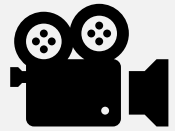


BLACKHILLS AI

presents

Otto IP

Before We Get Started



Recording

A link to the recording and slides will be emailed to all registrants.



Recording

Type in the question box, and we will answer in real time or during the Q&A.



Social

Follow us on LinkedIn, Facebook, Youtube, and/or Instagram or visit blackhills.ai to see upcoming and on-demand webinars.

Otto IP Team



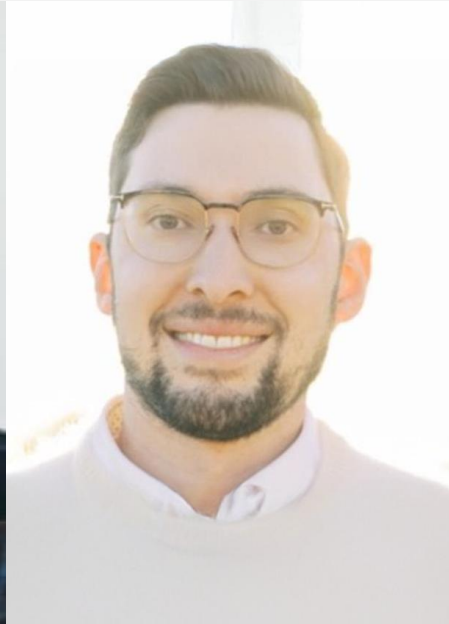
Jim Hallenbeck
Chief Executive Officer



Thomas Marlow
Chief AI Officer



Scott Otto
Online Services Product Lead



Mike Crivaro
Business Development Director



Erika Nguyen
Training and Development
Support Specialist

BLACKHILLS AI

Black Hills AI was founded over 14 years ago by IP professionals.

Industry leader in:

- End-to-End Automation Services:
 - Processing Correspondence
 - Docketing & Docket Verification
 - Reporting
 - IDS Support
- Patent renewals management

Guided Skills & Tools

Prosecution

Guided Skills – Notice of Allowance



Guided Skills – Summary

- Document Summary



SYSTEMS AND METHOD...

Navigation

- AI Docs
- Uploads

External Data

- File History (1)
 - 16/366,837
- Docketing
- Matter Data

FH Refs DR Shells

SYSTEMS AND METHODS FOR ANALYZING PRIOR...

Inventor: Mr. Inventor
Docket#: 3431.044US2
Filed: March 27, 2019
Status: Issued

USPTO Ref Count Cited by Applicant: 25

Application Biblio XML

Filter Applied: Key Events

July 8, 2025
Outgoing

NOA | Notice of Allowance and Fees Due (PTOL-85)

PDF DOCX XML

June 23, 2025
Incoming

CLM | Claims

PDF XML

Ask Otto

How can I help you today?

CONVERSATIONAL MODE

Attach your files
You can add documents to your conversation using the clip icon on the document cards in the left panel, or the clip icon next to the message box to upload files from your device.

Supported Formats
PDF DOCX TXT XLSX CSV RTF

Ask your question
You may choose from the frequent prompts or enter your own prompt in the message box below.

Large files may take a few moments to process the first time they are uploaded or attached.

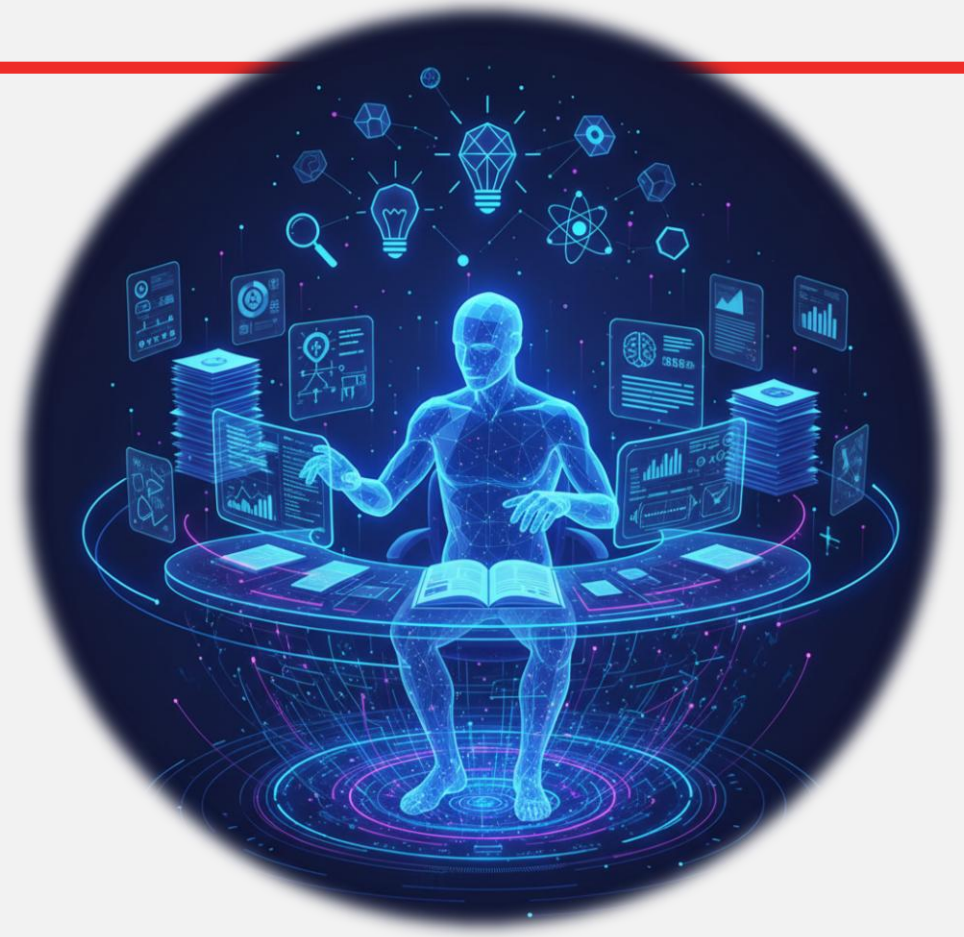
Frequent Prompts | Data Protection Policy

Message

Thomas Marlow

Guided Skills – Review Agent

- Comprehensive Analysis



SYSTEMS AND METHOD...

