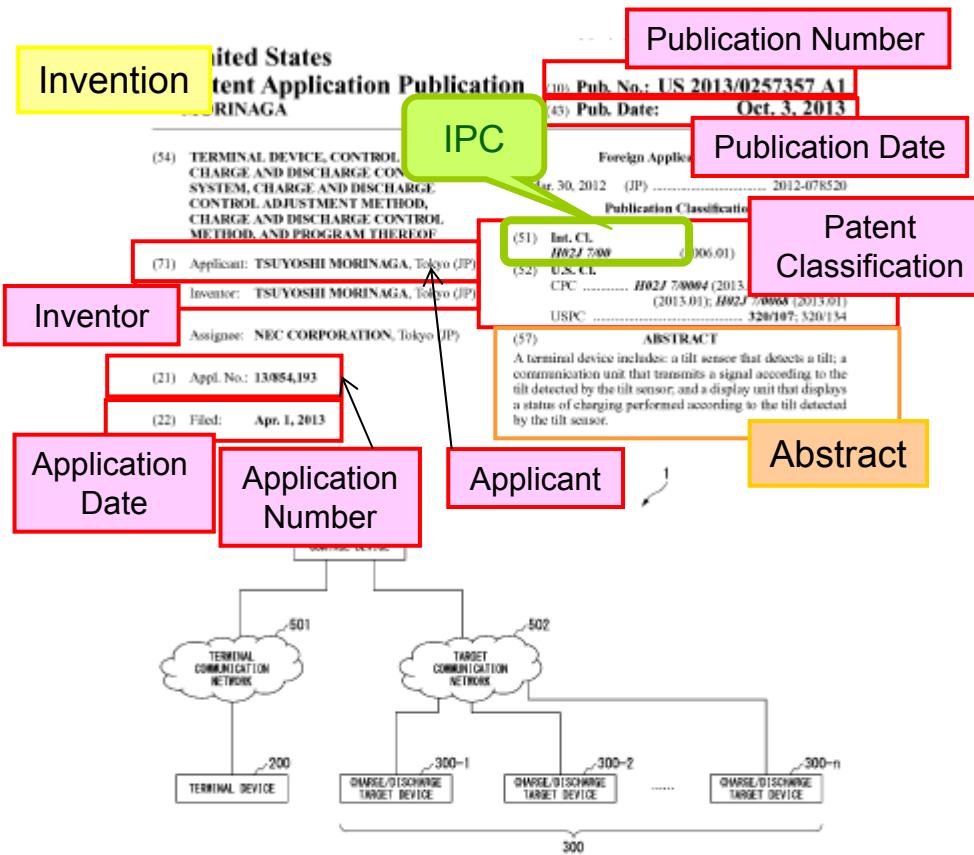
③ partial match

- Bibliographic data searches also allow specifying scope of search as exact and partial matches, other than as intermediate matches

Function	Search field	Input and search example
Intermediate match search	Applicant, rights holder, inventor	Applicant, rights holder ? NEC ? “NEC Corporation”, “Northeast NEC Software Corporation” etc.
Scope of search	Date	20010101:20041231 *From January 1, 2001 to December 31, 2004 20010101: *From January 1, 2001 onwards :20041231 *From December 31, 2004 and earlier

(5)Summary of Search Fields (for US Patent Application Publication)

² Searches using PatentSQUARE



Detailed Description

TERMINAL DEVICE, CONTROL DEVICE, CHARGE AND DISCHARGE CONTROL SYSTEM, CHARGE AND DISCHARGE CONTROL ADJUSTMENT METHOD, CHARGE AND DISCHARGE CONTROL METHOD, AND PROGRAM THEREOF

[0001] This application is based upon and claims the benefit of priority from Japanese patent application No. 2012-78520, filed on Mar. 30, 2012, the disclosure of which is incorporated herein in its entirety by reference.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a terminal device, a control device, a charge and discharge control system, a charge and discharge control adjustment method, a charge and discharge control method, and a program thereof.

[0004] 2. Description of Related Art

[0005] There have been proposed several methods of controlling charging of a secondary battery such as a secondary battery that is mounted on an electric motor vehicle. For example, Japanese Unexamined Patent Application, First Publication No. 2011-24293 (hereinafter, referred to as Patent Document 1) discloses a charging system for a vehicle including a center server. This charging system for a vehicle, in a case where an authentication is established with the center server, allows a charger with an authenticating function to charge an on-vehicle battery. Meanwhile, this charging system

Claims

What is claimed is:

1. A terminal device comprising:
a tilt sensor that detects a tilt;
a communication unit that transmits a signal according to the tilt detected by the tilt sensor; and
a display unit that displays a status of charging performed according to the tilt detected by the tilt sensor.
2. The terminal device according to claim 1, wherein:
the communication unit transmits a charge execution request as the signal according to the tilt when the tilt sensor detects the tilt; and

(5)Summary of Search Fields (for US Official Gazette for Patents)

United States Patent
Invention

Inventor

Application Number
Application Date
Publication Number
Publication Date

Patent Classification

Registration Number
(10) Patent No.: **US 8,688,134 B2**
(45) Date of Patent: **Apr. 1, 2014**

Registration Date

Applicant / Right Holder
(Continued)
OTHER PUBLICATIONS
3GPP TS 36.300 V1.0.0, 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2 (Release 8), pp. 1-28 (Mar. 2007).
(Continued)
Primary Examiner — George Eng
Assistant Examiner — Joseph Dean, Jr.
(C4) Attorney, Agent or Firm — Dickstein Shapiro LLP

Abstract

The invention claimed is:

1. A method for controlling resource allocation in a plurality of cells, comprising:
at each of radio communication devices which control at least two cells, receiving information of resources for control used in another cell from its radio communication device;
setting buffer resources in a predetermined resource area of its own cell, wherein a buffer resource is located at a resource location in the predetermined resource area, the resource location corresponding to a resource for control used in the other cell; and
limiting usage of each buffer resource for data transmission so as to reduce interference to a corresponding resource for random access channel (RACH) transmission used in the other cell, wherein the buffer resource is not allocated to an uplink data transmission, wherein a resource other than the buffer resource in the predetermined resource area is allocated to the uplink data transmission.
11. The device according to claim 10, further comprising an information-transmission resource allocation section supporting allocation of a buffer resource to an information transmission request in the cell of its own.
12. The device according to claim 11, wherein the information-transmission resource allocation section does not allocate the buffer resource to the information transmission request.
13. The device according to claim 11, wherein the information-transmission resource allocation section allows allocation of the buffer resource to the information transmission request based on a degree of interference of the information transmission request.

Detailed Description

US 8,688,134 B2

METHOD AND DEVICE FOR RESOURCE ALLOCATION CONTROL IN RADIO COMMUNICATIONS SYSTEM

BACKGROUND OF THE INVENTION

1. Field of the Invention
This application is based upon and claims the benefit of priority from Japanese Patent Application No. 2007-120377, filed on Apr. 28, 2007, the disclosure of which is incorporated herein in its entirety by reference.

The present invention relates to a radio communications system having a plurality of radio zones (hereinafter, referred to as cells) and, more particularly, to a method and device for resource allocation control in the system.

2. Description of the Related Art
In a mobile communications system, for a base station and a mobile station to perform data communication, they need to establish synchronization between them in advance. Since initial access from the mobile station in particular is not always in synchronization, the base station requires some procedure for uplink synchronization with the mobile station.

In LTE (Long Term Evolution), which is being standardized by the 3rd generation partnership project (3GPP), a random access channel (RACH) and an uplink shared channel (UL-SCH) are provided for uplink synchronization and uplink data transmission. The RACH is a channel to transmit a control signal for establishment of uplink synchronization, and further to request a resource for transmission of uplink data. To establish uplink synchronization without a long delay, it is preferable that RACH transmission/collision probability so that a mobile station UE can gain access to the base station eNB without a long delay. It is also possible to allocate a plurality of RACH resources at a time and thereby secure a sufficient RACH access capacity. Each base station eNB generally broadcasts information indicative of which resource(s) is allocated to the RACH. Therefore, in accordance with the broadcast information, every mobile station UE in a cell can gain access to the RACH resource(s) whenever the mobile station UE needs. Within a cell, the RACH and UL-SCH do not directly interfere with each other as long as RACH resources and UL-SCH resources are allocated in accordance with the frequency division and time division shown in FIG. 1B.

However, in the case where different control entities individually perform resource allocation in neighboring cells, there is a possibility that a PACH transmission in one of the cells interferes with an UL-SCH transmission in the other cell. As mentioned above, since each base station eNB, on its own responsibility, individually allocates uplink resources of the cell under its control to the RACH and UL-SCH, there is a case where a high-speed uplink data transmission in a certain cell interferes with a RACH transmission in a neighboring cell. For example, when a cell setup procedure is started, the prevention of this RACH interference is particularly important, considering that uplink synchronization needs to be established through RACH transmission. This is because, if the data transmission in the certain cell interferes with the RACH transmission in the neighboring cell, cell setup will be delayed in the neighboring cell. This is not limited to the case of cell setup. In the case where RACH transmission is

24 Claims, 15 Drawing Sheets

Diagram



Important

(6) Assembling Search Queries

Basic

Technology Field: (Field Query1 + ···)

X

Feature A(Configuration·Function): (Query A1 +
Query A2 + ···)

X

Feature B(Configuration·Function): (Query B1 +
Query B2 + ···)

X

(When required)

X

Bibliographic Data(Applicant, Application Date.,
etc.): (Query 1 + ···)

Optional

X

Purpose / Action / Effect: (Query 1 + ···)

*Use keywords, patent classifications and the like for each search query

- Define the data set for the retrieval target to remove irrelevant fields.

Use patent classifications

- This is the main section of a search query.

Retrieves the configuration or functions that characterize an invention using keywords or patent classifications.

- Try to limit the number of multiplication rows for "configuration (function)".

- Use a bibliographic data search to control the number of hits.

- Try not to include purpose and other optional information in keyword searches.

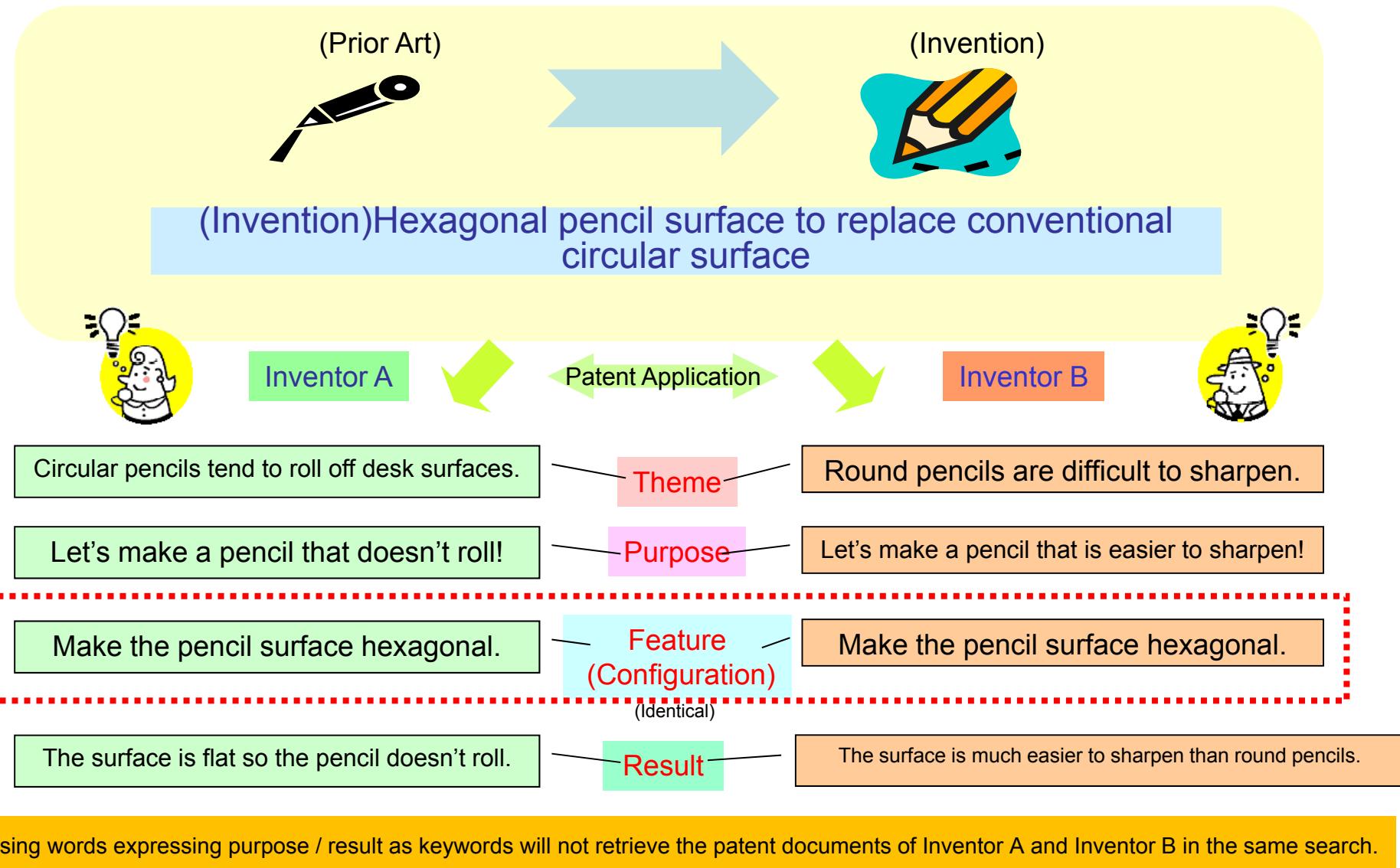
Only include when excessive hits make it necessary to refine the search.

— Compare the identicalness or similarity of a configuration with prior art to determine patentability

- When using purpose or other optional information as keywords, always conduct All Text searches of patent gazettes.

※ This information does not always appear in abstracts.

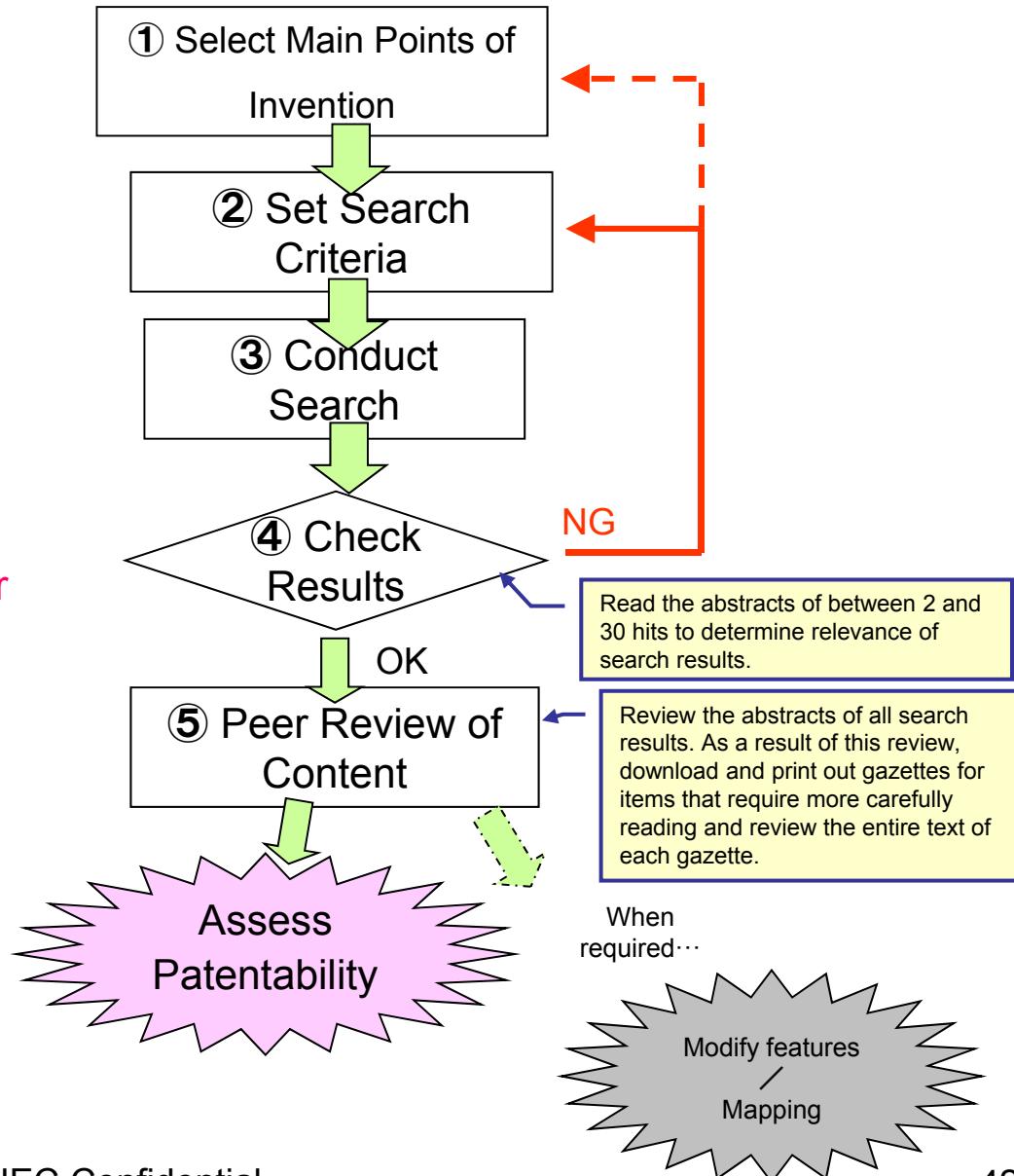
Why purpose, action, result are not used as keywords





(7) Search Procedures

- Repeatedly conduct patent searches
 - Always check number of hits / degree of conformity in content
 - Try different methods. It's not enough to just apply the first search query you created.
- Attitude
 - Approach patent searches with the mindset that there **"must be a similar invention"**.
 - Read around 500 items when reviewing the content in step ⑤!

