PromptReviews AI-Assisted Review System

Provisional Patent Application

Title of Invention: System and Method for AI-Assisted Contextual Review Generation with Human-Controlled Content Authentication, Multi-Modal Capture, and Physical-Digital Integration

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ABSTRACT

A computerized system and method for generating authentic customer reviews through contextual AI assistance while preserving human authorship control, featuring novel physical-digital integration technologies. The system dynamically generates contextual review interfaces containing business-specific metadata, customer interaction history, and location/service/product information. Customers interact with the interface through multiple pathways: accepting pre-generated business drafts, utilizing AI-powered content generation with human oversight, or manual composition. The system employs a novel human-authentication layer that ensures AI-generated content requires explicit human approval and modification. The invention includes breakthrough physical-digital bridge technologies including QR code generation with business-specific contextual metadata, NFC chip programming for contactless review initiation, printable template systems with integrated brand signifiers, and a comprehensive brand signifier recognition system where visual elements serve as user experience cues for simplified review processes. Upon completion, reviews are processed through a multi-destination submission engine that can simultaneously store reviews internally and distribute to third-party platforms while maintaining attribution tracking. The system includes embeddable widget technology for displaying authenticated reviews and supports multi-modal capture including text, photo, and video testimonials with contextual metadata preservation.

BACKGROUND OF THE INVENTION

Field of the Invention

This invention relates to computer-implemented systems for customer review generation and management, specifically systems that utilize artificial intelligence to assist human users in creating authentic review content while maintaining human control over the final output, with particular emphasis on physical-digital integration technologies including QR code generation, NFC chip programming, printable template systems, and brand signifier recognition.

Description of Related Art

Existing review collection systems are predominantly simple redirect systems that send customers to third-party review platforms without context or assistance. While some platforms offer AI-powered tools for review response management (helping businesses respond to existing reviews), no known systems provide AI-assisted review generation for customers while maintaining human authorship control and authenticity requirements mandated by review platform guidelines.

Current limitations include: - Lack of contextual information during review creation process - No intermediate assistance between simple redirect and full manual composition - Limited ability to capture and preserve business-specific context during review writing - No systematic approach

to sentiment-based routing of review content - Inability to simultaneously manage internal review storage and external platform distribution - Limited multi-modal capture capabilities with preserved contextual metadata - **Complete absence of physical-digital integration for in-location review collection - No brand signifier systems that establish customer expectations for simplified review processes - No comprehensive QR/NFC integration with embedded contextual metadata - No physical media distribution capabilities for contactless review initiation**

Prior art systems such as those used by BirdEye, Podium, and similar reputation management platforms primarily focus on review request automation, simple redirect functionality, and post-review response management, but fail to provide the technical innovations disclosed herein, particularly the novel physical-digital integration technologies and human-controlled AI assistance during the review creation process itself.

SUMMARY OF THE INVENTION

The present invention provides a computer-implemented system and method for AI-assisted review generation that maintains human authorship control while providing contextual assistance, featuring breakthrough physical-digital integration technologies. The system comprises several novel technical components:

1. **Contextual Interface Generation Engine**: Dynamically creates review interfaces containing business-specific metadata, location information, service details, and customer interaction history.
2. **Human-Controlled AI Content Generation**: Employs artificial intelligence to generate review content suggestions while requiring explicit human approval and modification before finalization.
3. **Multi-Modal Capture System**: Integrates text, photo, and video testimonial capture with contextual metadata preservation and cross-referencing.
4. **Sentiment-Based Routing Logic**: Implements algorithmic sentiment analysis to route reviews through different pathways based on detected sentiment polarity.
5. **Multi-Destination Submission Engine**: Simultaneously processes reviews for internal storage and third-party platform distribution while maintaining attribution tracking.
6. **Embeddable Widget Framework**: Provides authenticated review display components that can be embedded across multiple web properties.
7. **Physical-Digital Integration System**: Novel QR code generation with business-specific contextual metadata and NFC chip programming for contactless review initiation.
8. **Printable Template Generation Engine**: Creates customizable physical media templates with integrated brand signifiers for distribution across multiple formats.
9. **Brand Signifier Recognition System**: Employs visual elements as user experience cues that train customer expectations for simplified review processes.
10. **Multi-Deployment Configuration Engine**: Supports different interface configurations for 1-on-1 personal interactions versus location-based universal access.