Navigation

- AI Docs
- Uploads

External Data

- File History (1)
 - 16/366,837
 - Docketing
 - Matter Data

FH Refs DR Shells

SYSTEMS AND METHODS FOR ANALYZING PRIOR...

Inventor: Mr. Inventor
Docket#: 3431.044US2
Filed: March 27, 2019
Status: Issued

USPTO Ref Count Cited by Applicant: 25

Application Biblio XML

Filter Applied: Key Events

July 8, 2025
Outgoing

NOA | Notice of Allowance and Fees Due (PTOL-85)

PDF DOCX XML

- Total Fee
- Due Date
- Entity Status: Small Entity

Allowable Claims

- Claims Allowed: 1-20 (all pending claims)
- Examiner: Richard W. Crandall, Art Unit 3619

Ask Otto

How can I help you today?

CONVERSATIONAL MODE

- Attach your files
- Supported Formats: PDF, DOCX, TXT, XLSX, CSV, RTF
- Ask your question

Frequent Prompts | Data Protection Policy

Message

Thomas Marlow

Guided Skills – Action Items

- Action Items
- Task Summary



OTTO IP

SYSTEMS AND METHODOD...

Navigation

- AI Docs
- Uploads

External Data

- File History (1)
 - 16/366,837
- Docketing
- Matter Data

FH Refs DR Shells

SYSTEMS AND METHODS FOR ANALYZING PRIOR...

Inventor: Mr. Inventor
Docket#: 3431.044US2
Filed: March 27, 2019
Status: Issued

USPTO Ref Count Cited by Applicant: 25

Application Biblio XML

Filter Applied: Key Events

July 8, 2025
Outgoing

NOA | Notice of Allowance and Fees Due (PTOL-85)

PDF DOCX XML

June 23, 2025
Incoming

CLM | Claims

PDF XML

Chat on 2...

Ask Otto- Chat on 2026-03-23 04:49 PM

DEADLINE SUMMARY TABLE

October 8, 2025 (Statutory, Non-Extendable): Pay Total Fee of \$516.00 via Part B Fee(s) Transmittal; confirm entity status; provide assignee data for patent face if applicable. HIGH priority.

Prior to Issue Fee Payment (Recommended by September 15, 2025): Complete IDS compliance review; verify declaration on file; confirm assignment recordation; verify drawing file completeness; confirm domestic priority claim accuracy; initiate PPH analysis foreign counterparts. HIGH/MEDIUM priority.

Ongoing / Immediate: Client notification of PPH eligibility; foreign associate coordination; entity status client confirmation memorandum. HIGH/MEDIUM priority.

Total Attachments : 3

A/N 16366837 : 3 files

Guided Skill - Notice of Allowance Review

Available Prompts (3)

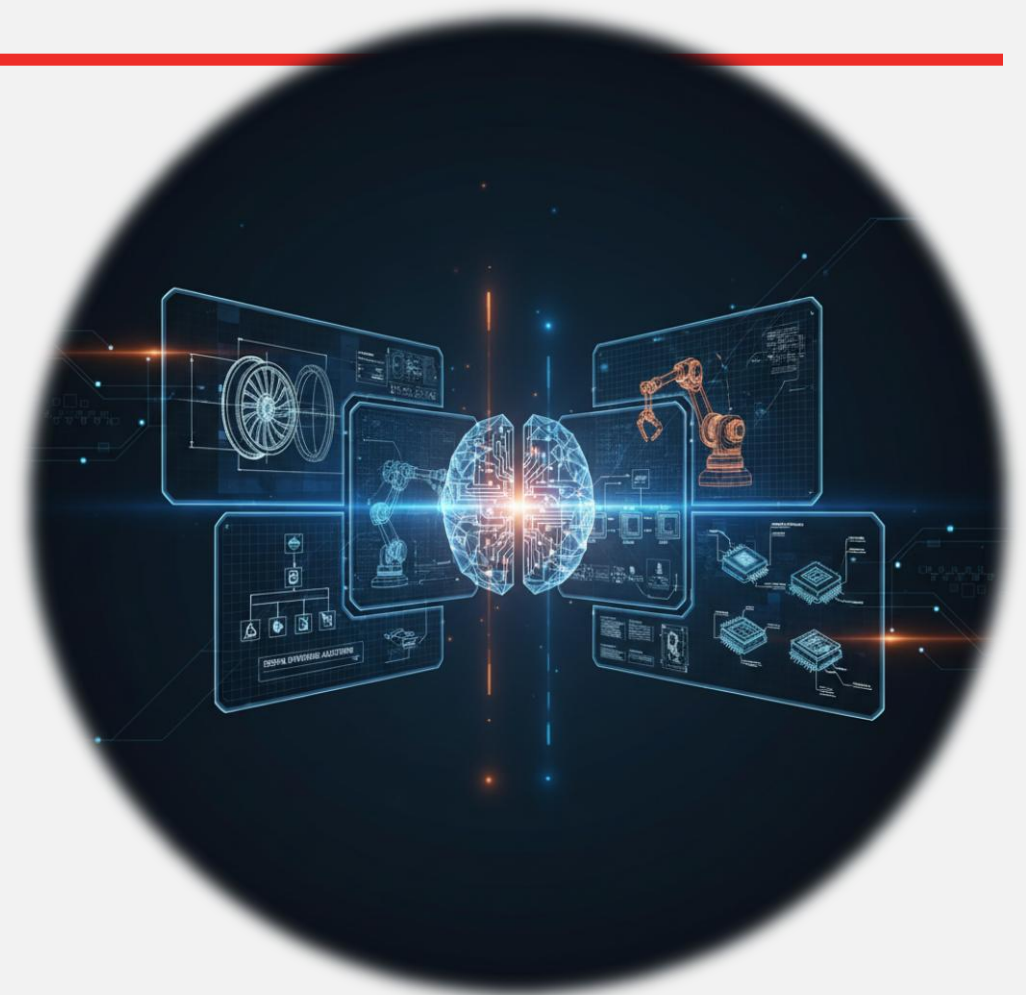
- Notice of Allowance Review Agent - Comprehensive Analysis Prompt [USED]
- Priority Action Items Agent - Task Summary Prompt [USE]
- Help Agent - Guidance Prompt [USE]