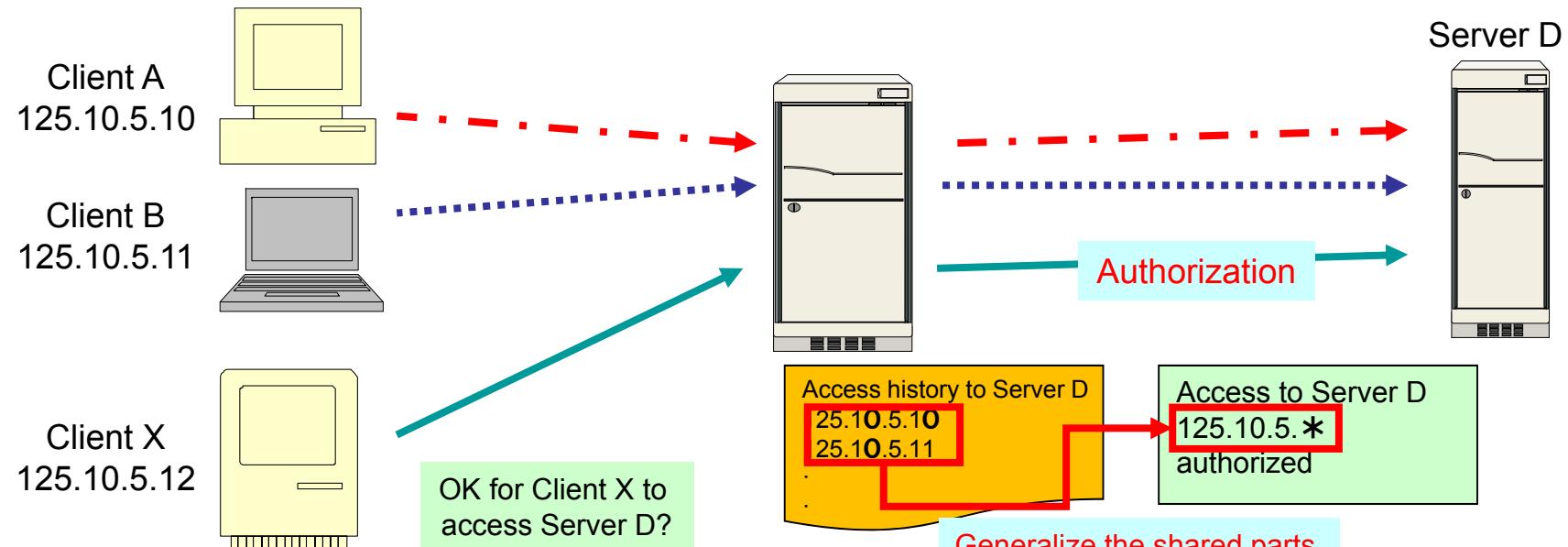


3. Case Study Searches

(1) Case Study 1: Explanation of how to assemble search queries

- Search topic
 - Access Policy (Rules) Generation System
 - Collect access history.
 - Establish an access policy that generalizes the shared parts of this access history.

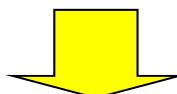
 Search and retrieve patents applicable to the above criteria using keywords.



Assembling Search Queries (Selecting Keywords)

- Features that should be used as keywords
 - Technology Field Access Policy Generation System
 - Feature A(Function) Collects access history
 - Feature B(Function) Generalizes the collected history
- Points to Consider
 - As various expressions exist to describe such terms as **access policy** and **history collection** it is likely that a single search query would omit a large number of hits.
 - access → connect , visit, view, etc.
 - policy → regulation, permission conditions, rules, etc.
 - history → log, record etc.

Important
Access Policy
History Collection



Use a word proximity search to match with a range of expressions

Professional Search (Drill)

Bad Example) Simple Integration of Components (AND)

ExpNo	Results	Field	Expressions
S001	16,138	IPC	G06F12/14
S002	1,069,852	All Text	(access+connect+lead)*(policy+rule+regulation+plan)
S003	1,081,521	Search Formula	S001+S002
S004	1,257,976	All Text	(history+log+data+record)*(collect+sense+get+collect)
S005	2,576,256	All Text	(history+log+data+record)*(common+general)
S006	307,706	Search Formula	S003*S004*S005

A red circle highlights the 'Results' column for S006. A green box labeled '307,706 hits' points to the same value. To the right, a bracket groups the last three rows under 'Technology Field'. Arrows point from the 'Technology Field' bracket to 'Feature A' and 'Feature B'.

307,706 hits

Too many hits to read

Simply combining keywords with AND (*) makes it difficult to find target patents...

Professional Search (Drill)

Good Example) Word Proximity Search

ExpNo	Results	Field	Expressions
S001	16,138	IPC	G06F12/14
S002	11,450	All Text	[access,connect,lead*policy,rule,regulation,plan]W2
S003	27,186	Search Formula	S001+S002
S004	116,133	All Text	[history,log,data,record*collect,sense,get,collected]A2
S005	132,166	All Text	[history,log,data,record*common,genera]A2
S006	594	Search Formula	S003*S004*S005
S007			

594 hits

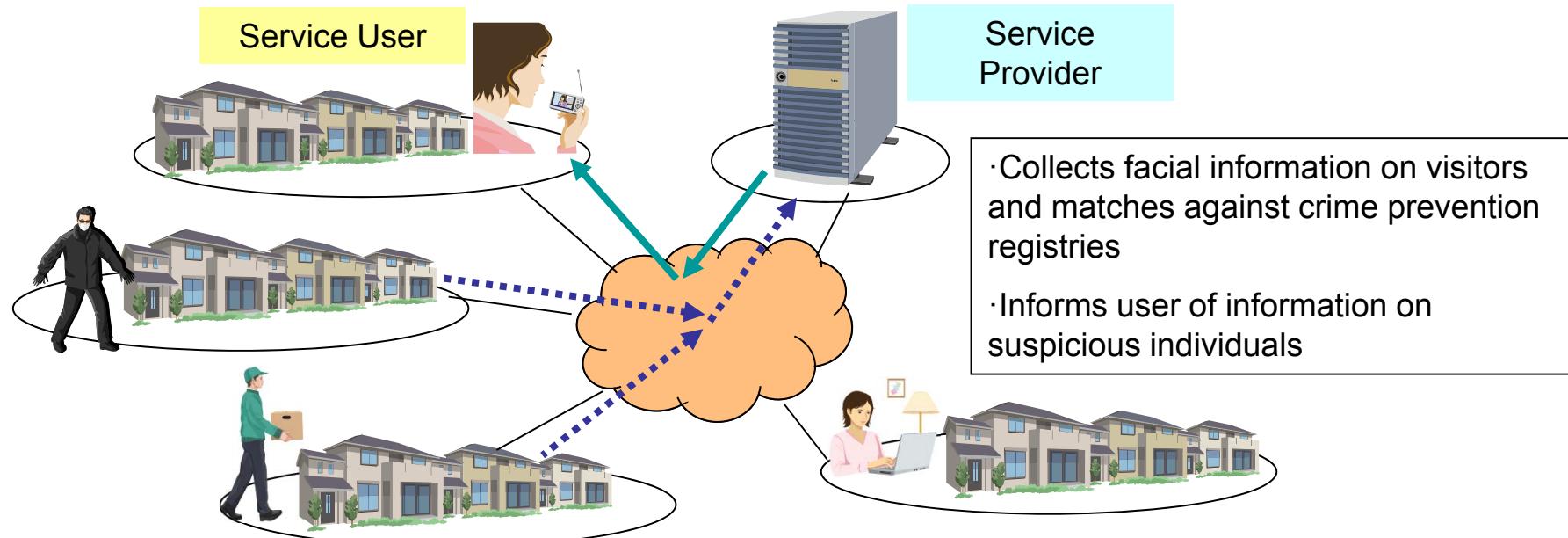
Manageable
number of hits to
read.

Combining keywords using a word proximity search makes it easier to find target patents!

3.Case Study Search

(2) Case Study 2: Explanation of how to assemble search queries

- Search Topic
 - Collect facial information on visitors from residences, use crime prevention information to assess visitors, and warn residents of suspicious persons.
-  Search and retrieve patents applicable to the above criteria using keywords.



Assembling Search Queries (Selecting Keywords)

- Features that should be used as keywords
 - Technology Field Facial Recognition
 - Feature A(Function) Cross-checks facial data of visitors
 - Feature B(Function) Informs users (of suspicious persons)
- Points to consider
 - Consider the synonyms that may be used to cover the **various expressions**
 - Facial Recognition → face, looks and confirm, inquire, discriminate, distinguish
 - Visitor → caller
 - Inform → notice, report, communication
 - Including synonyms will increase the number of hits. Use a **word proximity search** to narrow down this number.

Professional Searches(Drill)

Bad Example) Simple Integration of Components(AND)

ExpNo	Results	Field	Expressions
S001	174,925	All Text	(face+looks)*(confirm+inquire+discriminate+distinguish)
S002	89,384	All Text	visitor+caller
S003	435,354	All Text	(citizen+resident+people+someone)*(notice+report+communicate+communication)
S004	5,655	Search Formula	 S001*S002*S003

Technology Field
Feature A
Feature B

5655 hits

Too many hits to check

Professional Search (Drill)

Good Example) Word Proximity Search

ExpNo	Results	Field	Expressions	
S001	1,542	All Text	[face,looks*confirm,inquire,discriminate,distinguish]A6	Technology Field (Proximity)
S002	89,384	All Text	visitor+caller	Feature A
S003	22,668	All Text	[citizen,resident,people,someone*notice,report,communicate,communication]A6	Feature B (Proximity)
S004	4	Search Formula	S001*S002*S003	
S005				

A green callout box points from the text "4 hits" to the value "4" in the Results column of the S004 row. Two red circles highlight the search expressions in rows S001, S003, and S004, which contain proximity operators (A6 and A6).

4 hits

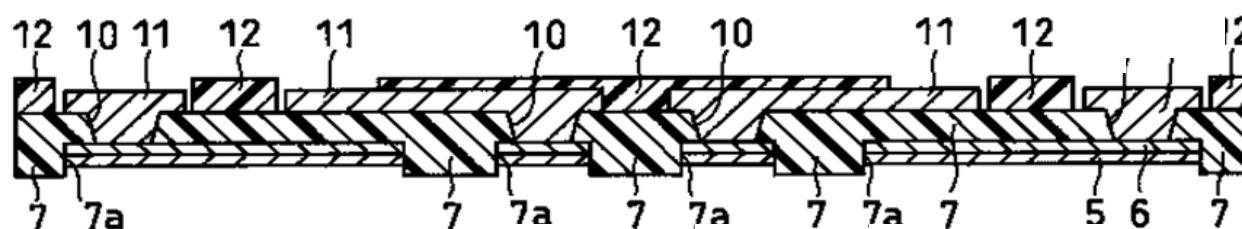
Word proximity searches can narrow down the number of hits generated

3. Case Study Search

(3) Case Study 3: Explanation of how to assemble search queries

- Search Topic

- Print circuit boards (IPC: H05K)
- Layered structure (insulating layer, conductor layer, via, solder resist)
- Insulating layer material: resin, Conductor layer material: metal (Cu, Al, Ni, Au, etc.)
- Use resin with specific elasticity and tensile strength for the insulating layer.
- Effect: Improve reliability



6,11: Conductor layer

7: Insulator layer

10: Via

12: Solder resist (material that resists "solder")



Search/ extract patents that match the above conditions.

Assembling Search Queries (Selecting Keywords)

- Features that should be used as keywords
 - Technology Field 1: Printed Circuit Boards (IPC:H05K)
 - Feature A: Insulating layer is resin.
 - Feature B: Possess specific elasticity and tensile strength.
 - Effect: Improve reliability
- Points to consider
 - Do not include “via,” “conductor layer”, and other words that are not related to the feature in the search query.
 - “Insulating layer,” “resin,” and “elasticity” are all general terms.
Use of these words for simple search queries and simple integration is expected to result in many irrelevant hits.
 - Search by associating “insulating layer” and “resin”
 - Search by associating “insulating layer” and “elasticity”

} Use proximity search

Professional Search (Drill)

Bad Example) Simple Integration of Components (AND)

Country All Select

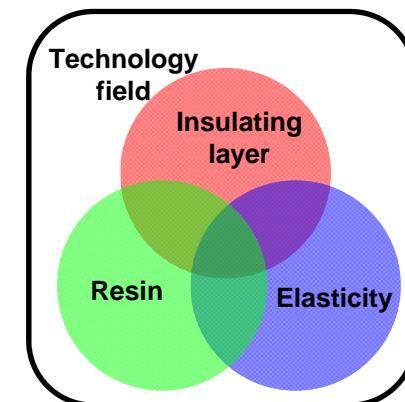
ExpNo	Results	Field	
S001	905,298	IPC	H05K?
S002	1,684,256	All Text	insulating*layer
S003	3,620,751	All Text	resin
S004	950,340	All Text	(specific*elasticity)+(tensile*strength)
S005	3,785	Search Formula 	S001*S002*S003*S004
S006			

Too many hits to check!



The search formula `S001*S002*S003*S004` is expanded into three components:

- Technology Field (red box)
- Feature A (red box)
- Feature B (red box)



Professional Search (Drill)

Good Example) Carry out simple integration (AND) further by adding “effect”

Country	<input checked="" type="radio"/> All <input type="radio"/> Select	ExpNo	Results	Field	Expressions
		S001	905,298	IPC	H05K?
		S002	1,684,256	All Text	insulating*layer
		S003	3,620,751	All Text	resin
		S004	950,340	All Text	(specific*elasticity)+(tensile*strength)
		S005	3,785	Search Formula	S001*S002*S003*S004
		S006	866,392	All Text	improve*reliability
		S007	1,436	Search Formula	S005*S006
		S008			



Although the number of hits has become manageable, no correct hits were found by checking 10 hits.

Refer to “Reference 4” for the procedure for reading through PatentSQUARE hits (Checking Search Results)

Professional Search (Drill)

Good Example) Proximity Search Results

Country	<input checked="" type="radio"/> All <input type="radio"/> Select	ExpNo	Results	Field	Expressions
S001			905,298	IPC	H05K?
S002			33,995	All Text	[insulating*layer*resin]A5
S003			2,265	All Text	[specific*elasticity]A2
S004			455,866	All Text	[tensile*strength]A2
S005	<input checked="" type="radio"/>	274	Search Formula	 S001*S002*(S003-S004)	<div style="border: 1px solid red; padding: 2px;">Technology Field</div> <div style="border: 1px solid red; padding: 2px;">Feature A</div> <div style="border: 1px solid red; padding: 2px;">Feature B</div>
S006					

Results check: (3/10 correct hits) → Proceed with reading of all hits

Summary of Keyword Searches

- To assemble search queries:
"Technology Field" X "Features(Configuration·Functions)"
 - Use IPC and other patent classifications in the "Field" category
- The **basic** scope of any search should be "**All Text**" to prevent the omission of relevant information.
- Use **word proximity searches** for compound words to control the number of hits and improve accuracy.

However there are times when it is very difficult to create highly accurate and effective search queries using only keywords.



Once you understand the basic techniques of keyword searches make sure you upgrade subsequent searches by incorporating IPC and other patent classification codes.

4. Summary

- Each search method has its benefits and drawbacks and should be used appropriately.
 - “Concept Search” enables searches without creating search queries.
 - “Professional (Advanced) Search” allow users to set detailed search criteria and obtain more focused results.
 - “Advanced Search” is effective for business trend surveys and SDI!
- It is crucial to modify search queries to improve the accuracy of search results.
 - In “Concept Search,” to avoid hits from different fields, carry out modification/weight assignment of keywords, or narrow down based on patent classification. Function of 日本語GUI
- Use patent classifications to more effectively improve the accuracy of search results!
 - It is important to use patent classifications to narrow down technology fields and reduce the number of irrelevant hits.