The invention addresses the technical problem of maintaining review authenticity while providing meaningful assistance to customers in the review creation process, with particular emphasis on bridging physical and digital customer interactions.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1: System Architecture Overview Illustrates the core system components including Core Processing Server (100), Database Layer (200), AI Processing Module (300), Interface Generation Engine (400), Multi-Modal Capture System (500), Submission Distribution Engine (600), Embeddable Widget Framework (700), Physical-Digital Integration Engine (800), Brand Signifier Management System (900), and Template Generation Engine (1000), showing their interconnections and the novel physical-digital integration technologies.

Figure 2: Physical-Digital Integration Process Flow Depicts the complete customer interaction flow from physical deployment method initiation (QR code scan, NFC touch, direct link, or physical template interaction) through brand signifier recognition, dynamic interface generation, AI-assisted content creation with human authentication, multi-modal capture, sentiment analysis, and multi-platform distribution with physical deployment attribution tracking.

Figure 3: Multi-Deployment Configuration Architecture Shows the Multi-Deployment Configuration Engine and its five distinct operational modes: 1-on-1 Personal Interactions, Location-Based Universal Access, Service-Specific Configuration, Product-Specific Configuration, and Time-Sensitive Configuration, along with their integration with physical media types (business cards, lanyards, frames, signage, stickers, table tents) and brand signifier deployment strategies.

Figure 4: Human Authentication Layer and Multi-Modal Correlation Sequence Illustrates the sequential process flow showing the novel human authentication layer that prevents AI-generated content from being submitted without explicit human approval and modification, the multi-modal capture correlation system that preserves contextual metadata across text, photo, and video content, and the sentiment-based routing with physical deployment context consideration.

These drawings demonstrate the technical innovations that distinguish the present invention from prior art systems, particularly the novel integration of physical deployment methods with digital review generation processes, the comprehensive brand signifier recognition system, and the multi-modal capture correlation with preserved contextual metadata.

DETAILED DESCRIPTION OF THE INVENTION

System Architecture

The system comprises a distributed computing architecture including (as shown in Figure 1):

Figure 1: Figure 1: System Architecture Overview

Core Processing Server (100): Houses the main application logic, AI processing capabilities, and data management systems.

Database Layer (200): Stores business profiles, customer interaction data, review content, and system metadata using relational database management systems.

AI Processing Module (300): Implements natural language processing algorithms for content generation, sentiment analysis, and contextual assistance.

Interface Generation Engine (400): Dynamically creates contextual review interfaces based on business-specific parameters and customer data.

Multi-Modal Capture System (500): Handles text, photo, and video input with associated metadata processing and storage.

Submission Distribution Engine (600): Manages simultaneous internal storage and third-party platform distribution of completed reviews.

Embeddable Widget Framework (700): Provides authenticated display components for review presentation across multiple web properties.

Physical-Digital Integration Engine (800): Manages QR code generation, NFC chip programming, and physical media integration with contextual metadata preservation.

Brand Signifier Management System (900): Implements visual cue systems that serve as user experience signifiers for simplified review processes.

Template Generation Engine (1000): Creates customizable printable templates with integrated brand signifiers for physical distribution.

Technical Process Flow

The complete technical process flow is illustrated in Figure 2:

Step 1: Contextual Interface Generation The system receives a request containing business identifier, customer identifier (optional), context parameters (location, service, product, etc.), and deployment method (QR code, NFC chip, direct link, or physical template). The Interface Generation Engine (400) queries the Database Layer (200) to retrieve: - Business profile information - Relevant service/product metadata - Customer interaction history (if available) - Location-specific information - Customization parameters - **Physical deployment context (QR/NFC/template-based) - Brand signifier configuration**

Step 2: Dynamic Interface Rendering The system dynamically generates a contextual interface containing: - Business-specific branding and messaging - Contextual information relevant to the customer's experience - Multiple review creation pathways - Sentiment detection and routing logic - Multi-modal capture options - **Physical deployment method indicators - Brand signifier recognition elements**

Step 3: AI-Assisted Content Generation (detailed in Figure 4) When a customer selects AI assistance, the AI Processing Module (300) generates content suggestions based on: - Business-specific context data - Customer interaction history - Industry-specific language patterns - Sentiment analysis of the intended review direction - **SEO (Search Engine Optimization) and GEO (General Engine Optimization) keywords and topics that enhance review discoverability and search engine ranking - Physical interaction context (location-based vs. personal) - Brand signifier triggered expectations**

