Knobbe Martens

Knobbe Practice Webinar Series:
Strategic Considerations for Software Claim Drafting

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Part I – Understanding Claims in U.S. Patent Applications
（特許出願におけるクレームとは？）

Claiming Basics – U.S. Patent Applications

- Claim structure
  - Each claim is a single sentence（すべてのクレームは一文で完結する）
    - Start with a capital letter
    - End with a period
  - Numbered consecutively in ascending order; original numbering preserved throughout prosecution（出願時のクレーム番号は審査の間、維持される）
  - Best Practice: Claim terms/phrases must find clear support in the written description （クレームの用語は明細書中で明確にサポートされていなければいけない）

- Independent claims versus dependent claims
  - Independent claim is standalone claim（独立クレームはスタンドアローン）
  - Dependent claim refers to another earlier claim and further limits that claim
  - Basic US Filing Fee: 3 independent claims/20 total (3独立クレーム、クレーム数20まで、追加手数料はかからない)
    - $480 per additional independent claim(480ドルの追加手数料）
    - $100 per additional claim(100ドルの追加手数料）

Claim Structure

- Preamble（前文）
  - Provides context for the claimed invention
  - May or may not limit the claim （限定する場合、限定しない場合がある）
  - “A server” instead of “a server for processing client device requests”

- Transitional phrase（移行部分）
  - Determines if the claim is “open” (comprising), “closed” (consisting of), or “partially open” (consisting essentially of) （含む、～からなる、本質的に～からなる、で違いがある）
    - “Comprising” is most common in most arts（最もよく使われる）
    - “Consisting essentially of” means those recited elements/steps and those that don’t materially affect the basic characteristics of the claimed invention（クレームの基本的性質に実質的に影響を与えない範囲）
    - “Consisting of” means only those recited elements/steps（限定される）
  - “A network component comprising” v “A network component consisting”

Claim Structure

- Claim Body（本文）
  - Recites the limitations necessary to define the invention（必要な定義のみをクレームに記載する）
  - Antecedent basis（先行詞）
    - First instance is “a” or “an” and subsequent instances are “the” or “said”
    - Be consistent
  - Introduce all of the components and characterizations of the components that are necessary for the invention to work and to be different that what is in the prior art（発明を特定するために必要な事項を全て記載し先行技術との違いを規定する）
    - Independent claims can include different combination of components or different characterizations of the components
- Dependent claim transitions: （従属クレーム）
  - “Further comprising” when adding a component（追加の成分を追加する場合）
  - “Wherein” when further describing previously introduced component
  - Best Practice: No multiple dependent claims.（複数クレームへの従属は認められない）

Claim Structure – Connecting the components

- A user interaction component comprising
  - a first interface component for obtaining user requests, wherein individual user requests include a unique identifier;
  - a second interface component for transmitting user specific information requests to a remote service, the user specific information identified by one or more encrypted unique identifiers;
  - a processing component for parsing user requests received from the first interface component to identify a unique identifier and encrypt the user request data according to a user public key associated with the identified unique identifier to form a user specific information request and transmit the user specific information request via the second interface component, the user specific information request include the encrypted unique identifier.

Claim Structure – Connecting the components

- A user interaction component comprising
  - a first interface component for obtaining user requests, wherein individual user requests include a unique identifier;
  - a second interface component for transmitting user specific information requests to a remote service, the user specific information identified by one or more encrypted unique identifiers;
  - a processing component for parsing user requests received from the first interface component to identify a unique identifier and encrypt the user request data according to a user public key associated with the identified unique identifier to form a user specific information request and transmit the user specific information request via the second interface component, the user specific information request include the encrypted unique identifier.

Part II – Selecting Subject Matter and Claim Strategy in U.S. Patent Applications （クレームにおける用語の選択とその戦略）

Patentable Subject Matter – Software and Information Technologies

- Identifying patentable subject matter（用語の選択）
  - What makes invention better, cheaper, faster, more attractive to ultimate consumer（どんな用語が発明をより良くするのか）
  - What distinguishes the product or service from competitors（どんな用語がその製品やサービスを競合品と区別するのか）

- Examples
  - Artificial Intelligence/Machine Learning
  - Distributed Ledger Technology (Blockchain)
  - Virtualization
  - Network Data Processing/Network Data Management
  - Mobile Applications
  - Consumer Devices

Types Of Claim Subject Matter

- Product
  - Apparatus, machine, system, device（装置、システム）
  - Composition（組成物）

- Method or Process to perform function/obtain result
  - Making（作り方）
  - Using（使い方）

Examples – Method Claims

- Preamble Examples:
  - A method comprising:
  - A computer-implemented method comprising:
  - A computer-implemented method for content delivery services comprising:
  - In a distributed network environment including a first set of edge devices associated with a first geographic region and a second set of edge devices associated with a second geographic region, a computer-implemented method for content delivery comprising:
- Claim Examples:
  - A method for processing asynchronously collected user data from client device comprising:
    - obtaining user data from a plurality of client devices via a network interface;
    - processing the obtained user data to form affinity groups …..
    - generating a cumulative score based on a weighting algorithm …
  - In a distributed network environment including a first set of edge devices associated with a first geographic region and a second set of edge device associated with a second geographic region, a computer-implemented method for content delivery comprising:
    - obtaining a first collection of images from the first set of edge devices;
    - obtaining a second collection of images from the second set of edge devices;
    - Implementing a machine learning algorithm to remove duplicate images based on …..