Message

Thomas Marlow

Guided Skills – Analysis

- Custom Analysis
- Family Analysis



SYSTEMS AND METHOD...

Navigation

- AI Docs
- Uploads

External Data

- File History (1)
 - 16/366,837
- Docketing
- Matter Data

SYSTEMS AND METHODS FOR ANALYZING PRIOR...

Inventor: Mr. Inventor
Docket#: 3431.044US2
Filed: March 27, 2019
Status: Issued

USPTO Ref Count Cited by Applicant: 25

Application Biblio XML

Filter Applied: Key Events

July 8, 2025
Outgoing

NOA | Notice of Allowance and Fees Due (PTOL-85)

PDF DOCX XML

June 23, 2025
Incoming

CLM | Claims

PDF XML

Chat on 2...

Open Existing Session 04:49 PM

Start a New Session

client portfolio management and future enforcement or licensing activities.

firm: patent number assigned; PTA as determined and printed on patent;

rectly (if provided in Part B Section 3); all cited references appear on patent

face; maintenance fee schedule updated with confirmed issue date. Provide issued patent copies to the client and update all portfolio management records.

DEADLINE REFERENCE SUMMARY

July 11, 2025: Case management system docket entry (DU-04) — Admin — 3 business days from NOA

July 15, 2025: Assignment recordation verification (IA-03) and correspondence address confirmation (AA-01) — Paralegal — 7 days from NOA

July 22, 2025: Entity status client confirmation (IA-02); PPH eligibility client notification (IA-05); declaration verification (AA-02); POA verification (AA-03); Filing Receipt review (AA-05) — Attorney/Paralegal — 14 days from NOA

July 29, 2025: IDS compliance review completed (IA-04) — Attorney — 21 days from NOA

August 8, 2025: Drawing file confirmation (DU-01); parent application status (DU-02); export control documentation (DU-03) — Paralegal — 30 days from NOA

September 22, 2025: Recommended internal target for issue fee submission (IA-01) — Attorney/Paralegal — 14 days before statutory deadline

October 8, 2025: STATUTORY ISSUE FEE DEADLINE — \$516.00 due — non-extendable — abandonment results from non-payment

View Reasoning

Total Attachments : 3

A/N 16366837 : 3 files

Guided Skill - Notice of Allowance Review

Message

Thomas Marlow

Otto IP

SYSTEMS AND METHOD...

Navigation

- AI Docs
- Uploads

External Data

- File History (1)
 - 16/366,837
- Docketing
- Matter Data

FH Refs DR Shells

SYSTEMS AND METHODS FOR ANALYZING PRIOR...

Inventor: Mr. Inventor
Docket#: 3431.044US2
Filed: March 27, 2019
Status: Issued

USPTO Ref Count Cited by Applicant: 25

DRW | Drawings-only black and white line drawings

PDF

ABST | Abstract

PDF XML

CLM | Claims

PDF XML

SPEC | Specification

PDF XML

Chat on 2... Chat on 2...

Ask Otto- Chat on 2026-03-23 04:54 PM

19. The method of claim 16, wherein identifying the first set of cited references comprises identifying forward citations of patent applications associated with the target entity, reverse citations of patent applications associated with the target entity, or both.

Claim Justification: Paragraphs [0059], [0071]; specification pages 18 and 22.

20. The method of claim 16, further comprising: storing the prior art overlap for multiple time periods; and mapping changes in the prior art overlap over time to provide a user with an indication of technology trends and changes in trends in the relevant field of prior art.

Claim Justification: Paragraph [0059], specification page 18, which states that changes in the overlap over time may also be stored and mapped to give an indication to a user of technology trends, changes in trends, and the ongoing development of potentially relevant prior art.