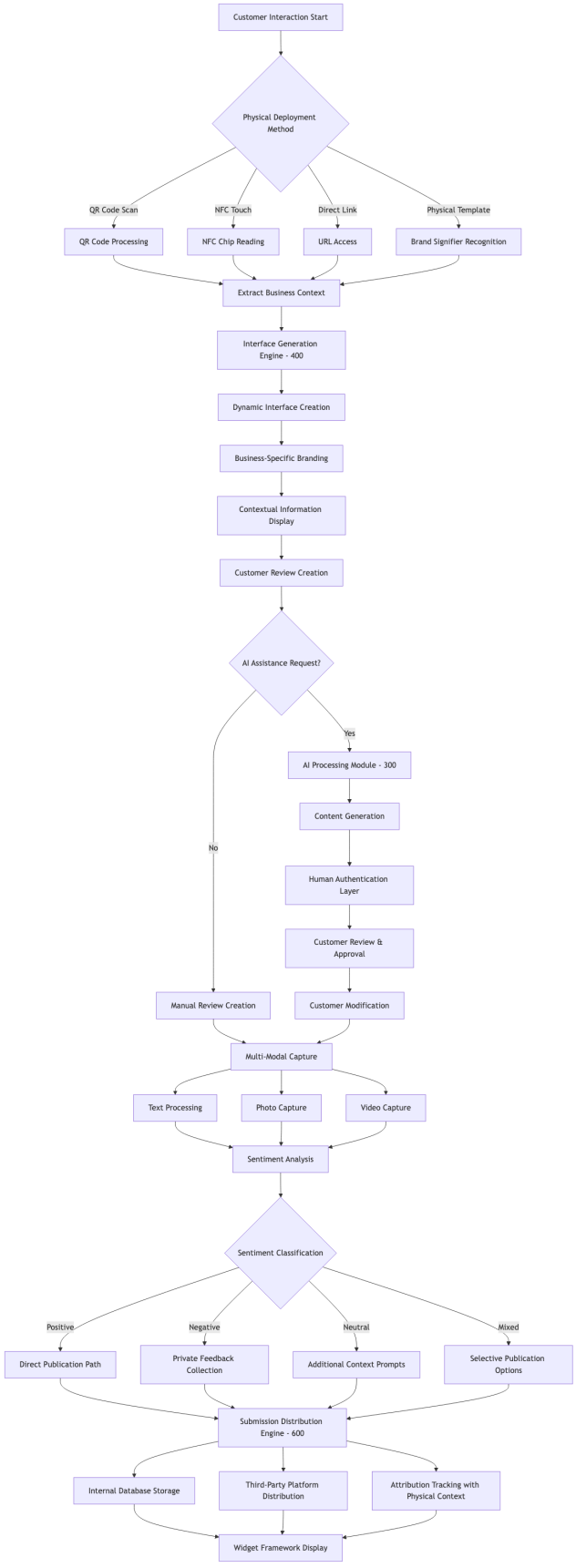

Figure 2: Figure 2: Physical-Digital Integration Process Flow

Critically, the system implements a "human-authentication layer" where AI-generated content cannot be submitted without explicit human review, approval, and potential modification.

Step 4: Human Control and Authentication (as shown in Figure 4) The system presents AI-generated content to the customer with clear indicators of AI assistance and requires: - Explicit acknowledgment of AI-generated content - Opportunity for customer modification - Final approval confirmation before submission - Tracking of human modifications to AI-generated content - **Context-aware modification suggestions based on deployment method**

Step 5: Multi-Modal Content Capture (illustrated in Figure 4) The Multi-Modal Capture System (500) processes: - Text reviews with contextual metadata - Photo testimonials with location and timestamp data - Video testimonials with transcription and sentiment analysis - Cross-referencing between different media types - **Physical interaction metadata (QR/NFC scan location, timestamp) - Brand signifier interaction tracking**

Step 6: Sentiment-Based Routing The system implements algorithmic sentiment analysis to determine review sentiment and routes accordingly: - Positive sentiment: Direct to publication pathway - Negative sentiment: Route to private feedback collection - Neutral sentiment: Provide additional context prompts - Mixed sentiment: Enable selective publication options - **Physical deployment method consideration in routing logic**