Examples – Apparatus Claims

- Apparatus Examples:
  - An apparatus comprising:
  - A medical device comprising:
  - A wearable defibrillation device comprising:
  - A medical device for providing instantaneous electrode data comprising:
- Claim Examples:
  - A wearable defibrillator comprising:
    - a first set of electrodes for obtaining patient data;
    - a second set of electrodes for providing therapeutic signal to the patient; and
    - a control unit for processing the patient data …....
  - A defibrillation device comprising:
    - a first set of electrodes mounted within a garment and having at least a portion of surface area in direct contact with a patient, the first of electrodes obtaining patient data;
    - a second set of electrodes separately mounted within the garment and having a portion of surface area in direct contact with the patient., the second set of electrodes ……

Claim Drafting – Terms and Phrases with Special Meaning/Purpose

- Counting/Numbers
  - “Plurality” – Two or more: “A plurality of fasteners”（複数個の場合）
  - “At least one” - Open ended count with a minimum of one: “At least one processor configured with ….”（少なくとも…）
- Associations
  - “Each” - Places a limitation on every member of a group: “wherein each control unit is configured with local …”（全ての部材について言及する場合）
  - “Individual” - Places a limitation on some member of a group: “wherein individual control units are configured with local”（ある個々の部材について言及する場合）
- Combinations or Alternatives
  - “And” - Standard meaning as a conjunctive: “wherein the widget has a first part **and** a second part”（複数の組み合わせ）
  - “At least one of … and ….” - Interpreted as a disjunctive: “at least one of a maximum threshold and a minimum threshold” (See specification)（少なくとも…）

Claim Drafting – Terms and Phrases with Special Meaning/Purpose

- Potential Problem Terms（問題となる可能性のある用語）
  - Relative terminology - “relatively large”, “similar”, “about“, etc.（定義が曖昧な用語：比較的、おおよそ、など）
    - Fails to provide standard for measuring degree
  - Exemplary terminology - “such as” and “for example”（〜のような、例えば、など）
    - Unclear language
  - Be careful of “tech terms“ – “cloud”, “Internet”, etc.（テック関連の用語については注意）
    - Claims may be specific to a company and may not be well understood in industry

Top Tips – Avoid Divided Infringement

- Where multiple entities are involved, draft claims that will directly infringed by a single entity（複数人が関係するクレームの場合、1人で侵害行為を完結できるクレームにする）
  - Method claims: all steps performed by one entity（方法クレームの場合）
  - System claims: all elements operated by single entity （システムクレームの場合）
  - Resist temptation to describe a complete system or process（誘惑に耐える）

Avoiding Divided Infringement – Method Claims

- A method for customizing user content comprising:
  - obtaining user input regarding a desired display device;
  - transmitting the obtained user input regarding desired display device;
  - obtaining the transmitted, obtained user input regarding desired display device;
  - identifying a display device configuration profile from a data store corresponding to the desired display device;
  - transmitting the identified display device configuration profile;
  - receiving the transmitted identified display device configuration profile; and
  - automatically processing the transmitted identified display device configuration profile based on time criteria.

Avoiding Divided Infringement – Method Claims

- A method for customizing user content comprising:
  - obtaining user input regarding a desired display device;
  - transmitting the obtained user input regarding desired display device;
  - obtaining the transmitted, obtained user input regarding desired display device;
  - identifying a display device configuration profile from a data store corresponding to the desired display device;
  - transmitting the identified display device configuration profile;
  - receiving the transmitted identified display device configuration profile; and
  - automatically processing the transmitted identified display device configuration profile based on time criteria.

Avoiding Divided Infringement – Method Claims

- (User Device Claim) A method for customizing user content comprising:
  - obtaining user input regarding a desired display device;
  - transmitting the obtained user input regarding desired display device;
  - receiving identified display device configuration profile from the network service; and
  - automatically processing the transmitted identified display device configuration profile based on time criteria.

- (Network Claim) A method for customizing user content comprising:
  - obtaining a transmission from a device providing user input regarding desired display device;
  - identifying a display device configuration profile from a data store corresponding to the desired display device; and
  - transmitting the identified display device configuration profile;
  - wherein the device automatically process the transmitted identified display data configuration profile.

Top Tips – Teaching Claim

- A “teaching claim” is an independent claim that is typically more narrow in scope than the other independent claims

- Often provided as Claim 1 to provide an Examiner with a clear understanding of the full scope of the invention. （審査官が発明の全体像を理解できるようにクレーム１は明確に）

- Strategy for “teaching claim”
  - Options – one or more of:
  - Limit to specific environment（詳細な環境に限定する）
  - Limit to an important embodiment（重要な具体的事項に限定する）
  - Use more concrete terms（より具体的な用語を使う）

- May be helpful for Section 101（101拒絶の回避の手助け）

Top Tips – Teaching Claim

A computer-implemented method for processing content comprising:

obtaining, by a service provider, a request from a client computing device to generate a customized data search, wherein the request from the client computing device is transmitted in accordance with an application protocol interface include a user search identifier;

identifying, by the service provider, executable code for dynamically generating search criteria based on the user search identifier;

executing, by the service provider, the executable code, wherein the user search identifier is an input to the execution of the executable code;

generating, by the service provider, a processing result including a first data item identified according to a first randomized protocol and a second data identified according to a second randomized protocol; and

transmitting, by the service provider, the processing result to the client computing in accordance with the application protocol interface.