View Reasoning

Total Attachments : 3

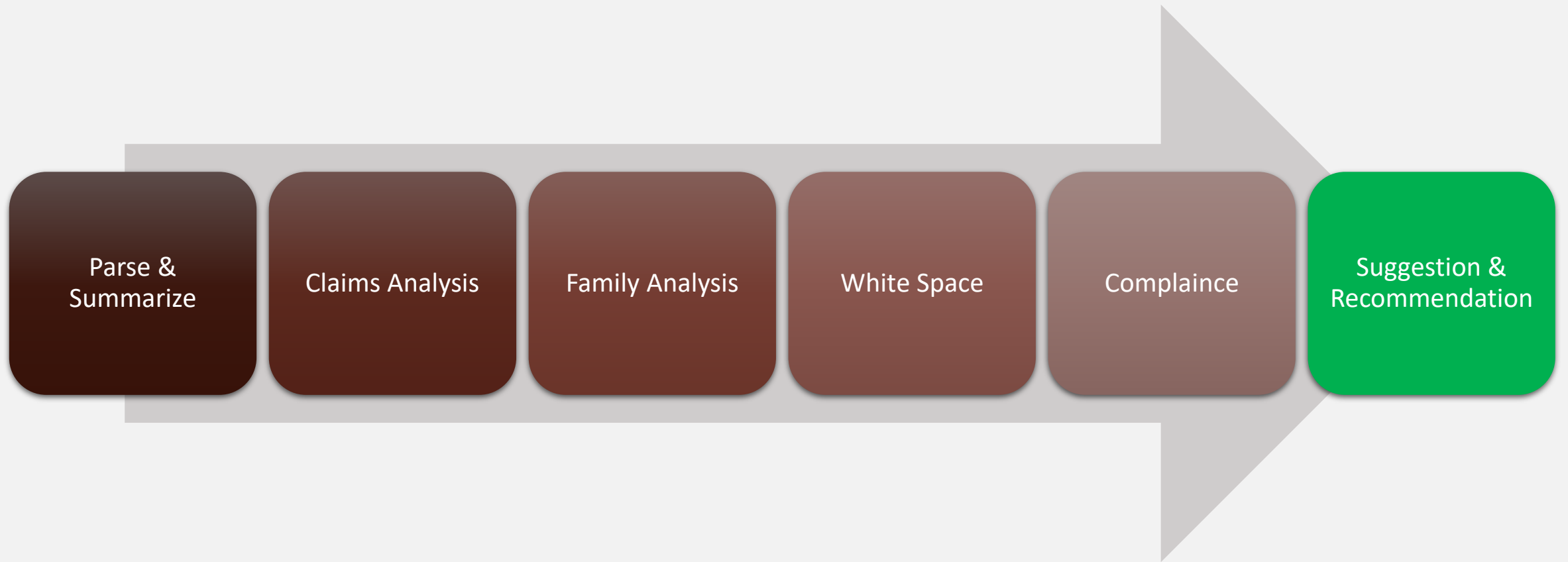
A/N 16366837 : 3 files

Guided Skill - Continuation/Divisional Claim Drafting

Message

Thomas Marlow

Document Generation – Notice of Allowance



AutoSave On consolidated_report_20260113_165946 - Compatibility Mode • Saved Search

File Home Insert Draw Design Layout References Mailings Review View Help

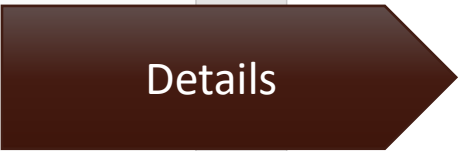
Clipboard Font Paragraph Styles Editing Voice Sensitivity Add-ins Editor Copilot

Navigation

Search document

Headings Pages Results

- Application Information
- Summary of NOA
- Summary of Current Claims and Family Claim Cover...
 - Current Claims Summary
 - Family Claim Coverage
- Additional Opportunity Recommendations
- Compliance Suggestions
- Documents Used in Review



17466131 - NOA & Con/Div Analysis

Notice of Allowance & Con/Div Analysis

Application Information

Application Number: 17466131
Attorney Docket Number: 16113-5425004
Filing Date: 2021-09-03
Invention Title: CONTENT SELECTION USING DISTRIBUTION PARAMETER DATA

Summary of NOA

Application Details

- Application Number:** 17466131
- Attorney Docket:** 16113-5425004
- Examiner:** Vincent M. Cao, Primary Examiner, Art Unit 3622
- Status:** ALLOWED

Notice of Allowance & Con/Div Analysis

Application Information

Application Number: 17466131

Attorney Docket Number: 16113-5425004

Filing Date: 2021-09-03

Invention Title: CONTENT SELECTION USING DISTRIBUTION PARAMETER DATA

Summary of NOA

Application Details

- **Application Number:** 17466131
- **Attorney Docket:** 16113-5425004
- **Examiner:** Vincent M. Cao, Primary Examiner, Art Unit 3622
- **Status:** ALLOWED

INVENTION OVERVIEW

The allowed invention relates to **managing content distribution** with enhanced privacy protection. The system provides a limited subset of available selection criteria to content providers, receives content items with distribution criteria and selection values, and performs a two-stage selection process.

Core Innovation (Claims 1, 9, 13)

The invention implements a method for content distribution comprising:

1. **Limited Information Disclosure:** Providing content item providers with only a **first subset** of available selection criteria (less than all available criteria) about:
 - Publisher resources
 - User devices requesting content
 - Users of those devices
2. **Dual-Subset Architecture:** The available selection criteria comprises:
 - **First subset:** Criteria shared with content providers
 - **Second subset:** Criteria withheld from content providers (different types not included in first subset)

Key Claim Features

3. Receiving Distribution Parameters: From content providers:

- Content item indicators
- One or more sets of distribution criteria for each content item
- Corresponding selection values for each set of criteria

4. Two-Stage Selection Process:

- **Stage 1:** Selecting fewer than all content items based on distribution criteria
- **Stage 2:** Submitting the filtered subset to a content item selection process for final selection

KEY CLAIM FEATURES

Independent Claims (1, 9, 13)

- **Claim 1:** Computer-implemented method
- **Claim 9:** Computer storage medium with encoded program
- **Claim 13:** Content distribution system with data store and computers

Dependent Claims Specify:

Privacy/Criteria Management (Claims 2, 10, 14):

- Distribution criteria may be of same type as second subset criteria (withheld from providers)

Selection Process (Claims 3, 11, 15):