Step 7: Multi-Destination Submission The Submission Distribution Engine (600) simultaneously: - Stores reviews in internal database with full metadata - Submits to designated third-party review platforms - Maintains attribution tracking and submission status - Handles platform-specific formatting and requirements - Enables bulk submission and scheduling capabilities - **Tracks physical deployment method attribution**

Step 8: Embeddable Widget Distribution The Embeddable Widget Framework (700) provides: - Authenticated review display components - Cross-platform embedding capabilities - Real-time review updates - Customizable display options - Performance optimization for web properties - **Physical deployment method indicators in widget display**

Multi-Deployment Configuration Architecture

The Multi-Deployment Configuration Engine supports multiple operational modes as shown in Figure 3:

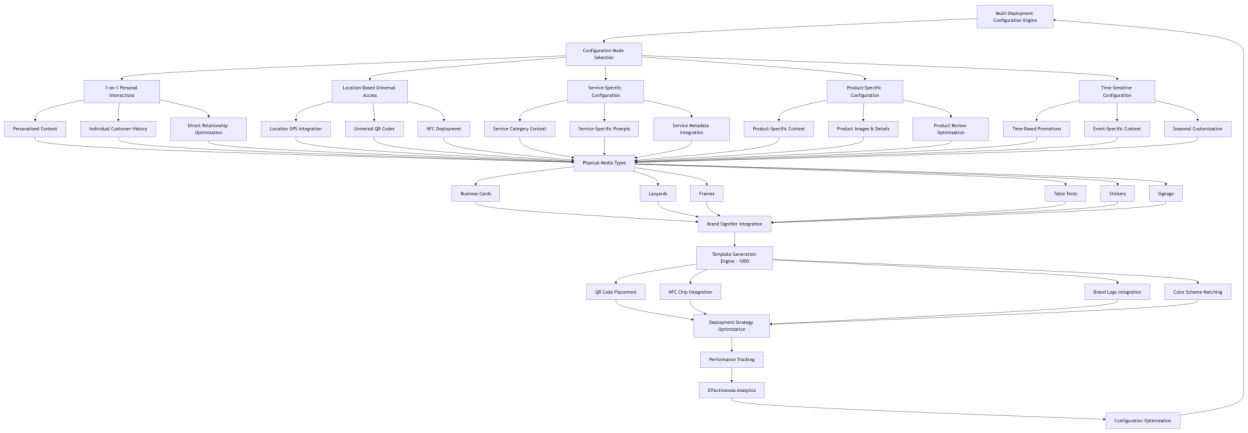

Figure 3: Figure 3: Multi-Deployment Configuration Architecture

Configuration Mode Selection: - **1-on-1 Personal Interactions**: Customized for individual customer relationships with personalized context - **Location-Based Universal Access**: Optimized for QR code/NFC deployment in physical locations - **Service-Specific Configurations**: Tailored interfaces for different service types - **Product-Specific Configurations**: Customized for individual product reviews - **Time-Sensitive Configurations**: Dynamic interfaces for promotional periods

Physical Media Types Integration: - Business cards with embedded QR codes and brand signifiers - Lanyards with NFC chips for contactless interaction - Frames with integrated brand signifiers and QR codes - Table tents for restaurant and service location deployment - Stickers for product-specific review collection - Signage for location-based universal access

Physical-Digital Integration Technologies

QR Code Generation and Management The Physical-Digital Integration Engine (800) implements sophisticated QR code generation that: - Embeds business-specific contextual metadata directly into QR code parameters - Generates location-specific QR codes with embedded GPS coordinates - Creates service/product-specific QR codes with relevant metadata - Implements dynamic QR code generation based on time-sensitive promotions - Maintains QR code tracking and analytics with scan location data - Supports QR code expiration and regeneration capabilities - **Integrates brand signifier elements into QR code visual design**

NFC Chip Programming and Integration The system provides comprehensive NFC chip programming capabilities: - Programs NFC chips with business-specific contextual metadata - Implements contactless review initiation through NFC touch interaction - Supports multiple NFC chip types and data formats - Enables NFC chip reprogramming for dynamic content updates - Maintains NFC interaction tracking and analytics - **Integrates with brand signifier physical placement strategies**