Top Tips – Non-Teaching Claim

A computer-implemented method for processing content comprising:

identifying executable code for dynamically generating search criteria responsive to at least one identifier;

identifying at least one data item selected based on a randomized protocol corresponding to the identified executable code; and

transmitting the identified at least one data item to a computing device.

Top Tips – Comparison

Teaching Claim

A computer-implemented method for processing content comprising:

obtaining, by a service provider, a request from a client computing device to generate a customized data search, wherein the request from the client computing device is transmitted in accordance with an application protocol interface include a user search identifier;

identifying, by the service provider, executable code for dynamically generating search criteria;

executing, by the service provider, the executable code, wherein the user search identifier is an input to the execution of the executable code;

generating, by the service provider, a processing result including a first data item identified according to a first randomized protocol and a second data identified according to a second randomized protocol; and

transmitting, by the service provider, the processing result to the client computing in accordance with the application protocol interface.

Non-Teaching Claim

A computer-implemented method for processing content comprising:

identifying executable code for dynamically generating search criteria responsive to at least one identifier;

identifying at least one data item selected based on a randomized protocol corresponding to the identified executable code; and

transmitting the identified at least one data item to a computing device.

Part III – Means + Function（ミーンズプラスファンクション）

Invoking Interpretation Under Section 112(f)

- Patent applications are not rejected under Section 112(f)（112(f)で拒絶されるわけではない）

- Section 112(f) – Means Plus Function Interpretation:
  - An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.（発明のある部材の構造をクレームに詳細に記載することなく、その部材の機能をクレームに記載することで権利化できる方法。ただし、その権利範囲は明細書に書かれているその部材とそれと同等の範囲に限定される）

Invoking Interpretation Under Section 112(f)

- Invoking interpretation under Section 112(f) (See MPEP § 2181(I)):（112(f)だと解釈される場合）
  - The claim limitation uses the term “means” or a term used as a substitute for “means” that is a generic placeholder; （”means”またはそれと同様の用語を使った場合）AND
  - The term “means” or the generic placeholder is modified by functional language, typically, but not always linked by the transition word “for” (e.g., “means for”) or another linking word or phrase, such as “configured to” or “so that.”; （”for”やそれと同様の用語を接続として使った場合）AND
  - The term “means” or the generic placeholder is not modified by sufficient structure, material, or acts for performing the claimed function. （”means”またはそれと同様の用語が、その構造などによって十分に変化されていない場合）
- Common substitute terms: “mechanism for,” “module for,” “device for,” “unit for,” “component for,” “element for,” “member for,” “apparatus for,” “machine for,” or “system for.” （112(f)だと解釈される例）
- There is no fixed list of terms that avoid invocation of Section 112(f)（どのような用語が112(f)だと解釈されるかのリストはない）

Special Case: Computer-implemented inventions 112(f) and 112(b)

- A computer-implemented Section 112(f) claim limitation will be indefinite under Section 112(b) when the specification:（不明確として拒絶になる場合）
  - Fails to disclose any algorithm to perform the claimed function.（クレームの機能を実行するアルゴリズムを開示していない場合）
  - Discloses an algorithm but the algorithm is not sufficient to perform the entire claimed function(s).（アルゴリズムは記載されているが、クレームの機能を実行するために十分でない場合）
- The sufficiency of the algorithm is determined in view of what one of ordinary skill in the art would understand as sufficient to define the structure and make the boundaries of the claim understandable.（アルゴリズムが十分に明確かどうかは当業者が十分に理解できるかどうかで判断される）
  - Disclosure of an algorithm cannot be avoided by arguing that one of ordinary skill in the art is capable of writing software to perform the claimed function. See MPEP § 2161.01(I).（この拒絶は当業者はクレームの機能を実行するためのソフトウェアを書くことができるからという理由では回避できない）

Practice Tips – Avoiding Section 112(f) Rejections

- Specification Drafting Best Practices（明細書を書くにあたって最善の方法）
  - Each independent claim should have at least one drawing that forms the basis of support for written description and enablement（各独立クレームに対応した図面を少なくとも１つ用意する）
  - The specification should be the “key” for all broad terms that can be implemented in multiple ways/embodiments（定義の広い用語については明細書の記載が重要になる）
  - If means plus function is intended to be invoked, be sure to identify alternatives （ミーンズプラスファンクションと解釈される場合には別の手段を特定する）
  - Eliminate “easy” invocation of means plus function by avoiding “nonce” words （意味のない用語を使わないようにしてミーンズプラスファンクションと解釈されるのを避ける）

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