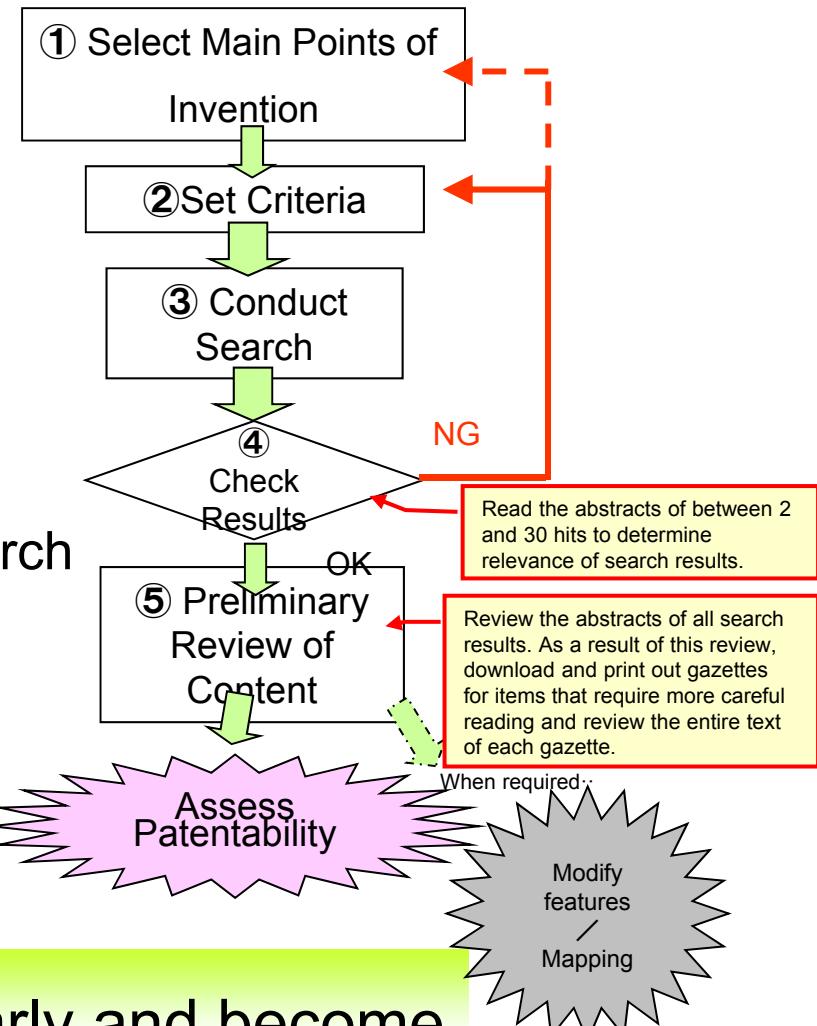
4. Summary

- **Conduct regular patent searches**

- Get in the habit of always checking for prior art that is related to your research theme or the technology you have developed!
 - Check when you start development and at every stage thereafter.
 - Check when you come up with a new idea for a patent.

- Remove irrelevant results with effective search queries

- The basic search query is:
"Technology Field" X "Feature (Configuration·Function)"
- Use FI and other patent classifications
- Read the content of search results and check search queries
 - Read the content of about 500 hits



Use PatentSQUARE regularly and become familiar with patent searches.

End



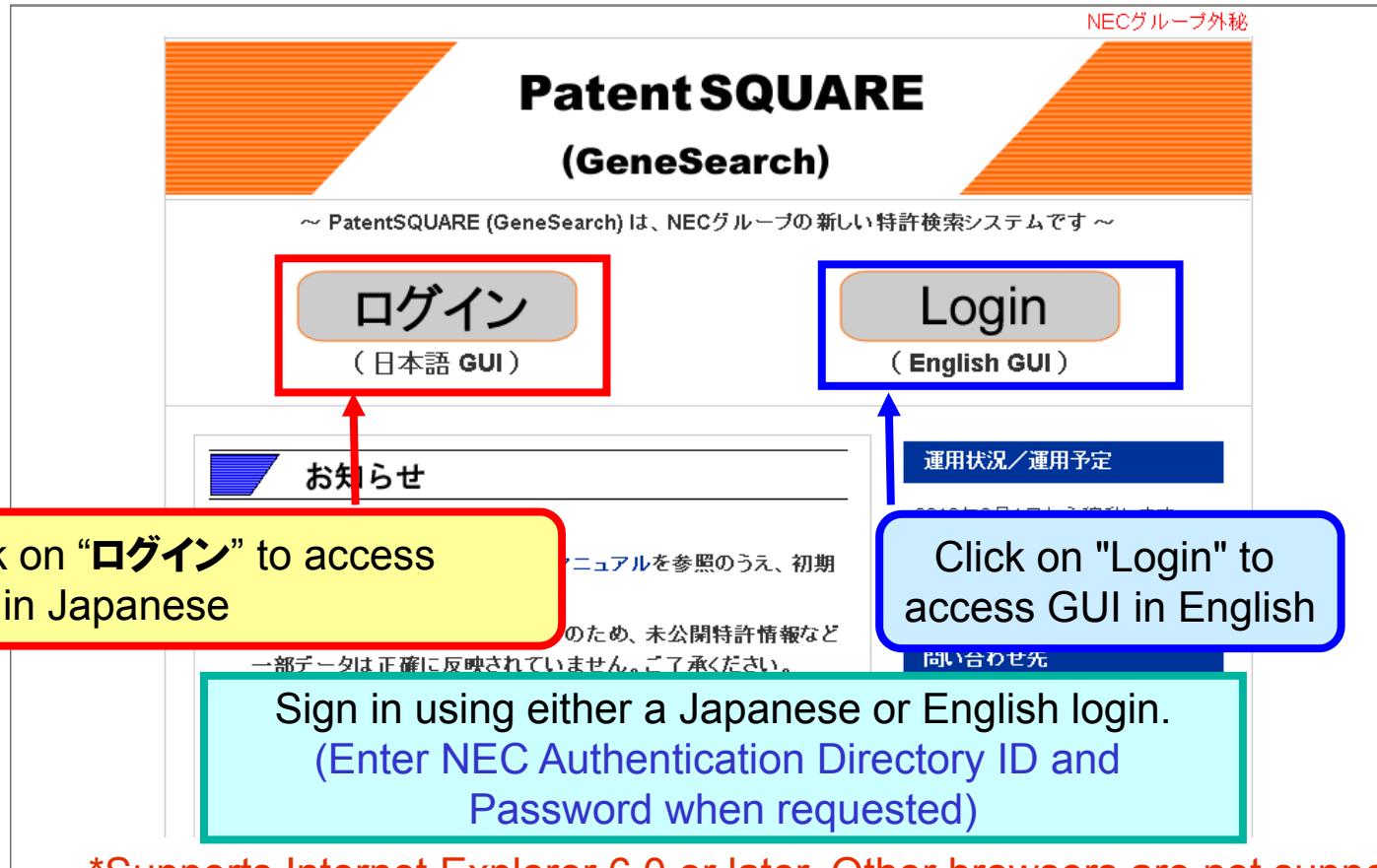
- <Reference Materials>
 - Reference 1: Pre-Search Preparation
 - Reference 2: Patent Classifications on the Unexamined Patent Publication Bulletin
 - Reference 3: Searching IPC
 - Reference 4: Checking Search Results
 - Reference 5: Supplementary References for Patent Searches (Patent Classification Searches, Registering, Opening and Exporting Search Queries)
 - Reference 6: Others (Differences between Ripway and PatentSQUARE, Online Help)
 - Reference 7: Using Concept Search

<Reference 1>

Login Screen

- Access the login screen URL and input user ID / password.

Login Screen URL: <http://ipsearch2.iamu.nec.co.jp/psq/>



*Supports Internet Explorer 6.0 or later. Other browsers are not supported.

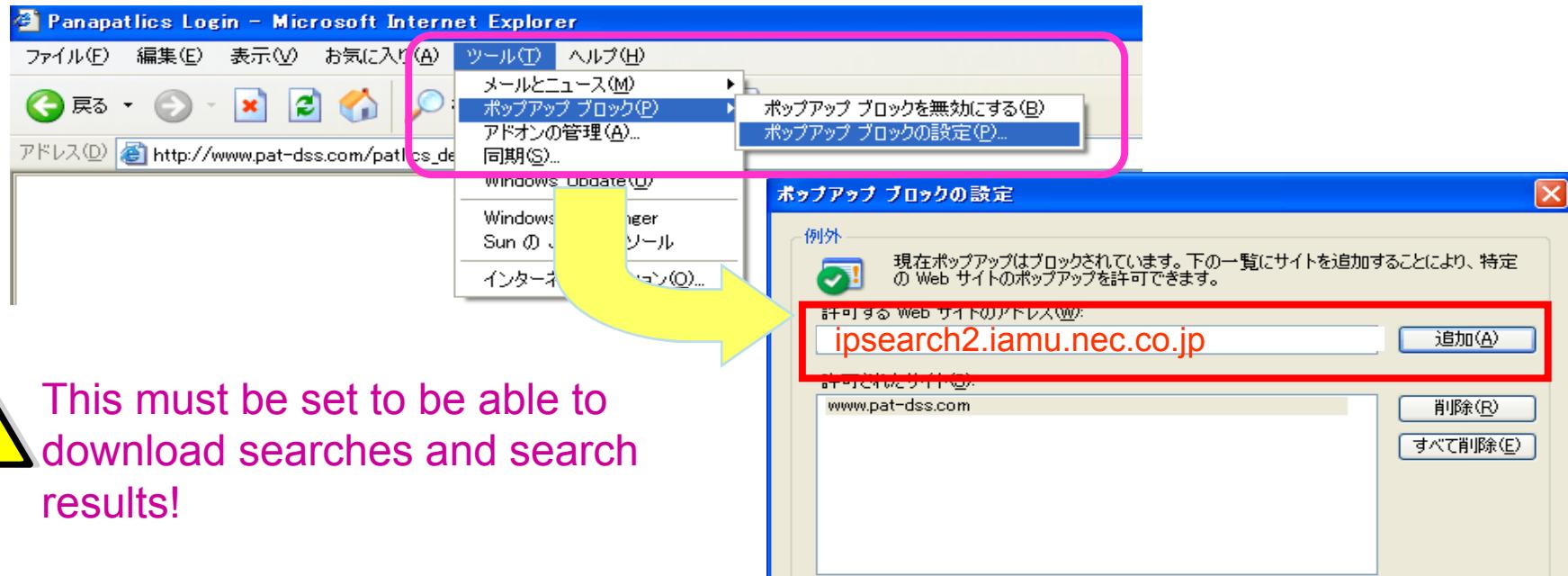
*Taken from PatentSQUARE briefing notes for NEC

Pre-Search Preparation

★The following default settings are required when using PatentSQUARE for the first time.

① Disable popup blockers

- On Internet Explorer, go to "Tools (T)" on the menu bar and select "Popup Blocker" then "Popup Blocker Settings".
- In the address bar for approved Websites, add:
ipsearch2.iamu.nec.co.jp/psq/.



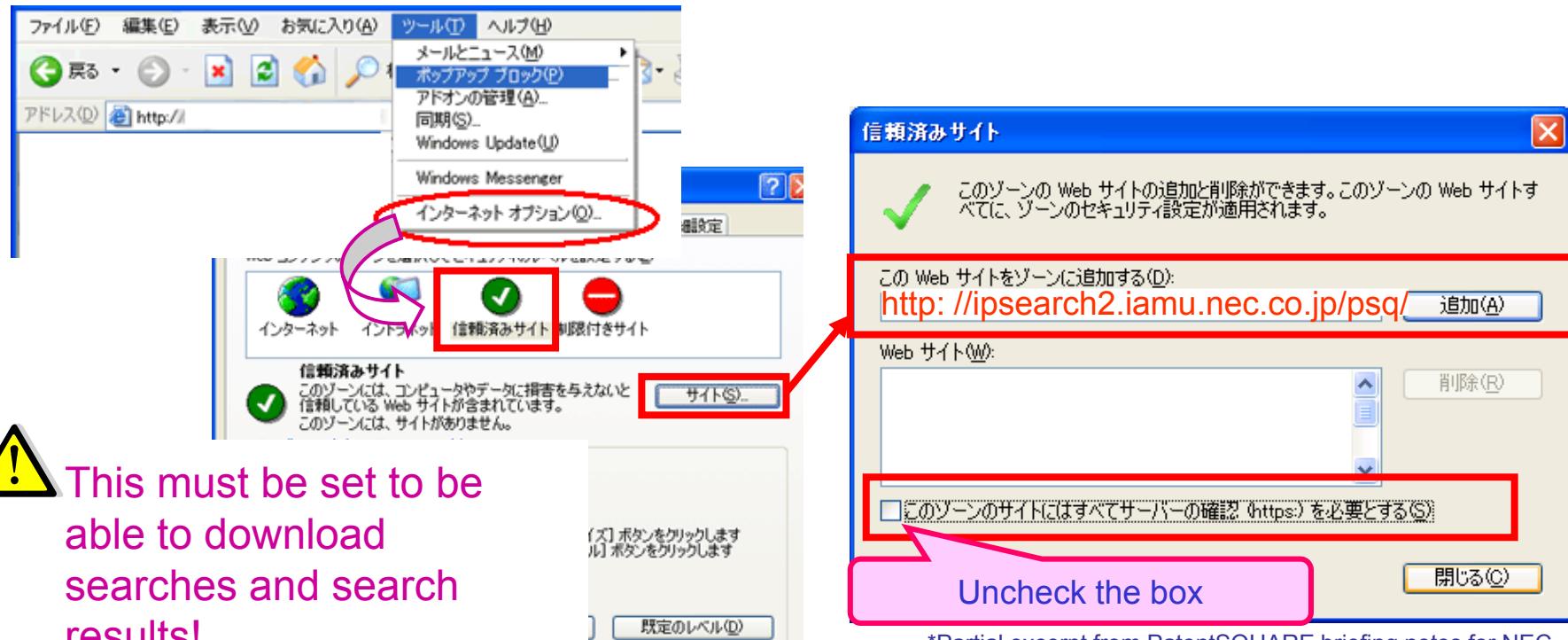
This must be set to be able to download searches and search results!

*Taken from PatentSQUARE briefing notes for NEC

Pre-Search Preparation

② Disable download blocker (Registering PatentSQUARE as a trusted site)

- On Internet Explorer go to "Tools (T)" on the menu bar and select "Internet Options".
- Selected "Trusted Site" and click on the "Site" button.
- Add <http://ipsearch2.iamu.nec.co.jp/psq/> to the "Add the following Website to the zone" address bar , and click the "OK" button.



*Partial excerpt from PatentSQUARE briefing notes for NEC

Pre-Search Preparation

③ Set Google Toolbar and other add-on software (only when required)

1. Check if you have Google Toolbar or similar add-on software.



2. Left click on the Google mark, and select Google Toolbar Settings.



3. Uncheck the "Popup Blocker" box in the toolbar menu.

*Taken from PatentSQUARE briefing notes for NEC

Pre-Search Preparation

★The following settings are required when using “Professional Report Details Display” or “Screening Display” for the first time.

*The following settings are not required when only conducting Basic or Number Searches.

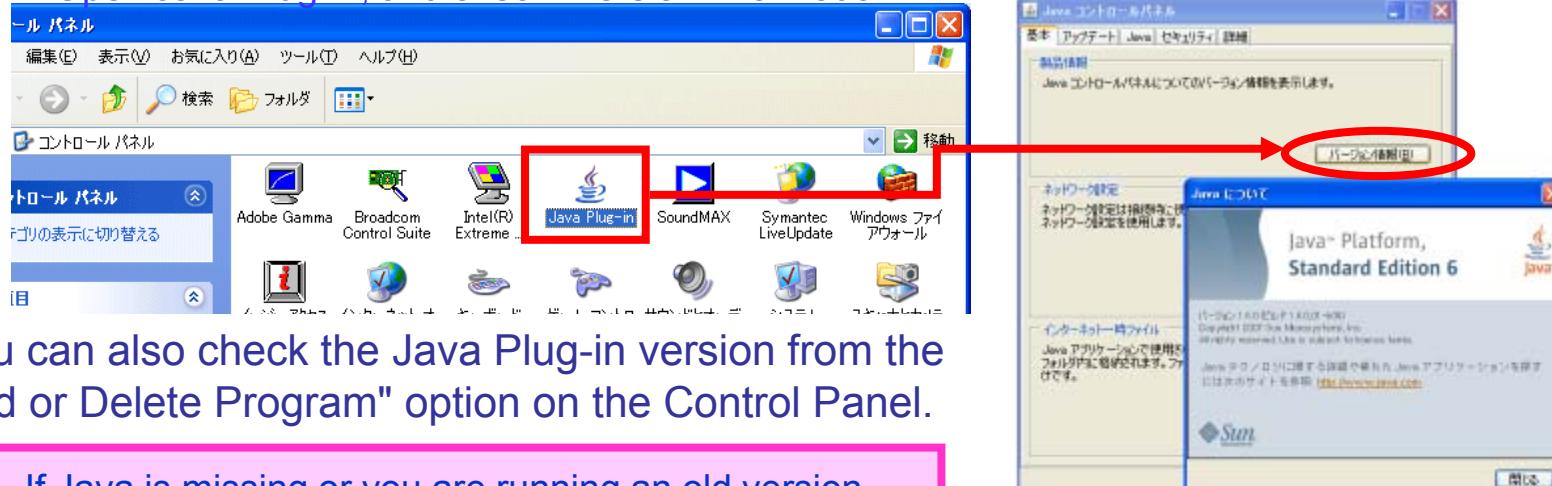
④ Install Java Plug-in (*Requires PC Administrator authorization)

(1) Check the Java version.

- JRE 8 (recommended version: JRE 8 or later)

➤Check the Java Plug-in version

- Start Menu ⇒ Open the Control Panel
- Open Java Plug-in, and check "Version Information"



*You can also check the Java Plug-in version from the "Add or Delete Program" option on the Control Panel.

If Java is missing or you are running an old version,
please follow the instructions on the next page (2).