Printable Template Generation System The Template Generation Engine (1000) creates customizable physical media templates: - Generates printable templates with integrated brand signifiers - Supports multiple formats: business cards, lanyards, frames, signage - Implements variable data printing for location-specific customization - Creates templates with embedded QR codes and NFC chip placement guides - Supports brand color matching and logo integration - **Maintains template effectiveness tracking and optimization**

Brand Signifier Recognition System The Brand Signifier Management System (900) implements a comprehensive visual cue system: - Establishes brand visual elements as user experience signifiers - Trains customer expectations for simplified review processes - Implements consistent brand signifier placement across all physical media - Tracks brand signifier recognition and customer response rates - Optimizes brand signifier design for maximum effectiveness - **Creates brand signifier libraries for multi-location deployment**

Human Authentication Layer and Multi-Modal Correlation

The critical human authentication process is detailed in Figure 4:

Human Authentication Requirements: - AI-generated content must be explicitly acknowledged by the customer - Clear visual indicators distinguish AI-assisted from human-generated content - Customers must actively approve content before submission - System tracks all human

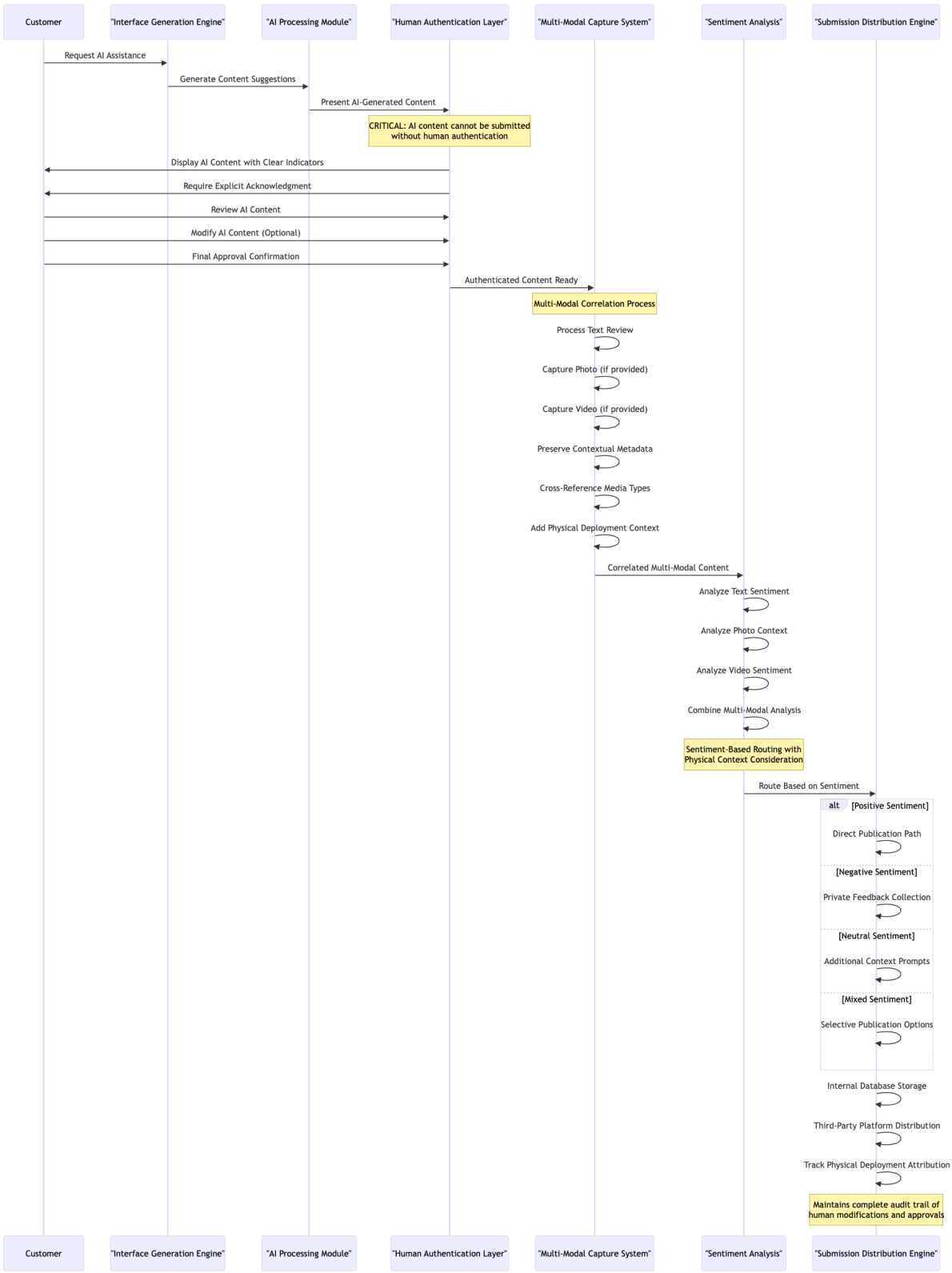

Figure 4: Figure 4: Human Authentication Layer and Multi-Modal Correlation Sequence