- Selecting content items with distribution criteria matching the second subset of available selection criteria

Privacy Protection (Claims 4, 12, 16):

- Second subset includes **user interest information** (kept private from content providers)

First Subset Examples (Claims 5, 17):

- Resource locator (URL)
- Keywords of electronic resource
- Title of electronic resource

Content Sources (Claims 6, 18):

Invention Overview

- Plurality includes both newly received content items and previously stored content items

Data Storage (Claims 7, 19):

- Storing distribution criteria and selection values for content items

Reuse Capability (Claims 8, 20):

- Using stored criteria/values in subsequent selection processes

EXAMINER'S REASONS FOR ALLOWANCE

Key Distinguishing Features

The Examiner found the invention **non-obvious** based on the following unique combination:

5. **Providing a limited subset** of available selection criteria to content providers
6. **Receiving additional selection criteria** from content providers along with corresponding selection values
7. The combination of these two elements working together

Prior Art Considered

Primary References (Insufficient):

- **Bhattacharjee (US 8549891 B1)**: Selective advertisement distribution
- **Roy (US 20030220918 A1)**: Optimizing advertising spending

Deficiency: Do not teach providing limited selection criteria or receiving additional criteria with values

Secondary References (Insufficient):

- **Burkard (US 20120324043 A1)**: Privacy protection via data filtering
- **Der-Kazaryan (US 20120102537 A1)**: Auction marketplace removing PII
- **Nazer (US 20070239527 A1)**: Advertisement trading with non-PII data

Deficiency: Do not teach the specific combination of limited criteria provision and receiving additional criteria with selection values

Reasons for Allowance

Examination History

Patent Eligibility (Section 101)

The Examiner determined the invention is **patent eligible** because:

- **Not Abstract:** Although related to organizing human activity (content/advertising management), the invention is directed **to a particular network-based exchange**
- **Technical Improvement:** Enables content targeting while securing information
- **Commercial Purpose:** Manages information exchange between parties for commercial purposes
- **Comparison:** Similar determination as Parent Application 16/256,310

TECHNICAL ADVANTAGES

8. **Privacy Protection:** Withholds sensitive user information (second subset) from content providers
9. **Targeted Selection:** Allows content providers to specify distribution criteria and values
10. **Efficient Processing:** Two-stage filtering reduces computational load
11. **Flexibility:** Supports multiple distribution criteria sets per content item
12. **Scalability:** Can reuse stored criteria for subsequent selection processes

EXAMINATION HISTORY NOTE

The Examiner conducted a thorough search and found no references teaching the combination of:

- Providing limited available selection criteria to content providers, AND
- Receiving both additional criteria with corresponding selection values

This unique combination forms the basis for the allowance.

NEXT STEPS

Applicant must submit any necessary comments **no later than payment of issue fee**, preferably accompanying the payment, clearly labeled "**Comments on Statement of Reasons for Allowance.**"

Summary of Current Claims and Family Claim Coverage

Current Claims Summary

Patent Application 17466131 - Claim Amendment Analysis

Overview

This application currently contains **one claim file** dated September 3, 2021, with **20 claims total**. Since there is only one claims file present, there are no amendments to analyze. This represents the **initial claim set** as filed.

Current Claim Set Structure (File 1: 2021-09-03)

Independent Claims (3 total)

- **Claim 1:** Computer-implemented method (base claim)
- **Claim 9:** Computer storage medium (medium claim)
- **Claim 13:** Content distribution system (system claim)

Dependent Claim Chains

Chain 1 (Method Claims):

- Claim 1 (independent)
- Claim 2: Distribution criteria same type as second subset
- Claim 3: Selection based on matching criteria
- Claim 4: User interest information
- Claim 5: First subset comprising resource locator, keywords, or title
- Claim 6: Content items including previously received items
- Claim 7: Storing distribution criteria and selection values
- Claim 8: Using stored criteria in subsequent processes

Chain 2 (Medium Claims):

- Claim 9 (independent - parallels Claim 1)
- Claim 10: Distribution criteria same type (parallels Claim 2)
- Claim 11: Selection based on matching (parallels Claim 3)
- Claim 12: User interest information (parallels Claim 4)

Summary of Coverage

Chain 3 (System Claims):

- Claim 13 (independent - parallels Claim 1)
- Claim 14: Distribution criteria same type (parallels Claim 2)
- Claim 15: Selection based on matching (parallels Claim 3)
- Claim 16: User interest information (parallels Claim 4)
- Claim 17: First subset comprising resource locator, etc. (parallels Claim 5)
- Claim 18: Content items including previously received (parallels Claim 6)
- Claim 19: Storing distribution criteria (parallels Claim 7)
- Claim 20: Using stored criteria (parallels Claim 8)

Core Technical Concept

All claims revolve around a **two-tier content selection criteria system**:

13. **First subset:** Limited selection criteria provided to content item providers

14. **Second subset:** Additional selection criteria withheld from providers but used by the system

The system receives content items with distribution criteria, then selects content items using the second subset (hidden criteria) before submitting to final selection process.

Claim Coverage Strategy

The application employs a **triple-format claiming strategy**:

- **Method claims** (Claims 1-8): Cover the process steps
- **Medium claims** (Claims 9-12): Cover software implementation
- **System claims** (Claims 13-20): Cover hardware/apparatus implementation

This provides comprehensive protection against different forms of infringement.

Amendment History

Status: NO AMENDMENTS DETECTED

Reason: Only one claims file exists in the record dated September 3, 2021. This represents the initial filing.