*Taken from PatentSQUARE briefing notes for NEC

Pre-Search Preparation

(2) If Java is not installed on your PC, or you are running an old version, install a new version of Java from PatentSQUARE's top screen.

Before using the first time

- Required Software/Plug-Ins

1. [Internet Explorer setup](#)
Please turn off "Pop-up blocker" and disable download blocking in Internet Explorer.
2. [Google Toolbar \(etc\) setup](#)
Please turn off "Pop-up blocker" in Google Toolbar, etc.
3. [Installing Adobe Reader](#)
Adobe Reader is necessary to view Patent PDF in the report displays.
4. [Java™ Plug-in setup](#)
For Advanced Report, you need to install Java™ plug-in.
5. [Downloading JAR file](#)
This JAR file is necessary to download PDF files and print them in Advanced Report.

Java can be downloaded from "Required Software/Plug-ins" at the "Before using the first time" section at the bottom left of the top page.

Please follow the instructions on the next page to use "Professional Report Details Display" or "Screening Display".
(If you are not using Professional Search, you have now completed the initial default settings.)

Pre-Search Preparation

★The following settings are required when using "Professional Report Details Display" (Advanced Report).

- ⑤ Print settings for Advanced Report (Adobe Reader path setting)
(1) Set to "Display Professional Report Details" in "Advanced Report".

The screenshot shows the PatentSQUARE web application. On the left, there is a navigation bar with 'Home', 'Settings', 'Basic Search', and other options. A red box highlights the 'Report Settings' link under the 'Settings' menu. A yellow arrow points from this link to a separate 'Report Settings - Internet Explorer' dialog box on the right. This dialog box contains several configuration options:

- Report Type:** A dropdown menu set to "Advanced Report".
- Enter Evaluation:** A dropdown menu set to "Never display".
A note below it states: "When the report details are displayed, the evaluation information is also displayed."
- Previous classification item:** A section with two checkboxes: "Classification" (checked) and "Eval Rank".
A note below it states: "Click [Previous classification] to set Previous classification item."
Another note states: "Saved items you set are referred to future displaying Advanced Report."
- Sort By:** A dropdown menu set to "Issued Patent".
A note below it states: "Is only applied during batch operations."

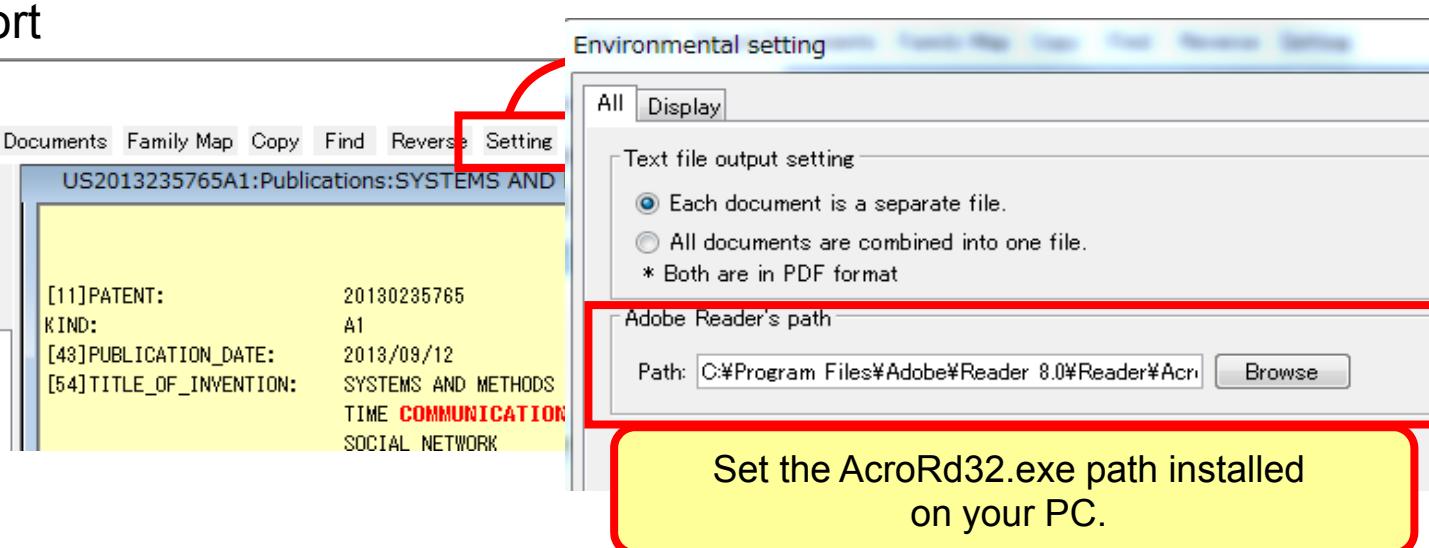
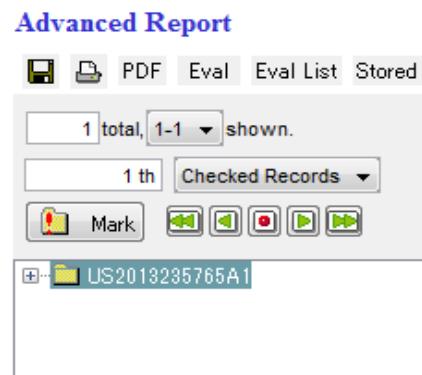
Pre-Search Preparation

(2) Set "Adobe Reader Path".

➤Procedure:

- Search optional criteria, and display Advanced Report from the list screen.
- Select "Setting" on the Advanced Report screen.
- Set the Abode Reader path under the "All" tab.

○Advanced Report



If Adobe Reader is missing, please follow
the instructions on the next page (6).

※ Taken from PatentSQUARE briefing notes provided to NEC

Pre-Search Preparation

⑥ Set up for Adobe Reader

- Adobe Reader is required to view patent reports in PDF format.

*Ignore this step if Adobe Reader is already installed on your PC.

⑦ Setting DLL for printing PDF and downloading files

- Install pdfjava2000.exe or pdfjava_xp.exe.

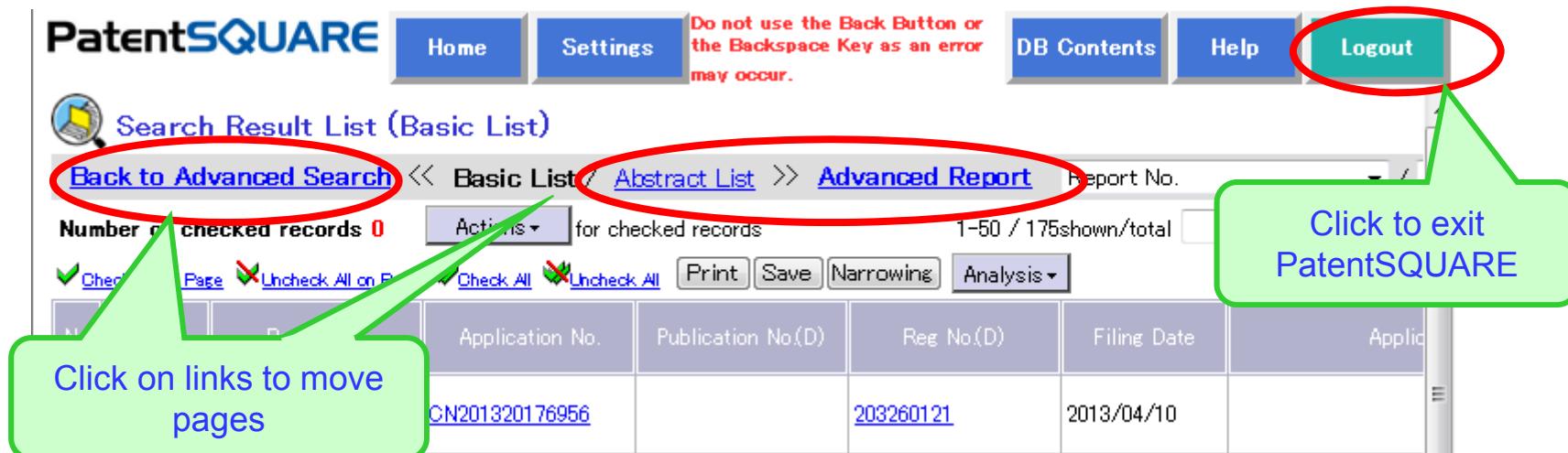
The screenshot shows a section titled "Before using the first time" with a list of required software and plug-ins:

- Required Software/Plug-Ins
 - 1. [Internet Explorer setup](#)
Please turn off "Pop-up blocker" and disable download blocking in Internet Explorer.
 - 2. [Google Toolbar \(etc\) setup](#)
Please turn off "Pop-up blocker" in Google Toolbar, etc.
 - 3. [Installing Adobe Reader](#)
Adobe Reader is necessary to view Patent PDF in the report displays.
 - 4. [Java™ Plug-in setup](#)
For Advanced Report, you need to install Java™ plug-in.
 - 5. [Downloading JAR file](#)
This JAR file is necessary to download PDF files and print them in Advanced Report.

A pink callout box points from the text "Download from 'Before using the first time' section at the bottom left of the top page." to the "Before using the first time" header.

Points to Remember

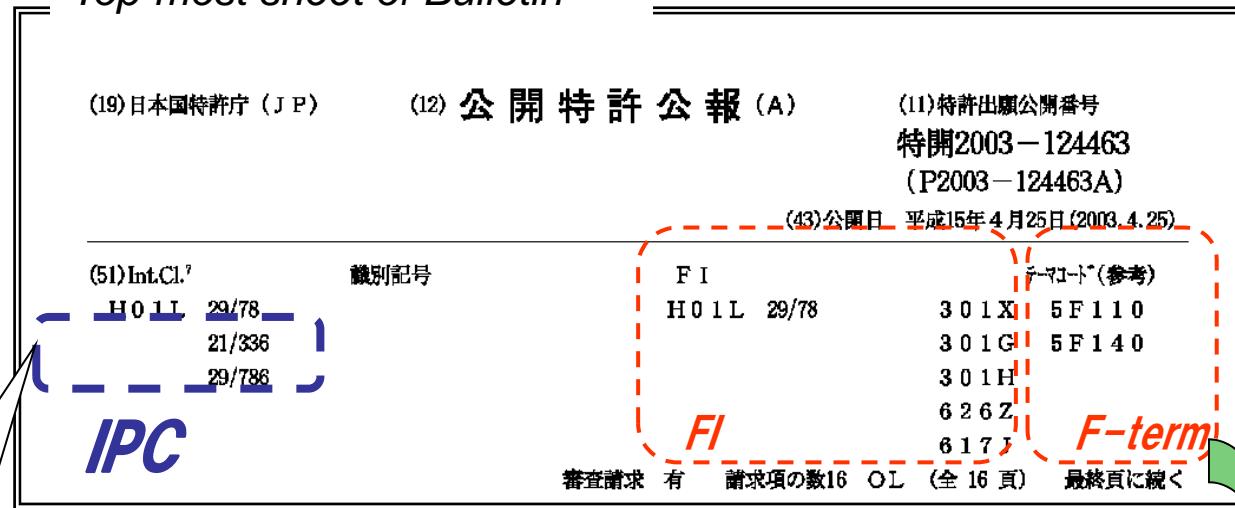
- Avoid hitting the "Back", "Forward" or "Close" buttons on the browser!
⇒ It will deactivate the page and/or cause problems when trying to logout.



- Click on the appropriate link / button to move pages.
- Click on the "Logout" button on the top right-hand side of the screen to exit PatentSQUARE.

Patent Classifications on the Unexamined Patent Publication Bulletin

Top-most sheet of Bulletin



At least one IPC is added to patent publication

Can also be used as search keyword

→ Proper use enables significantly more efficient searches

Final page of Bulletin

F ターム (参考)	5F110 AA08 BB05 CC02 DD05 DD13 DD21 EE04 EE05 EE09 EE12 EE22 EE38 EE44 EE45 FF01 FF02 FF03 FF06 FF09 FF12 FF23 FF26 FF29 GG02 GG12 GG22 GG28 GG34 GG52 HJ01 HJ13 HJ14 HJ16 HL03 HL08 HL14 HM02 HM12 NN02 NN23 NN35 NN62 QQ11 QQ19	5F140 AA06 AA10 AA18 AA21 AC32 AC36 BA01 BB05 BC15 BD05 BD07 BD16 BD18 BE07 BF01 BF04 BF07 BF08 BF40 BF42 BF44 BF51 BG28 BG30 BG31 BG37 BH05 BH08 BH13 BH19 BH30 BH40 BJ01 BJ04 BJ05 BJ23 BK10 BK13 BK14 BK16 BK21 BK25 CA03 CB04 CC03 CE06 CE07
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F-term details

<Reference 3>

IPC Search (1)

URL:https://www5.j-platpat.inpit.go.jp/pms/tokujitsu/pmgs/PMGS_GM101_Top.action

*There's also a link in the Japan Patent Office homepage

Japan Patent Office HP

↓
Patent information platform (J-PlatPat)

↓
Patent and Utility Model

↓
Patent Map Guidance (PMGS)

*Conduct your own patent classification search by following the procedures in this example.

(The following pages show the procedures for searching IPC in fields related to circuit board substrate materials)

<Reference 3>

IPC Search: Section → Class

The screenshot illustrates the search process on the J-PlatPat website:

- Top-level search interface:** Shows the main navigation bar with links for Helpdesk, English, Top Page, etc. The URL is [http://helpdesk@j-platpat.inpit.go.jp](#).
- Section Selection:** The user has selected the "Gセクション" (G Section) from the list of sections (A, B, C, D, E, F, G, H). The "Gセクション" link is highlighted with a red oval.
- Result for G Section:** A message indicates "Ca. 4.84 million hits". Below this, a list of related IPC classes is shown, including "Electronic communication technology (H04)" and "Semiconductor (H01), etc.", which are enclosed in a red box.
- Class Selection:** The user has selected the "G06" class from the list of classes under the "Gセクション". The "G06" link is highlighted with a red oval.
- Result for G06 Class:** A message indicates "Ca. 1.19 million hits".

IPC Search: → Subclass

パテントマップガイダンス (PMGS) [◀ 前画面へ戻る](#) [? ヘルプ](#) [▲ 二階層上](#)

FI・FTーム、IPCの説明を照会できます。また、キーワードから分類を検索できます。

改廃情報 : [FI改正情報](#) [テーマ改廃情報](#) [テーマコード表](#) [IPC改正表](#) [IPC指針](#)

IPC(第8版)サブクラス選択 2016.06.01の時点で有効なIPCを表示します。

この画面で、G06内の「サブクラス」が選択できます。希望する「サブクラス」を選択してください。

IPCサブクラス	説明	参照等
· G06C	すべての計算が機械的に行われるデジタル計算機（カードゲーム用の得点計算機 A 6 3 F 1 / 1 8 ; キー、印字機構、またはタイプライタ技術もしくは印字技術に一般に適用する他の部品の構造 B 4 1 ; 特殊適用のためのキーまたは印字機構は関連サブクラス、例. G 0 5 G, G 0 6 K, を参照；金銭登録機 G 0 7 G 1 / 0 0) [4]	(注)/(索引)
· G06D	デジタル流体圧計算装置	(注)/(索引)
· G06E	光学的計算装置（光学的素子を使用するデジタル記憶 G 1 1 C 1 3 / 0 4) [5]	(注)/(索引) 定義
· G06F	電気的デジタルデータ処理（計算の一部が液体力または気体力を用いて行われる計算機 G 0 6 D, 光学的に行われるもの G 0 6 E ; 特定の計算モデルに基づくコンピュータ・システム G 0 6 N)	(注)/(索引) 定義
· G06G	アナログ計算機（光学的アナログ計算装置 G 0 6 E 3 / 0 0 ; 特定の計算モデルに基づくコンピュータ・システム G 0 6 N)	
· G06J	ハイブリッド計算装置（光学的ハイブリッド計算装置 G 0 6 E 3 / 0 0 ; 特定の計算モデルに基づくコンピュータ・システム G 0 6 N ; イメージ・データ処理用のニューラル・ネットワーク G 0 6 T ; アナログ/デジタル変換、一般 H 0 3 M 1 / 0 0)	(注)/(索引)

For general computer software (including BM)

G06F Subclass: Ca. 900,000 hits

<Reference 3>

IPC Search: → Main Group

The screenshot shows the 'Patent Map Guide (PMGS)' interface. At the top, there are navigation links: '前画面へ戻る' (Back), '? ヘルプ' (Help), and '二階層上' (Up one level). On the right, there are links for '入力画面' (Input screen) and '結果一覧' (Result list). Below the header, a message says 'FI・FTマーク、IPCの説明を照会できます。また、キーワードから分類を検索できます。' (You can inquire about FI・FT marks and IPC explanations. You can also search by keyword to find classifications.). Underneath, it says '改廃情報: FI改正情報 テーマ改廃情報 テーマコード表 IPC改正表 IPC指針'. A section titled 'IPC(第8版)メイングループ選択' (Selection of the Main IPC Group) indicates that the 2016.06.01 version is effective. It says 'この画面で、G06F内の「メイングループ」が選択できます。希望する「メイングループ」を選択してください。' (On this screen, you can select the 'Main Group' within G06F. Please select the 'Main Group' you want.). The main content is a table with three columns: 'IPCメイングループ' (Main Group), '説明' (Description), and '参照等' (References). The table lists several groups:

IPCメイングループ	説明	参照等
• 1/00 (2006.01)	グループ G 06 F 3 / 0 0 ~ G 06 F 1 3 / 0 0 および G 06 F 2 1 / 0 0 に包含されないデータ処理装置の細部（プログラム記憶式汎用計算機のアーキテクチャ G 06 F 1 5 / 7 6） [1, 8]	定義
• 3/00 (2006.01)	計算機で処理しうる形式にデータを変換するための入力装置；処理ユニットから出力ユニットへデータを転送するための出力装置，例：インターフェース装置「41」	定義
• 13/00 (2006.01)	メモリ，入力／出力装置または中央処理ユニットの間の情報または他の信号の相互接続または転送（特定の入力／出力装置のためのインターフェース回路 G 06 F 3 / 0 0，マルチプロセッサシステム G 06 F 1 5 / 1 6） [4]	定義
• 15/00 (2006.01)	デジタル計算機一般（細部 G 06 F 1 / 0 0 ~ G 06 F 1 3 / 0 0）；データ処理装置一般	
• 17/00 (2006.01)	特定の機能に特に適合したデジタル計算またはデータ処理の装置または方法 [6]	定義
• 19/00 (2011.01)	特定の用途に特に適合したデジタル計算またはデータ処理の装置または方法（G 06 F 1 7 / 0 0 が優先；管理目的，商用目的，金融目的，経営目的，監督目的または予測目的に特に適合したデータ処理装置） [6, 8, 2011]	(注)/(索引) 定義

A red box highlights the entry for '17/00' with the text 'General Computing (17/00 take precedence)'. The entries for '15/00' and '17/00' are circled in red.