modifications to AI-generated content - Complete audit trail maintained for authenticity verification

Multi-Modal Correlation Process: - Text, photo, and video content are correlated with preserved contextual metadata - Cross-referencing maintains relationships between different media types - Physical deployment context is preserved throughout the correlation process - Sentiment analysis considers multi-modal inputs for comprehensive assessment - Attribution tracking includes physical deployment method indicators

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PATENT CLAIMS

Claim 1

A computer-implemented system for AI-assisted review generation comprising: a) a contextual interface generation engine that dynamically creates review interfaces containing business-specific metadata and customer interaction data; b) an AI processing module that generates review content suggestions based on contextual parameters while requiring explicit human approval before publication; c) a multi-modal capture system that processes text, photo, and video testimonials with preserved contextual metadata; d) a sentiment-based routing engine that algorithmically determines review processing pathways based on detected sentiment polarity; e) a multi-destination submission engine that simultaneously stores reviews internally and distributes to third-party platforms while maintaining attribution tracking; f) **a physical-digital integration engine that generates QR codes with embedded business-specific contextual metadata and programs NFC chips for contactless review initiation**; g) **a brand signifier management system that implements visual elements as user experience cues for simplified review processes**.

Claim 2

The system of claim 1, wherein the contextual interface generation engine dynamically incorporates business-specific information including location data, service descriptions, product information, customer interaction history, and **physical deployment method context**.

Claim 3

The system of claim 1, wherein the AI processing module implements a human-authentication layer that prevents AI-generated content from being submitted without explicit human review and approval, **with context-aware suggestions based on physical deployment method and SEO/GEO optimization recommendations that enhance review discoverability and search engine ranking**.

Claim 4

The system of claim 1, wherein the multi-modal capture system correlates text, photo, and video content while preserving contextual metadata including **physical interaction metadata such as QR code scan location, NFC touch timestamp, and brand signifier interaction tracking**.

Claim 5

The system of claim 1, wherein the sentiment-based routing engine implements algorithmic sentiment analysis that routes content through different pathways including direct publication for positive sentiment, private feedback collection for negative sentiment, and selective publication options for mixed sentiment, **with physical deployment method consideration in routing logic**.

Claim 6

The system of claim 1, wherein the multi-destination submission engine simultaneously processes reviews for internal database storage and third-party platform distribution while maintaining comprehensive attribution tracking that includes **physical deployment method attribution**.

Claim 7

The system of claim 1, wherein the physical-digital integration engine generates QR codes that embed business-specific contextual metadata including GPS coordinates, service/product information, and time-sensitive promotional data.

Claim 8

The system of claim 1, wherein the physical-digital integration engine programs NFC chips with business-specific contextual metadata and supports multiple NFC chip types for contactless review initiation.

Claim 9

The system of claim 1, further comprising a template generation engine that creates customizable printable templates with integrated brand signifiers for multiple physical media formats including business cards, lanyards, frames, table tents, stickers, and signage.

Claim 10

The system of claim 1, wherein the brand signifier management system establishes visual elements as user experience signifiers that train customer expectations for simplified review processes across multiple physical media types.

Claim 11

The system of claim 1, further comprising a multi-deployment configuration engine that supports different interface configurations including 1-on-1 personal interactions, location-based universal access, service-specific configurations, product-specific configurations, and time-sensitive configurations.

Claim 12

The system of claim 1, further comprising an embeddable widget framework that provides authenticated review display components for cross-platform embedding with real-time updates and **physical deployment method indicators**.