Current Status:

- All 20 claims are **ACTIVE**
- No claims have been **withdrawn**
- No claims have been **cancelled**
- No claims have been **amended**
- No claims have been **added** (beyond initial filing)

Key Limitations in Current Claims

15. "**Fewer than all**" language appears repeatedly - requires selection of subset
16. **Two-subset structure** is mandatory - must have hidden criteria
17. **Content item provider** must receive limited subset
18. **Distribution criteria matching** required for selection
19. System must **submit to further selection process** (two-stage selection)

Notes

- Attorney Docket No.: 16113-5425004
- Claims appear to relate to **content distribution/advertising technology**
- Focus on **privacy-preserving or strategic content selection** where providers don't see all criteria
- Potential applications in **programmatic advertising, content recommendation systems**

Conclusion: This is the initial claim set with no amendment history to report. All 20 claims remain active and unchanged. Future analysis should monitor for Office Actions that may require amendments to overcome rejections.

Family Claim Coverage

Family Overview

This patent family relates to content distribution systems that provide selective information sharing between content distribution platforms and content item providers to protect user privacy while enabling effective content selection. The family consists of three granted patents and one abandoned application.

Family Coverage

Application 16256310 (US 11,132,718 B1) - PATENTED

Scope of Protection

Core Innovation: A two-stage content selection process where the distribution system provides limited selection criteria to content providers, receives weighted value-per-click information, then applies additional (withheld) criteria for final selection.

Key Claim Elements:

Independent Claims:

Claim 1 (Method):

- Provides **less than all available** selection criteria to content item provider
- Receives **weighted value-per-click** (based on value-per-click × predicted CTR) for multiple content items
- Identifies **fewer than all** received content items using:
- The weighted value-per-click from provider
- **Additional selection criteria** withheld from provider
- Submits filtered content items to final selection process

Claim 16 (Computer Storage Medium):

- Same scope as Claim 1, covering software implementation

Claim 19 (System):

- Same scope as Claim 1, covering hardware/system architecture
- Includes data store for distribution parameters

Dependent Claims Expand Coverage to:

Value-per-click calculation methods (Claims 2-8):

- Average predicted value per user selection (Claim 2)
- Multiplication with predicted CTR (Claim 3)
- Scaling factors (Claim 4)
- Content-slot-specific calculations (Claim 5)
- Performance-based determination (Claims 6-7)
- Keyword-specific values (Claim 8)

Opportunity Analysis

Additional Opportunity Recommendations

1. Scaling factor mechanism for protecting proprietary information while enabling content selection

Specification Examples: As described in paragraphs - and relationship (1) in [paragraph](#): 'In some implementations, the content item provider 208 can calculate a scaled wVPC for each content item by multiplying the determined VPC and pCTR for each content item and then multiplying the product by a scaling factor.' The specification explains this allows the content item provider to 'avoid providing proprietary wVPC information to the content distribution system 210 while still providing the content distribution system 210 with selection values for the content items 224 that are representative of the proportional differences in wVPC among the content items 224.' Relationships (3) and (5) in paragraphs [and also](#) detail scaled [wVPC](#) calculations.

Market Value Research: Score 3/5 - The technology addresses a recognized need in digital advertising where proprietary bidding data protection is [valued, but](#) appears to be a modest incremental improvement over existing privacy-preserving bidding [approaches](#). The market is actively developing privacy-first solutions driven by regulatory pressures (GDPR, PADFA), with major platforms implementing containerized bidding, custom bidding strategies, and differential privacy techniques. However, simple scaling factor obfuscation appears less sophisticated than current academic and commercial privacy-preserving bidding solutions like encrypted bidding protocols, differential privacy frameworks, and Google's Privacy Sandbox approaches.

2. Weighted combination of predicted click-through rates using adjustable weighting parameter

Specification Examples: Paragraphs - describe a weighting value ' α ' that controls the relative weight between pCTRcp (calculated by content item provider) and pCTRcd (calculated by content distribution system). As stated in paragraph: 'the content item provider 208 can select a weighting value α ' and 'The content item provider 208 can calculate wVPC by taking pCTRcp to the $(1-\alpha)$ power.' Relationship (4) in paragraph shows: ' $pVPI(i) = pCTRcd(i)^\alpha * wVPC(i) = pCTRcd(i)^\alpha * pCTRcp(i)^{(1-\alpha)} * VPC(i)$ '. Paragraph provides examples: 'the content item provider 208 can select a value for α of 0.5 to give equal weight' or 'assign a value of 0.8 to α to give higher weight to the content distribution system calculation.

Market Value Research: Score 4/5 - CTR prediction using weighted ensemble methods shows strong commercial value in the multi-[billion dollar](#) digital advertising industry. The online advertising market reached \$209.7 billion in the US alone in 2022 and is projected to reach \$487.

3. Suggestion mechanism where content distribution system pre-calculates and suggests content items to provider

Specification Examples: Paragraphs - describe a process where 'prior to transmitting the request for multiple content items 220 to the content item provider 208, the content distribution system 210 can calculate selection values for one or more content items that have previously been provided by the content item provider 208.' As explained in paragraph: 'The content distribution system 210 can then identify a subset of previously provided content items (e.g., 10 content items) having the highest pCTRcd and provide indicators for the identified content items (e.g., content item IDs) to the content item provider 208 along with the request for multiple content items 220 to assist the content item provider 208 in selecting the content items 224.' Paragraphs - describe various ways the content item provider can use these suggestions.

Market Value Research: Score 4/5 - The suggestion mechanism where content distribution systems pre-calculate and suggest content items to providers has strong commercial value in a rapidly growing market. Content recommendation engines show robust market demand with major players like Taboola and Outbrain commanding over 50% market share and the overall recommendation engine market projected to grow at 30.3% CAGR through 2032.