G06F Subclass: Ca. 230,000 hits

<Reference 3>

IPC Search: → Subgroup

Upper
17/10～
17/30
↓
17/00 and
lower

Upper
17/20 and
lower

IPC	説明	参照等
· 17/00 (2006.01)	特定の機能に特に適合したデジタル計算またはデータ処理の装置または方法 [6]	CC 定義
· 17/10 (2006.01)	・複合した数学演算 [6]	CC
· 17/11 (2006.01)	・・方程式を解くためのもの [6]	CC
· 17/12 (2006.01)	・・・連立方程式を解くためのもの [6]	CC
· 17/13 (2006.01)	・・・微分方程式を解くためのもの (デジタル微分解析器を用いるもの G 06 F 7 / 6 4) [6]	CC
· 17/14 (2006.01)	・・フーリエ, ウォルシュまたは類似の領域変換 [6]	CC
· 17/15 (2006.01)	・・相間関数の計算 [6]	CC
· 17/16 (2006.01)	・・マトリックスまたはベクトルの計算 [6]	CC
· 17/17 (2006.01)	・・近似法による関数の計算, 例. 内挿法または外挿法, 平滑法または最小二乗法 ([6])	CC 定義
· 17/18 (2006.01)	・・統計データの算出のためのもの [6]	CC
· 17/20 (2006.01)	・自然言語データの取り扱い (音声の分析または合成 G 10 L) [6]	CC
· 17/21 (2006.01)	・・テキスト処理 (G 06 F 17 / 27, G 06 F 17 / 28 が優先) [6]	CC 定義
· 17/22 (2006.01)	・・・符号の使用による操作または登録, 例. テキスト文字列におけるもの [6]	CC
· 17/24 (2006.01)	・・・編集, 例. 挿入／削除 [6]	CC
· 17/25 (2006.01)	・・・自動行揃え [6]	CC
· 17/26 (2006.01)	・・・自動ハイフン付け [6]	CC
· 17/27 (2006.01)	・・自動言語解析, 例. 構文解析, 細字訂正 [6]	CC
· 17/28 (2006.01)	・・自然言語の処理または翻訳 (G 06 F 17 / 27 が優先) [6]	CC
· 17/30 (2006.01)	・情報検索 ; そのためのデータベース構造 [6]	

G06F17/30 Subgroup: Ca. 70,000 hits

*Keep on hand a table of IPC relevant to you

You can narrow down with IPC only up to this point

<Reference 3>

IPC Search (2)

The screenshot shows the J-PlatPat Patent Map Guidance (PMGS) search interface. At the top, there is a navigation bar with links for Help Desk (9:00-21:00), English, Top Page, Help Guide, Site Map, JPO, and INPIT. Below the navigation bar are five main tabs: Patent and Utility Model (特許・実用新案), Design (意匠), Trademark (商標), Patent Litigation (審判), and Patent History (経過情報). The current page is the Patent Map Guidance (PMGS) search page, indicated by the breadcrumb trail: Top Page > Patent and Utility Model > Patent Map Guidance (PMGS).

The search form includes the following fields:

- Search Method:** Selection between "View" (照会) and "Keyword Search" (キーワード検索). The "Keyword Search" tab is highlighted with a red box.
- Classification:** Selection between FI, FI Handbook, F Term List, F Term Explanation, and IPC 8th Edition (指定日付). The "IPC 8th Edition (指定日付)" option is selected and highlighted with a red box. A date input field shows "20160601".
- Keywords:** A text input field containing "プリント配線" (Print wiring) is highlighted with a red box.
- Search Range (Classification):** An input field containing "例) 2B+5B001".
- Display Type:** Selection between "List View" (一覧表示), "Targeted View" (ターゲット表示), and "Hierarchical View" (階層表示). The "List View" option is selected.

A large orange callout box with a red border contains the text: "After selecting the ‘Keyword Search’ tab, you can search IPC and other patent classifications using keywords."

At the bottom right of the page, there is a link "このページのトップへ" (Top of this page).

<Reference 3>

Searching IPC(1)

- Look through the results of an Advanced Search to identify patents that resemble your idea (or patents in similar technology fields) and check the associated patent classifications.

The screenshot shows the PatentSQUARE interface with the following steps highlighted:

- ① Check the box of patents that resemble your idea (or alternatively select "Check All").
- ② Click on IPC.
- ③ Check the box of any patent classifications you want to search.
- ④ Click on the "Reflect in Search Screen" to reflect the selected classifications in your search query.

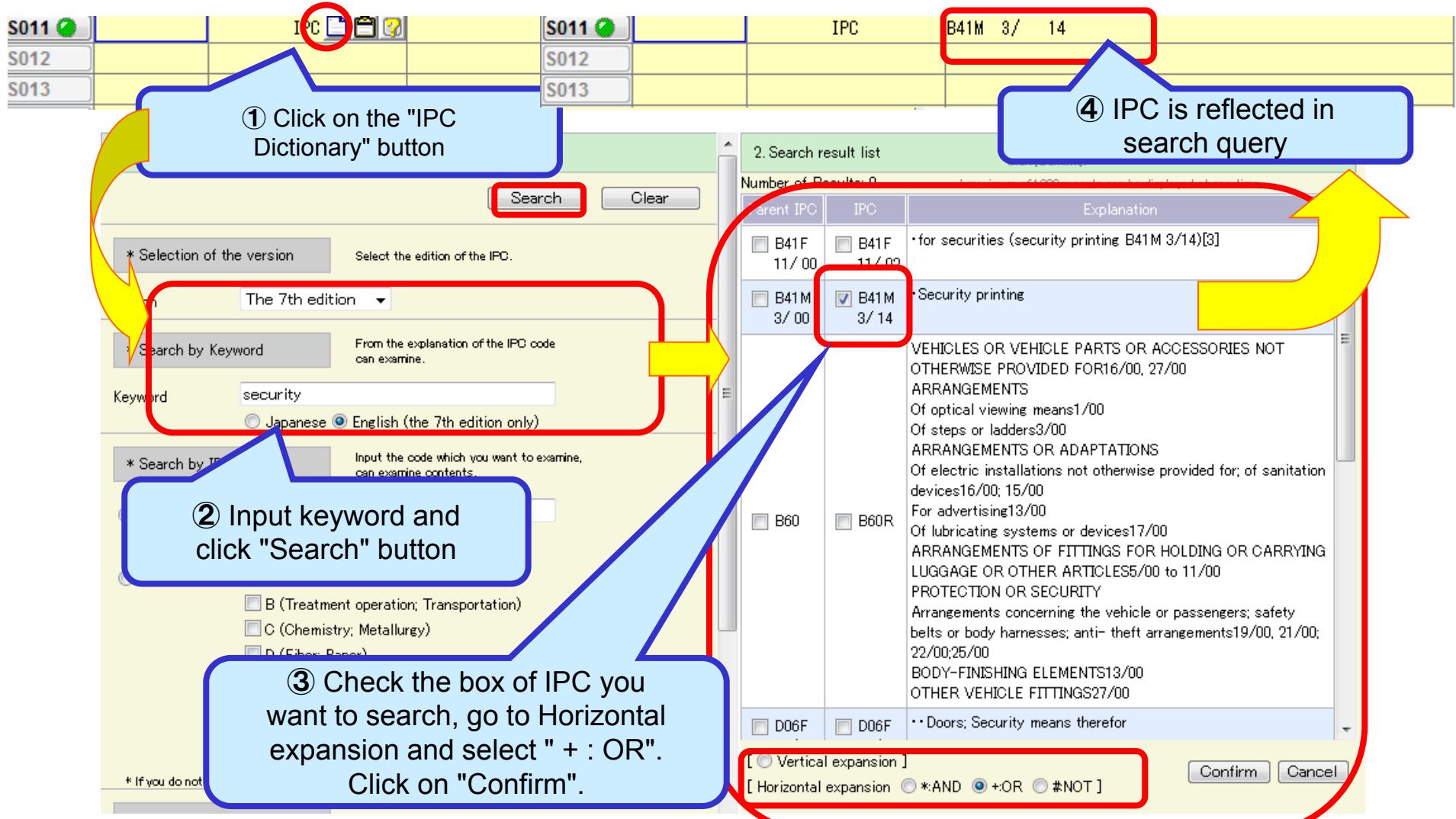
*Check information such as name of invention and abstract to determine whether similar patents exists.

NEC Confidential

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Searching IPC (2)

- Search using PatentSQUARE's input support function.



Checking Search Results ①

① Displaying a Basic List

The screenshot shows the PatentSQUARE interface for searching patent documents. At the top, there's a navigation bar with links for Home, Settings, DB Contents, Help, and Logout. A red warning message in the center of the header says: "Do not use the Back Button or the Backspace Key as an error may occur." Below the header is a search result list titled "Search Result List (Basic List)". The list displays five patent records, each with a checkbox and an "Actions" dropdown menu. The "Actions" menu for the first record is open and highlighted with a red oval. It contains the following options: Save Evaluation Information, Display Eval List, Email Documents, Save List, Display Checked at Top, Export Basic List, Download PDF of Front Page Info, Export Eval List, Stored Document, Download PDFs, Print PDF, Analysis, and Create Map. A green callout bubble points from the "Analysis" option in the menu to a text box containing the instruction: "Download and assess selected items". The main search results table shows columns for No., Report No., and various dates.

Checking Search Results ②

② Displaying an Abstract List

PatentSQUARE

Home Settings Do not use the Back Button or the Backspace Key as an error may occur.

DB Contents Help Logout

Search Result List (Abstract List)

Back to Advanced Search << Basic List / Abstract List >> Advanced Report

Report No. / Asc 10 Display

Number of checked records 50 Actions for checked records

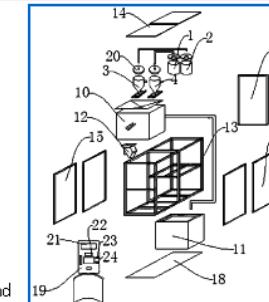
1-10 / 175 shown/total 1 / 18 Page Display

Check All on Page Uncheck All on Page Check All Uncheck All Print Save Narrowing Highlight Analysis

No Abstract

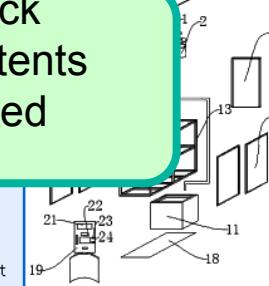
1 [Title] The automatic pin mm hulling machine
 [Abstract]

The utility model claims a automatic detecting with the numbers hulling machine, comprising a pin the numbers hulling machine management system, pin mm hulling machine shell and a pin mm control system; Automatic pin mm method is paper money comprises an input purchase and information according to the prompting and coin change by multiple numbers, aThe utility model automatic detecting mm hulling machine shorten the edible mm and chain, the numbers purchase method of **people**, the improve the urban **people** with bought the numbers the compressed, ensure circuit of edible mm; the solve remote buy selecting function the numbers inconvenient condition.



2 [Title] The automatic pin mm hulling machine and automatic pin mm method
 [Abstract]

The invention claims a automatic pin mm hulling machine and automatic pin mm method, comprising a pin the numbers hulling machine management system, pin mm hulling machine shell and a pin mm control system; Automatic pin mm method is paper money comprises an input purchase and information according to the prompting and coin change by multiple numbers, aThe invention automatic detecting mm hulling machine shorten the edible mm and chain, the numbers purchase method of **people**, the improve the urban **people** with bought the numbers the compressed, ensure circuit of edible mm; the solve remote buy selecting function the numbers inconvenient condition.