Claim 13

A computer-implemented method for AI-assisted review generation comprising the steps of: a) receiving a request containing business identifier, customer identifier, context parameters, and **physical deployment method indication**; b) dynamically generating a contextual interface containing business-specific metadata, customer interaction history, and **brand signifier recognition elements**; c) providing AI-assisted content generation with mandatory human authentication and approval; d) capturing multi-modal content including text, photo, and video with **preserved physical interaction metadata**; e) implementing sentiment-based routing with **physical deployment method consideration**; f) simultaneously distributing content to internal storage and third-party platforms with **physical deployment attribution tracking**.

Claim 14

The method of claim 13, further comprising the steps of: a) generating QR codes with embedded business-specific contextual metadata including GPS coordinates and service/product information; b) programming NFC chips with business-specific contextual metadata for contactless review initiation; c) creating printable templates with integrated brand signifiers for multiple physical media formats.

Claim 15

The method of claim 13, wherein the human authentication step requires explicit acknowledgment of AI-generated content, provides opportunity for customer modification, and maintains a complete audit trail of human modifications.

Claim 16

The method of claim 13, wherein the multi-modal capture step correlates text, photo, and video content while preserving contextual metadata including physical interaction context, timestamp data, and brand signifier interaction tracking.

Claim 17

The method of claim 13, wherein the sentiment-based routing step implements algorithmic sentiment analysis that determines review processing pathways based on detected sentiment polarity with consideration for physical deployment method context.

Claim 18

A computer-implemented system for physical-digital integration in review generation comprising: a) a QR code generation engine that embeds business-specific contextual metadata directly into QR code parameters; b) an NFC chip programming system that programs chips with business-specific contextual metadata for contactless review initiation; c) a template generation engine that creates customizable printable templates with integrated brand signifiers; d) a brand signifier management system that implements visual elements as user experience cues across multiple physical media types; e) a multi-deployment configuration engine that supports different interface configurations based on physical deployment method.

Claim 19

The system of claim 18, wherein the QR code generation engine implements location-specific QR code generation with embedded GPS coordinates, service/product-specific metadata, and time-sensitive promotional data with tracking and analytics capabilities.

Claim 20

The system of claim 18, wherein the NFC chip programming system supports multiple NFC chip types and data formats with dynamic content updates and comprehensive interaction tracking.

Claim 21

The system of claim 18, wherein the template generation engine supports variable data printing for location-specific customization and creates templates with embedded QR codes and NFC chip placement guides.

Claim 22

The system of claim 18, wherein the brand signifier management system tracks brand signifier recognition and customer response rates while optimizing brand signifier design for maximum effectiveness.

Claim 23

The system of claim 18, wherein the multi-deployment configuration engine supports 1-on-1 personal interactions, location-based universal access, service-specific configurations, product-specific configurations, and time-sensitive configurations.

Claim 24

A computer-implemented method for physical-digital integration in review generation comprising: a) generating QR codes with embedded business-specific contextual metadata including GPS coordinates and service/product information; b) programming NFC chips with business-specific contextual metadata for contactless review initiation; c) creating printable templates with integrated brand signifiers for multiple physical media formats; d) implementing brand signifier recognition across multiple physical media types; e) configuring different interface modes based on physical deployment method.

Claim 25

The method of claim 24, further comprising maintaining comprehensive tracking and analytics for QR code scans, NFC chip interactions, and brand signifier recognition with attribution tracking throughout the review generation process.

Claim 26

The system of claim 1, wherein the AI processing module incorporates SEO (Search Engine Optimization) and GEO (General Engine Optimization) capabilities by analyzing and suggesting language patterns, keywords, and topics that enhance review discoverability and search engine ranking while maintaining authenticity and human authorship control.

CONCLUSION

The present invention provides a comprehensive solution for AI-assisted review generation that maintains human authorship control while providing contextual assistance, featuring breakthrough physical-digital integration technologies. The system addresses critical limitations in existing review collection systems by providing novel technical components including contextual interface generation, human-controlled AI content generation, multi-modal capture with metadata preservation, sentiment-based routing, multi-destination submission, and comprehensive physical-digital integration.

The physical-digital integration technologies, including QR code generation with embedded metadata, NFC chip programming, printable template systems, and brand signifier recognition, represent significant technical innovations that bridge the gap between physical customer interactions and digital review generation processes.

The invention provides substantial technical advantages over prior art systems and establishes a comprehensive framework for authentic, contextual review generation with preserved human authorship control and extensive physical-digital integration capabilities.

Patent Application Filed: July 2025
Inventor: [To be filled]
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Patent Attorney: [To be filled]