4. Filtering mechanism for eliminating content items based on technical or policy constraints before selection value calculation

Specification Examples: Paragraphs - [describe](#) filtering content items prior to determining combined selection values. Examples include: 'a content item provided by the content item provider 208 may not have the correct dimensions for presentation in the content item slot 217' (paragraph); 'a particular content item of the content items 224 can be a video, and the content item request 218 can be a request for a banner advertisement' (paragraph); and publisher restrictions as in paragraph: 'the publisher 204 can be a website for children and restrict the content distribution system 210 from providing advertisements for online gambling for presentation along with resources provided by the publisher 204.'

Market Value Research: Score 5/5 - Pre-bid filtering technology has gained special relevance in programmatic advertising due to its ability to optimize ad campaigns, enhance targeting, and mitigate ad fraud, with pre-bid advertising described as an essential strategy in the programmatic advertising landscape. Major industry vendors like DoubleVerify have partnered with leading demand-side platforms since 2017 to offer comprehensive pre-bid programmatic solutions across desktop, mobile web, mobile app and CTV channels, with recent expansions to include Authentic Brand Safety targeting and Custom Contextual solutions. The market has scaled dramatically, with major providers processing over 750

Compliance Suggestions

1. Examiner's Reasons for Allowance - IMMEDIATE ATTENTION REQUIRED

Action Items:

Document Examiner's Reasoning (Critical - Before Issue Fee Payment)

- The examiner's reasons create a narrow interpretation focusing on the **specific combination** of: (1) providing limited subset of criteria, AND (2) receiving additional criteria with selection values
- Risk:** This combination language may limit claim scope more narrowly than intended during future enforcement
- Action:** Consider filing "Comments on Statement of Reasons for Allowance" to clarify that claims are not limited to this specific combination alone, but cover broader implementations of the two-stage selection process

Potential Claim Interpretation Issues Identified:

- Examiner emphasized "combination" language which doesn't appear explicitly in claims
- Claims 1, 9, 13 recite separate limitations that examiner grouped as a "combination"
- Recommendation:** If filing continuation, draft claims that explicitly separate these concepts or claim them independently to preserve broader scope

Consistency Check with Prosecution History:

- Parent Application 16/256,310 received similar allowance reasoning
- Confirms consistent claim interpretation across family
- Note:** This creates prosecution history estoppel risk across entire family - address in continuation strategy

2. Continuation Application Strategy - STRONGLY RECOMMENDED

High-Value Unclaimed Subject Matter Identified:

Based on Step D market research, pursue continuation applications for these high-commercial-value features:

Priority 1 - File Immediately (Market Score 5/5):

Compliance

32. Pre-bid Filtering Technology (Score: 5)

- Specification supports (paragraphs on technical/policy constraint filtering)
- Market: Major vendors process 750B+ bid requests/day; 20-50% cost savings demonstrated
- Claim Strategy:** Independent claims directed to filtering based on dimensional constraints, content type matching, and publisher policy enforcement BEFORE selection value calculation
- Differentiation:** Current claims require two-stage selection after receiving content; new claims should cover pre-submission filtering

33. Conversion-Based Selection Metrics (Score: 5)

- Specification supports CPD (conversions-per-dollar) methodology
- Market: Dominant technology across Google Ads, Meta; 80% of Alphabet's \$257B revenue uses conversion optimization
- Claim Strategy:** Independent claims with conversion metrics (CPA, ROAS, CPD) as alternative to CTR-based selection
- Differentiation:** Current claims focus on CTR; conversion claims would capture performance-based advertising market

34. Video Preference-Based Selection (Score: 5)

- Specification provides detailed video preference implementation
- Market: Core technology for YouTube, Netflix, TikTok; billions of recommendations daily
- Claim Strategy:** Claims directed to user-provided preference categories (genre, style) for video content selection
- Differentiation:** Current claims are content-agnostic; video-specific claims capture streaming/recommendation market

Priority 2 - Consider for CIP (Market Score 4/5):

35. Weighted CTR Combination (α parameter) (Score: 4)

- Specification supports adjustable weighting between provider/system CTR predictions
- Market: Deployed by Etsy (35M+ listings), Bing, Pinterest, Alibaba
- Claim Strategy:** Claims to weighted ensemble with adjustable parameter ($0 \leq \alpha \leq 1$)
- Note:** Well-supported in current specification - continuation sufficient

CON/DIV Suggestions

Strategic Assessment

5. Strategic Recommendations Summary

Critical Path Actions (Next 30 Days):

43. **Notify client of allowance** - Immediate
44. **Analyze continuation opportunities** - Complete (see Priority 1-2 above)
45. **Client decision on continuation strategy** - Required within 30 days
46. **Draft Comments on Reasons for Allowance** - Recommended before issue fee payment
47. **Assess divisional needs** - Complete (none required)

Risk Mitigation:

Prosecution History Risk:

- Examiner's "combination" reasoning may narrow claim scope beyond claim language
- **Mitigation:** File Comments clarifying broader interpretation + pursue continuations with explicitly separate claim elements

Coverage Gap Risk:

- Current claims leave high-value markets (pre-bid filtering, conversion optimization, video recommendations) unprotected
- **Mitigation:** File Priority 1 continuations (Score 5/5 features) within continuation deadline

Family Overlap Risk:

- Four family members create complex overlap/redundancy landscape
- **Mitigation:** Differentiate continuation claims explicitly from granted patents (see "Differentiation" notes above)

Budget

Budget Considerations:

- **Maximum Value Scenario:** File 3-5 continuations targeting Score 4-5/5 markets = High upfront cost but captures markets with demonstrated \$100M-\$500B+ scale
- **Balanced Scenario:** File 2-3 continuations on highest-differentiation features = Moderate cost with substantial new market coverage
- **Minimum Scenario:** File 1 continuation + Comments on Reasons = Low cost but leaves major market gaps

Recommendation: Given market research showing Score 5/5 features have massive commercial deployment (Google Ads conversion optimization, pre-bid filtering 750B+ requests/day, streaming recommendation engines), **Option A (3 continuations) strongly recommended** as cost-justified by market scale.