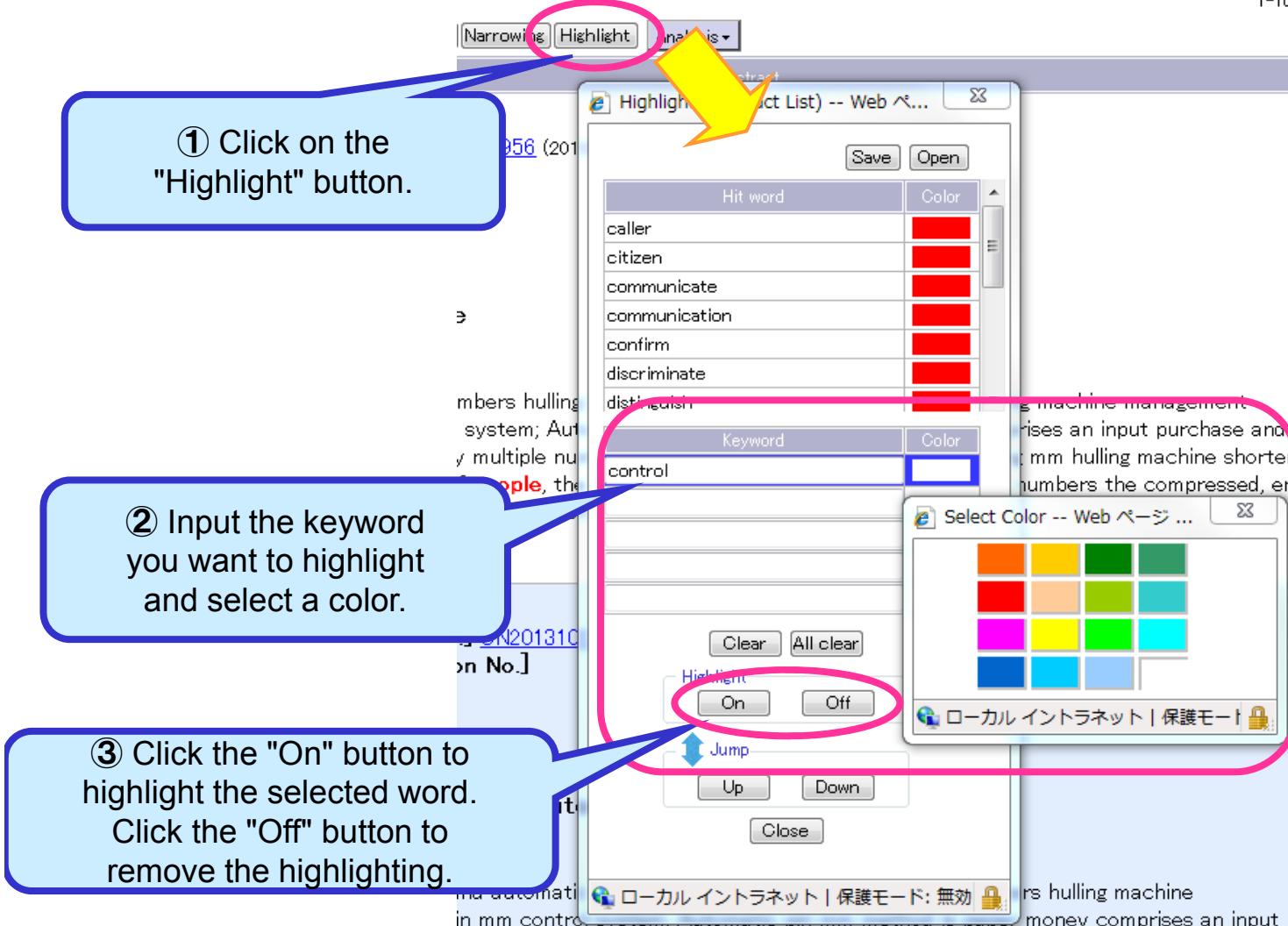


Obtain a quick overview of patents and associated drawings

Checking Search Results ②

- Highlighting words in the Abstract List

1-10



Checking Search Results ③

③ Displaying a Basic Report

Operational Panel

Report

Drawings or PDF version of gazettes

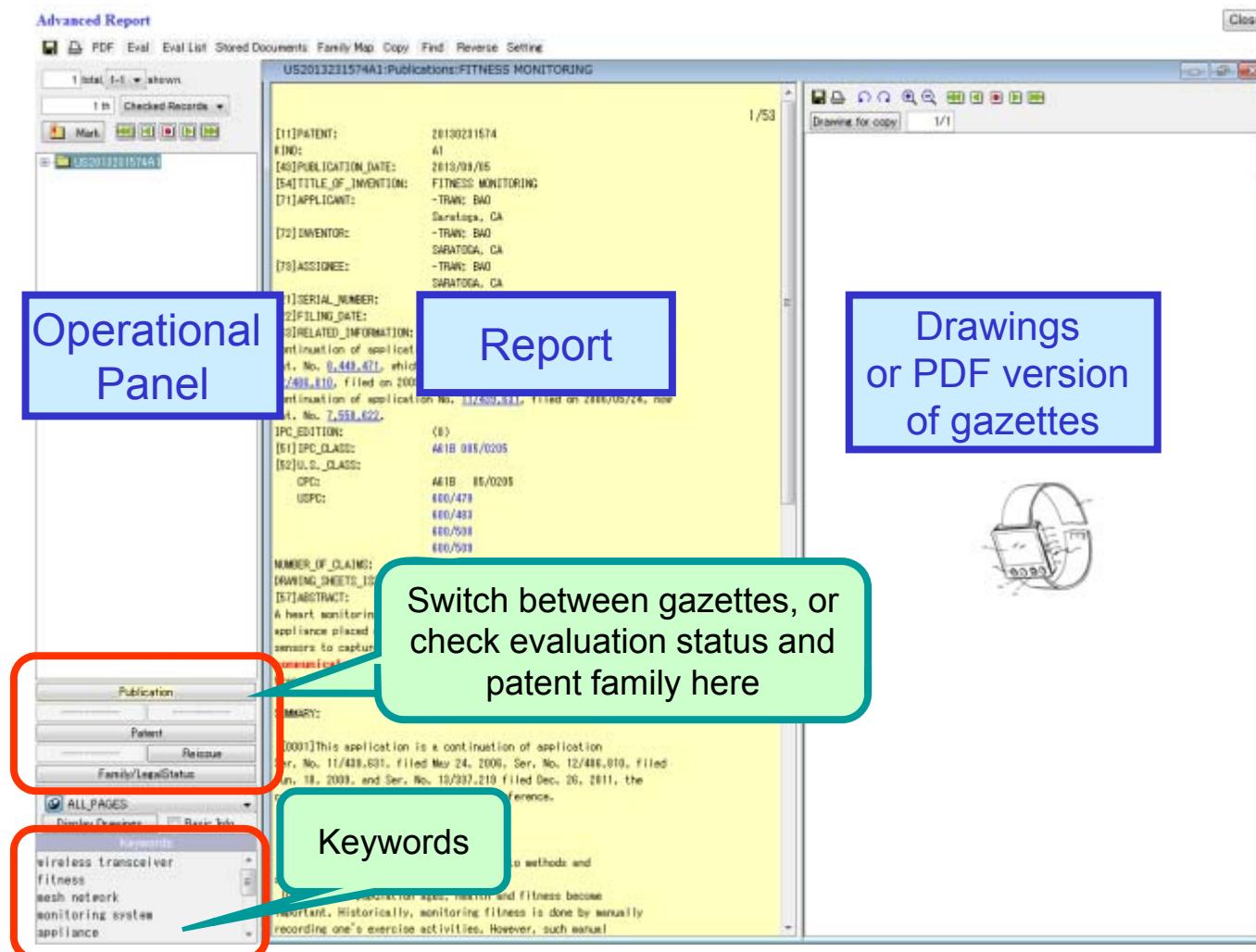
Allows users to check details or assess selected patents

The screenshot shows a 'Basic Report' interface from a web browser. The operational panel on the left displays '1 shown/total 1-1 doc.' and a checked record 'US2013231574A1'. Below this is a table with columns 'Eval Info' and 'PDF Family Map'. A red box highlights the 'Eval Info' row for 'BIBLIO' and 'DESCRIPT'. The main report section on the right shows patent details like [11]PATENT: 20130231574, KIND: A1, and PUBLICATION_DATE: 2013/09/05. It also shows the title 'FITNESS MONITORING', applicant 'TRAN; BAO', inventor 'Saratoga, CA', and assignee 'TRAN; BAO'. The report continues with serial numbers, filing dates, and related information, mentioning continuations of previous applications. At the bottom, there's a summary and a note about the application being a continuation of another. To the right of the report, there's a diagram of a heart monitoring device with various components labeled.

Check the evaluation status and patent family here

Checking Search Results ④

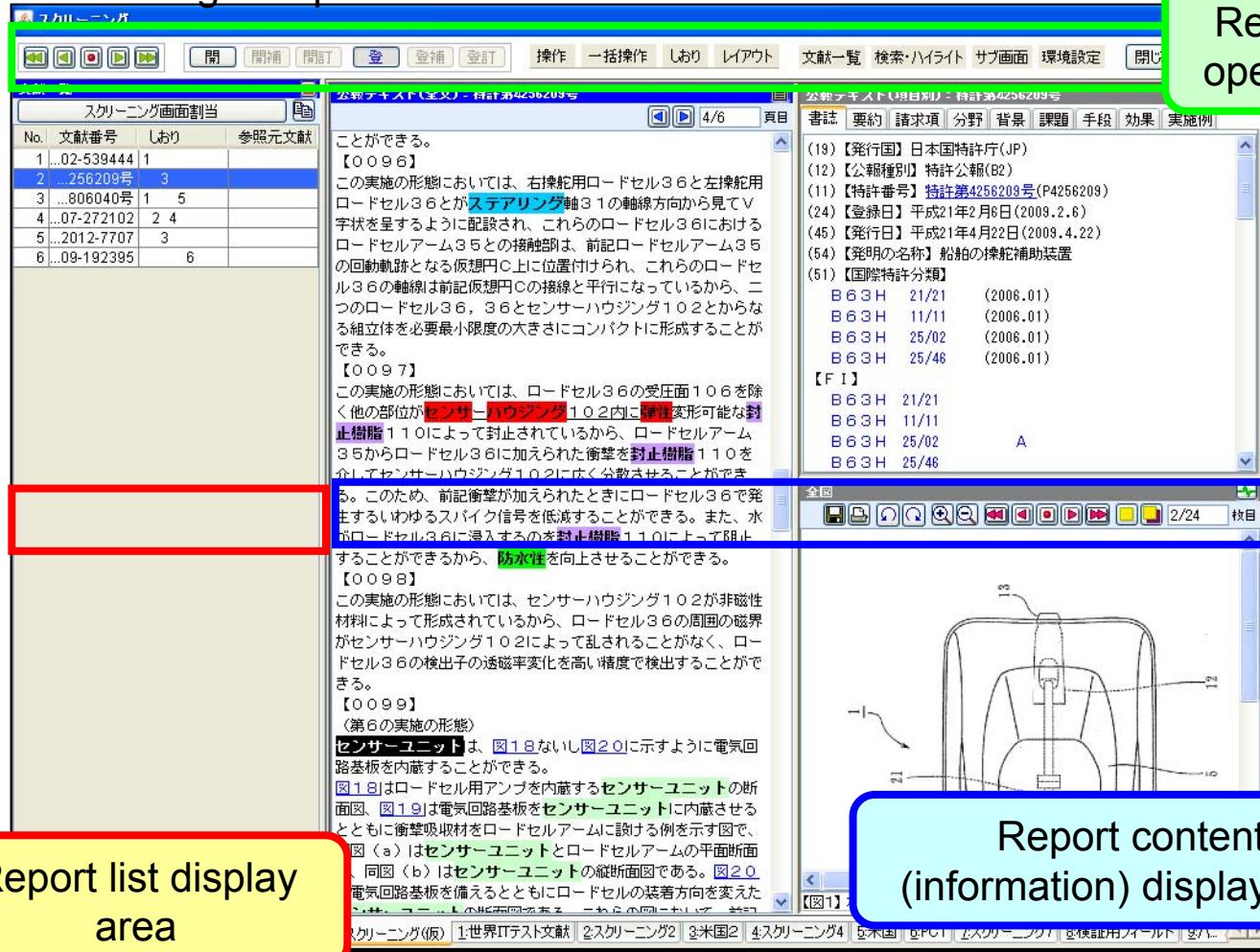
④ Displaying an Advanced Report



Checking Search Results ⑤

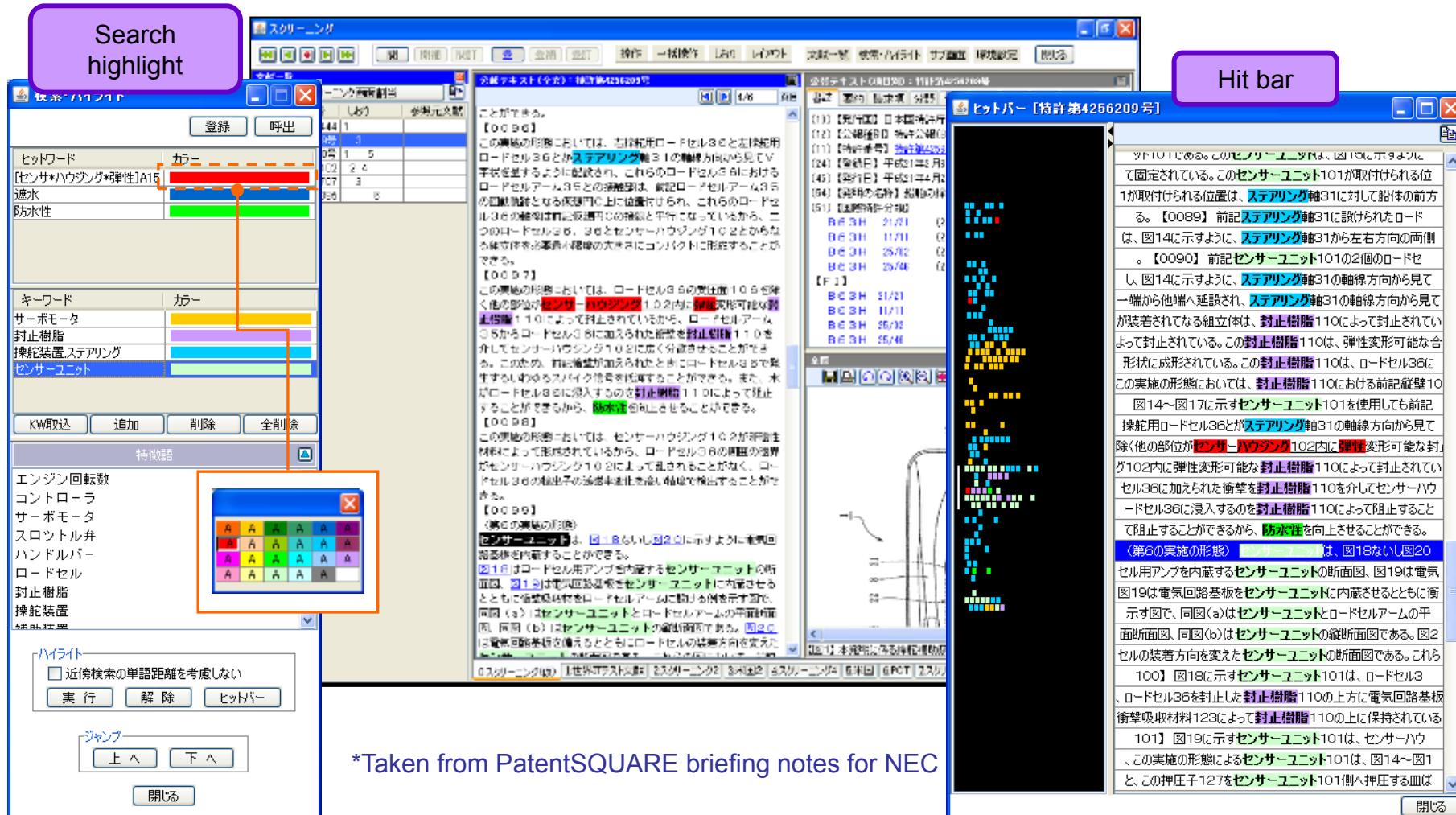
⑤ Screening Display

PatentSQUARE has functions for making color highlights and changing layouts, enabling more efficient viewing of reports.



Checking Search Results ⑤

- Other than simple character strings, highlight of word proximity search is also possible. Users can also browse the dispersion of highlighted character strings.



Checking Search Results ⑤

- Users can customize contents shown and their position on the screen by configuring the layout.

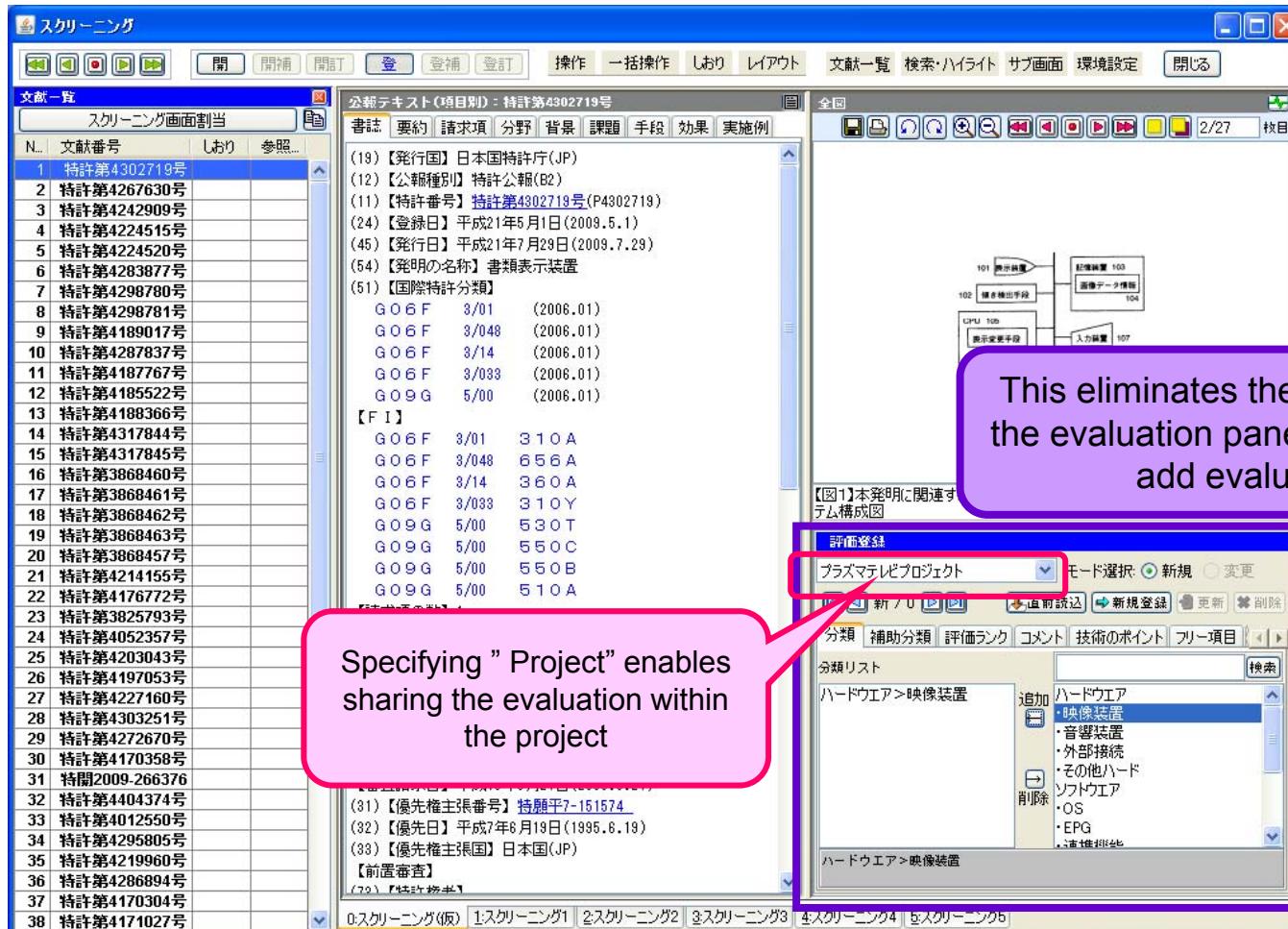
Configuring “Registration Category” to Project enables sharing the layout within the project

*Taken from PatentSQUARE briefing notes for NEC

Checking Search Results ⑤

- Users can display the evaluation panel on the screen to add their own classifications and evaluations.

Location of evaluation panel can be configured for each user ID through the “Layout” function.



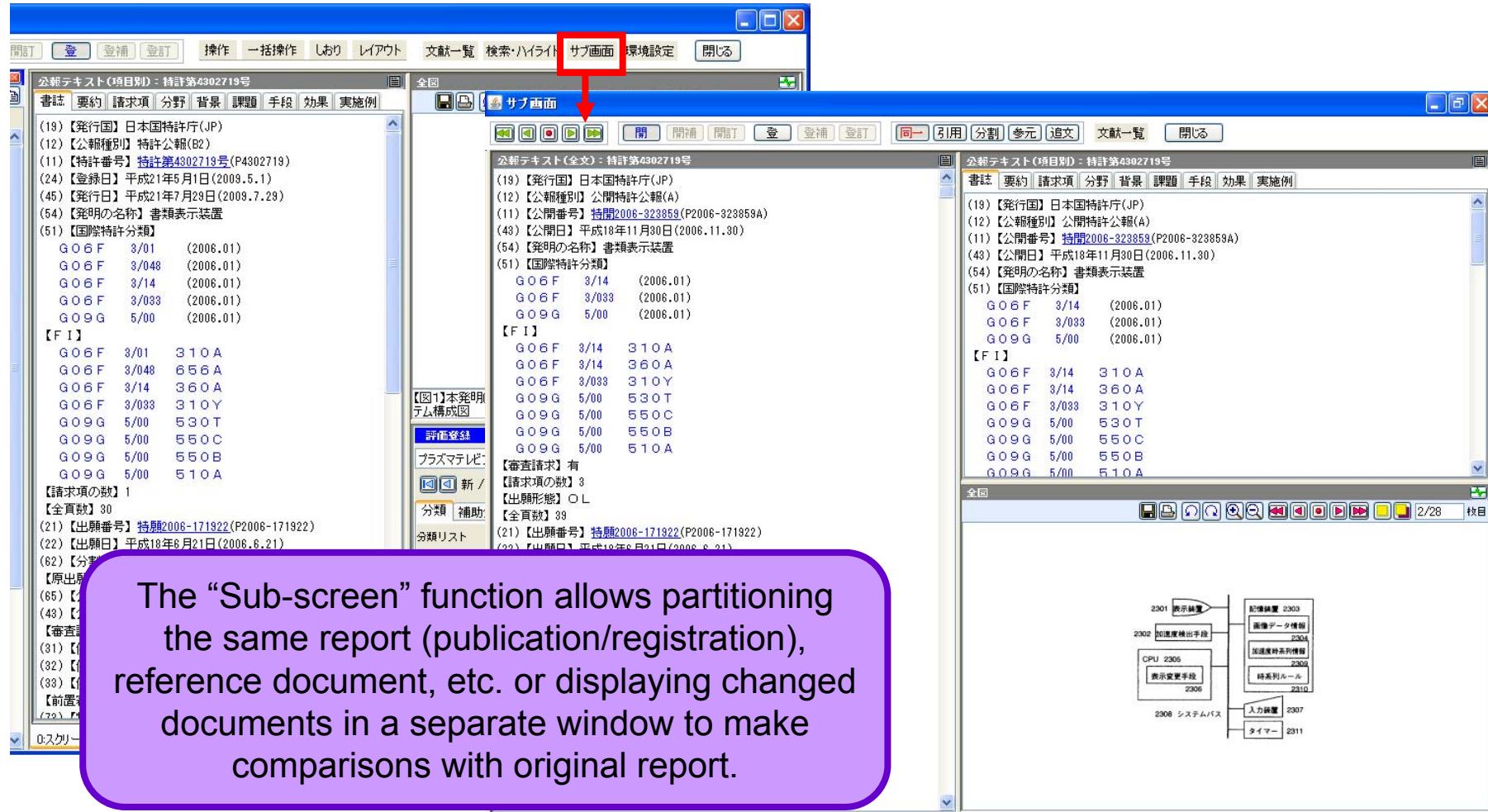
*Taken from PatentSQUARE briefing notes for NEC

NEC Confidential

Checking Search Results ⑤

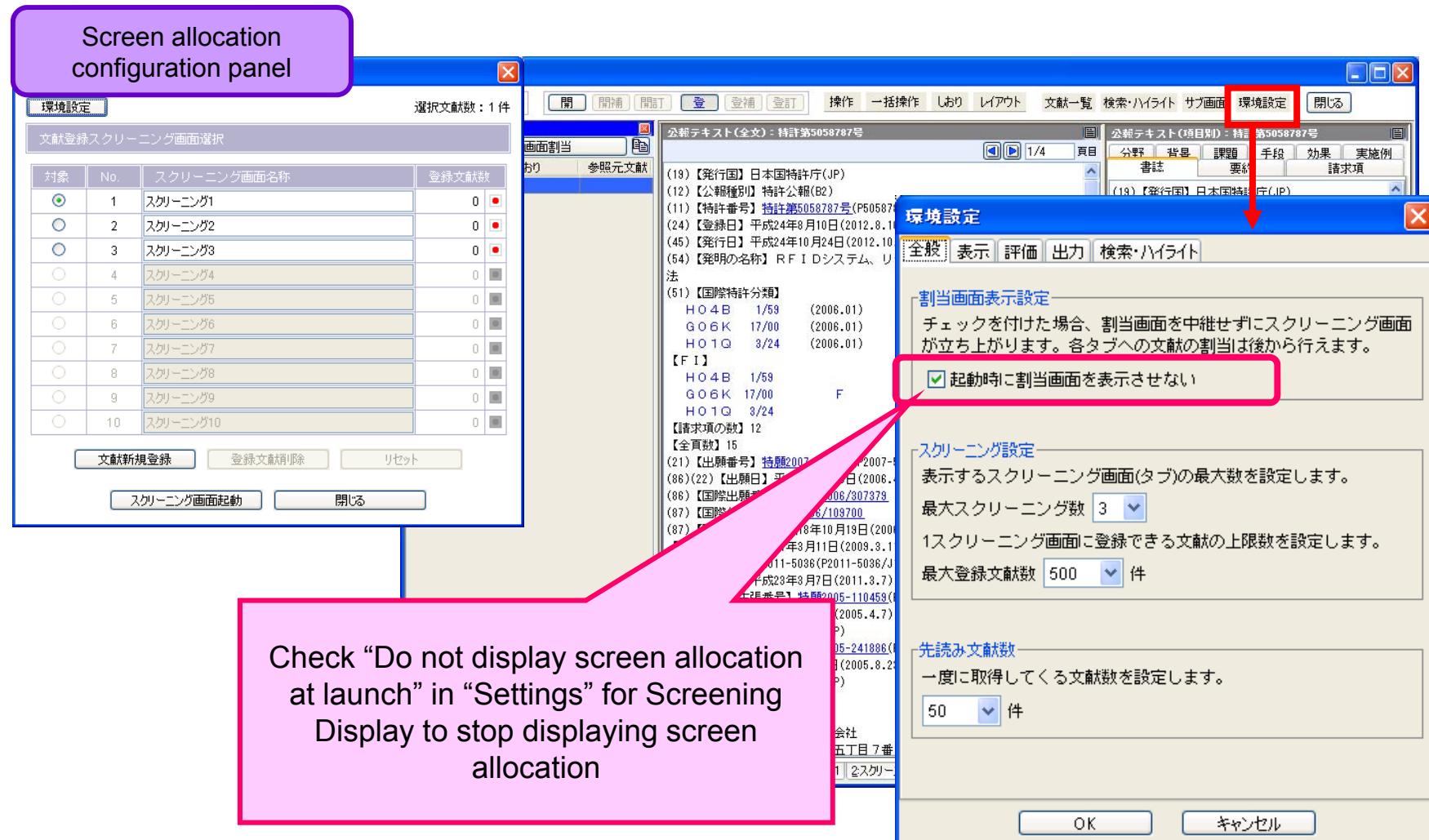
- Users can display contents in a separate window by clicking the “Sub-screen” button

This is useful for comparison of different documents, as well as of publication and registration gazettes.



Checking Search Results ⑤

- In case “Screen allocation” is displayed every time the “Screening Display” is launched:



Switching Report Displays

- Switching between Basic Report and Advanced Report

The screenshot shows the PatentSQUARE interface. On the left, there is a search result list titled "Search Result List (Basic List)". The "Settings" menu is open, and the "Report Settings" option is selected. A yellow arrow points from the "Report Settings" link on the main screen to the corresponding item in the dropdown menu. On the right, a "Report Settings - Windows In..." dialog box is displayed. This dialog box contains several sections: "Report Type" (with "Advanced Report" selected), "Drawing setting" (radio buttons for "1 Drawing" and "All Drawings"), "Enter Evaluation" (dropdown set to "Never display"), and "Classification" (checkboxes for "Classification" and "Eval Rank"). Below these are sections for "Sort By" (checkboxes for "Issued Patent" and "Drawing Only") and "Right Frame of the Report Screen" (checkbox for "Drawing Only"). At the bottom of the dialog box are "Confirm" and "Cancel" buttons, with the "Confirm" button highlighted by a red rectangle.

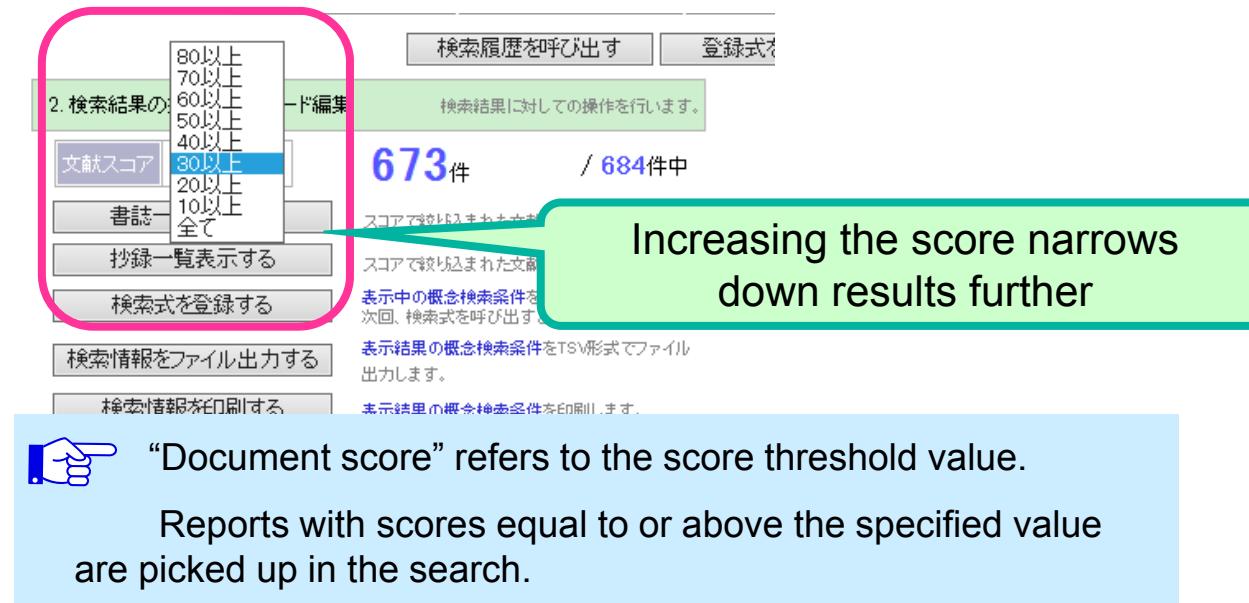
① Click on "Settings" on the top of the screen and select "Report Settings".

② Selected the display method from "Report Type" in the open screen.

③ Click on "Confirm" to complete the setting.

Supplementary References for Patent Searches (Concept Search)

- Narrowing down search based on document score



- Point to remember in narrowing down:
 - Narrowing down too much may lead to omission of the target patents from the search results.
 - This function is useful for finding highly relevant patents.

Supplementary References for Patent Searches (Concept Search)

- Using too many keywords can unnecessarily increase the number of hits.
→ Narrow down criteria further.
- However, clicking the “Execute Search” button erases the edited keywords.

The screenshot illustrates the PatentSQUARE search interface, divided into two main sections:

1. 抽出条件の入力と条件の絞込み (Input of extraction conditions and filtering conditions): This section shows the search form with various filters like '出願日' (Filing Date) and '発明の名称' (Invention Name). A green callout box with a pink border contains the text: "After editing the keywords, click ‘Execute Search’ button (either button is okay)". Two blue arrows point from this box to the '検索実行' (Search Execute) button at the top right of the search form and another '検索実行' button located below the search fields.

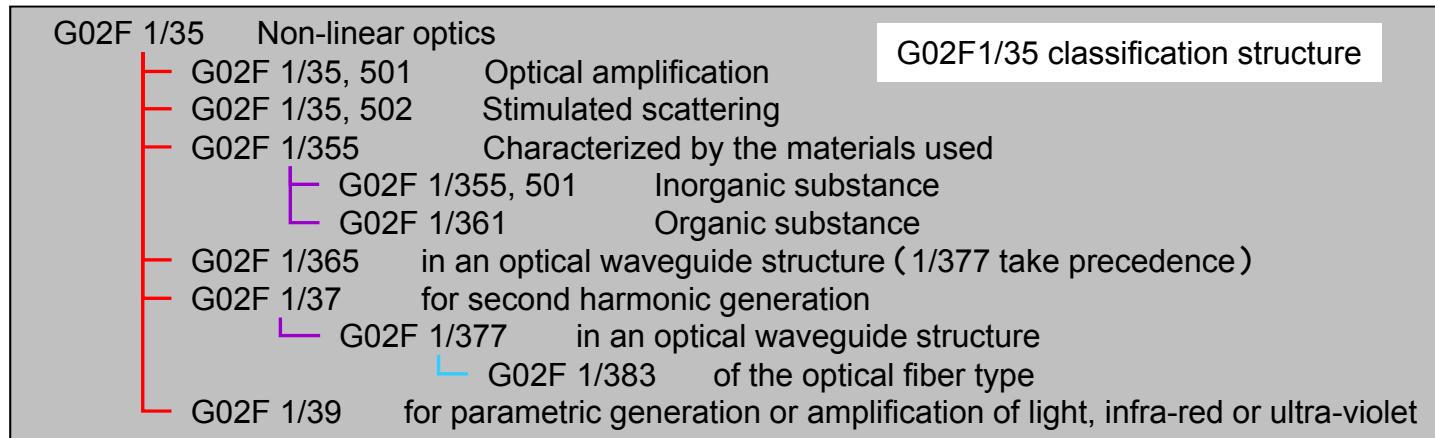
2. 検索結果の操作とキーワード編集 (Operation of search results and keyword editing): This section shows the search results summary (656 items / 674 total) and a detailed view of the keyword editor. A pink callout box with a green border contains the text: "Keywords and assigned weights are erased!". A blue arrow points from this box to the '検索結果の概念検索条件を削除する' (Delete search conditions) button in the editor.

Key UI Elements:

- Top Bar:** PatentSQUARE, TOP, 環境設定, [戻る]ボタンや[BackSpace]キーは使用しないでください。エラーが発生する可能性があります。, 公報蓄積情報, ヘルプ, ログ
- Search Form Fields:** 出願日, 公開・登録日, 国際公開日, 公告日, 登録日, 優先日, 名称系, 文章系, 全文, 発明の名称, 要約, 請求の範囲, 詳細な説明, 検索条件, 検索実行, 表示 / 非表示, 絞込クリア, 検索式, 全公報, 国内+PCT日本語, 検索式登録, 検索情報出力, 検索情報印刷, プロフェッショナル検索
- Keyword Editor:** キーワード編集, キーワード (地図, 道案内, スマートフォン,スマートホン, 検索, 携帯電話,携帯端末), 重み (3, 2, 2, 1, 1), 同義語 (同義語, 同義語, 同義語, 同義語, 同義語), 編集したキーワード

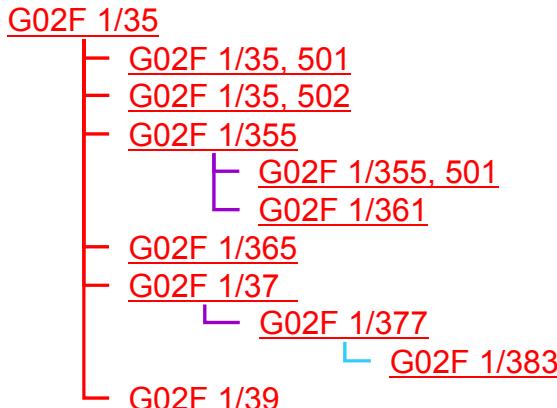
Supplementary References for Patent Searches (Patent Classification Search)

- FI search results differ depending on search method.
- The examples below show different search methods and corresponding FI results using G02F1/35 FI as example.



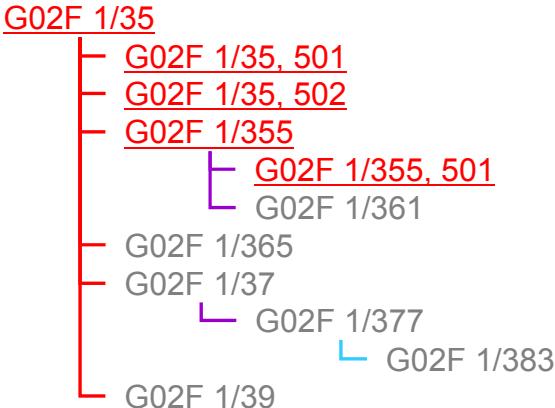
Hierarchical search

Input example: G02F 1/35!



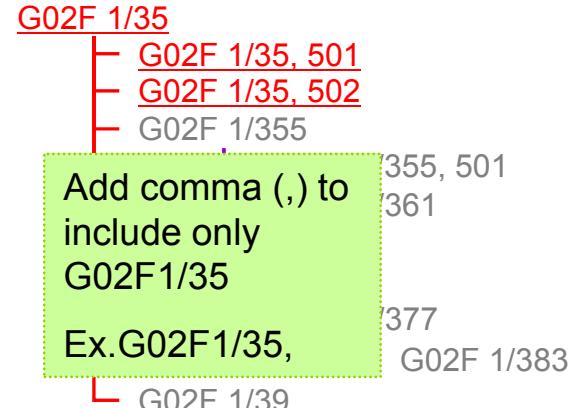
Prefix match search

Input example: G02F1/35?