Next Steps Checklist:

- Send allowance notification to client (48 hours)
- Schedule client meeting to discuss continuation strategy (Week 1)
- Obtain client decision on continuation filing (Week 4)
- Draft continuation applications if approved (Week 4-6)
- Draft Comments on Reasons for Allowance (Week 6-8)
- File continuations before issue fee deadline (Month 2-3)
- File Comments + Issue Fee payment (Month 3)
- Update family docket with new applications (Month 3)

Documents Used in Review

The following documents were used in this review:

- Specification filed 03-Sep-2021
- Claims from 03-Sep-2021
- Notice of Allowance from 03-Mar-2023
- Latest claims from Family: 16/256,310; 15/589,207; 14/169,934; 18/326,648

Next Steps

Audit

Sneak Preview

- NOA Administrative Checklist & Compliance Tracking

Checklist & Compliance

Notice of Allowance Checklist

9 items 7 Pass 2 Pending

Catalog all applicant or examiner amendments

Run View Amendments Reset & Re-run Flowchart Completed

36 documents reviewed — 15 amendments cataloged: 15 Claims

Last run: 2026-03-21T14:06:53.830845+00:00

Count of claims allowed on NOA

Run Flowchart Pass

Metric	Value
Claims filed (filing receipt)	20
Claim numbers filed	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
Claims added by amendment	0
Claims cancelled/withdrawn	1
Adjusted count after amendments	19
Cross-check (filed+added-cancelled)	19
IIFW claims filed (Original)	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
IIFW claims issued (Final)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19
IIFW claims issued count	19
Allowed claims (NOA)	19

Notes: Filing receipt shows 20 claims filed originally. Claim 9 was cancelled during prosecution as confirmed by amendment history and absence from IIFW Original Claims column. IIFW shows 19 claims in Final Claims column (sequential renumbering 1-19). NOA explicitly states 'Claims 1-8, 10-20 allowed' which equals 19 claims total. The NOA count (19) matches the IIFW Final Claims count (19), resulting in Pass status. Claim amendments cataloged: 15

Last run: 2026-03-24T00:53:32.571893+00:00

Is any Examiner's Amendment in NOA correct?

Run Flowchart Pass

Check	Result
Examiner amendment found	No

Last run: 2026-03-22T16:34:30.133107+00:00

List of attachments to NOA

Run Flowchart Pass

#	Attachment Type	PTO Code	Notes
1	Notice of References Cited (PTO-892)	892	This is explicitly checked as an attachment in the Notice of Allowance and contains references to US patents US-20150277635-A1, US-20180032193-A1, and US-20190265820-A1
2	Examiner's Statement of Reasons for Allowance	NOA	This is explicitly checked as an attachment in the Notice of Allowance and is included as part of the NOA document itself (pages 2-6 contain the detailed examiner's statement)

Checklist & Compliance

● Reasons for Allowance reviewed? [Run](#) [Flowchart](#) [Pass](#)

Check	Result
Reasons for allowance found in NOA	Yes
Examiner reasons for allowance are consistent with claim language	Yes
Need to submit Comments on Examiner's Reasons for Allowance	No
Status	Pass

Last run: 2026-03-22T15:56:19.493949+00:00

● Verify filing date on NOA [Run](#) [Flowchart](#) [Pass](#)

Source	Filing Date
Original Filing Receipt	05/03/2021
Notice of Allowance	05/03/2021

Both the filing receipt (APP.FILE.REC) and the Notice of Allowance show the same filing date of 05/03/2021. The filing receipt appears to be the original receipt (not corrected) dated 05/27/2021, and the NOA dated 07/13/2022 both consistently reference the application filing date as 05/03/2021. The dates match exactly in both format and substance.

Last run: 2026-03-21T14:18:16.138402+00:00

● Verify first named inventor matches ADS [Run](#) [Flowchart](#) [Pass](#)

Source	First Named Inventor
ADS (most recent)	Yangsik LEE
Notice of Allowance	Yangsik LEE

Both documents show the same first named inventor. In the ADS (Application Data Sheet), the first inventor listed in the Inventor Information section is 'Yangsik' (given name) 'LEE' (family name). In the NOA (Notice of Allowance), the first named inventor is shown as 'Yangsik LEE' in the table on the first page. The names are identical and refer to the same person, confirming a perfect match between the two documents.

Last run: 2026-03-21T16:11:59.123130+00:00

● Verify the title specified on the notice of allowance (NOA) [Run](#) [Flowchart](#) [Pass](#)

Source	Title
ADS (most recent)	Touch Display Device
SPEC (original)	TOUCH DISPLAY DEVICE
Current (correct)	Touch Display Device
NOA	Touch Display Device

The ADS shows the title as 'Touch Display Device' in multiple locations throughout the form. The original specification shows the title as 'TOUCH DISPLAY DEVICE' (in all caps) at the top of the first page. Since no title amendments were cataloged, the current title is the one from the ADS: 'Touch Display Device'. The NOA shows the title as 'Touch Display Device' on the first page. The titles match substantively - they are identical except for capitalization differences (the spec uses all caps while the ADS and NOA use title case), which are acceptable minor differences according to the instructions.

Questions?

Sales

sales@blackhills.ai

Jim Hallenbeck, CEO

jhallenbeck@blackhills.ai

Thomas Marlow, Chief AI Officer

tmarlow@blackhills.ai

<https://blackhills.ai/>