Exact match search

Input example: G02F1/35



Supplementary References for Patent Searches (Patent Classification Search)

- F-term search results differ depending on search method.
- The examples below show different search methods and corresponding FI results using 5K067 as example.

•Prefix match search
Input example:5K067?

•Prefix match search
Input example: 5K067EE?

•Hierarchical search
Input example:5K067EE06!

リスト 解説

移動無線通信システム										伝送システム			
H04B7/24-7/26;H04W4/00-99/00													
観点	F-検索												H04B7/24-7/26;H04W4/00-99/00
	AA	AA00	AA01	AA02	AA03	AA04	AA05	AA06					
目的、効果*	AA11	AA12	AA13	AA14	AA15								
	・周波数(チャネル)の有効利用	・トラヒック平準化	・伝送効率向上、狭帯域化	・時間対策	・接続時間短縮								
	AA21	AA22	AA23	AA24	AA25	AA26	AA27	AA28	AA29	AA30			
	・サービス向上	・サービスエリア拡大、局の増設	・通話品質向上	・S/N改善	・呼出率向上	・誤動作、障害対策	・電源消耗時の対策	・過負荷時の対策	・課金方法の改善	・盗聴防止、割込防止			
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮			
EE	EE00	EE01	EE02	EE03	EE04	EE06	EE07	EE08	EE10				
	システム構成*	・局の構成	・移動局	・孫局を有するもの	・複数システムに利用できるもの	・中継局	・衛星局	・ビームアンテナを有するもの	・基地局				
		EE12	EE13	EE14	EE16	・分散受信局	・サンポスト	・制御局、交換局					

Supplementary References for Patent Searches (Patent Classification Search)

(p.41: Using “Purpose” and “Effect” in the keyword search leads to omissions



- When searching patents based on “purpose” or “effect,” it may be more effective to use “F-terms”

The screenshot shows a patent classification search interface. At the top, there is a search bar with the text "5K067" and a result summary: "移動無線通信システム" and "H04B7/24-7/26;H04W4/00-99/00". Below this is a table titled "Fターム" (F-term) with columns labeled AA through AA06. The first column, AA, contains the text "目的, 効果 *". A red circle highlights this text, and a yellow arrow points from it to a callout box at the bottom. The callout box contains the following text:

Examiner reads each gazette and assigns F-terms for the technology field and purpose/effect of invention.

F-term search is effective if the “purpose/effect” you want to search match with “purpose/effect” of the F-term.

<Reference 5>

Registering, Opening and Exporting Search Queries ①

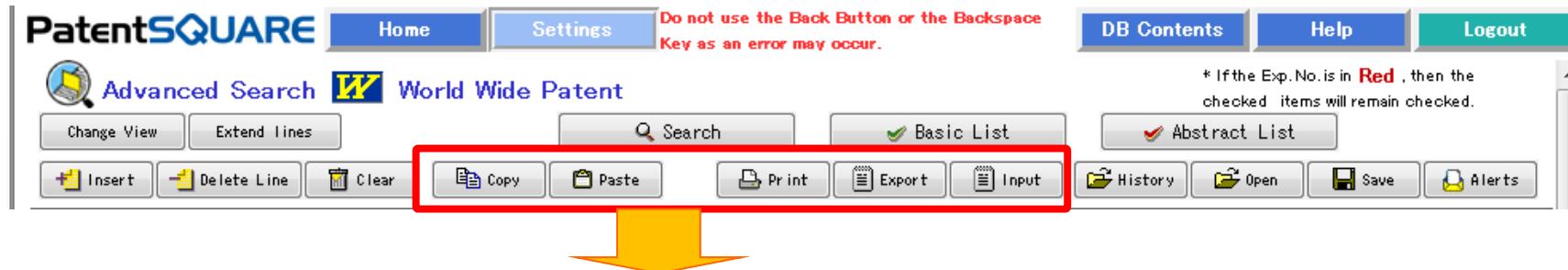
- Registering and Opening Search Queries



Menu	Application
Save	Collectively saves all displayed search criteria in PatentSQUARE. This action ascribes titles and/or comments so that search queries can be created on a search-by-search basis. ※ You also overwrite and save search queries at this step.
Open	Opens queries saved in PatentSQUARE.
History	Displays search history. ※ Clicking on the "Search" button automatically saves search histories for the previous five searches.

Registering, Opening and Exporting Search Queries ②

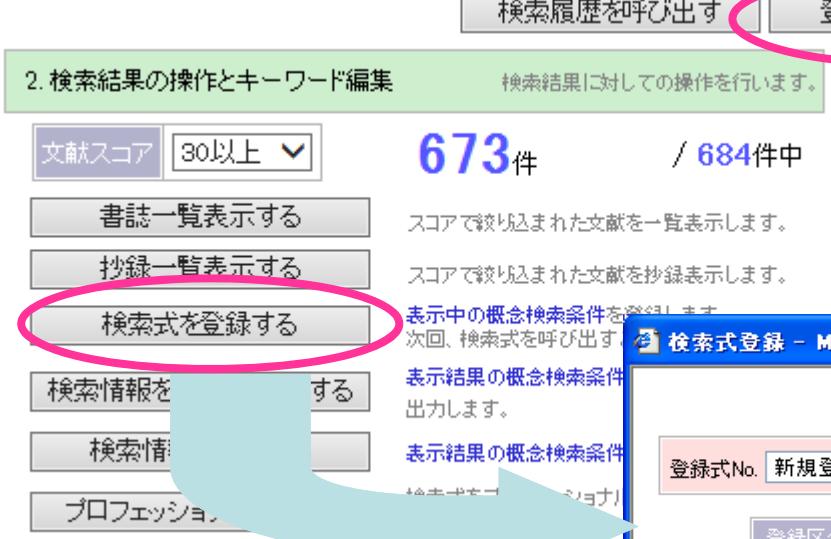
- External Input / Export of Search Queries



Menu	Application
Copy	Copies and pastes all displayed search criteria into text, Excel and other files.
Paste	Copies and pastes search criteria created in text, Excel or other formats into PatentSQUARE. <i>(Must comply with the PatentSQUARE format. Multiple search queries can not be pasted.)</i>
Print	Prints all displayed search criteria.
Export	Exports files of all displayed search criteria. <i>(Although tsv is the default file format, files can be converted to text or Excel formats.)</i>
Input	Loads exported search queries into PatentSQUARE. <i>(Must comply with the PatentSQUARE format. Loading external files will remove displayed search criteria.)</i>

Registering, Opening and Exporting Search Queries ③

- Saving and opening search queries for Concept Search



Click “Register search query” to save queries



Refer to the particular search query first before overwriting and saving it.

Click this button to open saved search queries

Differences between the old search system (Ripway) and PatentSQUARE

- The following table shows the difference search query input method
- Keywords, bibliographic data

Function	Old search system (Ripway)	PatentSQUARE
Intermediate match search	Display *No symbols (default)	?Display? *"??" is added automatically (default)
Partial match search	Display? , ?Display *Add "?" before or after	Display? , ?Display *Add " " (pipe) and "?" before or after
Word proximity search	Information W5 Search *No restrictions in input rules, number of keywords, etc.	[Information * Search] W4 *Synonyms inputted by separating in "," (one-byte comma) *Character count rule is different. Converting from Ripway search queries require reduction of the number of characters.
Scope search	<ul style="list-style-type: none"> From January 1, 2001 to December 31, 2004 20010101:20041231 From January 1, 2001 onwards >=20010101 From December 31, 2004 and earlier <=20041231 	<ul style="list-style-type: none"> From January 1, 2001 to December 31, 2004 20010101:20041231 (Same) From January 1, 2001 onwards 20010101: From December 31, 2004 and earlier :20041231
Superscript/subscript search	Search is possible by changing to two-byte character	$\text{HNO}_3 \Rightarrow \text{HNO}\downarrow 3$, $\text{Cl}^- \Rightarrow \text{Cl}\uparrow -$ *Possible to specify superscript/subscript by using arrows

<Reference 6>

Differences between the old search system (Ripway) and PatentSQUARE

● Patent classification

Function	Old search system (Ripway)	PatentSQUARE
Exact match search (Excludes subordinate categories)	G02F1/35\$ 5K067EE01\$ Add "\$" after classification	(FI) G02F1/35 *Include codes for subordinate categories G02F1/35, *Add comma to exclude subordinate category codes G02F1/35,302 *Exclude subordinate categories if code is specified (F-term) 5K067EE01? *No changes (Default) *"??" is automatically added to F-terms, inputting two digits of numbers specifies an exact match search
Prefix match search (Partially includes subordinate categories)	None	(FI) G02F1/35? (F-term) 5K067EE? 5K067EE0? *Add "?" after the classification *Some subordinate categories may be excluded (Ex. for FI, G02F1/365 will be excluded) *For F-terms, inputting one digit of number specifies a prefix match search
Scope search	G02F1/29-G02F1/35 *Add – (hyphen) in between	None
Hierarchical search (Includes subordinate categories)	G02F1/35 5K067EE01 *No changes (Default)	G02F1/35! 5K067EE01! *Add "!" after the classification *However, since the hierarchical search will be based on the latest classification scheme, some subordinate categories may be excluded if revisions have been made.

Online Help

- Explanation of operations can also be viewed from the Online Help

HELP

- What is PatentSQUARE?
- Before using PatentSQUARE
- Suggested Environment
- The specialty of PatentSQUARE
- About this Help
- How to input Search Condition
- How to use [Search Tool]
- Join Search
- Basic List
- Abstract List
- Basic Report
- Advanced Report
- Attention & Restriction
- Notice of displaying Abstract List (PDF)
- Frequently Asked Questions(FAQ)
- Contact us

※The following explains each operations. Click □

- Search / Alerts
- Map (Optional)

What is PatentSQUARE?

Thank you for using PatentSQUARE very much.
PatentSQUARE is the system of patent search service not only for beginners but also for experts on patent searches.
This system has wide function for patent business for example patent search, evaluation Database, Search Alerts, environment setting.

- Before using the first time ► [Details](#) - How to input search condition ► [Details](#) - How to use "Search Tools" ► [Details](#)

PatentSQUARE has a unit "Project" that each group who do the same research or are in the same division can share.

PatentSQUARE US Database

PatentSQUARE stores the following data in US Database.

****US Database****

- * Publication data (US-A)
since 2001 (published by USPTO)
- * Patent data (US-B)
since 1976 (published by USPTO)
- * Reexamination Certificate data
since 1981 (published by USPTO)
- * Supplemental Examination data
since 1983 (published by USPTO)
- * Post Grant Review data
since 2014 (published by USPTO)
- * Inter Partes Review data
since 2014 (published by USPTO)
- * Derivation Certificate data
will be stored data(published by USPTO)
- * Certificate Of Correction data

Display of Help contents

Menu of help contents:

- Inputting keywords in the search box enables searching pages that included the keyword.
- Clicking “+” opens the sub-menu

08 Database

a standard to manage United States Patent
that were published by 2000.(The system of Publications was started since 2001.)
ents from Publications and Patents together.
tions are numbered the different publication number.
patent number.

Using Concept Search

- Concept Search = **Create and input a query sentence (natural sentence)**
 - Query sentences can be simple explanations of the key feature of the invention



■ General features

- Results in hits for similar published patents
 - But reason is unclear why one is the top hit while the other is the 5th hit. (Search content is a black box)
From the 2nd hit down, the difference due to query sentence becomes larger, making it difficult to explain the reason for the differences.
- Suitable as a supplementary method for conducting highly accurate searches (combined searches)
(Efficiently check patent classification from concept search results, or discover keywords from automatically generated words)
- Suitable for searches that do not entail significant risks as in reports and papers, which do not
 - Not suitable for searches to prevent infringement (many omissions)
- Suitable for gathering information

(4) Case Study 4: Concept Search

① Input sentence you want to search

The search bar at the top has a placeholder: "検索用語を入力して検索を行います。" (Please enter a search term and perform a search.) A blue callout points to the search input field.

② Displays number of hits

The search results page shows a total of 673 hits out of 684. A green callout highlights this information.

③ Check details of search results (Up to 20,000 results)

A purple callout points to the search results list, which includes options like "書誌一覧表示する" (Display Bibliographic List) and "抄録一覧表示する" (Display Abstract List). It also notes that up to 20,000 results can be displayed.

Click to input criteria for narrowing down search

On the left sidebar, under "検索対象" (Search Target), there are several dropdown menus and checkboxes for narrowing the search. A yellow callout points to the "表示 / 非表示" (Show / Hide) button for one of these sections.

Checking a criterion to add displays the corresponding search box

For example, under the "名称系" (Name Category) section, selecting "出願人・権利者名" (Applicant/Right Holder Name) displays a search box for "出願人・権利者名" (Applicant/Right Holder Name). A yellow callout points to this interaction.

For adding, deleting, and assigning weight to keywords.
★Weight can be assigned from 1 to 20★

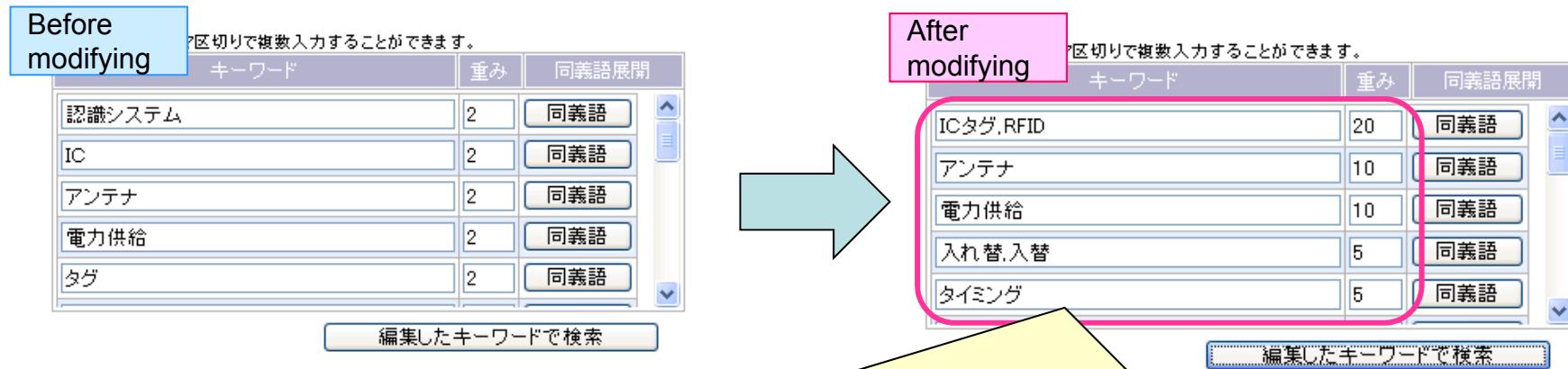
The "キーワード編集" (Keyword Edit) screen shows a list of keywords with their assigned weights. A red callout highlights the "表示 / 非表示" (Show / Hide) button and the list of keywords.

キーワード	重み	同義語
道案内	2	同義語
検索	1	同義語
携帯電話	1	同義語
携帯電話	1	同義語
地図	1	同義語

Configuring and modifying search criteria

- Modification Point 1: Modifying keyword weight

- If extracted keyword is different from keyword you want to search, make sure to make modifications.



★Editing example★

- Add synonyms or different notations

ICタグ →「ICタグ,RFID」 *Although screen on the upper left does not show "ICタグ," it appears in the actual screen after scrolling down.

入れ替え →「入れ替,入替」 *To include "入れ替わる" and other words "え" is deleted

- Increase the weight of important keywords (Maximum value is 20)

ICタグ,RFID 1→20

*There are no criteria for assigning weights; but increasing weight for keywords that specify technology field increases accuracy of results.

アンテナ 2→10

Also, set weight according to importance or based on search results.

電力供給 2→10

- If there are important keywords other than those automatically generated, add them also.

Add “タイミング”

* Add because not extracted.

*Changing the weight values sorts the keywords in descending order

Configuring and modifying search criteria

- Modification Point 1: Narrow down with patent classification



<Points to remember>

- Words for different fields are treated as “AND”**
 - If FI and F-terms are inputted, items attached with both the specified FI and F-terms will be included in the results.
- Clicking the “Execute Search” button will reset the keyword edits (weight assignments, etc.).
 - To narrow down search after editing keywords, take a note of the keyword edits made.

Concept Search Summary

•Key points in conducting Concept Search

- Create query sentences by taking into account expressions used in gazettes.
- Modify /attach weight to keywords and narrow down using patent classification to eliminate irrelevant hits from other fields.

•Precautions in conducting Concept Search

- Relationship between query sentence and search results is difficult to comprehend in concept searches.
- Make sure to save search criteria (query sentence, keyword edits) and results
(So that you can review search details later).
- Since only keywords that are inputted in the query sentence are searched, synonyms are not automatically detected ⇒ Add synonyms if necessary.

•Others

- Other than query sentence, search based also on publication number can be made.
- Concept searches are only for Japanese patents (cannot be used for searching foreign patents).
- Not compatible with SDI ⇒ Use Professional Search" for configuring SDI

Expressing points of the invention concisely and making appropriate modifications to search contents enable more efficient search.

